Water Distribution Management Plan
For
District Metered Area (DMA)
In
Kathmandu Valley

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1. Introduction

1.1 Basic Approach to the Water Distribution Management

The maintenance and management of water supply facilities is an indispensable daily task for KUKL and should be carried out from a long-term perspective in order to achieve the following objectives.

Security: To supply safe water with assured quality to water users for drinking in the Kathmandu Valley.

Stability: To provide a stable supply of water necessary for daily life anytime, anywhere.

1.2 Procedure for Development of the Water Distribution Management Plan

Water service is a business that consists of providing drinking water to water users and collecting fees in return. Therefore, in the Water Distribution Management Plan, water utilities themselves need to set more specific management targets based on their Performance Indicators and monitor them in their daily operations.

The workflow of water distribution management in water utility management is as follows

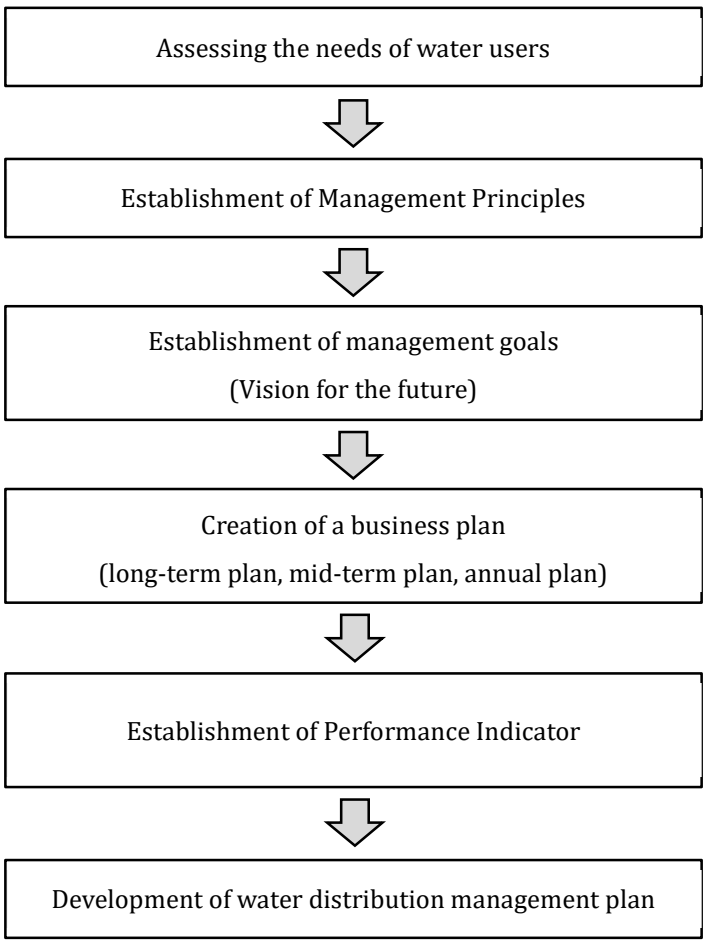


Figure 1.2.1 Relationship between water supply management and maintenance

2. Purpose of the Water Distribution Management Plan

The purpose of the Water Distribution Management Plan is to ensure that KUKL, as the entity responsible for operation and maintenance, properly manages the water supply facilities and provides water to water users in a manner that is equitable in terms of both quantity and time, thereby contributing to the improvement of the living environment.

This Water Distribution Management Plan is the most basic document for KUKL in maintenance and management.

KUKL is required to maintain and repair the water supply facilities to keep them in good condition.

3. Target District Metered Area (DMA)

This Water Distribution Management Plan covers DMAs constructed within the ring road.

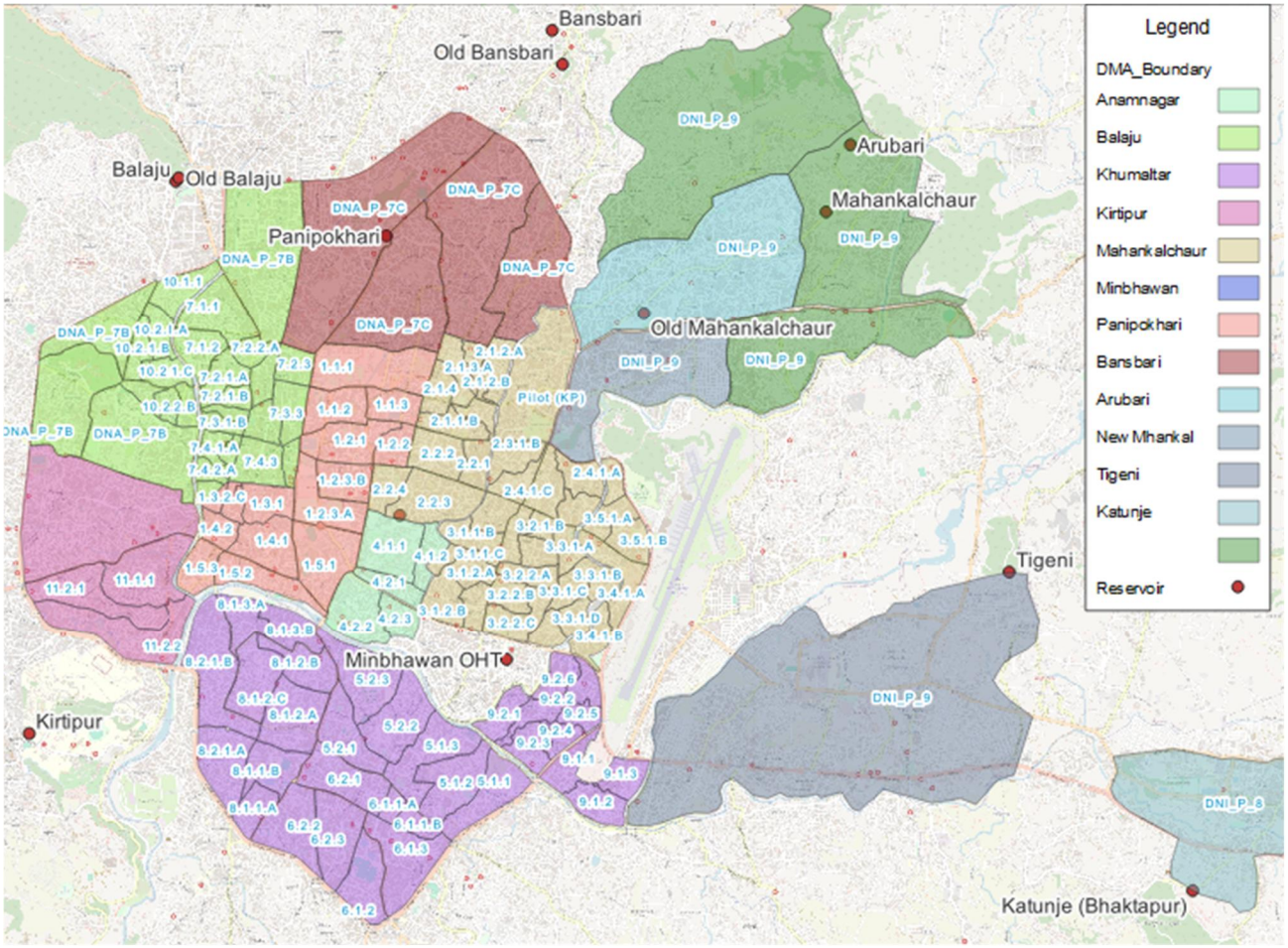


Figure 3.1.1 DMAs constructed in the Ring Road

The following figure is the water supply area covered by each of the service reservoir tanks.

The three water distribution reservoirs located within the ring road are Anamnagar, Minbhawan, and Panipokhari; the other reservoirs may also cover water supply outside the ring road.

In addition, some of the reservoirs supply the old distribution network, but in the future, they will be switched to supply the new distribution network constructed by Melamchi Water Supply Project.

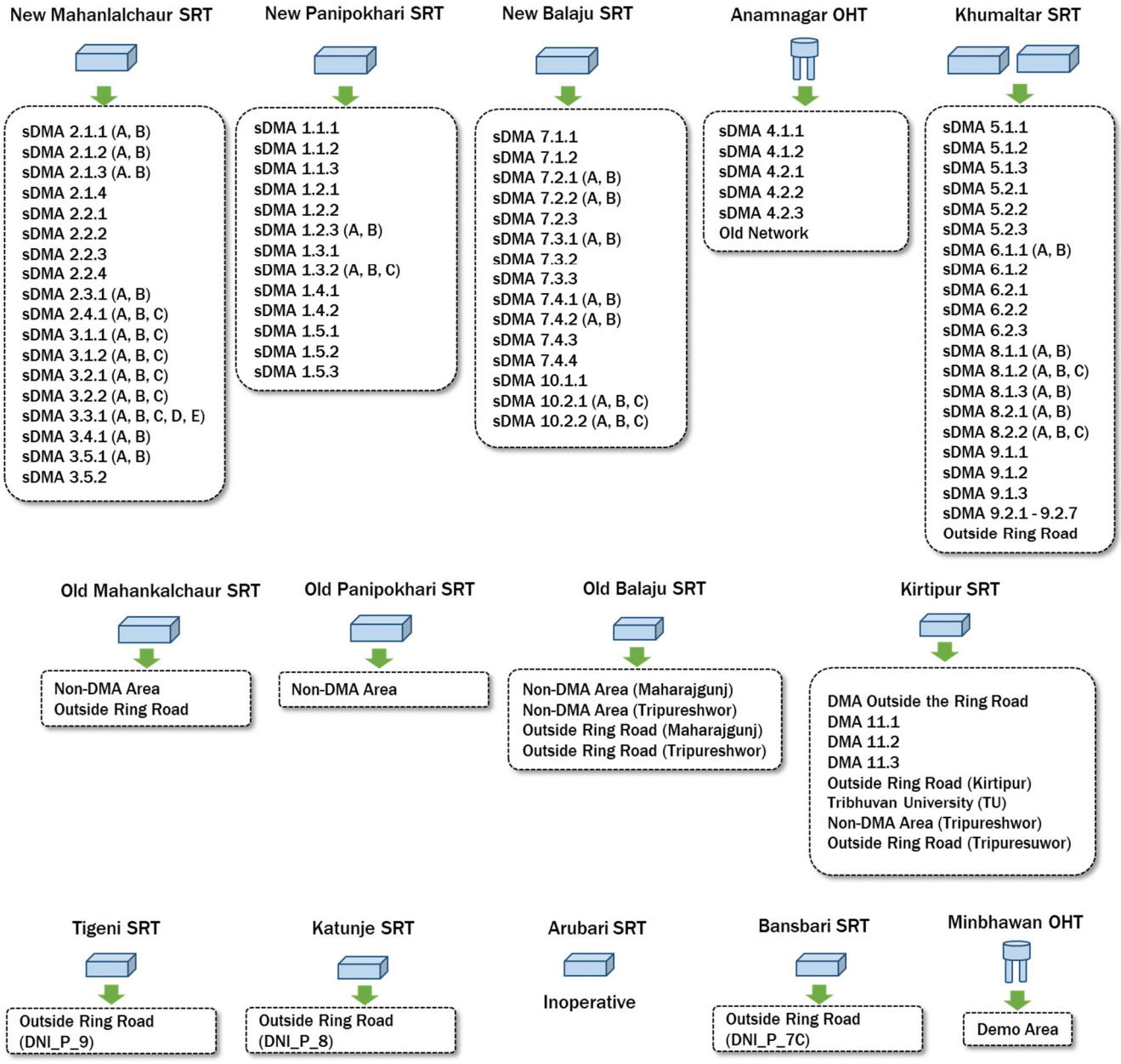


Figure 3.1.2 Sub-DMA covered by each Service Reservoir Tanks (SRTs)

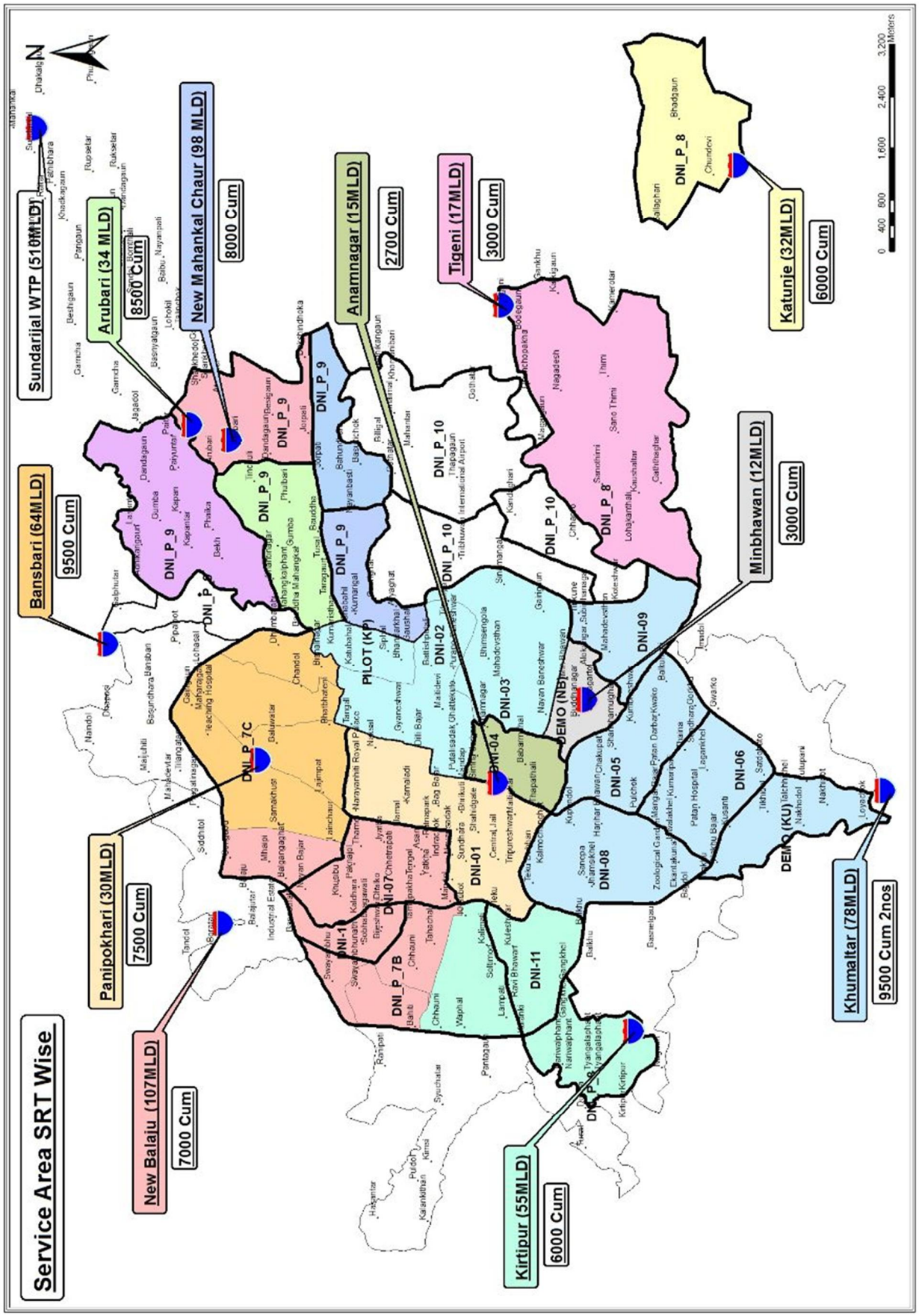


Figure 3.1.3 Water Coverage Area by SRT wise

4. Basic Information on DMAs and Sub-DMAs

The number of customers and estimated demand for each Sub-DMA are shown below.

Table 4.1.1 Estimated Demand in each DMA/Sub-DMA

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
1	1.1	1.1.1	Maharajgunj	Kathmandu				
		1.1.2	Maharajgunj	Kathmandu	12	1,144	135	1,853.3
		1.1.3	Maharajgunj	Kathmandu				
						1,144	Sub total	1,853.3
	1.2	1.2.1	Maharajgunj	Kathmandu				
		1.2.2	Baneshwor	Kathmandu	12	2,259	135	3,659.6
		1.2.3(A)	Maharajgunj	Kathmandu				
		1.2.3(B)	Maharajgunj	Kathmandu				
						2,259	Sub total	3,659.6
	1.3	1.3.1	Tripureshwor	Kathmandu				
		1.3.2(A)	Tripureshwor	Kathmandu	12	3,252	135	5,268.2
		1.3.2(B)	Tripureshwor	Kathmandu				
		1.3.2(C)	Tripureshwor	Kathmandu				
						3,252	Sub total	5,268.2
	1.4	1.4.1	Tripureshwor	Kathmandu	12	2,864	135	4,639.7
		1.4.2	Tripureshwor	Kathmandu				
						2,864	Sub total	4,639.7
	1.5	1.5.1	Tripureshwor	Kathmandu	12	262	135	424.4
		1.5.2	Tripureshwor	Kathmandu	12	365	135	591.3
		1.5.3	Tripureshwor	Kathmandu	12	386	135	625.3
						1,013	Sub total	1,641.1
2	2.1	2.1.1(A)	Mahankalchaur	Kathmandu	12	401	135	649.6
		2.1.1(B)	Maharajgunj & Mahankal	Kathmandu	12	433	135	701.5
		2.1.2(A)	Mahankalchaur	Kathmandu	12	553	135	895.9
		2.1.2(B)	Mahankalchaur	Kathmandu	12	135	135	218.7
		2.1.3(A)	Mahankalchaur	Kathmandu	12	508	135	823.0
		2.1.3(B)	Mahankalchaur	Kathmandu	12	292	135	473.0
		2.1.4	Mahankalchaur	Kathmandu	12	279	135	452.0
						2,601	Sub total	4,213.6
	2.2	2.2.1	Baneshwor	Kathmandu	12	770	135	1,247.4
		2.2.2	Baneshwor	Kathmandu	12	872	135	1,412.6
		2.2.3	Baneshwor	Kathmandu	12	1,989	135	3,222.2
		2.2.4	Baneshwor	Kathmandu	12	614	135	994.7
						4,245	Sub total	6,876.9
	2.3	2.3.1(A)	Baneshwor	Kathmandu	12	510	135	826.2
		2.3.1(B)	Baneshwor	Kathmandu	12	589	135	954.2
						1,099	Sub total	1,780.4
	2.4	2.4.1(A)	Baneshwor & Mahankal	Kathmandu	12	514	135	832.7
		2.4.1(B)	Baneshwor	Kathmandu	12	477	135	772.7
		2.4.1(C)	Baneshwor	Kathmandu	12	735	135	1,190.7
						1,726	Sub total	2,796.1
3	3.1	3.1.1(A)	Baneshwor	Kathmandu	12	415	135	672.3
		3.1.1(B)	Baneshwor	Kathmandu	12	363	135	588.1
		3.1.1(C)	Baneshwor	Kathmandu	12	348	135	563.8
		3.1.2(A)	Baneshwor	Kathmandu	12	503	135	814.9
		3.1.2(B)	Baneshwor	Kathmandu	12	610	135	988.2
		3.1.2(C)	Baneshwor	Kathmandu	12	456	135	738.7
						2,695	Sub total	4,365.9
	3.2	3.2.1(A)	Baneshwor	Kathmandu	12	417	135	675.5
		3.2.1(B)	Baneshwor	Kathmandu	12	287	135	464.9
		3.2.1(C)	Baneshwor	Kathmandu	12	478	135	774.4
		3.2.2(A)	Baneshwor	Kathmandu	12	479	135	776.0
		3.2.2(B)	Baneshwor	Kathmandu	12	484	135	784.1
		3.2.2(C)	Baneshwor	Kathmandu	12	493	135	798.7
						2,638	Sub total	4,273.6
	3.3	3.3.1(A)	Baneshwor	Kathmandu	12	403	135	652.9
		3.3.1(B)	Baneshwor	Kathmandu	12	533	135	863.5
		3.3.1(C)	Baneshwor	Kathmandu	12	503	135	814.9
		3.3.1(D)	Baneshwor	Kathmandu	12	481	135	779.2
		3.3.1(E)	Baneshwor	Kathmandu	12	387	135	626.9
						2,307	Sub total	3,737.3
	3.4	3.4.1(A)	Baneshwor	Kathmandu	12	536	135	868.3
		3.4.1(B)	Baneshwor	Kathmandu	12	364	135	589.7
						900	Sub total	1,458.0
	3.5	3.5.1(A)	Baneshwor & Maharajgunj	Kathmandu	12	551	135	892.6
		3.5.1(B)	Baneshwor	Kathmandu	12	587	135	950.9
		3.5.2	Baneshwor & Maharajgunj	Kathmandu	12	382	135	618.8
						1,520	Sub total	2,462.4
4	4.1	4.1.1	Baneshwor	Kathmandu				
		4.1.2	Baneshwor	Kathmandu	12	569	135	921.8
						569	Sub total	921.8
	4.2	4.2.1	Tripureshwor	Kathmandu	12	256	135	414.7
		4.2.2	Tripureshwor	Kathmandu	12	520	135	842.4
		4.2.3	Tripureshwor	Kathmandu	12	446	135	722.5
						1,222	Sub total	1,979.6

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
5	5.1	5.1.1	Lalitpur	Lalitpur				
		5.1.2	Lalitpur	Lalitpur	12	5,648	135	9,149.8
		5.1.3	Lalitpur	Lalitpur				
						5,648	Sub total	9,149.8
	5.2	5.2.1(A)	Lalitpur	Lalitpur				
		5.2.1(B)	Lalitpur	Lalitpur				
		5.2.1(C)	Lalitpur	Lalitpur				
		5.2.1(D)	Lalitpur	Lalitpur				
		5.2.2(A)	Lalitpur	Lalitpur				
		5.2.2(B)	Lalitpur	Lalitpur	12	3,617	135	5,859.5
		5.2.2(C)	Lalitpur	Lalitpur				
		5.2.2(D)	Lalitpur	Lalitpur				
		5.2.2(E)	Lalitpur	Lalitpur				
		5.2.3(A)	Lalitpur	Lalitpur				
		5.2.3(B)	Lalitpur	Lalitpur				
						3,617	Sub total	5,859.5
6	6.1	6.1.1(A)	Lalitpur	Lalitpur				
		6.1.1(B)	Lalitpur	Lalitpur	12	3,666	135	5,938.9
		6.1.2	Lalitpur	Lalitpur				
		6.1.3	Lalitpur	Lalitpur				
						3,666	Sub total	5,938.9
	6.2	6.2.1	Lalitpur	Lalitpur				
		6.2.2	Lalitpur	Lalitpur	12	4,559	135	7,385.6
		6.2.3	Lalitpur	Lalitpur				
						4,559	Sub total	7,385.6
7	7.1	7.1.1	Maharajgunj	Kathmandu	12	1,549	135	2,509.4
		7.1.2	Tripureshwor	Kathmandu	12	801	135	1,297.6
						2,350	Sub total	3,807.0
	7.2	7.2.1(A)	Tripureshwor	Kathmandu				
		7.2.1(B)	Tripureshwor	Kathmandu				
		7.2.2(A)	Maharajgunj	Kathmandu	12	2,480	135	4,017.6
		7.2.2(B)	Maharajgunj	Kathmandu				
		7.2.3	Maharajgunj	Kathmandu				
						2,480	Sub total	4,017.6
	7.3	7.3.1(A)	Tripureshwor	Kathmandu				
		7.3.1(B)	Tripureshwor	Kathmandu	12	3,100	135	5,022.0
		7.3.2	Tripureshwor	Kathmandu				
		7.3.3	Maharajgunj	Kathmandu				
						3,100	Sub total	5,022.0
	7.4	7.4.1(A)	Tripureshwor	Kathmandu				
		7.4.1(B)	Tripureshwor	Kathmandu				
		7.4.2(A)	Tripureshwor & Lalitpur	Kathmandu	12	4,475	135	7,249.5
		7.4.2(B)	Tripureshwor	Kathmandu				
		7.4.3	Tripureshwor & Maharajgunj	Kathmandu				
		7.4.4	Maharajgunj	Kathmandu				
						4,475	Sub total	7,249.5
8	8.1	8.1.1(A)	Lalitpur	Lalitpur				
		8.1.1(B)	Lalitpur	Lalitpur				
		8.1.2(A)	Lalitpur	Lalitpur				
		8.1.2(B)	Lalitpur	Lalitpur	12	3,893	135	6,306.7
		8.1.2(C)	Lalitpur	Lalitpur				
		8.1.3(A)	Lalitpur	Lalitpur				
		8.1.3(B)	Lalitpur	Lalitpur				
						3,893	Sub total	6,306.7
	8.2	8.2.1(A)	Lalitpur	Lalitpur				
		8.2.1(B)	Lalitpur	Lalitpur				
		8.2.1(C)	Lalitpur	Lalitpur				
		8.2.2(A)	Lalitpur	Lalitpur	12	2,800	135	4,536.0
		8.2.2(B)	Lalitpur	Lalitpur				
		8.2.2(C)	Lalitpur	Lalitpur				
						2,800	Sub total	4,536.0
9	9.1	9.1.1	Baneshwor	Lalitpur	12	799	135	1,294.4
		9.1.2	Baneshwor	Lalitpur	12	1,038	135	1,681.6
		9.1.3	Baneshwor	Lalitpur	12	552	135	894.2
						2,389	Sub total	3,870.2
	9.2	9.2.1	Baneshwor	Lalitpur	12	742	135	1,202.0
		9.2.2	Baneshwor	Lalitpur	12	630	135	1,020.6
		9.2.3	Baneshwor	Lalitpur	12	676	135	1,095.1
		9.2.4	Baneshwor	Lalitpur	12	406	135	657.7
		9.2.5	Baneshwor	Lalitpur	12	447	135	724.1
		9.2.6	Baneshwor	Lalitpur	12	623	135	1,009.3
		9.2.7	Baneshwor	Lalitpur	12	483	135	782.5
						4,007	Sub total	6,491.3
10	10.1	10.1.1	Maharajgunj	Kathmandu	12	480	135	777.6
					12	480	Sub total	777.6
	10.2	10.2.1(A)	Tripureshwor	Kathmandu				
		10.2.1(B)	Tripureshwor	Kathmandu				
		10.2.1(C)	Tripureshwor	Kathmandu				
		10.2.2(A)	Tripureshwor	Kathmandu	12	2,671	135	4,327.0
		10.2.2(B)	Tripureshwor	Kathmandu				
		10.2.2(C)	Tripureshwor	Kathmandu				
						2,671	Sub total	4,327.0
11	11.1	11.1.1	Tripureshwor	Kathmandu	12	2,075	135	3,361.5
						2,075	Sub total	3,361.5
	11.2	11.2.1	Tripureshwor	Kathmandu	12	1,681	135	2,723.2
						1,681	Sub total	2,723.2
	11.3	11.3.1	Tripureshwor	Kathmandu	12	1,239	135	2,007.2
						1,239	Sub total	2,007.2
Demo	Demo	Demo	Baneshwor	Kathmandu	12	5,000	135	8,100.0
						5,000	Sub total	8,100.0
Total	33					88,184		142,858.1

The table above calculates the water demand in DMAs and the existing Demo Area.

However, since the BDS Reservoir supplies water to areas other than the DMAs, it is necessary to estimate the demand for those areas.

Table 4. 1.2 Estimated number of households in the areas except for DMAs and Demo Area

Breakdown of household (connection) for the areas except 32 DMAs

Non DMA Area inside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to DNI 7B (Mhepi, Balaju Area)	2,500	Maharajgunj	Old Balaju
Supply to DNI 7B (Chauni Area)	3,300	Tripureshwor	Old Balaju
Supply to DNI 7B (Tahachal Area)	4,400	Tripureshwor	Kirtipur
Supply to DNI 7B (Kimdol, Dallu, Swoyambhu)	3,300	Tripureshwor (Ex-Chhetrapati)	Old Balaju
Supply to DNI 7C (Lainchaur, Galkopakha, Kapurdhara, Samakhusi, Gongabu)	10,500	Maharajgunj	Old Bansbari
Supply to DNI 7C (Khursanitar Area)	2,000	Maharajgunj	Old Panipokhari
Supply to DNI 7C (Bishalnagar, Chandol)	7,650	Mahankalchaur	Old Mahankal
Supply to Kalopur Pilot Area	2,300	Mahankalchaur	Old Mahankal
Outside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to Tarkeshwor, Banasthali, Dhunge dhara	8,000	Maharajgunj	Old Balaju
Supply to Tokha, Dhapasi, Basundhara (outside ringroad)	7,500	Maharajgunj	Old Bansbari
Supply to Kumari Club, Arcade colony	500	Tripureshwor (Ex-Chhetrapati)	Kirtipur
Supply to Outside the Ringroad by Tripureshwor	2,000	Tripureshwor	Old Balaju
Supply to Kapan, Jorpati	24,701	Mahankalchaur	Old Mahankal
Supply to Kirtipur Customer except for Tribhuvan University	10,054	Kirtipur	Kirtipur
Supply to Kusunti, Bagdol, Nakhu, Nakhipot, Khumaltar, Gwarko, ANFA, Dhapakhel, Dholahiti, Sunakothi	7,395	Lalitpur	Khumaltar
Supply to Kaushaltar, Lokanthali, Gatthaghar, Nagadesh, Sintitar, Dhunchepakha, Saraswatikhel, Thimi Core city, New Thimi, Old Thimi, Bappa, Kamerotar, Madhyapur Hospital	16,596	Madhyapur-Thimi	Thigni
Supply to Kamalbinayak planning, Liwali Planning, Byasi, Bansagopal, Nasamana, Gapali, Tekhacho, Sukuldhoka, Tulachhen, Khiche, Choche, Hanumante Purba, Chundevi, Ghalate, Pandubazar, Shrijananagar, Suryamadhi, Dattatraya, Chyamasingh, Wakupati, Chango road, Mahalaxmi, Bholachhen, Golmadhi, Jagati,	13,560	Bhaktapur	Katunje

Those values should be revised by the respective branch under the supervision by Operation Division.

After filling in the number of households in the areas Non-DMA and outside the Ring Road, the demand to be allocated to each SRT is calculated as follows:

Table 4.1.3 Estimated water demand in the areas except for DMAs and Demo Area

Breakdown of demand for the areas except for 33 DMAs

No of users per connection 12 persons/connection

Demand per capita 135 L/day/person

	Additional Water Demand except for 33 DMAs (m3/day)							
	Balaju	Kirtipur	Bansbari	Panipokhari	Old Mahnkalchaur	Khumaltar	Tigeni	Katunje
Maharajgunj Branch Area								
Non-DMA area inside the Ring Road	4,050		17,010	3,240				
Outside the Ring Road	12,960		12,150					
Tripureshwor Branch Area								
Non-DMA area inside the Ring Road	5,346	7,128						
Outside the Ring Road		810						
Ex-Chhetrapati Branch Area								
Non-DMA area inside the Ring Road	5,346							
Outside the Ring Road	3,240							
Mahankalchaur Branch Area								
Non-DMA area inside the Ring Road					16,119			
Outside the Ring Road					40,016			
Kirtipur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road		16,287						
Madhyapur-Thimi Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road							26,886	
Lalitpur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road						11,980		
Bhaktapur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road								21,967
Total								
Non-DMA area inside the Ring Road	14,742	7,128	17,010	3,240	16,119	0	0	0
Outside the Ring Road	16,200	17,097	12,150	0	40,016	11,980	26,886	21,967

5. Water Receiving Plan from Bulk Distribution System (BDS)

The BDS component will provide water supply to the Kathmandu Metro area using a combination of new water sources developed under Sub-Project 1 of the Melamchi Water Supply Project and other existing water sources.

In order to supply various areas within the Kathmandu Metro area, the new water treatment plant constructed at Sundarijal is the starting point in the water supply network, which will be routed through distribution reservoirs at Mahankalchaur, along the ring road and along the longitudinal route.

The distribution zones, called DMA, are designed to be independent with scattered distribution reservoirs to ensure the stability of water pressure and supply.

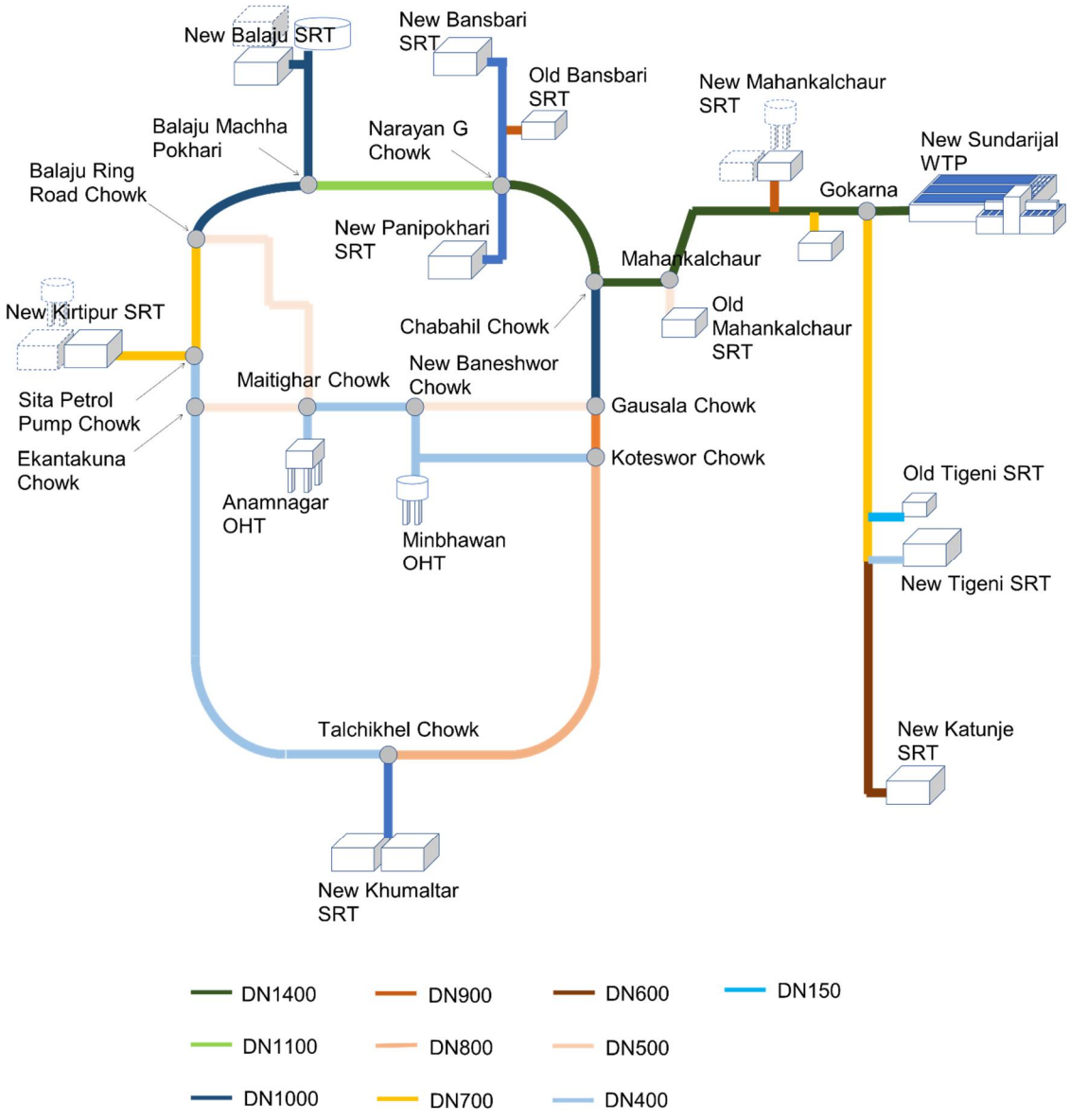


Figure 5.1.1 Schematic Water Supply Network of BDS

The amount of water to be delivered to each Service Reservoir Tank is determined based on the following steps.

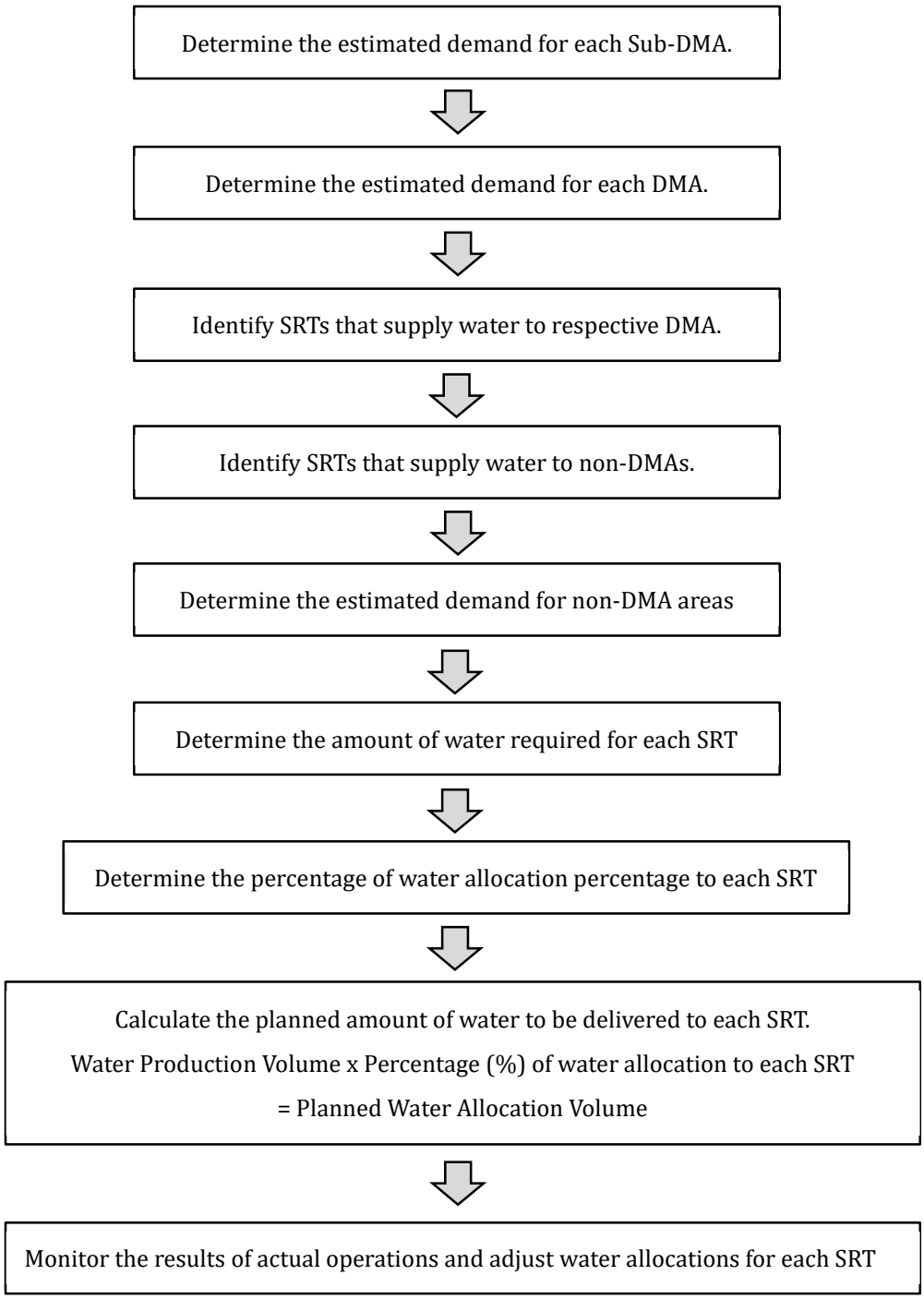


Figure 5.1.2 Steps to determine water allocation for each SRT

Table 5.1.1 Draft of Water Demand and Demand Percentage to each SRT

DMA	Estimated Demand (m3/day)	Demand Percentage (%)	Reservoir
1.1	1,853	0.53	Panipokhari
1.2	3,660	1.05	Panipokhari
1.3	5,268	1.52	Panipokhari
1.4	4,640	1.34	Panipokhari
1.5	1,641	0.47	Panipokhari
2.1	4,214	1.21	New Mahankalchaur
2.2	6,877	1.98	New Mahankalchaur
2.3	1,780	0.51	New Mahankalchaur
2.4	2,796	0.80	New Mahankalchaur
3.1	4,366	1.26	New Mahankalchaur
3.2	4,274	1.23	New Mahankalchaur
3.3	3,737	1.08	New Mahankalchaur
3.4	1,458	0.42	New Mahankalchaur
3.5	2,462	0.71	New Mahankalchaur
4.1	922	0.27	Anamnagar
4.2	1,980	0.57	Anamnagar
5.1	9,150	2.63	Khumaltar
5.2	5,860	1.69	Khumaltar
6.1	5,939	1.71	Khumaltar
6.2	7,386	2.13	Khumaltar
7.1	3,807	1.10	Balaju
7.2	4,018	1.16	Balaju
7.3	5,022	1.45	Balaju
7.4	7,250	2.09	Balaju
8.1	6,307	1.81	Khumaltar
8.2	4,536	1.31	Khumaltar
9.1	3,870	1.11	Khumaltar
9.2	6,491	1.87	Khumaltar
10.1	778	0.22	Balaju
10.2	4,327	1.25	Balaju
11.1	3,362	0.97	Kirtipur
11.2	2,723	0.78	Kirtipur
11.3	2,007	0.58	Kirtipur
Demo Area	8,100	2.33	Minbhawan
Tribhuvan University (TU)	100	0.03	Kirtipur
Non-DMA within the Ring Road	0	0.00	Anamnagar
Non-DMA within the Ring Road	14,742	4.24	Balaju
Non-DMA within the Ring Road	17,010	4.90	Bansbari
Non-DMA within the Ring Road	0	0.00	Khumaltar
Non-DMA within the Ring Road	7,128	2.05	Kirtipur
Non-DMA within the Ring Road	16,119	4.64	Old Mahankalchaur
Non-DMA within the Ring Road	0	0.00	Minbhawan
Non-DMA within the Ring Road	3,240	0.93	Panipokhari
Outside Ring Road	0	0.00	Arubari
Outside Ring Road	12,150	3.50	Bansbari
Outside Ring Road	16,200	4.66	Balaju
Outside Ring Road	11,980	3.45	Khumaltar
Outside Ring Road	17,097	4.92	Kirtipur
Outside Ring Road	40,016	11.52	Old Mahankalchaur
Outside Ring Road	0	0.00	Panipokhari
Outside Ring Road	26,886	7.74	Tigeni
Outside Ring Road	21,967	6.32	Katunje
Total	347,493	100.0	

Currently, water conduction from the Melamchi River is suspended during the rainy season, so the limited amount of water must be equally distributed according to the estimated demand.

Table 5.1.2 Standard Water Production (Main)

	Dry Season with Melamchi water	Monsoon Season without Melamchi water
Supply volume to BDS from New Sundarijal WTP	192 MLD	48 MLD
Production of Mahankalchaur WTP with existing water sources	16.37 MLD	20.67 MLD
Production of Bansbari WTP with existing water sources	10.18 MLD	18.33 MLD
Production of Bode WTP with existing water sources	7.90 MLD	8.08 MLD
Total	226.45 MLD	95.08 MLD

Source: KUKL Annual Report

Table 5.1.3 Water Production Record 2080/2081

		Mahanlakchaur WTP	Bansbari WTP	Bode WTP
Shrawan	July-August	20.15	22.43	8.91
Bhadra	August-September	25.54	30.96	8.08
Ashwin	September-October	17.00	29.32	8.32
Kartik	October-November	20.80	22.83	8.19
Mangsir	November-December	22.86	10.47	8.15
Paush	December-January	22.80	5.83	8.13
Magh	January-February	13.46	5.43	7.64
Falgun	February-March	15.34	19.34	7.50
Chaitra	March-April	9.73	2.7	7.70
Baishakh	April-May	9.66	4.67	8.00
Jestha	May-June	11.26	1.09	7.55
Ashad	June-July	29.22	7.85	7.55
Daily Average (MLD)		18.15	13.58	7.98
Monsoon season average without operation of Melamchi tunnel (MLD)		20.63	18.33	8.08
Dry season average with operation of Melamchi tunnel (MLD)		16.37	10.18	7.90

Source: KUKL Annual Report

Note: The operation of the Melamchi Diversion Tunnel will be suspended from the end-May to the mid-October.

Figure 5.1.4 Water Allocation Plan in Dry Season

Dry Season with Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	1,603				1,603	289	1,892
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	31,020				31,020	5,595	36,615
Bansbari (New & Old)	29,160	8.39	16,112		10,180		5,932	2,906	8,838
Khumaltar	61,518	17.70	33,990				33,990	6,131	40,121
Kirtipur	32,417	9.33	17,911				17,911	3,231	21,142
Mahankalchaur (New)	31,964	9.20	17,661				17,661	3,185	20,847
Mahankalchaur (Old)	56,135	16.15	31,016	16,370			14,646	5,594	20,240
Minbhawan	8,100	2.33	4,475				4,475	807	5,283
Panipokhari (New & Old)	20,302	5.84	11,217				11,217	2,023	13,241
Tigeni	26,886	7.74	14,855			8,080	6,775	2,679	9,455
Katunje	21,967	6.32	12,137				12,137	2,189	14,327
Total	347,493	100.00	192,000				157,370	34,630	192,000
			(F)				(G)		

Figure 5.1.5 Water Allocation Plan in Monsoon Season

Monsoon Season without Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	401				401	129	530
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	7,755				7,755	2,504	10,259
Bansbari (New & Old)	29,160	8.39	4,028		18,330		0	1,300	1,300
Khumaltar	61,518	17.70	8,498				8,498	2,743	11,241
Kirtipur	32,417	9.33	4,478				4,478	1,446	5,923
Mahankalchaur (New)	31,964	9.20	4,415				4,415	1,425	5,841
Mahankalchaur (Old)	56,135	16.15	7,754	20,630			0	2,503	2,503
Minbhawan	8,100	2.33	1,119				1,119	361	1,480
Panipokhari (New & Old)	20,302	5.84	2,804				2,804	905	3,710
Tigeni	26,886	7.74	3,714			7,900	0	1,199	1,199
Katunje	21,967	6.32	3,034				3,034	980	4,014
Total	347,493	100.00	48,000				32,504	15,496	48,000
			(F)				(G)		

6. Target of Water Supply Hour, Frequency of Water Supply and Water Supply Volume

[Supply Hour]

2 hours or more per supply day for all DMAs

[Supply Frequency]

Dry Season with Melamchi water:	At least once every 3 days in all DMAs
Monsoon Season without Melamchi water:	At least once every 5 days in all DMAs

[Supply Volume]

The amount of water allocated to each SRT is compared with the estimated demand of each Sub-DMA and other water supply areas to determine the water supply frequency and hours for each area so that water supply is achieved equally in all areas.

The following page shows the standard water supply schedule created by KUKL's Operation Division. Since available water sources differ between the monsoon and dry seasons, headquarters must review the need for monthly adjustments to the water supply schedule based on local conditions.

Table 6.1.1 Water Supply Plan in Dry Season with Melamchi water (1/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																												
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
Anamnagar	79	1,892	4.1	4.1.1	921.8	14:00	20:00			√			√			√			√			√			√			√			√			√			√
				4.1.2		14:00	22:00			√			√			√			√			√			√			√			√			√			√
			4.2	4.2.1	414.7	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.2	842.4	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.3	722.5	11:00	22:00			√			√			√			√			√			√			√			√			√			√
			Old Network	1st Shift	0.0	4:00	5:00	√			√			√			√			√			√			√			√			√			√		
				2nd Shift		20:00	21:00	√			√			√			√			√			√			√			√			√			√		
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																																
Balaju	1,526	36,615	7.1	7.1.1	2,509.4	4:00	12:00				√				√				√				√				√				√				√		
				7.1.2	1,297.6	4:00	12:00				√				√				√				√				√				√				√		
			7.2	7.2.1(A)	4,017.6	4:00	12:00		√				√				√				√			√			√				√				√
				7.2.1(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(A)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.3		4:00	12:00		√				√				√				√			√			√				√				√
			7.3	7.3.1(A)	5,022.0	7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.1(B)		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.2		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.3		7:00	19:00	√				√				√				√			√			√			√			√			√	
			7.4	7.4.1(A)	7,249.5	7:00	19:00			√				√				√				√			√				√			√				
				7.4.1(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(A)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.3		7:00	19:00			√				√				√				√			√				√			√				
				7.4.4		7:00	19:00			√				√				√				√			√				√			√				
			10.1	10.1.1	777.6	12:00	17:00				√				√				√				√				√				√				√		
			10.2	10.2.1(A)	4,327.0	17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(B)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(C)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.2(A)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(B)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(C)		13:00	20:00				√				√				√				√				√				√				√		
			Old Network	1st Shift	14,742.0	5:30	8:00		√					√					√					√					√					√			
				2nd Shift		8:00	20:00		√					√					√					√					√					√			
			Outside Ring Road		16,200.0	18:15	20:15					√					√				√					√				√						√
Bansbari	368	8,838	Old Network	1st zone, 1st Shift	17,010.0	5:30	8:00	√				√				√				√				√				√				√				√	
				1st zone, 2nd Shift		10:30	13:00	√				√				√				√				√				√				√				√	
				1st zone, 3rd Shift		15:30	18:00	√				√				√				√				√				√				√				√	
				1st zone, 4th Shift		20:30	23:00	√				√				√				√				√				√				√				√	
				2nd Zone, 1st Shift		3:00	5:30		√				√				√				√				√				√				√				√
				2nd Zone 2nd Shift		8:00	10:30		√				√				√				√				√				√				√				√
				2nd Zone 3rd Shift		13:00	15:30		√				√				√				√				√				√				√				√
				2nd Zone 4th Shift		18:00	20:30		√				√				√				√				√				√				√				√
				3rd Zone, 1st Shift		3:00	5:30			√				√				√				√			√				√				√				
				3rd Zone, 2nd Shift		8:00	10:30			√				√				√				√			√				√				√				
				3rd Zone, 3rd Shift		13:00	15:30			√				√				√				√			√				√				√				
				3rd Zone, 4th Shift		18:00	20:30			√				√				√				√			√				√				√				
			Outside Ring Road	1st Shift	12,150.0	3:00	18:00				√				√				√				√				√				√				√		
				2nd Shift		18:00	21:00				√				√				√				√				√				√				√		
				3rd Shift		21:00	0:00				√				√				√				√				√				√				√		
				4th Shift		0:00	3:00				√				√				√				√				√				√				√		
Khumaltar	1,672	40,121	5.1	5.1.1	9,149.8	18:00	6:00			√				√				√				√				√				√				√		
				5.1.2		18:00	6:00			√				√				√				√				√				√				√		
				5.1.3		18:00	6:00			√				√				√				√				√				√				√		
			5.2	5.2.1	5,859.5	6:00	18:00		√				√				√				√			√			√				√				√
				5.2.2		6:00	18:00		√				√				√				√			√			√				√				√
				5.2.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.1	6.1.1(A)	5,938.9	6:00	18:00		√				√				√				√			√			√				√				√
				6.1.1(B)		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.2		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.2	6.2.1	7,385.6	18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.2		18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.3		18:00	18:00	√				√				√				√				√				√				√				√	
			8.1	8.1.1	6,306.7	6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.2		6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.3		6:00	6:00	√				√				√				√				√				√				√				√	
			8.2	8.2.1	4,536.0	6:00	18:00		√				√				√				√			√				√				√				√
				8.2.2		6:00	18:00		√				√				√				√			√				√				√				√
			9.1	9.1.1	1,294.4	19:00	6:00				√				√				√				√				√				√				√		
				9.1.2	1,681.6	19:00	6:00				√				√				√				√				√				√				√		
				9.1.3	894.2	19:00	6:00				√				√				√				√				√				√				√		
			9.2	9.2.1	1,202.0	6:00	19:00				√				√				√				√				√				√				√		
				9.2.2	1,020.6	6:00	19:00				√				√				√				√				√				√				√		
				9.2.3	1,095.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.4	657.7	6:00	19:00				√				√				√				√				√				√				√		
				9.2.5	724.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.6	1,009.3	6:00	19:00				√				√				√				√				√				√				√		
				9.2.7	782.5	6:00	19:00				√				√				√				√				√				√				√		

Table 6.1.2 Water Supply Plan in Dry Season with Melamchi water (2/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			Old Network		0.0																														
			Outside Ring Road	1st Zone I	11,980.0	5:00	21:00		√				√				√				√			√				√				√				√
				1st Zone - II(a)		5:00	14:00				√				√				√				√			√				√				√		
				1st Zone - II(b)		8:00	9:00				√				√				√				√			√				√				√		
				1st Zone - II©		5:00	20:00				√				√				√				√			√				√				√		
				1st Zone - III		5:00	8:00	√				√				√				√				√				√				√				√	
				2nd Zone - I		6:00	18:00			√								√								√								√		
				2nd Zone - II		6:00	18:00							√								√								√						√
				3rd Zone - I		7:00	19:00	√				√				√				√				√				√				√				√	
				3rd Zone - II		7:00	19:00			√				√				√				√				√				√				√		
				4th Zone - I		6:00	20:00			√				√				√				√				√				√				√		
				4th Zone - II		17:00	0:00				√				√				√				√				√				√				√		
				4th Zone - III		17:00	0:00					√				√				√				√			√				√				√		
				4th Zone - IV		17:00	0:00						√				√				√				√			√				√					
Kirtipur	881	21,142	11.1	11.1.1	3,361.5	18:00	6:00	√			√			√			√			√			√			√			√			√			
			11.2	11.2.1	2,723.2	18:00	6:00		√			√			√			√			√			√			√			√			√		
			11.3	11.3.1	2,007.2	18:00	6:00			√			√			√			√			√			√			√			√			√	
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network	Zone 1	7,128.0	6:00	18:00		√							√							√						√							√
				Zone 2		6:00	18:00			√							√							√							√						
				Zone 3		6:00	18:00				√							√							√							√					
				Zone 4		6:00	18:00					√							√							√							√				
				Zone 5		6:00	18:00						√							√							√							√			
				Zone 6		6:00	18:00							√							√							√							√		
				Zone 7		6:00	18:00	√							√							√							√							√	
				Tyanglaphant - I		6:00	16:00		√		√		√			√		√		√			√		√		√			√		√		√			√
				Tyanglaphant - II a		8:00	16:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Tyanglaphant - II b		8:00	17:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III a		7:00	13:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III b		6:00	2:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		9:00	15:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		15:30	18:30			√		√					√		√					√		√					√		√				
				Maitri Chandani		16:00	19:00				√		√					√		√						√		√					√		√		√
				Maitri Chandani		9:00	15:00							√								√							√							√	
				Panga Dokashi -I		12:00	17:00			√							√							√							√						
				Panga Dokashi -II		8:00	13:00					√							√							√							√				
				Panga Dokashi -III		8:00	11:20	√							√							√						√							√		
				Bhatkepati - I		8:00	14:00		√							√							√							√							√
				Bhatkepati - II		10:00	17:00			√							√							√							√						
				Bhatkepati - III		10:00	17:00				√							√							√							√					
				Nagaun - I		9:00	17:00					√							√							√							√				
				Nagaun - II		10:00	17:00						√							√							√							√			
				Nagaun - III		8:00	16:00							√							√							√							√		
				Nagaun - IV		9:00	12:00								√							√							√							√	
				Jakha-Sikhunchhe D		9:00	10:00			√			√				√			√			√			√			√			√				
				Jakha-Sikhunchhe U		8:00	9:00				√				√			√			√			√			√			√			√			√	
				Nagaun & Old		5:00	11:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Nagaun & Old		5:00	11:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		10:00	19:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				KIRTIPUR old		10:00	19:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		4:00	20:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Kwachwo - I		4:00	22:00		√							√							√							√							√
				Kwachwo - II		3:00	8:00			√							√							√							√						
				Kwachwo - III		4:00	7:00				√							√							√							√					
				Kwachwo R - I		5:00	9:00					√							√							√							√				
				Kwachwo R - I		3:00	22:00						√							√							√							√			
				Kwachwo R - I		4:00	8:00							√							√							√							√		
				Kwachwo R - I		4:00	7:00								√							√							√							√	
				Bhajangal - I		4:00	9:00			√		√			√		√		√				√		√		√			√		√		√			√
				Bhajangal - II		6:00	10:00		√			√			√	√			√			√	√			√			√	√			√			√	√
				Bhajangal - III		5:00	10:00			√	√		√				√	√		√				√	√		√				√	√		√			
				Nayabazar Area		10:00	18:10		√						√								√							√							√
				Nayabazar Area - I		8:00	18:00				√			√				√			√				√			√				√			√		
				Nayabazar Area - II		14:00	19:00					√							√							√							√				
				Nayabazar Area - II		11:30	16:30	√							√							√							√							√	
Mahankalchaur	1,712	41,087	2.1	2.1.1(A)	649.6	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.1(B)	701.5	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(A)	895.9	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(B)	218.7	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(A)	823.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(B)	473.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.4	452.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
			2.2	2.2.1	1,247.4	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.2	1,412.6	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.3	3,222.2	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.4	994.7	12:00	22:00	√			√			√			√			√			√			√			√			√			
			2.3	2.3.1(A)	826.2	1:00	8:00		√			√			√			√			√			√			√			√				√	
				2.3.1(B)	954.2	1:00	8:00		√			√			√			√			√			√			√			√				√	

Table 6.1.3 Water Supply Plan in Dry Season with Melamchi water (3/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			2.4	2.4.1(A)	832.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(B)	772.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(C)	1,190.7	7:00	12:00	√			√			√			√			√			√			√			√			√			√		
			3.1	3.1.1(A)	672.3	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(B)	588.1	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(C)	563.8	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(A)	814.9	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(B)	988.2	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(C)	738.7	13:00	17:00			√			√			√			√			√			√			√			√			√		√
			3.2	3.2.1(A)	675.5	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(B)	464.9	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(C)	774.4	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(A)	776.0	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(B)	784.1	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(C)	798.7	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
			3.3	3.3.1(A)	652.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(B)	863.5	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(C)	814.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(D)	779.2	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(E)	626.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
			3.4	3.4.1(A)	868.3	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
				3.4.1(B)	589.7	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
			3.5	3.5.1(A)	892.6	4:00	7:00			√			√			√			√			√			√			√			√			√		√
				3.5.1(B)	950.9	7:00	12:00			√			√			√			√			√			√			√			√			√		√
				3.5.2	618.8	7:00	12:00			√			√			√			√			√			√			√			√			√		√
			Old Network	Zone 1	16,119.0	8:00	7:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	7:00			√			√			√			√			√			√			√			√			√			
				Zone 3		10:00	7:00	√			√			√			√			√			√			√			√			√			√			
			Outside Ring Road	Zone 1	40,016.0	8:00	10:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	8:00			√			√			√			√			√			√			√			√			√			
				Zone 3		20:00	0:00	√			√			√			√			√			√			√			√			√			√		
				Zone 4 i		4:00	3:00		√						√							√								√							
				Zone 4 ii		3:00	3:00			√						√								√							√						
				Zone 5 i		4:00	5:00	√							√							√						√								
				Zone 5 ii		5:00	5:00		√							√							√						√							
				Zone 5 iii		5:00	5:00			√							√							√							√						
				Zone 5 iv		5:00	5:00				√							√							√							√					
				Zone 5 v		5:00	4:00					√							√							√							√				
				Zone 5 vi		4:00	22:00						√							√							√							√			
				Zone 5 vii		4:00	4:00							√							√							√							√		
				Zone 6 i		5:00	22:00				√							√				√							√								
				Zone 6 ii		6:00	19:00					√							√							√							√				
				Zone 6 iii		19:00	5:00						√							√							√							√			
				Zone 6 iv		5:00	17:00							√							√							√							√		
Minbhawan	220	5,283	Demo Area	Zone 1	8,100.0	5:00	11:00		√			√			√			√			√			√			√			√			√		√	
				Zone 1 - II		3:00	8:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		5:00	11:00			√			√			√			√			√			√			√			√			√			√
				Zone 2 - II		3:00	8:00			√			√			√			√			√			√			√			√			√			√
				Zone 3		5:00	10:00	√			√			√			√			√			√			√			√			√			√		
				Zone 3 - II		12:00	18:00	√			√			√			√			√			√			√			√			√			√		
Panipokhari	552	13,241	1.1	1.1.1	1,853.3	12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.2		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.3		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
			1.2	1.2.1	3,659.6	12:00	16:00		√			√			√			√			√			√			√			√			√		√	
				1.2.2		7:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.2.3(A)		16:00	20:00		√				√				√				√				√				√				√			√
				1.2.3(B)		16:00	20:00		√				√				√				√				√				√				√			√
			1.3	1.3.1	5,268.2	6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(A)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(B)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(C)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
			1.4	1.4.1	4,639.7	16:00	18:00			√			√			√			√			√			√			√			√			√		√
				1.4.2		16:00	18:00			√			√			√			√			√			√			√			√			√		√
			1.5	1.5.1	424.4	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.2	591.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.3	625.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
			Old Network	1st Zone, 1st Shift	3,240.0	4:00	7:00				√					√			√				√				√				√				√	
				1st Zone, 2nd Shift		07"00	9:00				√					√			√				√				√				√				√	
				1st Zone, 3rd Shift		9:00	11:00				√					√			√				√				√				√				√	
				1st Zone, 4th Shift		11:00	13:00				√					√			√				√				√				√				√	
				1st Zone, 5th Shift		13:00	16:00				√					√			√				√				√				√				√	
				1st Zone, 6th Shift		16:00	19:00				√					√			√				√				√				√				√	
				1st Zone, 7th Shift		19:00	22:00				√					√			√				√				√				√				√	
				2nd Zone		4:00	7:00	√				√				√				√				√				√				√				√	
			Outside Ring Road		0.0																															
Tigeni	394	9,455	Outside Ring Road	1st zone	26,886.0	5:00	4:00	√				√				√				√				√				√				√				√	
				2nd zone		5:00	4:00		√				√				√				√				√				√				√				√
				3rd zone		5:00	4:00			√			√			√			√			√			√			√			√			√			√
				4th zone		5:00	4:00				√				√				√				√				√				√				√		
Katunje	597	14,327	Outside Ring Road	1st zone - I	21,967.0	4:00	10:00				√				√				√				√				√				√				√	
				1st zone - II		16:00	20:00				√				√				√				√				√				√				√	
				2nd zone - I		4:00	10:00	√				√				√				√				√				√				√				√	
				2nd zone - II		16:00	20:00	√				√				√				√				√				√				√				√	
				3rd zone - I		4:00	10:00		√				√				√				√				√				√				√				√
				3rd zone - II		16:00	20:00		√				√				√				√				√				√				√				√
				4th zone - I		4:00	10:00			√			√			√			√			√			√			√			√			√			√
				4th zone - II		16:00	20:00			√			√			√			√			√			√			√			√			√			√
				5th zone -I		10:00	14:00				√				√				√				√				√				√				√	
				5th zone - II		20:00	0:00				√				√				√				√				√				√				√	
				6th zone - I		10:00	14:00			√			√			√			√			√			√			√			√			√			√
				6th zone - II		20:00	0:00			√			√			√			√			√			√			√			√			√			√
		192,000		Total	347,493.1																															

Table 6.1.4 Water Supply Plan in Monsoon Season without Melamchi water (1/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Anamnagar	22	530	4.1	4.1.1	921.8																															
				4.1.2		14:00	20:00			√						√						√						√						√				
			4.2	4.2.1	414.7	11:00	20:00			√						√						√						√						√				
				4.2.2	842.4	11:00	20:00			√						√						√						√						√				
				4.2.3	722.5	11:00	20:00			√						√						√						√						√				
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																															
Balaju	427	10,259	7.1	7.1.1	2,509.4	17:00	22:00						√						√						√						√					√	
				7.1.2	1,297.6	17:00	22:00						√						√						√						√					√	
			7.2	7.2.1(A)		4:00	11:00						√						√						√						√					√	
				7.2.1(B)		4:00	11:00						√						√						√						√					√	
				7.2.2(A)	4,017.6	4:00	11:00						√						√						√						√					√	
				7.2.2(B)		4:00	11:00						√						√						√						√					√	
				7.2.3		4:00	11:00						√						√						√						√					√	
			7.3	7.3.1(A)		4:00	13:00					√						√					√						√					√		
				7.3.1(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(A)	5,022.0	4:00	13:00					√						√					√						√					√		
				7.3.2(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(C)		4:00	13:00					√						√					√						√					√		
				7.3.3		4:00	13:00					√						√					√						√					√		
			7.4	7.4.1(A)		4:00	13:00				√						√						√	√					√					√		
				7.4.1(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.2(A)	0.0	4:00	13:00				√						√						√	√					√					√		
				7.4.2(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.3		4:00	13:00				√						√						√	√					√					√		
				7.4.4		4:00	13:00				√						√						√	√					√					√		
			10.1	10.1.1	777.6																															
			10.2	10.2.1(A)		15:00	20:00					√						√						√						√					√		
				10.2.1(B)		15:00	20:00					√						√						√						√					√		
				10.2.1(C)	4,327.0	15:00	20:00					√						√						√						√					√		
				10.2.2(A)		15:00	20:00				√						√						√						√					√		
				10.2.2(B)		15:00	20:00				√						√						√						√					√		
				10.2.2(C)		15:00	20:00				√						√						√						√					√		
			Old Network	1st Zone		6:00	8:00				√						√						√						√					√		
				2nd Zone		8:00	18:00				√						√						√						√					√		
				1st zone, 1st Shift		3:30	5:00			√						√						√						√					√				
				1st zone, 2nd Shift		7:00	8:00			√						√						√						√					√				
				1st zone, 3rd Shift		13:00	17:00			√						√						√						√					√				
				2nd Zone, 1st Shift		14:30	15:30						√						√						√						√					√	
				2nd Zone 2nd Shift		15:30	16:30						√						√						√						√					√	
				2nd Zone 3rd Shift	14,742.0	16:30	17:30						√						√						√						√					√	
				3rd Zone, 1st Shift		14:30	15:30				√						√						√						√					√		
				3rd Zone, 2nd Shift		15:30	16:30				√						√						√						√					√		
				3rd Zone, 3rd Shift		16:30	17:30				√						√						√						√					√		
				3rd Zone, 4th Shift		17:30	18:30				√						√						√						√					√		
				3rd Zone, 5th Shift		18:30	19:30				√						√						√						√					√		
				4th Zone, 1st Shift		14:30	17:00			√						√						√						√						√		
				4th Zone, 2nd Shift		15:30	17:00			√						√						√						√						√		
				5th Zone, 1st Shift		15:30	17:00				√						√						√						√					√		
			Outside Ring Road	1st Zone	16,200.0	5:15	8:00						√						√						√						√					√	
				2nd Zone		5:15	8:00			√						√						√						√						√				
Bansbari	54	1,300	Old Network	1st zone, 1st Shift		3:00	5:00				√						√						√						√					√		
				1st zone, 2nd Shift		9:00	11:00				√						√						√						√					√		
				1st zone, 3rd Shift		15:00	17:00				√						√						√						√					√		
				2nd Zone, 1st Shift		3:00	5:00					√						√						√						√					√	
				2nd Zone 2nd Shift		9:00	11:00					√						√						√						√					√	
				2nd Zone 3rd Shift		15:00	17:00					√						√						√						√					√	
				3rd Zone, 1st Shift		3:00	5:00						√						√						√						√					√	
				3rd Zone, 2nd Shift	17,010.0	9:00	11:00						√						√						√						√					√	
				4th Zone, 1st Shift		3:00	5:00	√						√						√						√						√					√
				4th Zone, 2nd Shift		9:00	11:00	√						√						√						√						√					√
				4th Zone, 3rd Shift		15:00	17:00	√						√						√						√						√					√
				5th Zone, 1st Shift		3:00	5:00		√						√						√						√						√				
				5th Zone, 2nd Shift		9:00	11:00		√						√						√						√						√				
				5th Zone, 3rd Shift		15:00	17:00		√						√						√						√						√				
				6th Zone, 1st Shift		18:00	22:00			√						√						√						√					√				
			Outside Ring Road	1st zone, 1st Shift		3:00	5:30		√					√						√					√						√						
				1st zone, 2nd Shift		14:00	15:30		√					√						√					√						√						
				1st zone, 3rd Shift		15:30	16:30		√					√						√					√						√						
				2nd Zone, 1st Shift		3:00	5:00			√					√					√						√						√					
				2nd Zone 2nd Shift	12,150.0	14:00	16:00			√					√					√						√						√					
				3rd Zone, 1st Shift		3:00	5:00				√					√						√						√						√		
				3rd Zone, 2nd Shift		14:00	16:00				√					√						√						√						√		
				4th Zone, 1st Shift		3:00	5:00					√					√					√						√					√			
				4th Zone, 2nd Shift		14:00	16:00					√					√					√						√					√			
				5th Zone, 1st Shift		3:00	5:00	√					√					√					√						√								√

Table 6.1.5 Water Supply Plan in Monsoon Season without Melamchi water (2/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																								
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Khumaltar	468	11,241	5.1	5.1.1	9,149.8	14:00	21:00							7							14							21							28			
				5.1.2		14:00	21:00							7							14							21							28			
				5.1.3		14:00	21:00							7							14							21							28			
			5.2	5.2.1	5,859.5	4:00	11:00						6							13						20							27				
				5.2.2		4:00	11:00						6							13						20							27				
				5.2.3		4:00	11:00						6							13						20							27				
			6.1	6.1(DNI)	5,938.9	19:00	6:00						6							13						20							27				
				6.1(DNI)		19:00	6:00							7							14							21							28			
			6.2	6.2(DNI)	7,385.6	18:00	6:00				4							11						18							25						
				6.2(DNI)		18:00	6:00					5							12							19							26					
			8.1	8.1 (DNI)	6,306.7	8:00	20:00					5							12							19							26					
			8.2	8.2 (DNI)	4,536.0	8:00	20:00					5							12							19							26					
			9.1	9.1.1	1,294.4	20:00	5:00								√							√							√							√		
				9.1.2	1,681.6	20:00	5:00								√							√							√							√		
				9.1.3	894.2	20:00	5:00								√							√							√							√		
			9.2	9.2.1	1,202.0	5:00	19:00							√							√							√							√		
				9.2.2	1,020.6	5:00	19:00							√							√							√							√		
				9.2.3	1,095.1	5:00	19:00							√							√							√							√		
				9.2.4	657.7	5:00	19:00							√							√							√							√		
				9.2.5	724.1	5:00	19:00							√							√							√							√		
				9.2.6	1,009.3	5:00	19:00							√							√							√							√		
				9.2.7	782.5	5:00	19:00							√							√							√							√		
			Old Network		0.0																																	
			Outside Ring Road	8.1 (20" KUKL)	11,980.0	6:00	14:00				4							11						18							25						
				8.1 (20" KUKL)		15:00	17:00				4							11						18							25						
				8.1 (20" KUKL)		7:00	16:00		2							9						16								23							30	
				8.1 (20" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	13:00							7							14							21							28			
Kirtipur	247	5,923	11.1	11.1.1	3,361.5	18:00	6:00	√						√						√					√						v	√						√
			11.2	11.2.1	2,723.2	18:00	6:00						√						√						√					√						v		
			11.3	11.3.1	2,723.2	18:00	6:00					√						√						√					√						v			
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network		7,128.0	7:00	17:00																															
			Siwalaya System	Siwalaya 1		7:00	12:30							√							√							√							√			
				Siwalaya 1		7:00	9:40	√							√							√							√							√			
			Bhajangal System	Bhajangal R1		4:00	8:40	√				√			√				√			√				√			√				√			√			
				Bhajangal R2		5:00	5:40	√		√					√		√					√		√					√		√					√			√
				Bhajangal R3		5:00	8:40	√			√				√			√				√			√					√			√				√		
				Bhajangal R4		5:00	5:40		√					√		√						√		√				√		√					√		√	
						18:30	20:00		√					√		√						√		√				√		√					√		√	
				Bhajangal R5		6:00	8:40		√			√				√			√				√			√				√			√				√	
				Bhajangal D		8:00	14:40			√			√				√			√				√			√				√			√				√
				Bhajangal K		8:00	11:20				√			√				√			√				√			√				√			√			
				Gurung Compound		14:40	18:00				√							√							√							√						
			Chilancho System	Chilancho 1		4:00	7:30	√				√			√				√			√				√			√				√			√		
						21:00	22:00	√				√			√				√			√				√			√				√			√		
				Chilancho 2		6:00	9:00		√				√			√				√			√				√			√				√			√	
						19:30	20:00		√				√			√				√			√				√			√				√			√	
				Chilancho 3		4:00	8:00				√			√				√			√				√			√				√			√		
				Chilancho 4		16:00	19:00	√				√		√	√			√	√		√	√			√	√		√	√			√	√		√	√		
				Chilancho 5		14:30	18:30		√				√	√		√		√		√	√		√		√		√	√		√		√		√		√		
				Chilancho 6		14:15	18:00				√			√				√							√				√			√			√			
			Devdhoka System	Devdhoka 1	17,097.0	6:00	15:00	√							√							√							√							√		
						12:00	15:00	√							√							√							√							√		
				Devdhoka 2		6:00	19:00		√							√							√							√							√	
						15:00	19:00		√							√							√							√							√	
				Devdhoka 3		6:00	11:00			√							√							√							√							√
						13:00	14:00			√							√							√							√							√
				Devdhoka 4		6:00	10:00				√							√							√							√						
				Devdhoka 5		6:00	9:00					√							√							√							√						
						12:00	15:30					√							√														√						
				Devdhoka 6		6:00	9:00						√							√							√							√				
						15:00	18:30						√							√							√							√				
				Devdhoka 7		6:00	21:00							√							√							√							√			
						15:00	18:30							√							√							√							√			
			Kwacho System	Kwacho 1		4:00	6:30	√				√			√				√			√				√			√				√			√		
						18:30	19:30	√				√			√				√			√				√			√				√			√		
				Kwacho 2		3:00	6:30		√				√			√				√			√				√			√				√			√	
				Kwacho 3		4:00	5:30			√				√			√				√			√				√			√				√			√
			Jakha System	Water is used when local																																		
			Nagau System	Nagau 1 (8 area)		5:00	9:00	√		√		√			√		√		√			√		√		√			√		√		√			√			√
				Nagau 2 (8 area)		5:00	9:00		√		√		√			√		√			√		√		√		√			√		√		√			√		
Mahankalchaur	348	8,344	2.1	2.1.1(A)	649.0	11:00	14:00	√						√							√						√					√						
				2.1.1(B)	701.5	11:00	14:00	√						√							√						√					√						
				2.1.2(A)	895.9	11:00	14:00	√						√							√						√					√						
				2.1.2(B)	218.7	11:00	14:00	√						√							√						√					√						
				2.1.3(A)	823.0	11:00	14:00	√						√							√						√					√						
				2.1.3(B)	473.0	11:00	14:00	√						√							√						√					√						
				2.1.4	452.0	11:00	14:00	√						√							√						√					√						
			2.2	2.2.1	1,247.4	13:00	22:00			√						√						√						√						√			
				2.2.2	1,412.6	13:00	22:00			√						√						√						√						√			
				2.2.3	3,222.2	13:00	22:00			√						√						√						√						√			
				2.2.4	994.7	13:00	22:00			√						√						√						√						√			
			2.3	2.3.1(A)	826.2	22:00	1:00		√						√						√						√					√					
				2.3.1(B)	954.2	22:00	1:00		√						√						√						√					√					
			2.4	2.4.1(A)	832.7	14:00	20:00	√						√						√					√						√						
				2.4.1(B)	772.7	14:00	20:00	√						√						√					√						√						
				2.4.1(C)	1,190.7	14:00	20:00	√						√						√					√						√						

Table 6.1.6 Water Supply Plan in Monsoon Season without Melamchi water (3/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																													
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
			3.1	3.1.1(A)	672.3	11:00	17:00		√						√						√						√						√					
				3.1.1(B)	588.1	11:00	17:00		√						√						√						√						√					
				3.1.1(C)	563.8	11:00	17:00		√						√						√						√						√					
				3.1.2(A)	814.9	11:00	17:00		√						√						√						√						√					
				3.1.2(B)	988.2	11:00	17:00		√						√						√						√						√					
				3.1.2(C)	738.7	11:00	17:00		√						√						√						√						√					
			3.2	3.2.1(A)	675.5	6:00	12:00			√						√						√						√						√				
				3.2.1(B)	464.9	6:00	12:00			√						√						√						√						√				
				3.2.1(C)	774.4	6:00	12:00			√						√						√						√						√				
				3.2.2(A)	776.0	6:00	12:00			√						√						√						√						√				
				3.2.2(B)	784.1	6:00	12:00			√						√						√						√						√				
				3.2.2(C)	798.7	6:00	12:00			√						√						√						√						√				
			3.3	3.3.1(A)	652.9	15:00	21:00		√						√						√						√						√					
				3.3.1(B)	863.5	15:00	21:00		√						√						√						√						√					
				3.3.1(C)	814.9	15:00	21:00		√						√						√						√						√					
				3.3.1(D)	779.2	15:00	21:00		√						√						√						√						√					
				3.3.1(E)	626.9	15:00	21:00		√						√						√						√						√					
			3.4	3.4.1(A)	868.3	20:00	23:00	√						√					√					√							√							
				3.4.1(B)	589.7	20:00	23:00	√						√					√					√							√							
			3.5	3.5.1(A)	802.6	4:00	10:00		√						√						√						√						√					
				3.5.1(B)	950.9	4:00	10:00		√						√						√						√						√					
				3.5.2	618.8	4:00	10:00		√						√						√						√						√					
			Old Network	Zone 1 a	16,119.0	8:00	10:00		√			√			√			√			√			√			√			√			√			√		
				Zone 1 b		16:00	19:00		√			√			√			√			√			√			√			√			√			√		
				Zone 2		4:00	8:00			√			√			√			√			√			√			√			√			√			√	
				Zone 3 a		11:00	13:00	√			√			√			√			√			√			√			√			√			√			√
				Zone 3 b		13:00	16:00	√			√			√			√			√			√			√			√			√			√			√
			Outside Ring Road	Zone 1-gravity	19,846.4																																	
				Zone 2-gravity																																		
				Zone 3 a-pumping																																		
				Zone 3 b-pumping																																		
				Zone 3 c-pumping																																		
				Zone 3 d-pumping																																		
				Zone 3 e-pumping																																		
				Zone 3 f-pumping																																		
				Zone 3 g-pumping																																		
Minbhawan	62	1,480	Demo Area	Zone 1	8,100.0	10:00	12:30						√						√						√					√						√	
				Zone 2		18:00	20:30						√						√						√					√						√	
				Zone3		5:00	8:00	√						√						√						√						√						√
				Zone 4		15:00	18:00	√						√						√						√						√						√
				Zone 5		5:00	8:00		√						√						√						√						√					
				Zone 6		12:00	16:00		√						√						√						√						√					
Panipokhari	155	3,710	1.1	1.1.1	1,853.3	4:00	22:00							√						√						√						√					√
				1.1.2										√						√						√						√					√
				1.1.3										√						√						√						√					√
			1.2	1.2.1	3,659.6	4:00	7:00								√						√						√						√				
				1.2.2											√						√						√						√				
				1.2.3(A)											√						√						√						√				
				1.2.3(B)											√						√						√						√				
			1.3	1.3.1	5,268.2	14:00	21:00							√						√						√						√					√
				1.3.2(A)		14:00	21:00							√						√						√						√					√
				1.3.2(B)		14:00	21:00							√						√						√						√					√
				1.3.2(C)		14:00	21:00							√						√						√						√					√
			1.4	1.4.1	4,639.7	13:00	19:00						√						√					√					√						√	
				1.4.2		13:00	19:00						√						√					√					√						√	
			1.5	1.5.1	424.4	5:00	13:00							√						√						√						√					√
				1.5.2	591.3	5:00	13:00							√						√						√						√					√
				1.5.3	625.3	5:00	13:00							√						√						√						√					√
Tigeni	50	1,199	Outside Ring Road	1st zone	26,886.0	4:00	11:00		√							√						√							√						√	
				2nd zone		4:00	11:00			√							√						√							√						√
				3rd zone		4:00	11:00				√							√						√							√						
				4th zone		4:00	11:00					√							√						√							√					
				5th zone		4:00	11:00						√							√						√							√				
				6th zone		4:00	11:00							√							√						√							√			
				7th zone		4:00	11:00	√							√							√						√							√			
Katunje	167	4,014	Outside Ring Road	1st zone	21,967.0	13:00	20:00		√						√						√						√						√				
				2nd zone						√						√						√						√						√				
				3rd zone					√						√						√						√						√				
				4th zone		14:00	17:00		√			√			√			√				√			√			√			√			√			√	
				5th zone		8:00	12:00	√						√						√						√						√						√
				6th zone				√						√						√						√						√						√
				7th zone				√						√						√						√						√						√
				8th zone		6:00	10:00			√			√			√			√			√			√			√			√			√			
				9th zone		8:00	11:00		√							√						√						√						√				
		48,000		Total	317,550.0																																

7. Actions to be taken by KUKL

In the technical cooperation project by JICA, indicators are established to measure the achievement of Output 1 and the project purpose.

Both indicators must be achieved by December 2026, when the technical cooperation project concludes.

[Output 1]

The capacity of water distribution management utilizing GIS is enhanced.

Indicator 1-3: The water distribution plan for maintaining fair supply hour is prepared for the DMAs within the Ring Road.

[Project Purpose]

The KUKL's capacity of operation and maintenance of water supply is improved.

Indicator 1: The water distribution management plan for fair water supply is implemented in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

Indicator 2: Water supply hours are fair in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

To achieve the above-mentioned indicators, KUKL should implement the following actions:

7.1 Actions to be taken by Production Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-1: Monthly water inflow at each SRT from BDS
(Table 7.1.1, Table 7.1.2, Figure 7.1.1, Figure 7.1.2)

PI-2: Monthly water inflow per customer at each SRT from BDS
(Table 7.1.3, Figure 7.1.3)

PI-3: Water losses in BDS between New Sundarijal WTP and each SRT
(Table 7.1.2)

Table 7.1.1 Monitoring Format of Monthly Inflow by SRT wise (1/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Baisakh		Jestha		Asadh		Shrawan		Bhadra		Ashwin	
				14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	15164	3	231591	46	129935	26	114419	23	131183	26	372,456	74
Balaju (New)	15,556	291,578	1,098,464	237048	15	280865	18	184668	12	199020	13	181238	12	230070	15
Balaju (Old)	19,100			298687	16	239059	13	115738	6	0	0	202898	11	351175	18
Bansbari (Old)	18,000	30,605	265,132	291703	16	293788	16	44799	2	0	0	317	0	6784	0
Khumaltar	37,974	319,495	1,203,634	1023350	27	1146020	30	662190	17	734120	19	764932	20	802258	21
Kirtipur	19,949	168,358	634,255	323657	16	329460	17	198622	10	237609	12	216165	11	249046	12
Mahankalchaur (New)	19,731	291,538	1,098,313	467845	24	516628	26	225886	11	287506	15	450396	23	466119	24
Mahankalchaur (Old)	34,651	33,548	134,298	431083	12	442614	13	72781	2	0	0	303	0	162782	5
Minbhawan	5,000	42,067	158,481	236571	47	136076	27	58780	12	108294	22	119345	24	150899	30
Panipokhari (New)	10,532	105,438	397,217	137442	13	133258	13	87793	8	88573	8	95710	9	111872	11
Panipokhari (Old)	2,000			37848	19	21103	11	7043	4	17084	9	11696	6	14515	7
Tigeni	16,596	28,218	283,640	-	-	-	-	-	-	-	-	344	0	483	0
Katunje	13,560	114,086	429,797	0	0	328681	24	180919	13	154526	11	166588	12	208998	15
Average				291,700	17	341,595	21	164,096	10	161,763	11	180,086	12	240,574	18

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

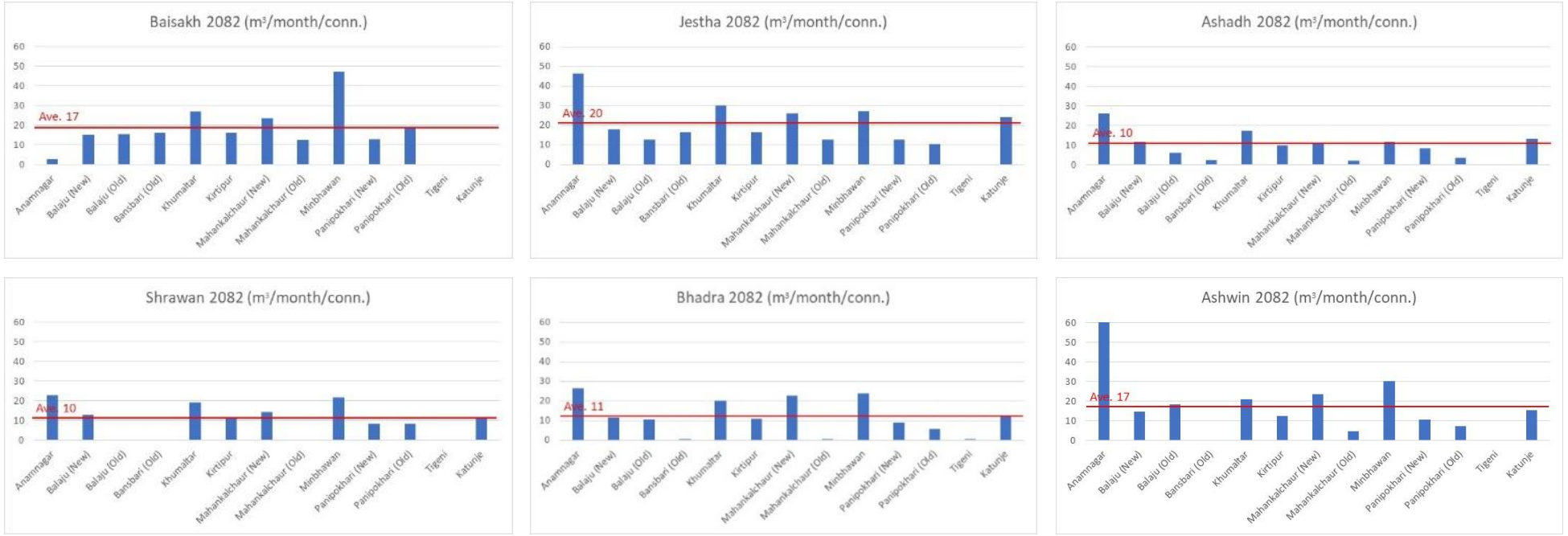


Figure 7.1.1 Change of Monthly Inflow by SRT wise (1/2)

Table 7.1.2 Monitoring Format of Monthly Inflow by SRT wise (2/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Kartik		Mangsir		Poush			Magh		Falgun		Chaitra	
				18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25		14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	14-Mar-26	15-Mar-26	13-Apr-26
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow		Inflow		Inflow			Inflow		Inflow		Inflow	
				(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	Local sources	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	182330	36	143,488	29	220,633		44		0		0		0
Balaju (New)	15,556	291,578	1,098,464	326808	21	363,390	23	414,438		27		0		0		0
Balaju (Old)	19,100			438440	23	460,982	24	585,595		31		0		0		0
Bansbari (Old)	18,000	30,605	265,132	64275	4	102,621	6	292,397	104,400	22		0		0		0
Khumaltar	37,974	319,495	1,203,634	972150	26	1,016,340	27	1,227,320		32		0		0		0
Kirtipur	19,949	168,358	634,255	335258	17	347,178	17	424,761		21		0		0		0
Mahankalchaur (New)	19,731	291,538	1,098,313	477628	24	522,914	27	618,450		31		0		0		0
Mahankalchaur (Old)	34,651	33,548	134,298	411567	12	441,275	13	487,527	681,500	34		0		0		0
Minbhawan	5,000	42,067	158,481	195975	39	140,311	28	234,816		47		0		0		0
Panipokhari (New)	10,532	105,438	397,217	192052	18	213,775	20	227,497		22		0		0		0
Panipokhari (Old)	2,000			24593	12	27277	14	53,189		27		0		0		0
Tigeni	16,596	28,218	283,640	469	0	288,000	17	288,000	161,994	27		0		0		0
Katunje	13,560	114,086	429,797	350301	26	344,498	25	398,271	-76,560	24		0		0		0
Average				305,527	20	339,388	21	420,992		30		0		0		0

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

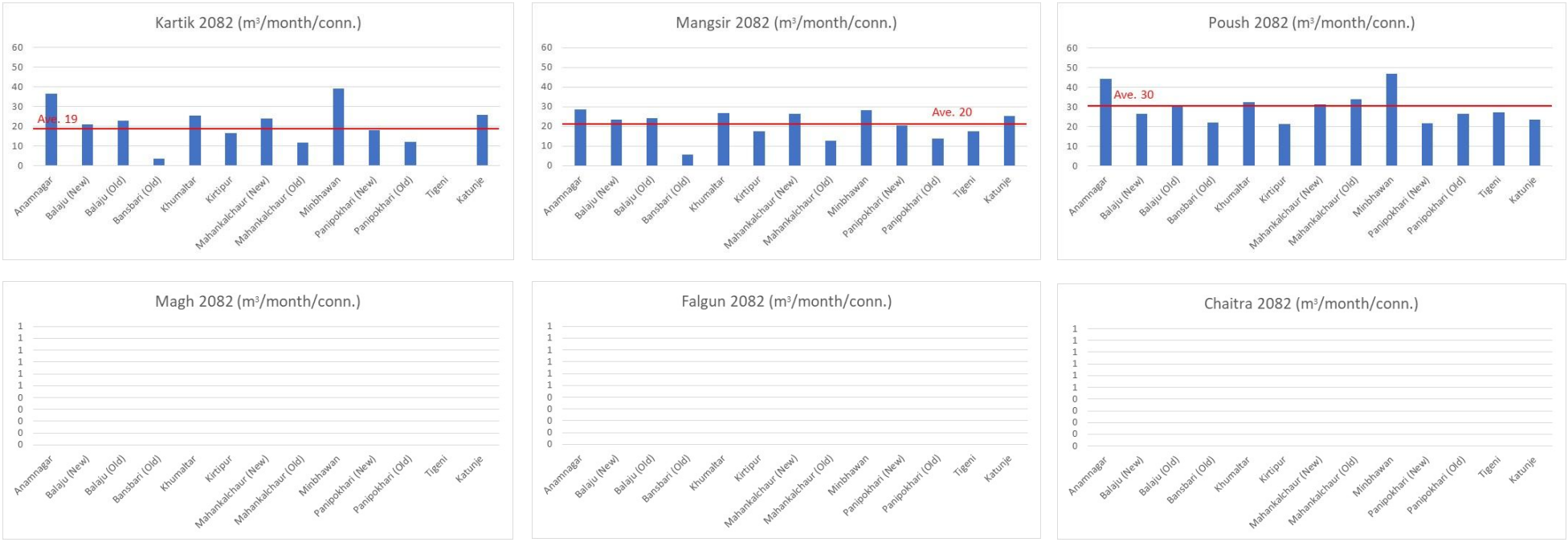


Figure 7.1.2 Change of Monthly Inflow by SRT wise (2/2)

Table 7.1.3 Monitoring Format of Water Loss in BDS

Description	Unit	January/2025	February/2025	March/2025	April/2025	May/2025	June/2025
Total Water transmitted from New Sundarijal WTP	m3						
Total water received by SRTs	m3						
Water losses in BDS	m3						
Wate losses ratio	%						
Description	Unit	July/2025	August/2025	September/2025	October/2025	November/2025	December/2025
Total Water transmitted from New Sundarijal WTP	m3	1,104,558.54	2,541550.32	2,819,664.66	4,337,372.36	4402496.86	5m796,124.00
Total water received by SRTs	m3	2,294,058.00	2,421495.00	2,707,171.00	4,290,970.00	4412049	5,691,271.00
Water losses in BDS	m3	-1,189,499.46	120,055.32	112,493.66	46,402.36	-9,552.14	104,853.00
Wate losses ratio	%	-107.69	4.72	3.99	1.07	-0.22	1.81

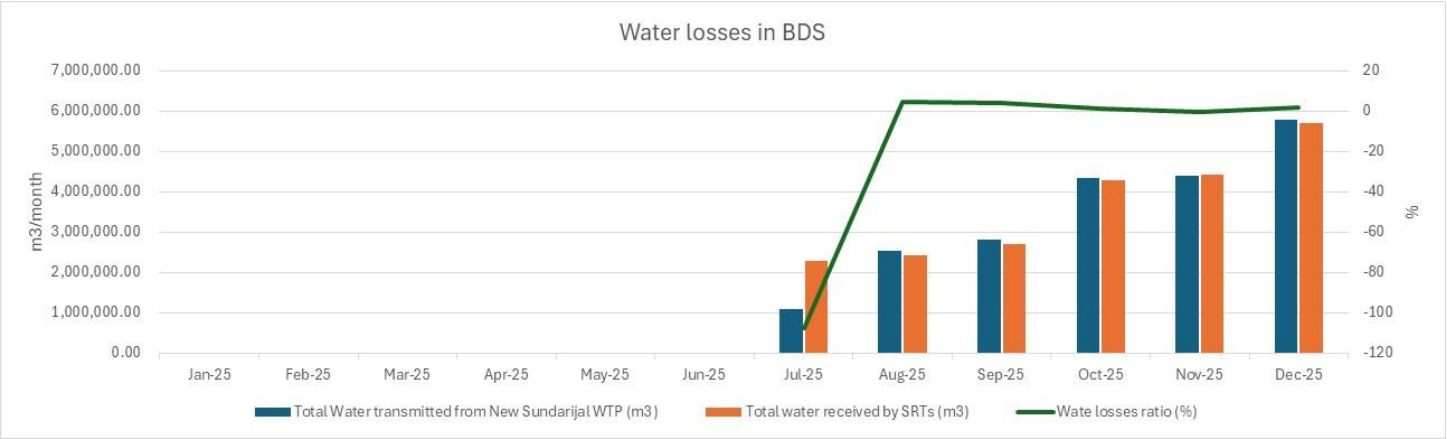


Figure 7.1.3 Change of Water Losses in BDS

7.2 Actions to be taken by Operation Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-4: Daily water supply volume as average at each DMA or sub-DMA and the volume per connection (Table 7.2.1, Figure 7.2.1, Figure 7.2.2)

[Responsibilities of the Operation Division]

- The Operations Division monitors the number of customers and water distribution volumes for each DMA on a monthly basis.
- The Operation Division monitors an indicator (PI-4) calculated by dividing the water distribution volume per DMA by the number of customers on a monthly basis.
- Using the Indicator PI-4. evaluate the feasibility of achieving equitable water distribution. If significant inequities arise or significant fluctuations occur, review the water distribution volume and distribution times for each DMA.

In addition to those main actions, the Operation division shall take responsibility for daily maintenance of SRTs. The operation division is required to take a record of the following monitoring.

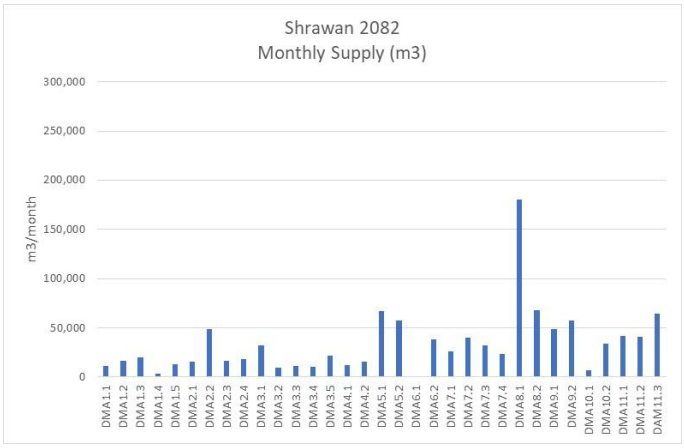
PI-5: Operation and Maintenance Status of each SRT (Table 7.2.2, Table 7.2.3)

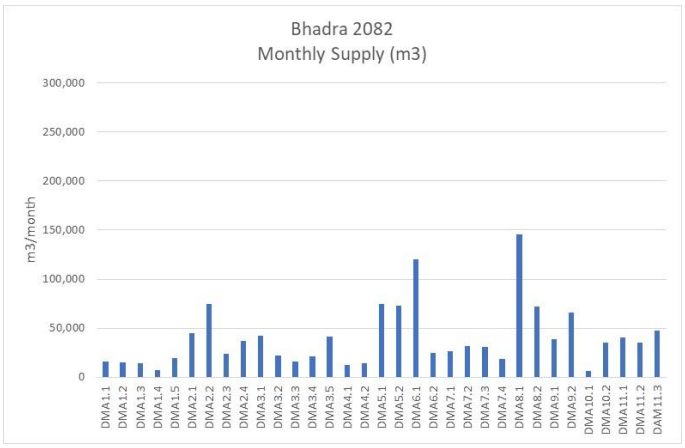
Action-1: Allocate the responsible operator (Everyday)
Action-2: Prepare a Standard Operation Procedure (SOP) for each SRT (Everyday)
Action-3: Cleaning work of the inside of valve chambers (2 times per month)
Action-4: Inspection of air valves at the outlet chamber (2 time per month)
Action-5: Cleaning work of the inside of reservoirs (1 time per year)
Action-6: Inspection of the inside of reservoirs (1 time per year)
Action-7: Water quality test (Everyday)

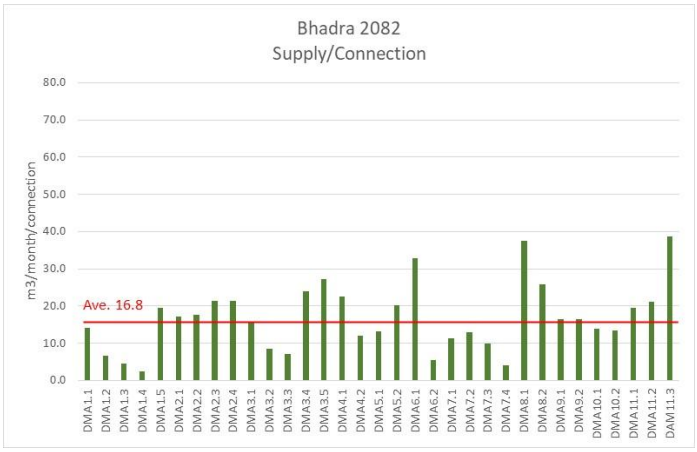
Table 7.2.1 Monitoring Format of Water Supply Volume by DMA wise

Year:2082	1	1		2		3		4		5		6		7		8		9		10		11		12	
	Baisakha	Baisakha		Jestha		Asadh		Shrawan		Bhadra		Ashwin		Kartik		Mangsir		Poush		magh		Falgun		Chaitra	
DMA	No. of Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection
DMA1.1	1,144	21,648	18.9	13,221	11.6	6,092	5.3	11,017	9.6	16,049	14.0	13,973	12.2	27,747	24.3	29,252	25.6	29,370	25.7	0	0.0	0	0.0	0	0.0
DMA1.2	2,259	25,922	11.5	35,173	15.6	19,444	8.6	16,136	7.1	15,011	6.6	18,217	8.1	28,727	12.7	37,082	16.4	41,999	18.6	0	0.0	0	0.0	0	0.0
DMA1.3	3,252	37,697	11.6	24,193	7.4	15,796	4.9	19,892	6.1	14,553	4.5	16,613	5.1	50,400	15.5	62,017	19.1	56,966	17.5	0	0.0	0	0.0	0	0.0
DMA1.4	2,864	5,717	2.0	4,591	1.6	1,946	0.7	3,314	1.2	7,159	2.5	6,845	2.4	5,161	1.8	19,453	6.8	8,288	2.9	0	0.0	0	0.0	0	0.0
DMA1.5	1,013	26,675	26.3	19,455	19.2	15,818	15.6	13,108	12.9	19,660	19.4	18,398	18.2	25,601	25.3	40,877	40.4	32,025	31.6	0	0.0	0	0.0	0	0.0
DMA2.1	2,601	41,335	15.9	48,209	18.5	18,312	7.0	15,388	5.9	44,703	17.2	52,792	20.3	73,993	28.4	99,200	38.1	85,590	32.9	0	0.0	0	0.0	0	0.0
DMA2.2	4,245	97,828	23.0	88,406	20.8	35,715	8.4	48,721	11.5	74,516	17.6	96,162	22.7	96,259	22.7	125,271	29.5	67,604	15.9	0	0.0	0	0.0	0	0.0
DMA2.3	1,099	23,446	21.3	27,561	25.1	7,506	6.8	16,152	14.7	23,541	21.4	16,114	14.7	21,198	19.3	34,262	31.2	32,861	29.9	0	0.0	0	0.0	0	0.0
DMA2.4	1,726	27,410	15.9	31,419	18.2	16,988	9.8	18,450	10.7	36,817	21.3	28,018	16.2	27,321	15.8	35,194	20.4	43,056	24.9	0	0.0	0	0.0	0	0.0
DMA3.1	2,695	59,187	22.0	52,864	19.6	26,607	9.9	32,091	11.9	42,450	15.8	41,410	15.4	45,549	16.9	60,547	22.5	82,687	30.7	0	0.0	0	0.0	0	0.0
DMA3.2	2,638	19,912	7.5	16,719	6.3	7,802	3.0	9,946	3.8	22,357	8.5	21,939	8.3	30,817	11.7	44,383	16.8	1,980	0.8	0	0.0	0	0.0	0	0.0
DMA3.3	2,307	19,119	8.3	12,201	5.3	13,993	6.1	11,359	4.9	16,331	7.1	10,784	4.7	6,494	2.8	13,961	6.1	6,345	2.8	0	0.0	0	0.0	0	0.0
DMA3.4	900	25,964	28.8	22,342	24.8	9,682	10.8	10,516	11.7	21,542	23.9	20,233	22.5	23,032	25.6	33,976	37.8	22,445	24.9	0	0.0	0	0.0	0	0.0
DMA3.5	1,520	30,491	20.1	29,776	19.6	19,133	12.6	21,938	14.4	41,349	27.2	25,625	16.9	51,037	33.6	37,626	24.8	28,972	19.1	0	0.0	0	0.0	0	0.0
DMA4.1	569	20,624	36.2	20,328	35.7	16,961	29.8	12,591	22.1	12,792	22.5	15,569	27.4	19,270	33.9	16,257	28.6	27,560	48.4	0	0.0	0	0.0	0	0.0
DMA4.2	1,222	32,362	26.5	29,019	23.7	19,335	15.8	15,577	12.7	14,663	12.0	19,796	16.2	25,419	20.8	20,552	16.8	23,110	18.9	0	0.0	0	0.0	0	0.0
DMA5.1	5,648	104,751	18.5	113,842	20.2	66,889	11.8	67,444	11.9	74,886	13.3	76,034	13.5	117,202	20.8	160,002	28.3	148,855	26.4	0	0.0	0	0.0	0	0.0
DMA5.2	3,617	73,329	20.3	94,180	26.0	42,194	11.7	57,770	16.0	72,932	20.2	58,361	16.1	75,219	20.8	120,350	33.3	107,295	29.7	0	0.0	0	0.0	0	0.0
DMA6.1	3,666	92,386	25.2	225,885	61.6	45,045	12.3	0	0.0	120,495	32.9	157,296	42.9	144,778	39.5	169,591	46.3	211,028	57.6	0	0.0	0	0.0	0	0.0
DMA6.2	4,559	20,120	4.4	107,860	23.7	51,579	11.3	38,735	8.5	24,491	5.4	53,359	11.7	7,525	1.7	63,393	13.9	23,176	5.1	0	0.0	0	0.0	0	0.0
DMA7.1	2,350	42,330	18.0	34,721	14.8	21,020	8.9	25,749	11.0	26,498	11.3	35,978	15.3	33,058	14.1	44,179	18.8	37,704	16.0	0	0.0	0	0.0	0	0.0
DMA7.2	2,480	44,289	17.9	38,732	15.6	24,663	9.9	39,861	16.1	32,022	12.9	29,824	12.0	42,822	17.3	89,470	36.1	49,134	19.8	0	0.0	0	0.0	0	0.0
DMA7.3	3,100	33,038	10.7	55,121	17.8	27,045	8.7	32,592	10.5	30,638	9.9	29,986	9.7	48,528	15.7	50,049	16.1	52,972	17.1	0	0.0	0	0.0	0	0.0
DMA7.4	4,475	46,350	10.4	34,726	7.8	31,530	7.0	23,479	5.2	18,656	4.2	45,727	10.2	55,808	12.5	91,910	20.5	81,872	18.3	0	0.0	0	0.0	0	0.0
DMA8.1	3,893	243,448	62.5	253,177	65.0	111,160	28.6	180,034	46.2	145,776	37.4	168,523	43.3	211,259	54.3	274,338	70.5	256,717	65.9	0	0.0	0	0.0	0	0.0
DMA8.2	2,800	112,901	40.3	86,608	30.9	70,131	25.0	67,884	24.2	72,491	25.9	81,403	29.1	72,187	25.8	76,861	27.5	72,160	25.8	0	0.0	0	0.0	0	0.0
DMA9.1	2,389	113,632	47.6	108,407	45.4	60,422	25.3	49,032	20.5	39,160	16.4	51,395	21.5	58,327	24.4	81,353	34.1	99,425	41.6	0	0.0	0	0.0	0	0.0
DMA9.2	4,007	95,662	23.9	96,331	24.0	63,773	15.9	57,680	14.4	65,922	16.5	74,004	18.5	70,840	17.7	134,651	33.6	133,988	33.4	0	0.0	0	0.0	0	0.0
DMA10.1	480	9,223	19.2	10,751	22.4	4,883	10.2	7,236	15.1	6,646	13.8	7,211	15.0	28,696	59.8	16,266	33.9	23,945	49.9	0	0.0	0	0.0	0	0.0
DMA10.2	2,671	55,874	20.9	53,489	20.0	33,176	12.4	33,812	12.7	35,507	13.3	44,055	16.5	77,317	28.9	59,582	22.3	85,442	32.0	0	0.0	0	0.0	0	0.0
DMA11.1	2,075	39,163	18.9	34,347	16.6	28,235	13.6	42,134	20.3	40,646	19.6	33,276	16.0	43,180	20.8	60,738	29.3	53,179	25.6	0	0.0	0	0.0	0	0.0
DMA11.2	1,681	48,781	29.0	27,279	16.2	20,924	12.4	41,258	24.5	35,708	21.2	31,406	18.7	30,385	18.1	55,741	33.2	53,264	31.7	0	0.0	0	0.0	0	0.0
DAM11.3	1,239	92,592	74.7	75,878	61.2	49,886	40.3	64,198	51.8	47,964	38.7	62,830	50.7	123,897	100.0	132,456	106.9	176,441	142.4						
Total / Avarage	81,945	1,690,614	23.0	1,850,933	23.1	953,799	12.7	1,040,896	14.3	1,265,967	16.8	1,400,326	17.9	1,675,154	24.3	2,258,383	29.9	2,081,013	29.8	0	0.0	0	0.0	0	0.0
More than 1.5 times of Average			4		4		4		4		4		4		3		2		4		32		32		32
Less than 1/2 of Average			7		5		5		7		6		5		4		3		4		32		32		32

Figure 7.2.1 Monitoring Graph of Water Supply Volume by DMA wise (1/2)







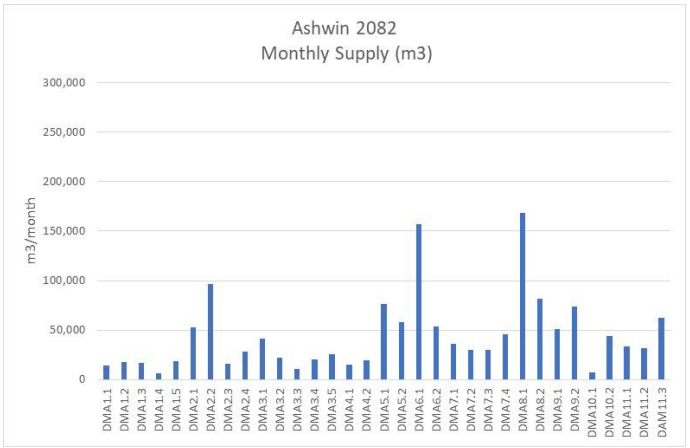


Figure 7.2.2 Monitoring Graph of Water Supply Volume by DMA wise (2/2)

Table 7.2.2 Monitoring Record of Operation & Maintenance of SRTs (1/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Anamnagar (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Arubari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Khumaltar (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Kirtipur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Mahankalchaur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

Table 7.2.3 Monitoring Record of Operation & Maintenance of SRTs (2/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Mahankalchaur (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Minbhawan (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Tigeni																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Katunje																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

7.3 Actions to be taken by each Branch Office

Improvements in water supply services should not be evaluated solely based on water volume. By accurately notifying customers of water delivery schedule and ensuring KUKL operators adhere to these schedules, customer satisfaction can be enhanced.

From this perspective, at the branch office level, efforts must be made to reduce customer complaints by verifying monthly whether any complaints are received regarding the pre-planned water supply schedule.

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicator must be monitored by each branch manager.

PI-6: Number of grievances about water supply hour especially the gap between standard supply hour and real supply hour (Table 7.3.1, Table 7.3.2)

Action-1: The branch manager must accurately track the number of customers within the DMA under their branch's jurisdiction.

Action-2: Report the number of customers per DMA required for the monitoring sheets created by the Operation Division and Production Division to the responsible personnel at headquarters.

Action-3: Valve operators shall be assigned to accurately open and close valves according to the water supply schedule determined in this main water distribution management plan.

Action-4: Analyze customer complaints and requests received by the branch office each month, and tally the number of complaints and requests regarding the accuracy of the water supply schedule.

Action-5: Achieve a 100% water meter installation rate for customers within the DMA.

Action-6: Achieve a 100% water meter reading rate for customers within the DMA.

Action-7: Measure turbidity and residual chlorine at the locations specified by the Central Laboratory at the prescribed frequency and report the results to the Central Laboratory.

Table 7.3.1 Monitoring Record of Grievances about Water Supply Hour (1/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
1.1	1.1.1	Maharajgunj	5:00	14:00																												
1.1	1.1.2	Maharajgunj	5:00	14:00																												
1.1	1.1.3	Maharajgunj	5:00	14:00																												
1.2	1.2.1	Maharajgunj	9:00	16:00																												
1.2	1.2.2	Baneshwor	9:00	16:00																												
1.2	1.2.3(A)	Maharajgunj	9:00	16:00																												
1.2	1.2.3(B)	Maharajgunj	9:00	16:00																												
1.3	1.3.1	Tripureshwor	12:00	21:00																												
1.3	1.3.2(A)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(B)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(C)	Tripureshwor	12:00	21:00																												
1.4	1.4.1	Tripureshwor	15:00	21:00																												
1.4	1.4.2	Tripureshwor	15:00	21:00																												
1.5	1.5.1	Tripureshwor	5:00	15:00																												
1.5	1.5.2	Tripureshwor	5:00	15:00																												
1.5	1.5.3	Tripureshwor	5:00	15:00																												
2.1	2.1.1(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.1(B)	Maharajgunj	6:00	12:00																												
2.1	2.1.1(B)	Mahankal	6:00	12:00																												
2.1	2.1.2(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.2(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.4	Mahankalchaur	6:00	12:00																												
2.2	2.2.1	Baneshwor	14:00	20:00																												
2.2	2.2.2	Baneshwor	14:00	20:00																												
2.2	2.2.3	Baneshwor	14:00	20:00																												
2.2	2.2.4	Baneshwor	14:00	20:00																												
2.3	2.3.1(A)	Baneshwor	5:00	12:00																												
2.3	2.3.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Mahankal	5:00	12:00																												
2.4	2.4.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(C)	Baneshwor	5:00	12:00																												
3.1	3.1.1(A)	Baneshwor	14:00	21:00																												
3.1	3.1.1(B)	Baneshwor	14:00	21:00																												
3.1	3.1.1(C)	Baneshwor	14:00	21:00																												
3.1	3.1.2(A)	Baneshwor	14:00	21:00																												
3.1	3.1.2(B)	Baneshwor	14:00	21:00																												
3.1	3.1.2(C)	Baneshwor	14:00	21:00																												
3.2	3.2.1(A)	Baneshwor	5:00	12:00																												
3.2	3.2.1(B)	Baneshwor	5:00	12:00																												
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3.3	3.3.1(A)	Baneshwor	14:00	20:00																												
3.3	3.3.1(B)	Baneshwor	14:00	20:00																												
3.3	3.3.1(C)	Baneshwor	14:00	20:00																												
3.3	3.3.1(D)	Baneshwor	14:00	20:00																												
3.3	3.3.1(E)	Baneshwor	14:00	20:00																												
3.4	3.4.1(A)	Baneshwor	9:00	15:00																												
3.4	3.4.1(B)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Maharajgunj	9:00	15:00																												
3.5	3.5.1(B)	Baneshwor	9:00	15:00																												
3.5	3.5.2	Baneshwor	9:00	15:00																												
3.5	3.5.2	Maharajgunj	9:00	15:00																												
4.1	4.1.1	Baneshwor	12:00	16:00																												
4.1	4.1.2	Baneshwor	12:00	16:00																												
4.2	4.2.1	Tripureshwor	11:00	20:00																												
4.2	4.2.2	Tripureshwor	11:00	20:00																												
4.2	4.2.3	Tripureshwor	11:00	20:00																												
5.1	5.1.1	Lalitpur	20:00	8:00																												
5.1	5.1.2	Lalitpur	20:00	8:00																												
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5.2	5.2.1(D)	Lalitpur	20:00	8:00																												
5.2	5.2.2(A)	Lalitpur	20:00	8:00																												
5.2	5.2.2(B)	Lalitpur	20:00	8:00																												
5.2	5.2.2(C)	Lalitpur	20:00	8:00																												
5.2	5.2.2(D)	Lalitpur	20:00	8:00																												
5.2	5.2.2(E)	Lalitpur	20:00	8:00																												
5.2	5.2.3(A)	Lalitpur	20:00	8:00																												
5.2	5.2.3(B)	Lalitpur	20:00	8:00																												
6.1	6.1.1(A)	Lalitpur	6:00	20:00																												
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6.1	6.1.2	Lalitpur	6:00	20:00																												
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6.2	6.2.1	Lalitpur	17:00	8:00																												
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6.2	6.2.3	Lalitpur	17:00	8:00																												
7.1	7.1.1	Maharajgunj	17:00	22:00																												
7.1	7.1.2	Chhetrapati	17:00	22:00																												
7.2	7.2.1(A)	Chhetrapati	7:00	12:00																												
7.2	7.2.1(B)	Chhetrapati	7:00	12:00																												
7.2	7.2.2(A)	Maharajgunj	7:00	12:00																												
7.2	7.2.2(B)	Maharajgunj	7:00	12:00																												
7.2	7.2.3	Maharajgunj	7:00	12:00																												
7.3	7.3.1(A)	Chhetrapati	7:00	12:00																												
7.3	7.3.1(B)	Chhetrapati	7:00	12:00																												
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7.3	7.3.3	Maharajgunj	7:00	12:00																												
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7.4	7.4.2(A)	Lalitpur	7:00	12:00																												
7.4	7.4.2(B)	Chhetrapati	7:00	12:00																												
7.4	7.4.3	Chhetrapati	7:00	12:00																												
7.4	7.4.3	Maharajgunj	7:00	12:00																												
7.4	7.4.4	Maharajgunj	7:00	12:00																												

Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

Table 7.3.2 Monitoring Record of Grievances about Water Supply Hour (2/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
8.1	8.1.1	Lalitpur	8:00	20:00																												
8.1	8.1.2	Lalitpur	20:00	8:00																												
8.1	8.1.3	Lalitpur	20:00	8:00																												
8.2	8.2.1(A)	Lalitpur	17:00	8:00																												
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8.2	8.2.1(C)	Lalitpur	17:00	8:00																												
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8.2	8.2.2(C)	Lalitpur	17:00	8:00																												
9.1	9.1.1	Lalitpur	20:00	6:00																												
9.1	9.1.2	Lalitpur	20:00	6:00																												
9.1	9.1.3	Lalitpur	20:00	6:00																												
9.2	9.2.1	Lalitpur	6:00	20:00																												
9.2	9.2.2	Lalitpur	6:00	20:00																												
9.2	9.2.3	Lalitpur	6:00	20:00																												
9.2	9.2.4	Lalitpur	6:00	20:00																												
9.2	9.2.5	Lalitpur	6:00	20:00																												
9.2	9.2.6	Lalitpur	6:00	20:00																												
9.2	9.2.7	Lalitpur	6:00	20:00																												
10.1	10.1.1	Maharajgunj	12:00	17:00																												
10.2	10.2.1(A)	Chhetrapati	17:00	22:00																												
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11.2	11.2.2	Tripureshwor	18:00	10:00																												
Demo	Demo	Baneshwor	5:00	21:00																												

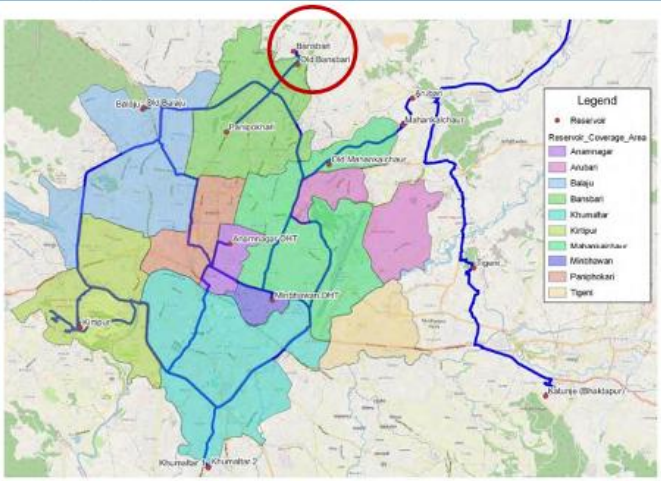
Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

8. Example of SOP for service reservoirs

Standard Operating Procedure
Bansbari SRT (Service Reservoir Tank)

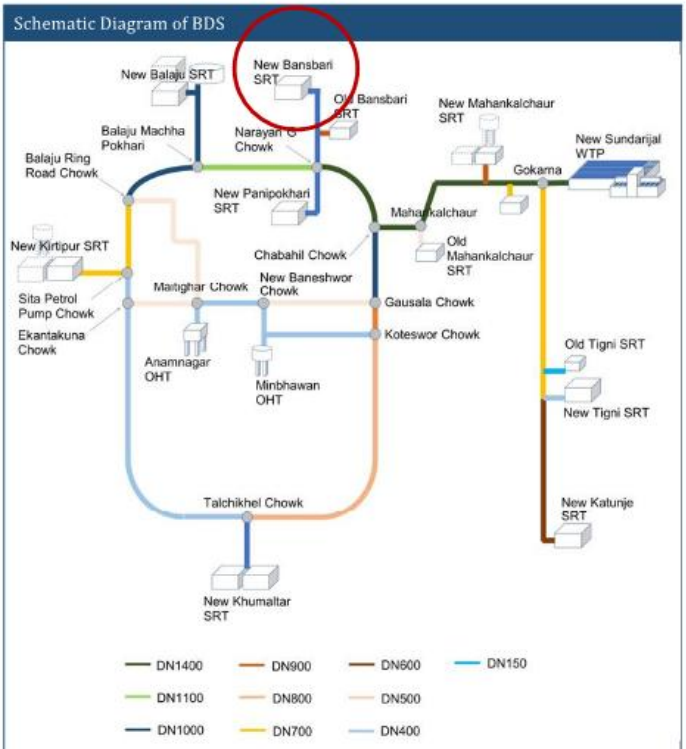
Layout of facilities

General Layout of Bulk Distribution System (BDS)



Layout of facilities

Schematic Diagram of BDS

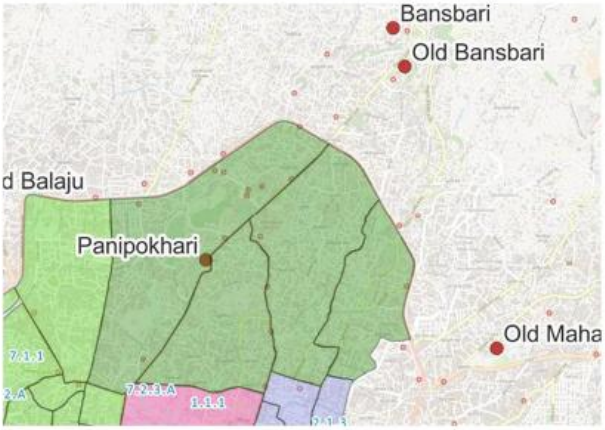


Bulk Distribution System Schematic Diagram

Layout of facilities

District Metered Area (DMA) covered by Bansbari SRT

The coverage area of Bansbari SRT has yet to be divided in DMAs.
This area is called DNI-7c and divided into several DMAs which will be constructed by the Package 6.



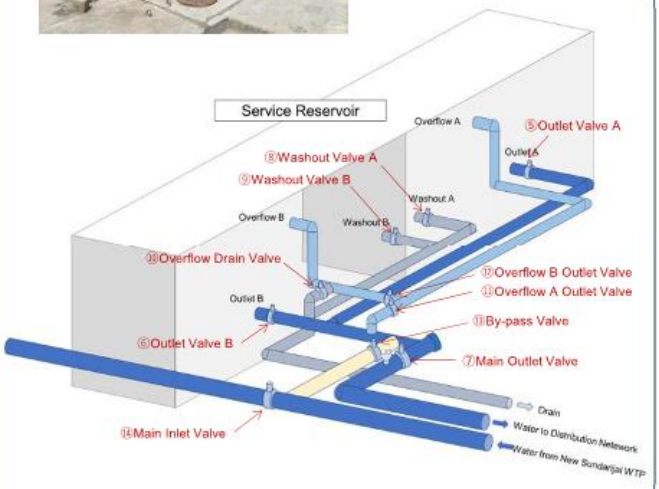
Layout of facilities

Outline of Bansbari SRT

No	Name	Objective	DN	Chamber Drawing No.
1	Flowmeter A	Inflow Measurement Reservoir A	700mm	BDS1-E-C-07
2	Flowmeter B	Inflow Measurement Reservoir A	700mm	BDS1-E-C-09
3	Inlet Valve A	Open/Stop Inflow Reservoir A	700mm	BDS1-E-C-06
4	Inlet Valve B	Open/Stop Inflow Reservoir B	700mm	BDS1-E-C-08
5	Outlet Valve A	Open/Stop Outflow Reservoir A	800mm	BDS1-E-C-10
6	Outlet Valve B	Open/Stop Outflow Reservoir B	800mm	BDS1-E-C-12
7	Main Outlet Valve	Regulate Total Outflow Volume	1200mm	BDS1-E-C-13
8	Washout Valve A	Sand discharge from Reservoir A	500mm	BDS1-E-C-15
9	Washout Valve B	Sand discharge from Reservoir B	500mm	BDS1-E-C-15
10	Overflow Drain	Discharge overflow to washout line	500mm	BDS1-E-C-14
11	Overflow A Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
12	Overflow B Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
13	By-pass Valve	Supply water without passing reservoir	1000mm	BDS1-E-C-13
14	Main Inlet Valve	Regulate Total Inflow Volume	1000mm	BDS1-E-C-05
15	Air Valve	Air release from the main outlet line	200mm	BDS1-E-C-13

Layout of facilities

Isometric Schematic Image of Pipeline Layout (Outlet side)



Operating Procedure

Normal Operation

Operating Procedure

Emergent Operation

If there is an accident or malfunction in both reservoirs A and B and water cannot be stored, the bypass valve on the Inlet Pipe should be opened to continue transmission of water.

[Caution]

When continuing to supply water through the bypass pipe, the following valves of the reservoir should be closed in advance to prevent water from entering the reservoir.
1. Main Inflow Valve
2. Outlet Valves of Reservoirs
3. Overflow Valves of Reservoirs

Cleaning of Reservoir

Direction of Water Flow during Cleaning of Reservoir

Steps for Cleaning of Reservoir

Step 1

Reservoir cleaning should be performed separately for A and B. Close one of the Inlet Valve to shut down entering water into the reservoir.

Step 2

When the water level in the reservoir is low enough, close the Outlet Valve.

Step 3

Open the Washout Valve to drain the water that has accumulated at the bottom of reservoir.

Steps for Cleaning of Reservoir

Step 4

Operators go inside and uses a wiper and nylon brush to scrape sand and mud from the walls and bottom in the direction of the Washout Port.

Step 5

If mud or sand remains in the middle of the interior, open the Inlet Valve of reservoir slightly to draw in water, and then scrape it out again with a scraper.

Step 6

Once the interior has been cleaned, the operator goes outside.
Then close the washout valve.

Steps for Cleaning of Reservoir

Step 7

Then slowly open the Inlet Valve.

Step 8

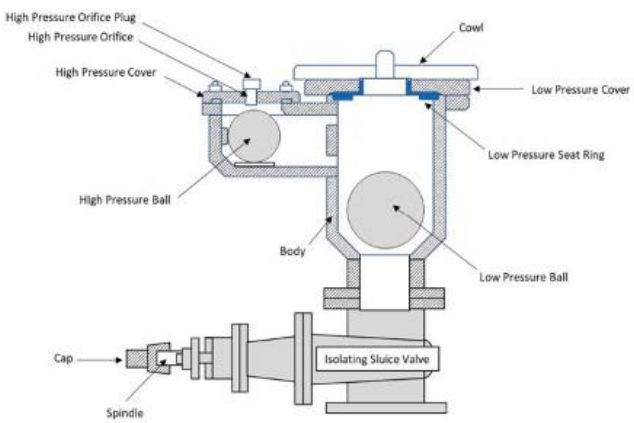
Wait a few hours to fill the reservoir.

Step 9

Once the reservoir has recovered more than half of its water level, slowly open the Outlet Valve.

Cleaning of Air Valve

Structure of Air Valve (Indian Valve International)

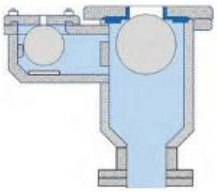


[Caution]

When clean the air valve, make sure that the Isolation Sluice Valve is completely closed. After closed the Isolation Sluice Valve, you can dismantle the cowl and top cover of the air valve.

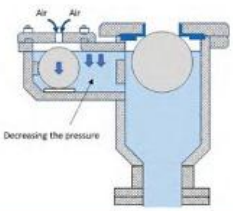
Function of Kinetic Air Valve

Normal Operation under High Pressure



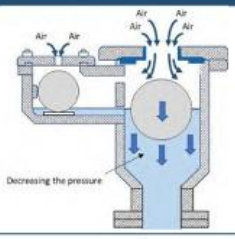
The pipe remains filled with water and the internal float ball plugs the air outlet orifice.

When a small air pocket occurs in the pipe



When a small amount of air accumulates in the air valve, the water level begins to drop, which causes the High Pressure Ball to drop and the small orifice to open. (Small exhaust mode)

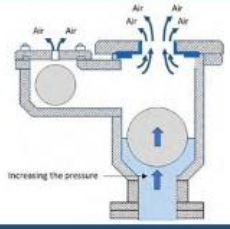
When the water in the reservoir runs out and a large amount of air accumulates



When a large amount of air accumulates, the water level drops below High Pressure Ball, which causes the Low Pressure Ball to drop and the large orifice to open. (Large exhaust mode).

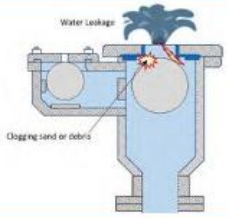
Function of Kinetic Air Valve

When water begins to accumulate in the pipe.



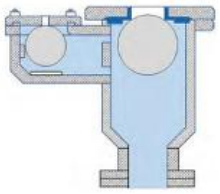
As the water pressure in the pipe increases, the water level rises and the Low Pressure Ball plugs the orifice.

When debris or sand clog the orifice



When debris or sand clog the orifice of air exhaust, the leaks will occur under high pressure.

When the pipe is perfectly filled with water



When water fills the pipe and the water pressure increases, the High Pressure Ball plugs the orifice.

Site Cleaning

Keeping premises clean

- Ensure that there is no debris or hazardous materials in the vicinity of the reservoir.
- The valve chamber should be kept clean and free of cobwebs, debris, and puddles, and no disposed material should be left inside.
- Do not place hazardous or flammable materials near the reservoir.

- Service Reservoir Tank and Water Treatment Plants are places where drinking water is stored, so animals should not be allowed to enter.

Meter Reading

Flowmeter on Inlet Pipe

Flowmeter on Outlet Pipe

In Bansbari SRT, there is no water meter on the outlet pipe.

How to read the flowmeter

Instantaneous Flow (m3/hour)

Accumulated Flow (m3)

The operators should keep record of "Accumulated Water Flow" in daily recording sheet

Recording of water volume

Operator's duty

- Once a day, the operator should check the flowmeter reading and note it on the record form.

Date	Time	Meter Reading		Daily Inflow	Name of Recorder
		Reservoir A	Reservoir B		

Standard Inspection

Daily Inspection

- Operators shall check the condition of facilities and clean the site once per day.

Items	Target	Status	Evaluation
External of tank	Concrete	No Water Leakage	☐Yes/☐No
	Painting	No Crack	☐Yes/☐No
		No Peeling	☐Yes/☐No
	Steps	Firmly Fixed	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No
	Cable	No disconnection	☐Yes/☐No
Valves	Operation Panel	No broken parts	☐Yes/☐No
	Button	No broken button	☐Yes/☐No
	Operation Wheel	Smoothly operating	☐Yes/☐No
	Chamber	No waste/garbage inside	☐Yes/☐No
Pipes	Exposed pipe	No Water Leakage	☐Yes/☐No
	Chamber	No Water Leakage	☐Yes/☐No
Chamber	Cover	Smoothly opening	☐Yes/☐No

Standard Inspection

Annual Inspection

- When cleaning the reservoir tank once per year, conduct an annual inspection of the following items:

Items	Target	Status	Evaluation
Internal of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Level Gauge	Drop of sensor	☐Yes/☐No
		Rust or Corrosion	☐Yes/☐No
External of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
		Water Leakage	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Steps	Corrosion	☐Yes/☐No
	Ventilation	Corrosion	☐Yes/☐No
Facilities	Valves	Greasing on gear	☐Yes/☐No
	Pipes	Water Leakage	☐Yes/☐No
	Chamber	Cleaning of inside	☐Yes/☐No
		Corrosion of Cover	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No

Inspection Schedule

Annual Inspection Plan

Month	Day	What to do
Baisakh		
Jestha		
Asadh		
Shrawan		
Bhadra		
Ashwin		
Kartik		
Mangsir		
Poush		
Magh		
Falgun		
Chaitra		

Water Distribution Management Plan
For
District Metered Area (DMA)
In
Kathmandu Valley

3rd version: 24 February 2026

Kathmandu Upatyaka Khanepani Limited (KUKL)

JICA Expert Team

Kathmandu Upatyaka Khanepani Limited

Japan International Cooperation Agency

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1. Introduction

1.1 Basic Approach to the Water Distribution Management

The maintenance and management of water supply facilities is an indispensable daily task for KUKL and should be carried out from a long-term perspective in order to achieve the following objectives.

Security: To supply safe water with assured quality to water users for drinking in the Kathmandu Valley.

Stability: To provide a stable supply of water necessary for daily life anytime, anywhere.

1.2 Procedure for Development of the Water Distribution Management Plan

Water service is a business that consists of providing drinking water to water users and collecting fees in return. Therefore, in the Water Distribution Management Plan, water utilities themselves need to set more specific management targets based on their Performance Indicators and monitor them in their daily operations.

The workflow of water distribution management in water utility management is as follows

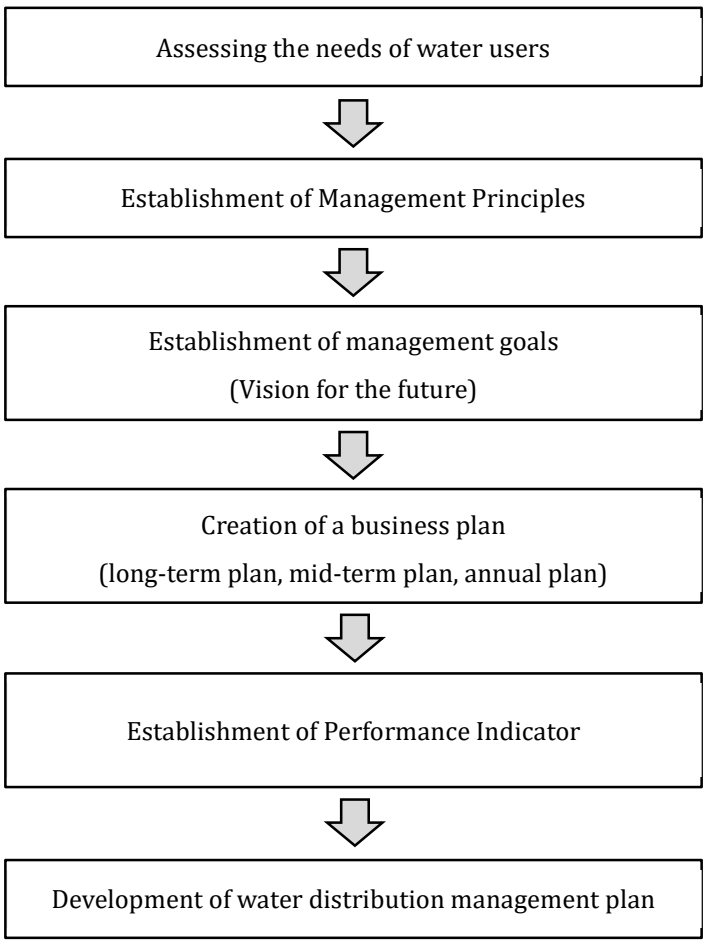


Figure 1.2.1 Relationship between water supply management and maintenance

2. Purpose of the Water Distribution Management Plan

The purpose of the Water Distribution Management Plan is to ensure that KUKL, as the entity responsible for operation and maintenance, properly manages the water supply facilities and provides water to water users in a manner that is equitable in terms of both quantity and time, thereby contributing to the improvement of the living environment.

This Water Distribution Management Plan is the most basic document for KUKL in maintenance and management.

KUKL is required to maintain and repair the water supply facilities to keep them in good condition.

3. Target District Metered Area (DMA)

This Water Distribution Management Plan covers DMAs constructed within the ring road.

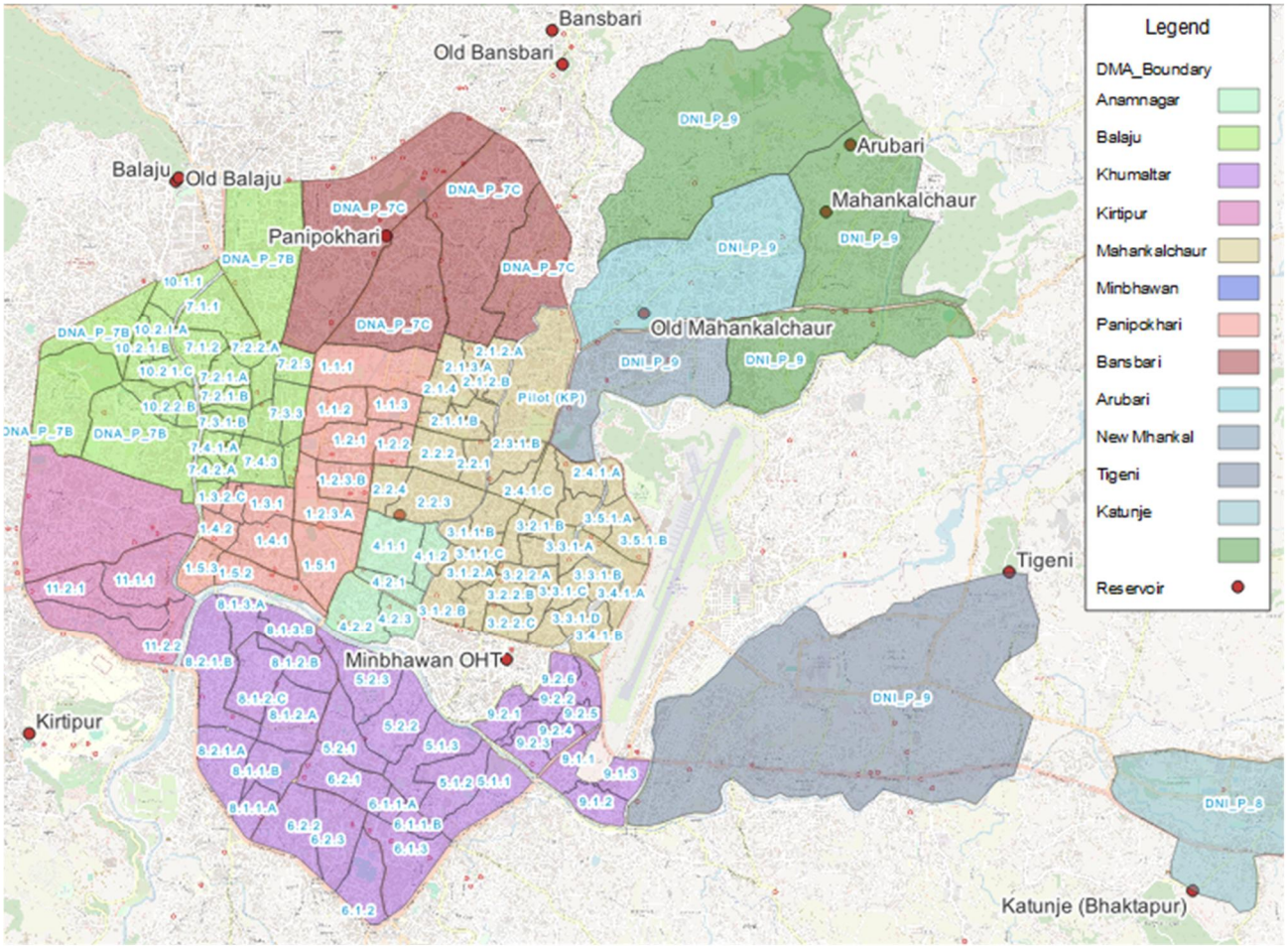


Figure 3.1.1 DMAs constructed in the Ring Road

The following figure is the water supply area covered by each of the service reservoir tanks.

The three water distribution reservoirs located within the ring road are Anamnagar, Minbhawan, and Panipokhari; the other reservoirs may also cover water supply outside the ring road.

In addition, some of the reservoirs supply the old distribution network, but in the future, they will be switched to supply the new distribution network constructed by Melamchi Water Supply Project.

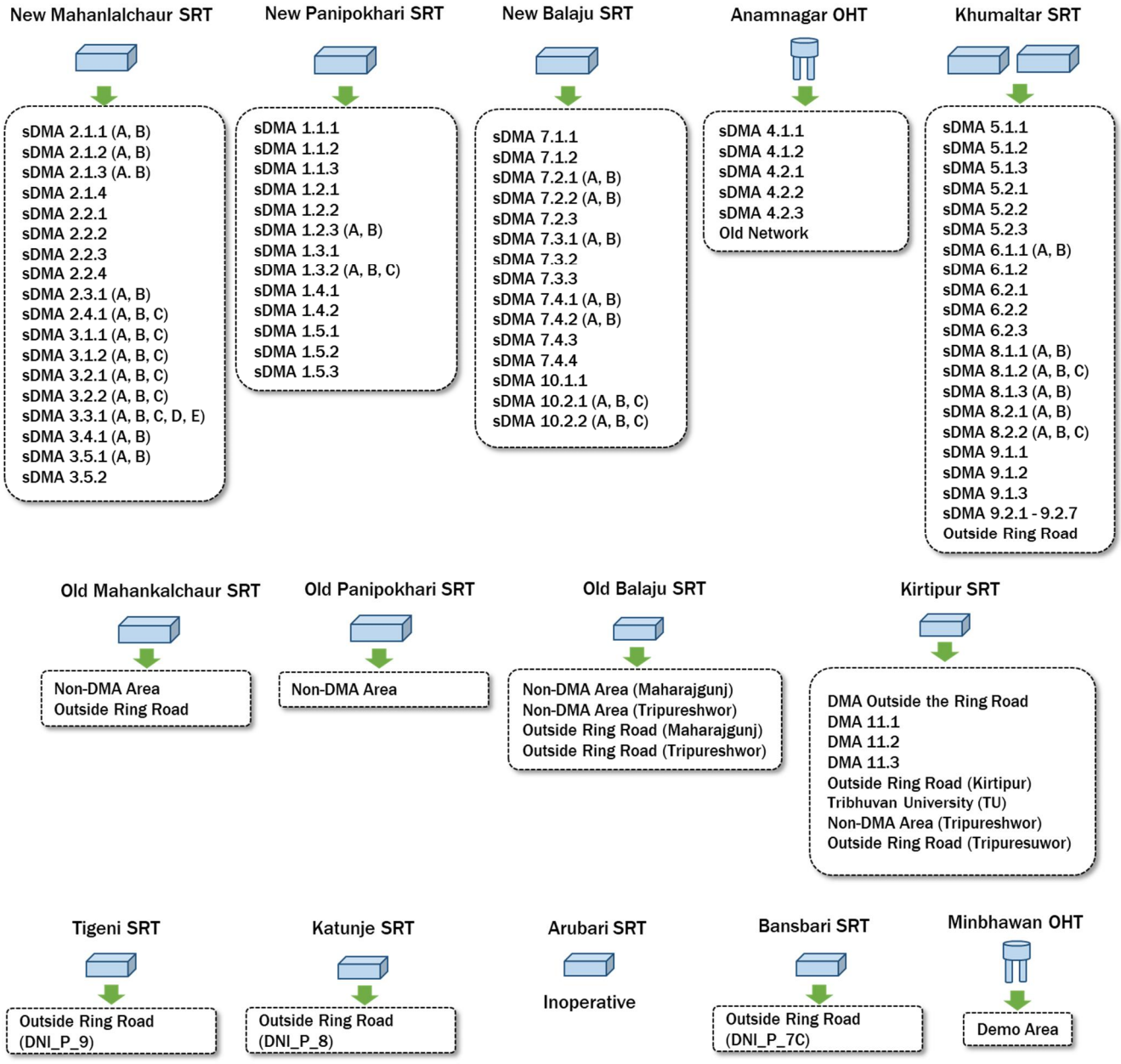


Figure 3.1.2 Sub-DMA covered by each Service Reservoir Tanks (SRTs)

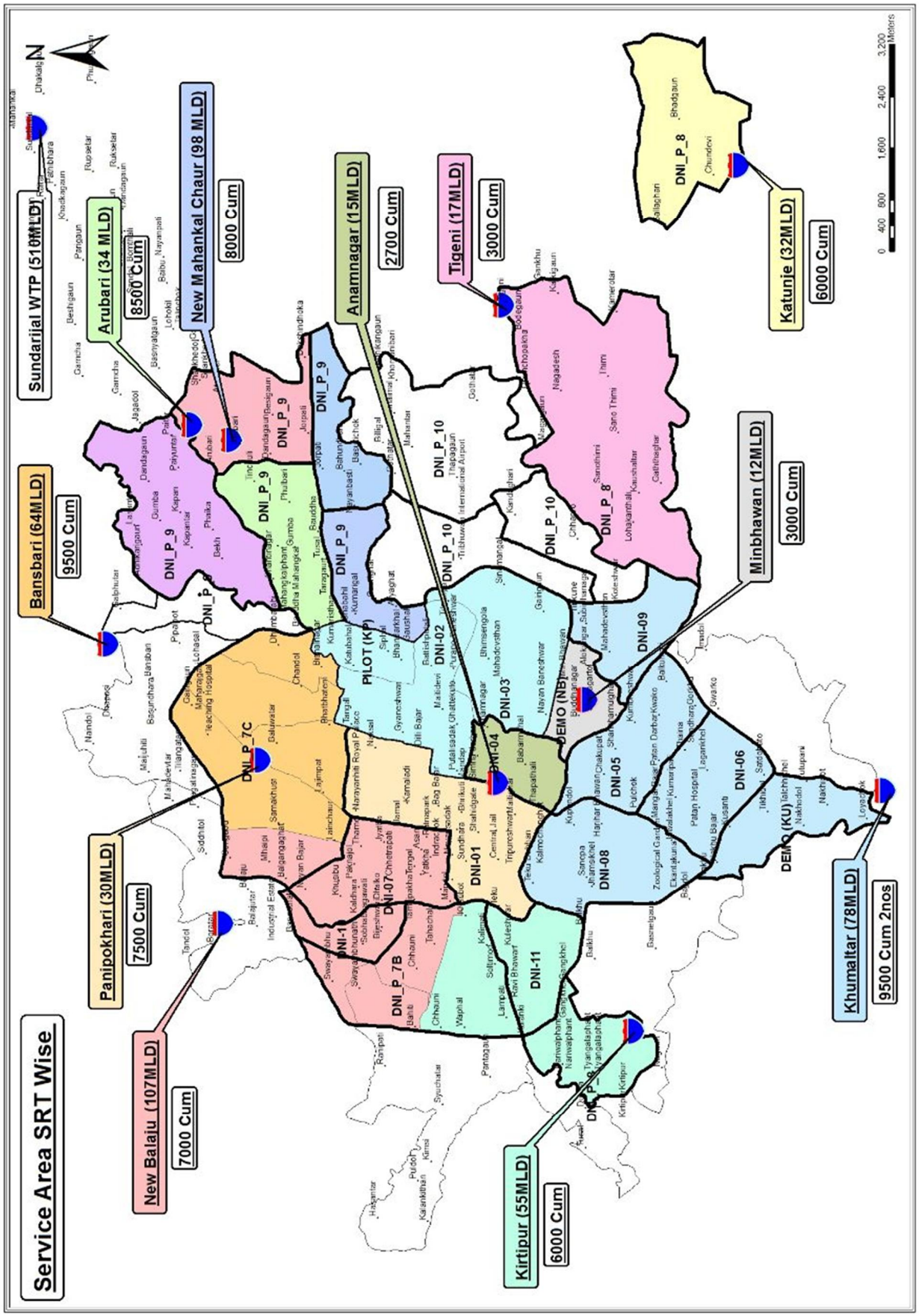


Figure 3.1.3 Water Coverage Area by SRT wise

4. Basic Information on DMAs and Sub-DMAs

The number of customers and estimated demand for each Sub-DMA are shown below.

Table 4.1.1 Estimated Demand in each DMA/Sub-DMA

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
1	1.1	1.1.1	Maharajgunj	Kathmandu				
		1.1.2	Maharajgunj	Kathmandu	12	1,144	135	1,853.3
		1.1.3	Maharajgunj	Kathmandu				
						1,144	Sub total	1,853.3
	1.2	1.2.1	Maharajgunj	Kathmandu				
		1.2.2	Baneshwor	Kathmandu	12	2,259	135	3,659.6
		1.2.3(A)	Maharajgunj	Kathmandu				
		1.2.3(B)	Maharajgunj	Kathmandu				
						2,259	Sub total	3,659.6
	1.3	1.3.1	Tripureshwor	Kathmandu				
		1.3.2(A)	Tripureshwor	Kathmandu	12	3,252	135	5,268.2
		1.3.2(B)	Tripureshwor	Kathmandu				
		1.3.2(C)	Tripureshwor	Kathmandu				
						3,252	Sub total	5,268.2
	1.4	1.4.1	Tripureshwor	Kathmandu	12	2,864	135	4,639.7
		1.4.2	Tripureshwor	Kathmandu				
						2,864	Sub total	4,639.7
	1.5	1.5.1	Tripureshwor	Kathmandu	12	262	135	424.4
		1.5.2	Tripureshwor	Kathmandu	12	365	135	591.3
		1.5.3	Tripureshwor	Kathmandu	12	386	135	625.3
						1,013	Sub total	1,641.1
2	2.1	2.1.1(A)	Mahankalchaur	Kathmandu	12	401	135	649.6
		2.1.1(B)	Maharajgunj & Mahankal	Kathmandu	12	433	135	701.5
		2.1.2(A)	Mahankalchaur	Kathmandu	12	553	135	895.9
		2.1.2(B)	Mahankalchaur	Kathmandu	12	135	135	218.7
		2.1.3(A)	Mahankalchaur	Kathmandu	12	508	135	823.0
		2.1.3(B)	Mahankalchaur	Kathmandu	12	292	135	473.0
		2.1.4	Mahankalchaur	Kathmandu	12	279	135	452.0
						2,601	Sub total	4,213.6
	2.2	2.2.1	Baneshwor	Kathmandu	12	770	135	1,247.4
		2.2.2	Baneshwor	Kathmandu	12	872	135	1,412.6
		2.2.3	Baneshwor	Kathmandu	12	1,989	135	3,222.2
		2.2.4	Baneshwor	Kathmandu	12	614	135	994.7
						4,245	Sub total	6,876.9
	2.3	2.3.1(A)	Baneshwor	Kathmandu	12	510	135	826.2
		2.3.1(B)	Baneshwor	Kathmandu	12	589	135	954.2
						1,099	Sub total	1,780.4
	2.4	2.4.1(A)	Baneshwor & Mahankal	Kathmandu	12	514	135	832.7
		2.4.1(B)	Baneshwor	Kathmandu	12	477	135	772.7
		2.4.1(C)	Baneshwor	Kathmandu	12	735	135	1,190.7
						1,726	Sub total	2,796.1
3	3.1	3.1.1(A)	Baneshwor	Kathmandu	12	415	135	672.3
		3.1.1(B)	Baneshwor	Kathmandu	12	363	135	588.1
		3.1.1(C)	Baneshwor	Kathmandu	12	348	135	563.8
		3.1.2(A)	Baneshwor	Kathmandu	12	503	135	814.9
		3.1.2(B)	Baneshwor	Kathmandu	12	610	135	988.2
		3.1.2(C)	Baneshwor	Kathmandu	12	456	135	738.7
						2,695	Sub total	4,365.9
	3.2	3.2.1(A)	Baneshwor	Kathmandu	12	417	135	675.5
		3.2.1(B)	Baneshwor	Kathmandu	12	287	135	464.9
		3.2.1(C)	Baneshwor	Kathmandu	12	478	135	774.4
		3.2.2(A)	Baneshwor	Kathmandu	12	479	135	776.0
		3.2.2(B)	Baneshwor	Kathmandu	12	484	135	784.1
		3.2.2(C)	Baneshwor	Kathmandu	12	493	135	798.7
						2,638	Sub total	4,273.6
	3.3	3.3.1(A)	Baneshwor	Kathmandu	12	403	135	652.9
		3.3.1(B)	Baneshwor	Kathmandu	12	533	135	863.5
		3.3.1(C)	Baneshwor	Kathmandu	12	503	135	814.9
		3.3.1(D)	Baneshwor	Kathmandu	12	481	135	779.2
		3.3.1(E)	Baneshwor	Kathmandu	12	387	135	626.9
						2,307	Sub total	3,737.3
	3.4	3.4.1(A)	Baneshwor	Kathmandu	12	536	135	868.3
		3.4.1(B)	Baneshwor	Kathmandu	12	364	135	589.7
						900	Sub total	1,458.0
	3.5	3.5.1(A)	Baneshwor & Maharajgunj	Kathmandu	12	551	135	892.6
		3.5.1(B)	Baneshwor	Kathmandu	12	587	135	950.9
		3.5.2	Baneshwor & Maharajgunj	Kathmandu	12	382	135	618.8
						1,520	Sub total	2,462.4
4	4.1	4.1.1	Baneshwor	Kathmandu				
		4.1.2	Baneshwor	Kathmandu	12	569	135	921.8
						569	Sub total	921.8
	4.2	4.2.1	Tripureshwor	Kathmandu	12	256	135	414.7
		4.2.2	Tripureshwor	Kathmandu	12	520	135	842.4
		4.2.3	Tripureshwor	Kathmandu	12	446	135	722.5
						1,222	Sub total	1,979.6

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
5	5.1	5.1.1	Lalitpur	Lalitpur				
		5.1.2	Lalitpur	Lalitpur	12	5,648	135	9,149.8
		5.1.3	Lalitpur	Lalitpur				
						5,648	Sub total	9,149.8
	5.2	5.2.1(A)	Lalitpur	Lalitpur				
		5.2.1(B)	Lalitpur	Lalitpur				
		5.2.1(C)	Lalitpur	Lalitpur				
		5.2.1(D)	Lalitpur	Lalitpur				
		5.2.2(A)	Lalitpur	Lalitpur				
		5.2.2(B)	Lalitpur	Lalitpur	12	3,617	135	5,859.5
		5.2.2(C)	Lalitpur	Lalitpur				
		5.2.2(D)	Lalitpur	Lalitpur				
		5.2.2(E)	Lalitpur	Lalitpur				
		5.2.3(A)	Lalitpur	Lalitpur				
		5.2.3(B)	Lalitpur	Lalitpur				
						3,617	Sub total	5,859.5
6	6.1	6.1.1(A)	Lalitpur	Lalitpur				
		6.1.1(B)	Lalitpur	Lalitpur	12	3,666	135	5,938.9
		6.1.2	Lalitpur	Lalitpur				
		6.1.3	Lalitpur	Lalitpur				
						3,666	Sub total	5,938.9
	6.2	6.2.1	Lalitpur	Lalitpur				
		6.2.2	Lalitpur	Lalitpur	12	4,559	135	7,385.6
		6.2.3	Lalitpur	Lalitpur				
						4,559	Sub total	7,385.6
7	7.1	7.1.1	Maharajgunj	Kathmandu	12	1,549	135	2,509.4
		7.1.2	Tripureshwor	Kathmandu	12	801	135	1,297.6
						2,350	Sub total	3,807.0
	7.2	7.2.1(A)	Tripureshwor	Kathmandu				
		7.2.1(B)	Tripureshwor	Kathmandu				
		7.2.2(A)	Maharajgunj	Kathmandu	12	2,480	135	4,017.6
		7.2.2(B)	Maharajgunj	Kathmandu				
		7.2.3	Maharajgunj	Kathmandu				
						2,480	Sub total	4,017.6
	7.3	7.3.1(A)	Tripureshwor	Kathmandu				
		7.3.1(B)	Tripureshwor	Kathmandu	12	3,100	135	5,022.0
		7.3.2	Tripureshwor	Kathmandu				
		7.3.3	Maharajgunj	Kathmandu				
						3,100	Sub total	5,022.0
	7.4	7.4.1(A)	Tripureshwor	Kathmandu				
		7.4.1(B)	Tripureshwor	Kathmandu				
		7.4.2(A)	Tripureshwor & Lalitpur	Kathmandu	12	4,475	135	7,249.5
		7.4.2(B)	Tripureshwor	Kathmandu				
		7.4.3	Tripureshwor & Maharajgunj	Kathmandu				
		7.4.4	Maharajgunj	Kathmandu				
						4,475	Sub total	7,249.5
8	8.1	8.1.1(A)	Lalitpur	Lalitpur				
		8.1.1(B)	Lalitpur	Lalitpur				
		8.1.2(A)	Lalitpur	Lalitpur				
		8.1.2(B)	Lalitpur	Lalitpur	12	3,893	135	6,306.7
		8.1.2(C)	Lalitpur	Lalitpur				
		8.1.3(A)	Lalitpur	Lalitpur				
		8.1.3(B)	Lalitpur	Lalitpur				
						3,893	Sub total	6,306.7
	8.2	8.2.1(A)	Lalitpur	Lalitpur				
		8.2.1(B)	Lalitpur	Lalitpur				
		8.2.1(C)	Lalitpur	Lalitpur				
		8.2.2(A)	Lalitpur	Lalitpur	12	2,800	135	4,536.0
		8.2.2(B)	Lalitpur	Lalitpur				
		8.2.2(C)	Lalitpur	Lalitpur				
						2,800	Sub total	4,536.0
9	9.1	9.1.1	Baneshwor	Lalitpur	12	799	135	1,294.4
		9.1.2	Baneshwor	Lalitpur	12	1,038	135	1,681.6
		9.1.3	Baneshwor	Lalitpur	12	552	135	894.2
						2,389	Sub total	3,870.2
	9.2	9.2.1	Baneshwor	Lalitpur	12	742	135	1,202.0
		9.2.2	Baneshwor	Lalitpur	12	630	135	1,020.6
		9.2.3	Baneshwor	Lalitpur	12	676	135	1,095.1
		9.2.4	Baneshwor	Lalitpur	12	406	135	657.7
		9.2.5	Baneshwor	Lalitpur	12	447	135	724.1
		9.2.6	Baneshwor	Lalitpur	12	623	135	1,009.3
		9.2.7	Baneshwor	Lalitpur	12	483	135	782.5
						4,007	Sub total	6,491.3
10	10.1	10.1.1	Maharajgunj	Kathmandu	12	480	135	777.6
					12	480	Sub total	777.6
	10.2	10.2.1(A)	Tripureshwor	Kathmandu				
		10.2.1(B)	Tripureshwor	Kathmandu				
		10.2.1(C)	Tripureshwor	Kathmandu				
		10.2.2(A)	Tripureshwor	Kathmandu	12	2,671	135	4,327.0
		10.2.2(B)	Tripureshwor	Kathmandu				
		10.2.2(C)	Tripureshwor	Kathmandu				
						2,671	Sub total	4,327.0
11	11.1	11.1.1	Tripureshwor	Kathmandu	12	2,075	135	3,361.5
						2,075	Sub total	3,361.5
	11.2	11.2.1	Tripureshwor	Kathmandu	12	1,681	135	2,723.2
						1,681	Sub total	2,723.2
	11.3	11.3.1	Tripureshwor	Kathmandu	12	1,239	135	2,007.2
						1,239	Sub total	2,007.2
Demo	Demo	Demo	Baneshwor	Kathmandu	12	5,000	135	8,100.0
						5,000	Sub total	8,100.0
Total	33					88,184		142,858.1

The table above calculates the water demand in DMAs and the existing Demo Area.

However, since the BDS Reservoir supplies water to areas other than the DMAs, it is necessary to estimate the demand for those areas.

Table 4. 1.2 Estimated number of households in the areas except for DMAs and Demo Area

Breakdown of household (connection) for the areas except 32 DMAs

Non DMA Area inside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to DNI 7B (Mhepi, Balaju Area)	2,500	Maharajgunj	Old Balaju
Supply to DNI 7B (Chauni Area)	3,300	Tripureshwor	Old Balaju
Supply to DNI 7B (Tahachal Area)	4,400	Tripureshwor	Kirtipur
Supply to DNI 7B (Kimdol, Dallu, Swoyambhu)	3,300	Tripureshwor (Ex-Chhetrapati)	Old Balaju
Supply to DNI 7C (Lainchaur, Galkopakha, Kapurdhara, Samakhusi, Gongabu)	10,500	Maharajgunj	Old Bansbari
Supply to DNI 7C (Khursanitar Area)	2,000	Maharajgunj	Old Panipokhari
Supply to DNI 7C (Bishalnagar, Chandol)	7,650	Mahankalchaur	Old Mahankal
Supply to Kalopur Pilot Area	2,300	Mahankalchaur	Old Mahankal
Outside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to Tarkeshwor, Banasthali, Dhunge dhara	8,000	Maharajgunj	Old Balaju
Supply to Tokha, Dhapasi, Basundhara (outside ringroad)	7,500	Maharajgunj	Old Bansbari
Supply to Kumari Club, Arcade colony	500	Tripureshwor (Ex-Chhetrapati)	Kirtipur
Supply to Outside the Ringroad by Tripureshwor	2,000	Tripureshwor	Old Balaju
Supply to Kapan, Jorpati	24,701	Mahankalchaur	Old Mahankal
Supply to Kirtipur Customer except for Tribhuvan University	10,054	Kirtipur	Kirtipur
Supply to Kusunti, Bagdol, Nakhu, Nakhipot, Khumaltar, Gwarko, ANFA, Dhapakhel, Dholahiti, Sunakothi	7,395	Lalitpur	Khumaltar
Supply to Kaushaltar, Lokanthali, Gatthaghar, Nagadesh, Sintitar, Dhunchepakha, Saraswatikhel, Thimi Core city, New Thimi, Old Thimi, Bappa, Kamerotar, Madhyapur Hospital	16,596	Madhyapur-Thimi	Thigni
Supply to Kamalbinayak planning, Liwali Planning, Byasi, Bansagopal, Nasamana, Gapali, Tekhacho, Sukuldhoka, Tulachhen, Khiche, Choche, Hanumante Purba, Chundevi, Ghalate, Pandubazar, Shrijananagar, Suryamadhi, Dattatraya, Chyamasingh, Wakupati, Chango road, Mahalaxmi, Bholachhen, Golmadhi, Jagati,	13,560	Bhaktapur	Katunje

Those values should be revised by the respective branch under the supervision by Operation Division.

After filling in the number of households in the areas Non-DMA and outside the Ring Road, the demand to be allocated to each SRT is calculated as follows:

Table 4.1.3 Estimated water demand in the areas except for DMAs and Demo Area

Breakdown of demand for the areas except for 33 DMAs

No of users per connection 12 persons/connection

Demand per capita 135 L/day/person

	Additional Water Demand except for 33 DMAs (m3/day)							
	Balaju	Kirtipur	Bansbari	Panipokhari	Old Mahnkalchaur	Khumaltar	Tigeni	Katunje
Maharajgunj Branch Area								
Non-DMA area inside the Ring Road	4,050		17,010	3,240				
Outside the Ring Road	12,960		12,150					
Tripureshwor Branch Area								
Non-DMA area inside the Ring Road	5,346	7,128						
Outside the Ring Road		810						
Ex-Chhetrapati Branch Area								
Non-DMA area inside the Ring Road	5,346							
Outside the Ring Road	3,240							
Mahankalchaur Branch Area								
Non-DMA area inside the Ring Road					16,119			
Outside the Ring Road					40,016			
Kirtipur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road		16,287						
Madhyapur-Thimi Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road							26,886	
Lalitpur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road						11,980		
Bhaktapur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road								21,967
Total								
Non-DMA area inside the Ring Road	14,742	7,128	17,010	3,240	16,119	0	0	0
Outside the Ring Road	16,200	17,097	12,150	0	40,016	11,980	26,886	21,967

5. Water Receiving Plan from Bulk Distribution System (BDS)

The BDS component will provide water supply to the Kathmandu Metro area using a combination of new water sources developed under Sub-Project 1 of the Melamchi Water Supply Project and other existing water sources.

In order to supply various areas within the Kathmandu Metro area, the new water treatment plant constructed at Sundarijal is the starting point in the water supply network, which will be routed through distribution reservoirs at Mahankalchaur, along the ring road and along the longitudinal route.

The distribution zones, called DMA, are designed to be independent with scattered distribution reservoirs to ensure the stability of water pressure and supply.

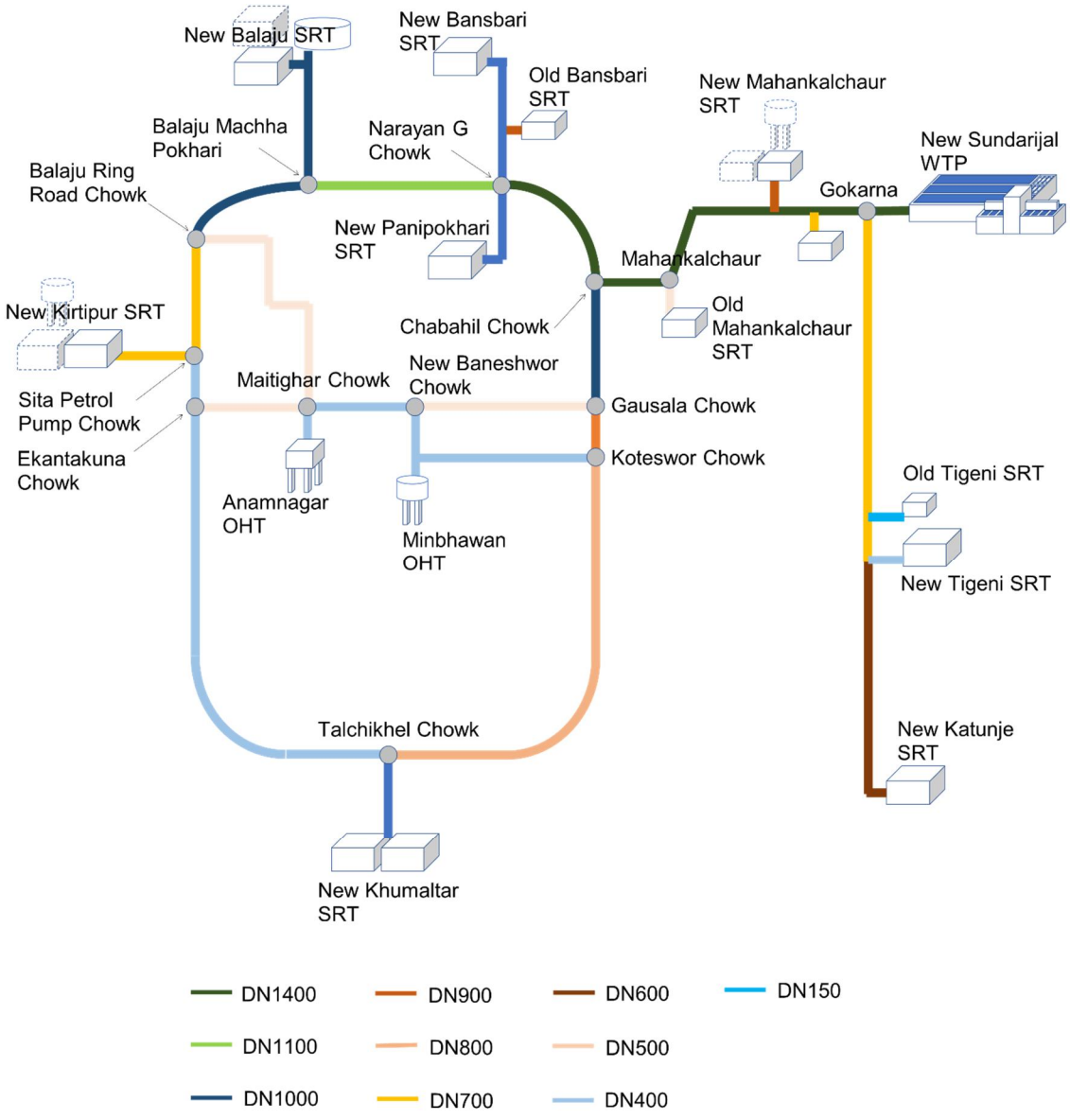


Figure 5.1.1 Schematic Water Supply Network of BDS

The amount of water to be delivered to each Service Reservoir Tank is determined based on the following steps.

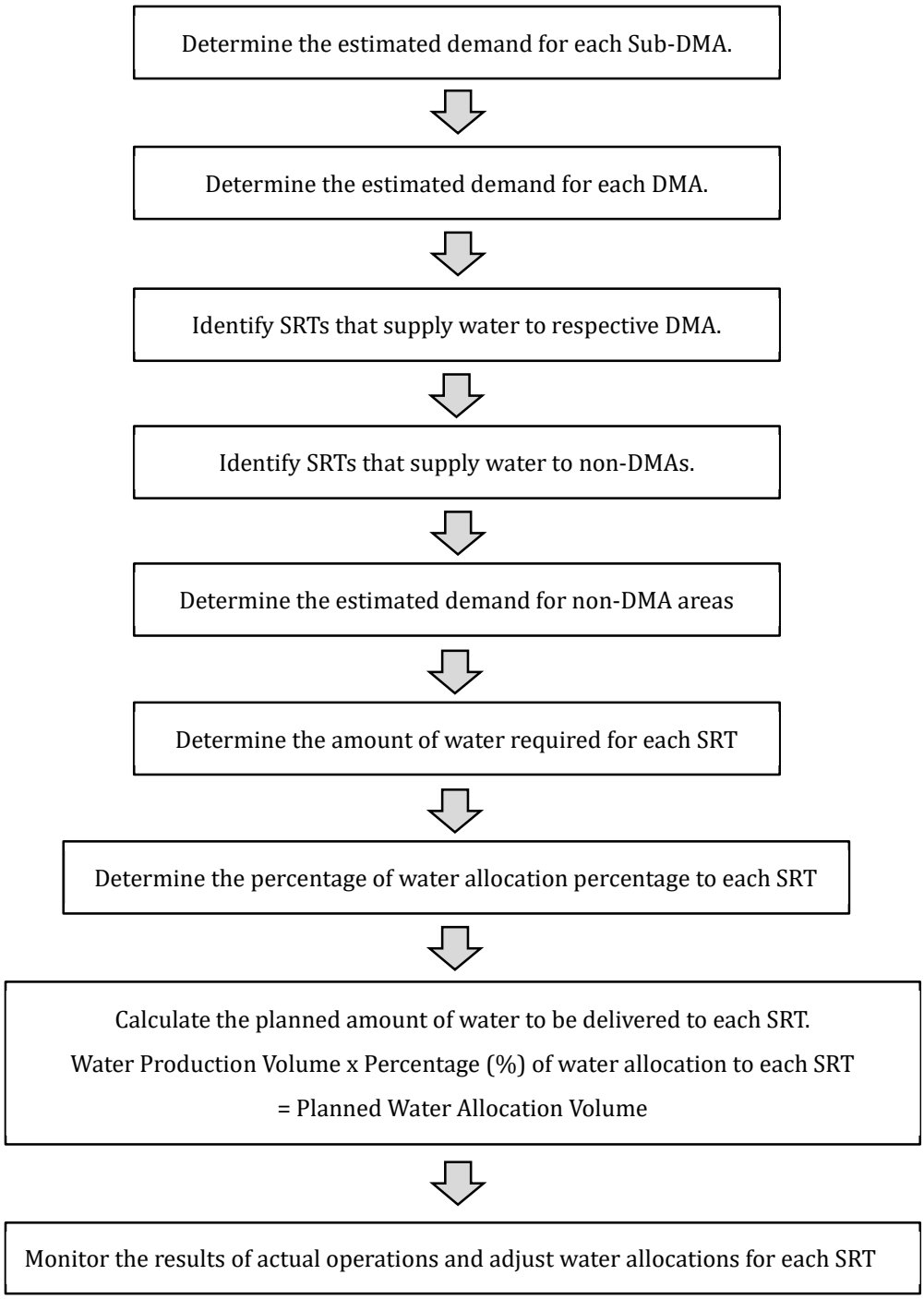


Figure 5.1.2 Steps to determine water allocation for each SRT

Table 5.1.1 Draft of Water Demand and Demand Percentage to each SRT

DMA	Estimated Demand (m3/day)	Demand Percentage (%)	Reservoir
1.1	1,853	0.53	Panipokhari
1.2	3,660	1.05	Panipokhari
1.3	5,268	1.52	Panipokhari
1.4	4,640	1.34	Panipokhari
1.5	1,641	0.47	Panipokhari
2.1	4,214	1.21	New Mahankalchaur
2.2	6,877	1.98	New Mahankalchaur
2.3	1,780	0.51	New Mahankalchaur
2.4	2,796	0.80	New Mahankalchaur
3.1	4,366	1.26	New Mahankalchaur
3.2	4,274	1.23	New Mahankalchaur
3.3	3,737	1.08	New Mahankalchaur
3.4	1,458	0.42	New Mahankalchaur
3.5	2,462	0.71	New Mahankalchaur
4.1	922	0.27	Anamnagar
4.2	1,980	0.57	Anamnagar
5.1	9,150	2.63	Khumaltar
5.2	5,860	1.69	Khumaltar
6.1	5,939	1.71	Khumaltar
6.2	7,386	2.13	Khumaltar
7.1	3,807	1.10	Balaju
7.2	4,018	1.16	Balaju
7.3	5,022	1.45	Balaju
7.4	7,250	2.09	Balaju
8.1	6,307	1.81	Khumaltar
8.2	4,536	1.31	Khumaltar
9.1	3,870	1.11	Khumaltar
9.2	6,491	1.87	Khumaltar
10.1	778	0.22	Balaju
10.2	4,327	1.25	Balaju
11.1	3,362	0.97	Kirtipur
11.2	2,723	0.78	Kirtipur
11.3	2,007	0.58	Kirtipur
Demo Area	8,100	2.33	Minbhawan
Tribhuvan University (TU)	100	0.03	Kirtipur
Non-DMA within the Ring Road	0	0.00	Anamnagar
Non-DMA within the Ring Road	14,742	4.24	Balaju
Non-DMA within the Ring Road	17,010	4.90	Bansbari
Non-DMA within the Ring Road	0	0.00	Khumaltar
Non-DMA within the Ring Road	7,128	2.05	Kirtipur
Non-DMA within the Ring Road	16,119	4.64	Old Mahankalchaur
Non-DMA within the Ring Road	0	0.00	Minbhawan
Non-DMA within the Ring Road	3,240	0.93	Panipokhari
Outside Ring Road	0	0.00	Arubari
Outside Ring Road	12,150	3.50	Bansbari
Outside Ring Road	16,200	4.66	Balaju
Outside Ring Road	11,980	3.45	Khumaltar
Outside Ring Road	17,097	4.92	Kirtipur
Outside Ring Road	40,016	11.52	Old Mahankalchaur
Outside Ring Road	0	0.00	Panipokhari
Outside Ring Road	26,886	7.74	Tigeni
Outside Ring Road	21,967	6.32	Katunje
Total	347,493	100.0	

Currently, water conduction from the Melamchi River is suspended during the rainy season, so the limited amount of water must be equally distributed according to the estimated demand.

Table 5.1.2 Standard Water Production (Main)

	Dry Season with Melamchi water	Monsoon Season without Melamchi water
Supply volume to BDS from New Sundarijal WTP	192 MLD	48 MLD
Production of Mahankalchaur WTP with existing water sources	16.37 MLD	20.67 MLD
Production of Bansbari WTP with existing water sources	10.18 MLD	18.33 MLD
Production of Bode WTP with existing water sources	7.90 MLD	8.08 MLD
Total	226.45 MLD	95.08 MLD

Source: KUKL Annual Report

Table 5.1.3 Water Production Record 2080/2081

		Mahanlakchaur WTP	Bansbari WTP	Bode WTP
Shrawan	July-August	20.15	22.43	8.91
Bhadra	August-September	25.54	30.96	8.08
Ashwin	September-October	17.00	29.32	8.32
Kartik	October-November	20.80	22.83	8.19
Mangsir	November-December	22.86	10.47	8.15
Paush	December-January	22.80	5.83	8.13
Magh	January-February	13.46	5.43	7.64
Falgun	February-March	15.34	19.34	7.50
Chaitra	March-April	9.73	2.7	7.70
Baishakh	April-May	9.66	4.67	8.00
Jestha	May-June	11.26	1.09	7.55
Ashad	June-July	29.22	7.85	7.55
Daily Average (MLD)		18.15	13.58	7.98
Monsoon season average without operation of Melamchi tunnel (MLD)		20.63	18.33	8.08
Dry season average with operation of Melamchi tunnel (MLD)		16.37	10.18	7.90

Source: KUKL Annual Report

Note: The operation of the Melamchi Diversion Tunnel will be suspended from the end-May to the mid-October.

Figure 5.1.4 Water Allocation Plan in Dry Season

Dry Season with Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	1,603				1,603	289	1,892
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	31,020				31,020	5,595	36,615
Bansbari (New & Old)	29,160	8.39	16,112		10,180		5,932	2,906	8,838
Khumaltar	61,518	17.70	33,990				33,990	6,131	40,121
Kirtipur	32,417	9.33	17,911				17,911	3,231	21,142
Mahankalchaur (New)	31,964	9.20	17,661				17,661	3,185	20,847
Mahankalchaur (Old)	56,135	16.15	31,016	16,370			14,646	5,594	20,240
Minbhawan	8,100	2.33	4,475				4,475	807	5,283
Panipokhari (New & Old)	20,302	5.84	11,217				11,217	2,023	13,241
Tigeni	26,886	7.74	14,855			8,080	6,775	2,679	9,455
Katunje	21,967	6.32	12,137				12,137	2,189	14,327
Total	347,493	100.00	192,000				157,370	34,630	192,000
			(F)				(G)		

Figure 5.1.5 Water Allocation Plan in Monsoon Season

Monsoon Season without Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	401				401	129	530
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	7,755				7,755	2,504	10,259
Bansbari (New & Old)	29,160	8.39	4,028		18,330		0	1,300	1,300
Khumaltar	61,518	17.70	8,498				8,498	2,743	11,241
Kirtipur	32,417	9.33	4,478				4,478	1,446	5,923
Mahankalchaur (New)	31,964	9.20	4,415				4,415	1,425	5,841
Mahankalchaur (Old)	56,135	16.15	7,754	20,630			0	2,503	2,503
Minbhawan	8,100	2.33	1,119				1,119	361	1,480
Panipokhari (New & Old)	20,302	5.84	2,804				2,804	905	3,710
Tigeni	26,886	7.74	3,714			7,900	0	1,199	1,199
Katunje	21,967	6.32	3,034				3,034	980	4,014
Total	347,493	100.00	48,000				32,504	15,496	48,000
			(F)				(G)		

6. Target of Water Supply Hour, Frequency of Water Supply and Water Supply Volume

[Supply Hour]

2 hours or more per supply day for all DMAs

[Supply Frequency]

Dry Season with Melamchi water:	At least once every 3 days in all DMAs
Monsoon Season without Melamchi water:	At least once every 5 days in all DMAs

[Supply Volume]

The amount of water allocated to each SRT is compared with the estimated demand of each Sub-DMA and other water supply areas to determine the water supply frequency and hours for each area so that water supply is achieved equally in all areas.

The following page shows the standard water supply schedule created by KUKL's Operation Division. Since available water sources differ between the monsoon and dry seasons, headquarters must review the need for monthly adjustments to the water supply schedule based on local conditions.

Table 6.1.1 Water Supply Plan in Dry Season with Melamchi water (1/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																												
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
Anamnagar	79	1,892	4.1	4.1.1	921.8	14:00	20:00			√			√			√			√			√			√			√			√			√			√
				4.1.2		14:00	22:00			√			√			√			√			√			√			√			√			√			√
			4.2	4.2.1	414.7	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.2	842.4	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.3	722.5	11:00	22:00			√			√			√			√			√			√			√			√			√			√
			Old Network	1st Shift	0.0	4:00	5:00	√			√			√			√			√			√			√			√			√			√		
				2nd Shift		20:00	21:00	√			√			√			√			√			√			√			√			√			√		
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																																
Balaju	1,526	36,615	7.1	7.1.1	2,509.4	4:00	12:00				√				√				√				√				√				√				√		
				7.1.2	1,297.6	4:00	12:00				√				√				√				√				√				√				√		
			7.2	7.2.1(A)	4,017.6	4:00	12:00		√				√				√				√			√			√				√				√
				7.2.1(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(A)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.3		4:00	12:00		√				√				√				√			√			√				√				√
			7.3	7.3.1(A)	5,022.0	7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.1(B)		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.2		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.3		7:00	19:00	√				√				√				√			√			√			√			√			√	
			7.4	7.4.1(A)	7,249.5	7:00	19:00			√				√				√				√			√				√			√				
				7.4.1(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(A)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.3		7:00	19:00			√				√				√				√			√				√			√				
				7.4.4		7:00	19:00			√				√				√				√			√				√			√				
			10.1	10.1.1	777.6	12:00	17:00				√				√				√				√				√				√				√		
			10.2	10.2.1(A)	4,327.0	17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(B)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(C)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.2(A)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(B)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(C)		13:00	20:00				√				√				√				√				√				√				√		
			Old Network	1st Shift	14,742.0	5:30	8:00		√					√					√					√					√					√			
				2nd Shift		8:00	20:00		√					√					√					√					√					√			
			Outside Ring Road		16,200.0	18:15	20:15					√					√				√					√				√						√
Bansbari	368	8,838	Old Network	1st zone, 1st Shift	17,010.0	5:30	8:00	√				√				√				√				√				√				√				√	
				1st zone, 2nd Shift		10:30	13:00	√				√				√				√				√				√				√				√	
				1st zone, 3rd Shift		15:30	18:00	√				√				√				√				√				√				√				√	
				1st zone, 4th Shift		20:30	23:00	√				√				√				√				√				√				√				√	
				2nd Zone, 1st Shift		3:00	5:30		√				√				√				√				√				√				√				√
				2nd Zone 2nd Shift		8:00	10:30		√				√				√				√				√				√				√				√
				2nd Zone 3rd Shift		13:00	15:30		√				√				√				√				√				√				√				√
				2nd Zone 4th Shift		18:00	20:30		√				√				√				√				√				√				√				√
				3rd Zone, 1st Shift		3:00	5:30			√				√				√				√			√				√				√				
				3rd Zone, 2nd Shift		8:00	10:30			√				√				√				√			√				√				√				
				3rd Zone, 3rd Shift		13:00	15:30			√				√				√				√			√				√				√				
				3rd Zone, 4th Shift		18:00	20:30			√				√				√				√			√				√				√				
			Outside Ring Road	1st Shift	12,150.0	3:00	18:00				√				√				√				√				√				√				√		
				2nd Shift		18:00	21:00				√				√				√				√				√				√				√		
				3rd Shift		21:00	0:00				√				√				√				√				√				√				√		
				4th Shift		0:00	3:00				√				√				√				√				√				√				√		
Khumaltar	1,672	40,121	5.1	5.1.1	9,149.8	18:00	6:00			√				√				√				√				√				√				√		
				5.1.2		18:00	6:00			√				√				√				√				√				√				√		
				5.1.3		18:00	6:00			√				√				√				√				√				√				√		
			5.2	5.2.1	5,859.5	6:00	18:00		√				√				√				√			√			√				√				√
				5.2.2		6:00	18:00		√				√				√				√			√			√				√				√
				5.2.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.1	6.1.1(A)	5,938.9	6:00	18:00		√				√				√				√			√			√				√				√
				6.1.1(B)		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.2		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.2	6.2.1	7,385.6	18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.2		18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.3		18:00	18:00	√				√				√				√				√				√				√				√	
			8.1	8.1.1	6,306.7	6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.2		6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.3		6:00	6:00	√				√				√				√				√				√				√				√	
			8.2	8.2.1	4,536.0	6:00	18:00		√				√				√				√			√				√				√				√
				8.2.2		6:00	18:00		√				√				√				√			√				√				√				√
			9.1	9.1.1	1,294.4	19:00	6:00				√				√				√				√				√				√				√		
				9.1.2	1,681.6	19:00	6:00				√				√				√				√				√				√				√		
				9.1.3	894.2	19:00	6:00				√				√				√				√				√				√				√		
			9.2	9.2.1	1,202.0	6:00	19:00				√				√				√				√				√				√				√		
				9.2.2	1,020.6	6:00	19:00				√				√				√				√				√				√				√		
				9.2.3	1,095.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.4	657.7	6:00	19:00				√				√				√				√				√				√				√		
				9.2.5	724.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.6	1,009.3	6:00	19:00				√				√				√				√				√				√				√		
				9.2.7	782.5	6:00	19:00				√				√				√				√				√				√				√		

Table 6.1.2 Water Supply Plan in Dry Season with Melamchi water (2/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			Old Network		0.0																														
			Outside Ring Road	1st Zone I	11,980.0	5:00	21:00		√				√				√				√			√				√				√				√
				1st Zone - II(a)		5:00	14:00				√				√				√				√			√				√				√		
				1st Zone - II(b)		8:00	9:00				√				√				√				√			√				√				√		
				1st Zone - II©		5:00	20:00				√				√				√				√			√				√				√		
				1st Zone - III		5:00	8:00	√				√				√				√				√				√				√				√	
				2nd Zone - I		6:00	18:00			√								√								√								√		
				2nd Zone - II		6:00	18:00							√								√								√						√
				3rd Zone - I		7:00	19:00	√				√				√				√				√				√				√				√	
				3rd Zone - II		7:00	19:00			√				√				√				√				√				√				√		
				4th Zone - I		6:00	20:00			√				√				√				√				√				√				√		
				4th Zone - II		17:00	0:00				√				√				√				√				√				√				√		
				4th Zone - III		17:00	0:00					√				√				√				√			√				√				√		
				4th Zone - IV		17:00	0:00						√				√				√				√			√				√					
Kirtipur	881	21,142	11.1	11.1.1	3,361.5	18:00	6:00	√			√			√			√			√			√			√			√			√			
			11.2	11.2.1	2,723.2	18:00	6:00		√			√			√			√			√			√			√			√			√		
			11.3	11.3.1	2,007.2	18:00	6:00			√			√			√			√			√			√			√			√			√	
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network	Zone 1	7,128.0	6:00	18:00		√							√							√						√							√
				Zone 2		6:00	18:00			√							√							√							√						
				Zone 3		6:00	18:00				√							√							√							√					
				Zone 4		6:00	18:00					√							√							√							√				
				Zone 5		6:00	18:00						√							√							√							√			
				Zone 6		6:00	18:00							√							√							√							√		
				Zone 7		6:00	18:00	√							√							√							√							√	
				Tyanglaphant - I		6:00	16:00		√		√		√			√		√		√			√		√		√			√		√		√			√
				Tyanglaphant - II a		8:00	16:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Tyanglaphant - II b		8:00	17:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III a		7:00	13:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III b		6:00	2:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		9:00	15:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		15:30	18:30			√		√					√		√					√		√					√		√				
				Maitri Chandani		16:00	19:00				√		√					√		√						√		√					√		√		√
				Maitri Chandani		9:00	15:00							√								√							√							√	
				Panga Dokashi -I		12:00	17:00			√							√							√							√						
				Panga Dokashi -II		8:00	13:00					√							√							√							√				
				Panga Dokashi -III		8:00	11:20	√							√							√						√							√		
				Bhatkepati - I		8:00	14:00		√							√							√							√							√
				Bhatkepati - II		10:00	17:00			√							√							√							√						
				Bhatkepati - III		10:00	17:00				√							√							√							√					
				Nagaun - I		9:00	17:00					√							√							√							√				
				Nagaun - II		10:00	17:00						√							√							√							√			
				Nagaun - III		8:00	16:00							√							√							√							√		
				Nagaun - IV		9:00	12:00								√							√							√							√	
				Jakha-Sikhunchhe D		9:00	10:00			√			√				√			√			√			√			√			√				
				Jakha-Sikhunchhe U		8:00	9:00				√				√			√			√			√			√			√			√			√	
				Nagaun & Old		5:00	11:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Nagaun & Old		5:00	11:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		10:00	19:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				KIRTIPUR old		10:00	19:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		4:00	20:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Kwachwo - I		4:00	22:00		√							√							√							√							√
				Kwachwo - II		3:00	8:00			√							√							√							√						
				Kwachwo - III		4:00	7:00				√							√							√							√					
				Kwachwo R - I		5:00	9:00					√							√							√							√				
				Kwachwo R - I		3:00	22:00						√							√							√							√			
				Kwachwo R - I		4:00	8:00							√							√							√							√		
				Kwachwo R - I		4:00	7:00								√							√							√							√	
				Bhajangal - I		4:00	9:00			√		√			√		√		√				√		√		√			√		√		√			√
				Bhajangal - II		6:00	10:00		√			√			√	√			√			√	√			√			√	√			√			√	√
				Bhajangal - III		5:00	10:00			√	√		√				√	√		√				√	√		√				√	√		√			
				Nayabazar Area		10:00	18:10		√						√								√							√							√
				Nayabazar Area - I		8:00	18:00				√			√				√			√				√			√				√			√		
				Nayabazar Area - II		14:00	19:00					√							√							√							√				
				Nayabazar Area - II		11:30	16:30	√							√							√							√							√	
Mahankalchaur	1,712	41,087	2.1	2.1.1(A)	649.6	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.1(B)	701.5	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(A)	895.9	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(B)	218.7	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(A)	823.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(B)	473.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.4	452.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
			2.2	2.2.1	1,247.4	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.2	1,412.6	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.3	3,222.2	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.4	994.7	12:00	22:00	√			√			√			√			√			√			√			√			√			
			2.3	2.3.1(A)	826.2	1:00	8:00		√			√			√			√			√			√			√			√				√	
				2.3.1(B)	954.2	1:00	8:00		√			√			√			√			√			√			√			√				√	

Table 6.1.3 Water Supply Plan in Dry Season with Melamchi water (3/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			2.4	2.4.1(A)	832.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(B)	772.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(C)	1,190.7	7:00	12:00	√			√			√			√			√			√			√			√			√			√		
			3.1	3.1.1(A)	672.3	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(B)	588.1	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(C)	563.8	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(A)	814.9	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(B)	988.2	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(C)	738.7	13:00	17:00			√			√			√			√			√			√			√			√			√		√
			3.2	3.2.1(A)	675.5	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(B)	464.9	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(C)	774.4	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(A)	776.0	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(B)	784.1	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(C)	798.7	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
			3.3	3.3.1(A)	652.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(B)	863.5	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(C)	814.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(D)	779.2	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(E)	626.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
			3.4	3.4.1(A)	868.3	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
				3.4.1(B)	589.7	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
			3.5	3.5.1(A)	892.6	4:00	7:00			√			√			√			√			√			√			√			√			√		√
				3.5.1(B)	950.9	7:00	12:00			√			√			√			√			√			√			√			√			√		√
				3.5.2	618.8	7:00	12:00			√			√			√			√			√			√			√			√			√		√
			Old Network	Zone 1	16,119.0	8:00	7:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	7:00			√			√			√			√			√			√			√			√			√			
				Zone 3		10:00	7:00	√			√			√			√			√			√			√			√			√			√			
			Outside Ring Road	Zone 1	40,016.0	8:00	10:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	8:00			√			√			√			√			√			√			√			√			√			
				Zone 3		20:00	0:00	√			√			√			√			√			√			√			√			√			√		
				Zone 4 i		4:00	3:00		√						√							√								√							
				Zone 4 ii		3:00	3:00			√						√								√							√						
				Zone 5 i		4:00	5:00	√							√							√						√								
				Zone 5 ii		5:00	5:00		√							√							√						√							
				Zone 5 iii		5:00	5:00			√							√							√							√						
				Zone 5 iv		5:00	5:00				√							√							√							√					
				Zone 5 v		5:00	4:00					√							√							√							√				
				Zone 5 vi		4:00	22:00						√							√							√							√			
				Zone 5 vii		4:00	4:00							√							√							√							√		
				Zone 6 i		5:00	22:00				√							√				√							√								
				Zone 6 ii		6:00	19:00					√							√							√							√				
				Zone 6 iii		19:00	5:00						√							√							√							√			
				Zone 6 iv		5:00	17:00							√							√							√							√		
Minbhawan	220	5,283	Demo Area	Zone 1	8,100.0	5:00	11:00		√			√			√			√			√			√			√			√			√		√	
				Zone 1 - II		3:00	8:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		5:00	11:00			√			√			√			√			√			√			√			√			√			√
				Zone 2 - II		3:00	8:00			√			√			√			√			√			√			√			√			√			√
				Zone 3		5:00	10:00	√			√			√			√			√			√			√			√			√			√		
				Zone 3 - II		12:00	18:00	√			√			√			√			√			√			√			√			√			√		
Panipokhari	552	13,241	1.1	1.1.1	1,853.3	12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.2		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.3		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
			1.2	1.2.1	3,659.6	12:00	16:00		√			√			√			√			√			√			√			√			√		√	
				1.2.2		7:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.2.3(A)		16:00	20:00		√				√				√				√				√				√				√			√
				1.2.3(B)		16:00	20:00		√				√				√				√				√				√				√			√
			1.3	1.3.1	5,268.2	6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(A)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(B)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(C)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
			1.4	1.4.1	4,639.7	16:00	18:00			√			√			√			√			√			√			√			√			√		√
				1.4.2		16:00	18:00			√			√			√			√			√			√			√			√			√		√
			1.5	1.5.1	424.4	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.2	591.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.3	625.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
			Old Network	1st Zone, 1st Shift	3,240.0	4:00	7:00				√					√			√				√				√				√				√	
				1st Zone, 2nd Shift		07"00	9:00				√					√			√				√				√				√				√	
				1st Zone, 3rd Shift		9:00	11:00				√					√			√				√				√				√				√	
				1st Zone, 4th Shift		11:00	13:00				√					√			√				√				√				√				√	
				1st Zone, 5th Shift		13:00	16:00				√					√			√				√				√				√				√	
				1st Zone, 6th Shift		16:00	19:00				√					√			√				√				√				√				√	
				1st Zone, 7th Shift		19:00	22:00				√					√			√				√				√				√				√	
				2nd Zone		4:00	7:00	√				√				√				√				√				√				√				√	
			Outside Ring Road		0.0																															
Tigeni	394	9,455	Outside Ring Road	1st zone	26,886.0	5:00	4:00	√				√				√				√				√				√				√				√	
				2nd zone		5:00	4:00		√				√				√				√				√				√				√				√
				3rd zone		5:00	4:00			√			√			√			√			√			√			√			√			√			√
				4th zone		5:00	4:00				√				√				√				√				√				√				√		
Katunje	597	14,327	Outside Ring Road	1st zone - I	21,967.0	4:00	10:00				√				√				√				√				√				√				√	
				1st zone - II		16:00	20:00				√				√				√				√				√				√				√	
				2nd zone - I		4:00	10:00	√				√				√				√				√				√				√				√	
				2nd zone - II		16:00	20:00	√				√				√				√				√				√				√				√	
				3rd zone - I		4:00	10:00		√				√				√				√				√				√				√				√
				3rd zone - II		16:00	20:00		√				√				√				√				√				√				√				√
				4th zone - I		4:00	10:00			√			√			√			√			√			√			√			√			√			√
				4th zone - II		16:00	20:00			√			√			√			√			√			√			√			√			√			√
				5th zone -I		10:00	14:00				√				√				√				√				√				√				√	
				5th zone - II		20:00	0:00				√				√				√				√				√				√				√	
				6th zone - I		10:00	14:00			√			√			√			√			√			√			√			√			√			√
				6th zone - II		20:00	0:00			√			√			√			√			√			√			√			√			√			√
		192,000		Total	347,493.1																															

Table 6.1.4 Water Supply Plan in Monsoon Season without Melamchi water (1/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Anamnagar	22	530	4.1	4.1.1	921.8																															
				4.1.2		14:00	20:00			√						√						√						√						√				
			4.2	4.2.1	414.7	11:00	20:00			√						√						√						√						√				
				4.2.2	842.4	11:00	20:00			√						√						√						√						√				
				4.2.3	722.5	11:00	20:00			√						√						√						√						√				
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																															
Balaju	427	10,259	7.1	7.1.1	2,509.4	17:00	22:00						√						√						√						√					√	
				7.1.2	1,297.6	17:00	22:00						√						√						√						√					√	
			7.2	7.2.1(A)		4:00	11:00						√						√						√						√					√	
				7.2.1(B)		4:00	11:00						√						√						√						√					√	
				7.2.2(A)	4,017.6	4:00	11:00						√						√						√						√					√	
				7.2.2(B)		4:00	11:00						√						√						√						√					√	
				7.2.3		4:00	11:00						√						√						√						√					√	
			7.3	7.3.1(A)		4:00	13:00					√						√					√						√					√		
				7.3.1(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(A)	5,022.0	4:00	13:00					√						√					√						√					√		
				7.3.2(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(C)		4:00	13:00					√						√					√						√					√		
				7.3.3		4:00	13:00					√						√					√						√					√		
			7.4	7.4.1(A)		4:00	13:00				√						√						√	√					√					√		
				7.4.1(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.2(A)	0.0	4:00	13:00				√						√						√	√					√					√		
				7.4.2(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.3		4:00	13:00				√						√						√	√					√					√		
				7.4.4		4:00	13:00				√						√						√	√					√					√		
			10.1	10.1.1	777.6																															
			10.2	10.2.1(A)		15:00	20:00					√						√						√						√					√		
				10.2.1(B)		15:00	20:00					√						√						√						√					√		
				10.2.1(C)	4,327.0	15:00	20:00					√						√						√						√					√		
				10.2.2(A)		15:00	20:00				√						√						√						√					√		
				10.2.2(B)		15:00	20:00				√						√						√						√					√		
				10.2.2(C)		15:00	20:00				√						√						√						√					√		
			Old Network	1st Zone		6:00	8:00				√						√						√						√					√		
				2nd Zone		8:00	18:00				√						√						√						√					√		
				1st zone, 1st Shift		3:30	5:00			√						√						√						√					√				
				1st zone, 2nd Shift		7:00	8:00			√						√						√						√					√				
				1st zone, 3rd Shift		13:00	17:00			√						√						√						√					√				
				2nd Zone, 1st Shift		14:30	15:30						√						√						√						√					√	
				2nd Zone 2nd Shift		15:30	16:30						√						√						√						√					√	
				2nd Zone 3rd Shift	14,742.0	16:30	17:30						√						√						√						√					√	
				3rd Zone, 1st Shift		14:30	15:30				√						√						√						√					√		
				3rd Zone, 2nd Shift		15:30	16:30				√						√						√						√					√		
				3rd Zone, 3rd Shift		16:30	17:30				√						√						√						√					√		
				3rd Zone, 4th Shift		17:30	18:30				√						√						√						√					√		
				3rd Zone, 5th Shift		18:30	19:30				√						√						√						√					√		
				4th Zone, 1st Shift		14:30	17:00			√						√						√						√						√		
				4th Zone, 2nd Shift		15:30	17:00			√						√						√						√						√		
				5th Zone, 1st Shift		15:30	17:00				√						√						√						√					√		
			Outside Ring Road	1st Zone	16,200.0	5:15	8:00						√						√						√						√					√	
				2nd Zone		5:15	8:00			√						√						√						√						√				
Bansbari	54	1,300	Old Network	1st zone, 1st Shift		3:00	5:00				√						√						√						√					√		
				1st zone, 2nd Shift		9:00	11:00				√						√						√						√					√		
				1st zone, 3rd Shift		15:00	17:00				√						√						√						√					√		
				2nd Zone, 1st Shift		3:00	5:00					√						√						√						√					√	
				2nd Zone 2nd Shift		9:00	11:00					√						√						√						√					√	
				2nd Zone 3rd Shift		15:00	17:00					√						√						√						√					√	
				3rd Zone, 1st Shift		3:00	5:00						√						√						√						√					√	
				3rd Zone, 2nd Shift	17,010.0	9:00	11:00						√						√						√						√					√	
				4th Zone, 1st Shift		3:00	5:00	√						√						√						√						√					√
				4th Zone, 2nd Shift		9:00	11:00	√						√						√						√						√					√
				4th Zone, 3rd Shift		15:00	17:00	√						√						√						√						√					√
				5th Zone, 1st Shift		3:00	5:00		√						√						√						√						√				
				5th Zone, 2nd Shift		9:00	11:00		√						√						√						√						√				
				5th Zone, 3rd Shift		15:00	17:00		√						√						√						√						√				
				6th Zone, 1st Shift		18:00	22:00			√						√						√						√					√				
			Outside Ring Road	1st zone, 1st Shift		3:00	5:30		√					√						√					√						√						
				1st zone, 2nd Shift		14:00	15:30		√					√						√					√						√						
				1st zone, 3rd Shift		15:30	16:30		√					√						√					√						√						
				2nd Zone, 1st Shift		3:00	5:00			√					√					√						√						√					
				2nd Zone 2nd Shift	12,150.0	14:00	16:00			√					√					√						√						√					
				3rd Zone, 1st Shift		3:00	5:00				√					√						√						√						√		
				3rd Zone, 2nd Shift		14:00	16:00				√					√						√						√						√		
				4th Zone, 1st Shift		3:00	5:00					√					√					√						√					√			
				4th Zone, 2nd Shift		14:00	16:00					√					√					√						√					√			
				5th Zone, 1st Shift		3:00	5:00	√					√					√					√						√								√

Table 6.1.5 Water Supply Plan in Monsoon Season without Melamchi water (2/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																								
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Khumaltar	468	11,241	5.1	5.1.1	9,149.8	14:00	21:00							7							14							21							28			
				5.1.2		14:00	21:00							7							14							21							28			
				5.1.3		14:00	21:00							7							14							21							28			
			5.2	5.2.1	5,859.5	4:00	11:00						6							13						20							27				
				5.2.2		4:00	11:00						6							13						20							27				
				5.2.3		4:00	11:00						6							13						20							27				
			6.1	6.1(DNI)	5,938.9	19:00	6:00						6							13						20							27				
				6.1(DNI)		19:00	6:00							7							14							21							28			
			6.2	6.2(DNI)	7,385.6	18:00	6:00				4							11						18							25						
				6.2(DNI)		18:00	6:00					5							12							19							26					
			8.1	8.1 (DNI)	6,306.7	8:00	20:00					5							12							19							26					
			8.2	8.2 (DNI)	4,536.0	8:00	20:00					5							12							19							26					
			9.1	9.1.1	1,294.4	20:00	5:00								√							√							√							√		
				9.1.2	1,681.6	20:00	5:00								√							√							√							√		
				9.1.3	894.2	20:00	5:00								√							√							√							√		
			9.2	9.2.1	1,202.0	5:00	19:00							√							√							√							√		
				9.2.2	1,020.6	5:00	19:00							√							√							√							√		
				9.2.3	1,095.1	5:00	19:00							√							√							√							√		
				9.2.4	657.7	5:00	19:00							√							√							√							√		
				9.2.5	724.1	5:00	19:00							√							√							√							√		
				9.2.6	1,009.3	5:00	19:00							√							√							√							√		
				9.2.7	782.5	5:00	19:00							√							√							√							√		
			Old Network		0.0																																	
			Outside Ring Road	8.1 (20" KUKL)	11,980.0	6:00	14:00				4							11						18							25						
				8.1 (20" KUKL)		15:00	17:00				4							11						18							25						
				8.1 (20" KUKL)		7:00	16:00		2							9						16								23							30	
				8.1 (20" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	13:00							7							14							21							28			
Kirtipur	247	5,923	11.1	11.1.1	3,361.5	18:00	6:00	√						√						√					√						v	√						√
			11.2	11.2.1	2,723.2	18:00	6:00						√						√						√					√						v		
			11.3	11.3.1	2,723.2	18:00	6:00					√						√						√					√						v			
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network		7,128.0	7:00	17:00																															
			Siwalaya System	Siwalaya 1		7:00	12:30							√							√							√							√			
				Siwalaya 1		7:00	9:40	√							√							√							√							√			
			Bhajangal System	Bhajangal R1		4:00	8:40	√				√			√				√			√				√			√				√			√			
				Bhajangal R2		5:00	5:40	√		√					√		√					√		√					√		√					√			√
				Bhajangal R3		5:00	8:40	√			√				√			√				√			√					√			√				√		
				Bhajangal R4		5:00	5:40		√					√		√						√		√				√		√					√		√	
						18:30	20:00		√					√		√						√		√				√		√					√		√	
				Bhajangal R5		6:00	8:40		√			√				√			√				√			√				√			√				√	
				Bhajangal D		8:00	14:40			√			√				√			√				√			√				√			√				√
				Bhajangal K		8:00	11:20				√			√				√			√				√			√				√			√			
				Gurung Compound		14:40	18:00				√							√							√							√						
			Chilancho System	Chilancho 1		4:00	7:30	√				√			√				√			√				√			√				√			√		
						21:00	22:00	√				√			√				√			√				√			√				√			√		
				Chilancho 2		6:00	9:00		√				√			√				√			√				√			√				√			√	
						19:30	20:00		√				√			√				√			√				√			√				√			√	
				Chilancho 3		4:00	8:00				√			√				√			√				√			√				√			√		
				Chilancho 4		16:00	19:00	√				√		√	√			√	√		√	√			√	√		√	√			√	√		√	√		
				Chilancho 5		14:30	18:30		√				√	√		√		√		√	√		√		√		√	√		√		√		√		√		
				Chilancho 6		14:15	18:00				√			√				√							√				√			√			√			
			Devdhoka System	Devdhoka 1	17,097.0	6:00	15:00	√							√							√							√							√		
						12:00	15:00	√							√							√							√							√		
				Devdhoka 2		6:00	19:00		√							√							√							√							√	
						15:00	19:00		√							√							√							√							√	
				Devdhoka 3		6:00	11:00			√							√							√							√							√
						13:00	14:00			√							√							√							√							√
				Devdhoka 4		6:00	10:00				√							√							√							√						
				Devdhoka 5		6:00	9:00					√							√							√							√						
						12:00	15:30					√							√														√						
				Devdhoka 6		6:00	9:00						√							√							√							√				
						15:00	18:30						√							√							√							√				
				Devdhoka 7		6:00	21:00							√							√							√							√			
						15:00	18:30							√							√							√							√			
			Kwacho System	Kwacho 1		4:00	6:30	√				√			√				√			√				√			√				√			√		
						18:30	19:30	√				√			√				√			√				√			√				√			√		
				Kwacho 2		3:00	6:30		√				√			√				√			√				√			√				√			√	
				Kwacho 3		4:00	5:30			√				√			√				√			√				√			√				√			√
			Jakha System	Water is used when local																																		
			Nagau System	Nagau 1 (8 area)		5:00	9:00	√		√		√			√		√		√			√		√		√			√		√		√			√			√
				Nagau 2 (8 area)		5:00	9:00		√		√		√			√		√			√		√		√		√			√		√		√			√		
Mahankalchaur	348	8,344	2.1	2.1.1(A)	649.0	11:00	14:00	√						√							√						√					√						
				2.1.1(B)	701.5	11:00	14:00	√						√							√						√					√						
				2.1.2(A)	895.9	11:00	14:00	√						√							√						√					√						
				2.1.2(B)	218.7	11:00	14:00	√						√							√						√					√						
				2.1.3(A)	823.0	11:00	14:00	√						√							√						√					√						
				2.1.3(B)	473.0	11:00	14:00	√						√							√						√					√						
				2.1.4	452.0	11:00	14:00	√						√							√						√					√						
			2.2	2.2.1	1,247.4	13:00	22:00			√						√						√						√						√			
				2.2.2	1,412.6	13:00	22:00			√						√						√						√						√			
				2.2.3	3,222.2	13:00	22:00			√						√						√						√						√			
				2.2.4	994.7	13:00	22:00			√						√						√						√						√			
			2.3	2.3.1(A)	826.2	22:00	1:00		√						√						√						√					√					
				2.3.1(B)	954.2	22:00	1:00		√						√						√						√					√					
			2.4	2.4.1(A)	832.7	14:00	20:00	√						√						√					√						√						
				2.4.1(B)	772.7	14:00	20:00	√						√						√					√						√						
				2.4.1(C)	1,190.7	14:00	20:00	√						√						√					√						√						

Table 6.1.6 Water Supply Plan in Monsoon Season without Melamchi water (3/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																													
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
			3.1	3.1.1(A)	672.3	11:00	17:00		√						√						√						√						√					
				3.1.1(B)	588.1	11:00	17:00		√						√						√						√						√					
				3.1.1(C)	563.8	11:00	17:00		√						√						√						√						√					
				3.1.2(A)	814.9	11:00	17:00		√						√						√						√						√					
				3.1.2(B)	988.2	11:00	17:00		√						√						√						√						√					
				3.1.2(C)	738.7	11:00	17:00		√						√						√						√						√					
			3.2	3.2.1(A)	675.5	6:00	12:00			√						√						√						√						√				
				3.2.1(B)	464.9	6:00	12:00			√						√						√						√						√				
				3.2.1(C)	774.4	6:00	12:00			√						√						√						√						√				
				3.2.2(A)	776.0	6:00	12:00			√						√						√						√						√				
				3.2.2(B)	784.1	6:00	12:00			√						√						√						√						√				
				3.2.2(C)	798.7	6:00	12:00			√						√						√						√						√				
			3.3	3.3.1(A)	652.9	15:00	21:00		√						√						√						√						√					
				3.3.1(B)	863.5	15:00	21:00		√						√						√						√						√					
				3.3.1(C)	814.9	15:00	21:00		√						√						√						√						√					
				3.3.1(D)	779.2	15:00	21:00		√						√						√						√						√					
				3.3.1(E)	626.9	15:00	21:00		√						√						√						√						√					
			3.4	3.4.1(A)	868.3	20:00	23:00	√						√					√					√							√							
				3.4.1(B)	589.7	20:00	23:00	√						√					√					√							√							
			3.5	3.5.1(A)	802.6	4:00	10:00		√						√						√						√						√					
				3.5.1(B)	950.9	4:00	10:00		√						√						√						√						√					
				3.5.2	618.8	4:00	10:00		√						√						√						√						√					
			Old Network	Zone 1 a	16,119.0	8:00	10:00		√			√			√			√			√			√			√			√			√			√		
				Zone 1 b		16:00	19:00		√			√			√			√			√			√			√			√			√			√		
				Zone 2		4:00	8:00			√			√			√			√			√			√			√			√			√			√	
				Zone 3 a		11:00	13:00	√			√			√			√			√			√			√			√			√			√			√
				Zone 3 b		13:00	16:00	√			√			√			√			√			√			√			√			√			√			√
			Outside Ring Road	Zone 1-gravity	19,846.4																																	
				Zone 2-gravity																																		
				Zone 3 a-pumping																																		
				Zone 3 b-pumping																																		
				Zone 3 c-pumping																																		
				Zone 3 d-pumping																																		
				Zone 3 e-pumping																																		
				Zone 3 f-pumping																																		
				Zone 3 g-pumping																																		
Minbhawan	62	1,480	Demo Area	Zone 1	8,100.0	10:00	12:30						√						√						√					√						√	
				Zone 2		18:00	20:30						√						√						√					√						√	
				Zone3		5:00	8:00	√						√						√						√						√						√
				Zone 4		15:00	18:00	√						√						√						√						√						√
				Zone 5		5:00	8:00		√						√						√						√						√					
				Zone 6		12:00	16:00		√						√						√						√						√					
Panipokhari	155	3,710	1.1	1.1.1	1,853.3	4:00	22:00							√						√						√						√					√
				1.1.2										√						√						√						√					√
				1.1.3										√						√						√						√					√
			1.2	1.2.1	3,659.6	4:00	7:00								√						√						√						√				
				1.2.2											√						√						√						√				
				1.2.3(A)											√						√						√						√				
				1.2.3(B)											√						√						√						√				
			1.3	1.3.1	5,268.2	14:00	21:00							√						√						√						√					√
				1.3.2(A)		14:00	21:00							√						√						√						√					√
				1.3.2(B)		14:00	21:00							√						√						√						√					√
				1.3.2(C)		14:00	21:00							√						√						√						√					√
			1.4	1.4.1	4,639.7	13:00	19:00						√						√					√					√						√	
				1.4.2		13:00	19:00						√						√					√					√						√	
			1.5	1.5.1	424.4	5:00	13:00							√						√						√						√					√
				1.5.2	591.3	5:00	13:00							√						√						√						√					√
				1.5.3	625.3	5:00	13:00							√						√						√						√					√
Tigeni	50	1,199	Outside Ring Road	1st zone	26,886.0	4:00	11:00		√							√						√							√						√	
				2nd zone		4:00	11:00			√							√						√							√						√
				3rd zone		4:00	11:00				√							√						√							√						
				4th zone		4:00	11:00					√							√						√							√					
				5th zone		4:00	11:00						√							√						√							√				
				6th zone		4:00	11:00							√							√						√							√			
				7th zone		4:00	11:00	√							√							√						√							√			
Katunje	167	4,014	Outside Ring Road	1st zone	21,967.0	13:00	20:00		√						√						√						√						√				
				2nd zone						√						√						√						√						√				
				3rd zone					√						√						√						√						√				
				4th zone		14:00	17:00		√			√			√			√				√			√			√			√			√			√	
				5th zone		8:00	12:00	√						√						√						√						√						√
				6th zone				√						√						√						√						√						√
				7th zone				√						√						√						√						√						√
				8th zone		6:00	10:00			√			√			√			√			√			√			√			√			√			
				9th zone		8:00	11:00		√							√						√						√						√				
		48,000		Total	317,550.0																																

7. Actions to be taken by KUKL

In the technical cooperation project by JICA, indicators are established to measure the achievement of Output 1 and the project purpose.

Both indicators must be achieved by December 2026, when the technical cooperation project concludes.

[Output 1]

The capacity of water distribution management utilizing GIS is enhanced.

Indicator 1-3: The water distribution plan for maintaining fair supply hour is prepared for the DMAs within the Ring Road.

[Project Purpose]

The KUKL's capacity of operation and maintenance of water supply is improved.

Indicator 1: The water distribution management plan for fair water supply is implemented in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

Indicator 2: Water supply hours are fair in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

To achieve the above-mentioned indicators, KUKL should implement the following actions:

7.1 Actions to be taken by Production Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-1: Monthly water inflow at each SRT from BDS
(Table 7.1.1, Table 7.1.2, Figure 7.1.1, Figure 7.1.2)

PI-2: Monthly water inflow per customer at each SRT from BDS
(Table 7.1.3, Figure 7.1.3)

PI-3: Water losses in BDS between New Sundarijal WTP and each SRT
(Table 7.1.2)

Table 7.1.1 Monitoring Format of Monthly Inflow by SRT wise (1/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Baisakh		Jestha		Asadh		Shrawan		Bhadra		Ashwin	
				14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	15164	3	231591	46	129935	26	114419	23	131183	26	372,456	74
Balaju (New)	15,556	291,578	1,098,464	237048	15	280865	18	184668	12	199020	13	181238	12	230070	15
Balaju (Old)	19,100			298687	16	239059	13	115738	6	0	0	202898	11	351175	18
Bansbari (Old)	18,000	30,605	265,132	291703	16	293788	16	44799	2	0	0	317	0	6784	0
Khumaltar	37,974	319,495	1,203,634	1023350	27	1146020	30	662190	17	734120	19	764932	20	802258	21
Kirtipur	19,949	168,358	634,255	323657	16	329460	17	198622	10	237609	12	216165	11	249046	12
Mahankalchaur (New)	19,731	291,538	1,098,313	467845	24	516628	26	225886	11	287506	15	450396	23	466119	24
Mahankalchaur (Old)	34,651	33,548	134,298	431083	12	442614	13	72781	2	0	0	303	0	162782	5
Minbhawan	5,000	42,067	158,481	236571	47	136076	27	58780	12	108294	22	119345	24	150899	30
Panipokhari (New)	10,532	105,438	397,217	137442	13	133258	13	87793	8	88573	8	95710	9	111872	11
Panipokhari (Old)	2,000			37848	19	21103	11	7043	4	17084	9	11696	6	14515	7
Tigeni	16,596	28,218	283,640	-	-	-	-	-	-	-	-	344	0	483	0
Katunje	13,560	114,086	429,797	0	0	328681	24	180919	13	154526	11	166588	12	208998	15
Average				291,700	17	341,595	21	164,096	10	161,763	11	180,086	12	240,574	18

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

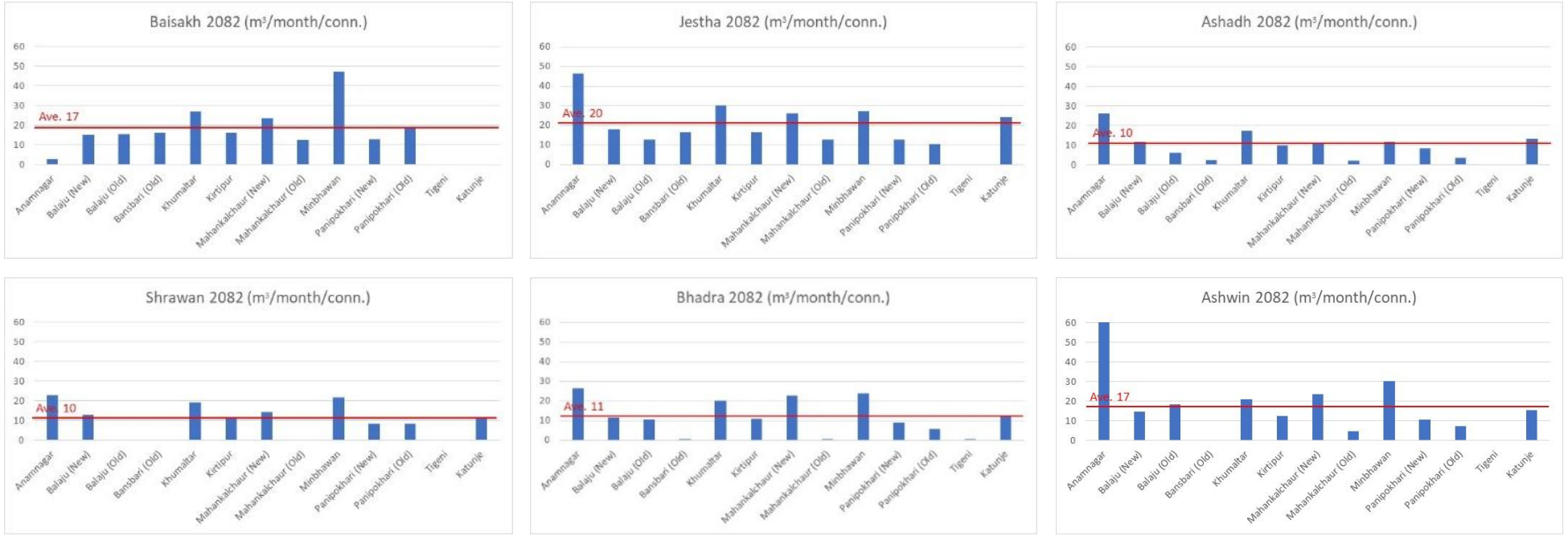


Figure 7.1.1 Change of Monthly Inflow by SRT wise (1/2)

Table 7.1.2 Monitoring Format of Monthly Inflow by SRT wise (2/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Kartik		Mangsir		Poush			Magh		Falgun		Chaitra	
				18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25		14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	14-Mar-26	15-Mar-26	13-Apr-26
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow		Inflow		Inflow			Inflow		Inflow		Inflow	
				(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	Local sources	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	182330	36	143,488	29	220,633		44		0		0		0
Balaju (New)	15,556	291,578	1,098,464	326808	21	363,390	23	414,438		27		0		0		0
Balaju (Old)	19,100			438440	23	460,982	24	585,595		31		0		0		0
Bansbari (Old)	18,000	30,605	265,132	64275	4	102,621	6	292,397	104,400	22		0		0		0
Khumaltar	37,974	319,495	1,203,634	972150	26	1,016,340	27	1,227,320		32		0		0		0
Kirtipur	19,949	168,358	634,255	335258	17	347,178	17	424,761		21		0		0		0
Mahankalchaur (New)	19,731	291,538	1,098,313	477628	24	522,914	27	618,450		31		0		0		0
Mahankalchaur (Old)	34,651	33,548	134,298	411567	12	441,275	13	487,527	681,500	34		0		0		0
Minbhawan	5,000	42,067	158,481	195975	39	140,311	28	234,816		47		0		0		0
Panipokhari (New)	10,532	105,438	397,217	192052	18	213,775	20	227,497		22		0		0		0
Panipokhari (Old)	2,000			24593	12	27277	14	53,189		27		0		0		0
Tigeni	16,596	28,218	283,640	469	0	288,000	17	288,000	161,994	27		0		0		0
Katunje	13,560	114,086	429,797	350301	26	344,498	25	398,271	-76,560	24		0		0		0
Average				305,527	20	339,388	21	420,992		30		0		0		0

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

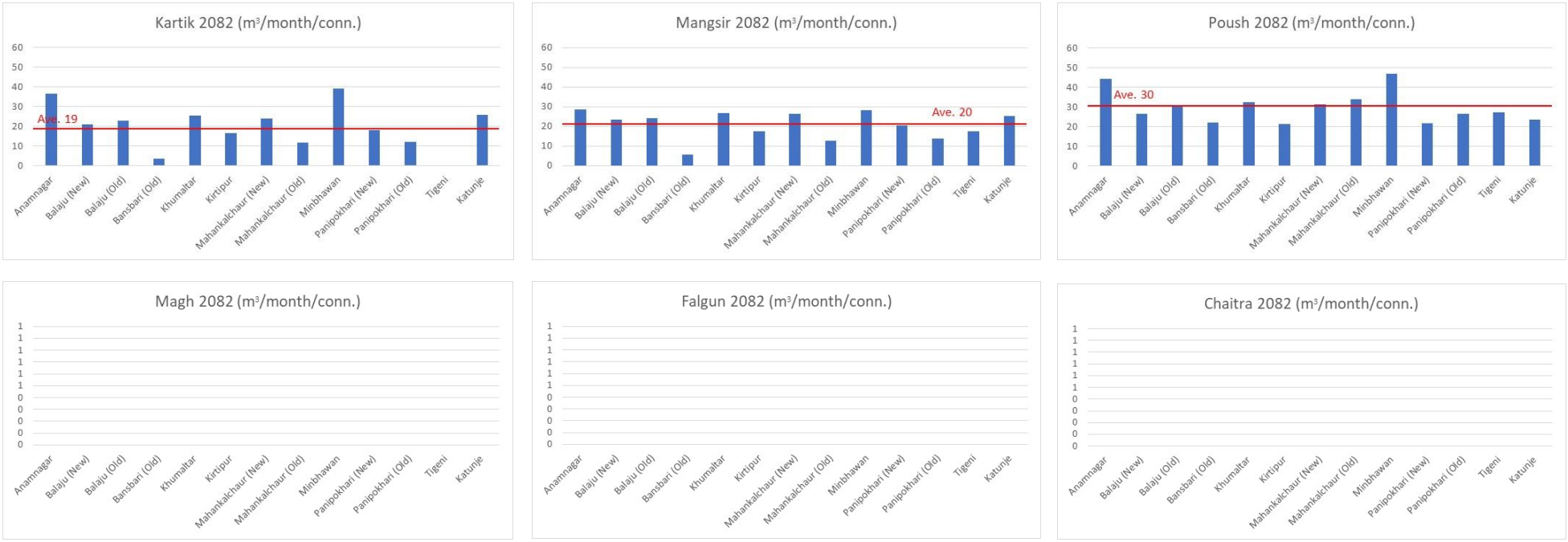


Figure 7.1.2 Change of Monthly Inflow by SRT wise (2/2)

Table 7.1.3 Monitoring Format of Water Loss in BDS

Description	Unit	January/2025	February/2025	March/2025	April/2025	May/2025	June/2025
Total Water transmitted from New Sundarijal WTP	m3						
Total water received by SRTs	m3						
Water losses in BDS	m3						
Wate losses ratio	%						
Description	Unit	July/2025	August/2025	September/2025	October/2025	November/2025	December/2025
Total Water transmitted from New Sundarijal WTP	m3	1,104,558.54	2,541550.32	2,819,664.66	4,337,372.36	4402496.86	5m796,124.00
Total water received by SRTs	m3	2,294,058.00	2,421495.00	2,707,171.00	4,290,970.00	4412049	5,691,271.00
Water losses in BDS	m3	-1,189,499.46	120,055.32	112,493.66	46,402.36	-9,552.14	104,853.00
Wate losses ratio	%	-107.69	4.72	3.99	1.07	-0.22	1.81

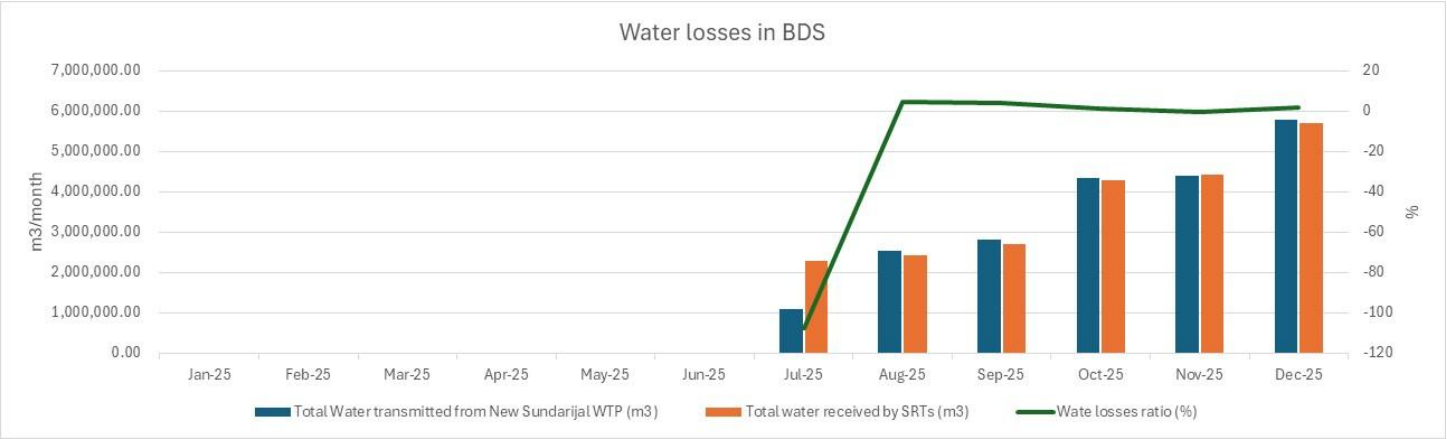


Figure 7.1.3 Change of Water Losses in BDS

7.2 Actions to be taken by Operation Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-4: Daily water supply volume as average at each DMA or sub-DMA and the volume per connection (Table 7.2.1, Figure 7.2.1, Figure 7.2.2)

[Responsibilities of the Operation Division]

- The Operations Division monitors the number of customers and water distribution volumes for each DMA on a monthly basis.
- The Operation Division monitors an indicator (PI-4) calculated by dividing the water distribution volume per DMA by the number of customers on a monthly basis.
- Using the Indicator PI-4. evaluate the feasibility of achieving equitable water distribution. If significant inequities arise or significant fluctuations occur, review the water distribution volume and distribution times for each DMA.

In addition to those main actions, the Operation division shall take responsibility for daily maintenance of SRTs. The operation division is required to take a record of the following monitoring.

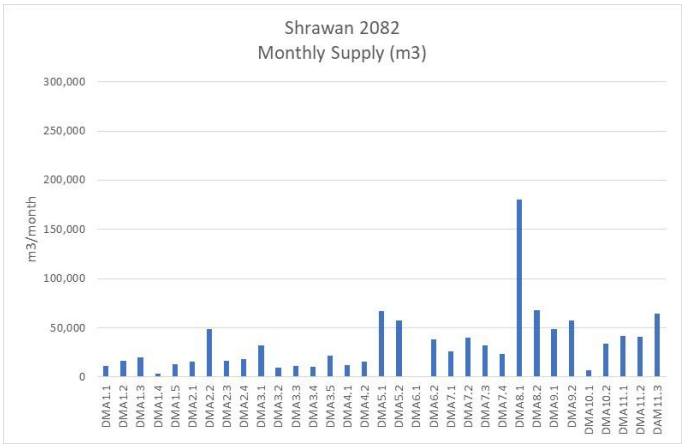
PI-5: Operation and Maintenance Status of each SRT (Table 7.2.2, Table 7.2.3)

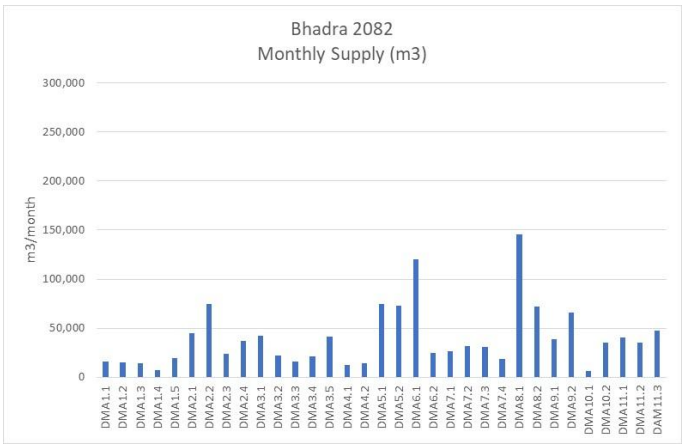
Action-1: Allocate the responsible operator (Everyday)
Action-2: Prepare a Standard Operation Procedure (SOP) for each SRT (Everyday)
Action-3: Cleaning work of the inside of valve chambers (2 times per month)
Action-4: Inspection of air valves at the outlet chamber (2 time per month)
Action-5: Cleaning work of the inside of reservoirs (1 time per year)
Action-6: Inspection of the inside of reservoirs (1 time per year)
Action-7: Water quality test (Everyday)

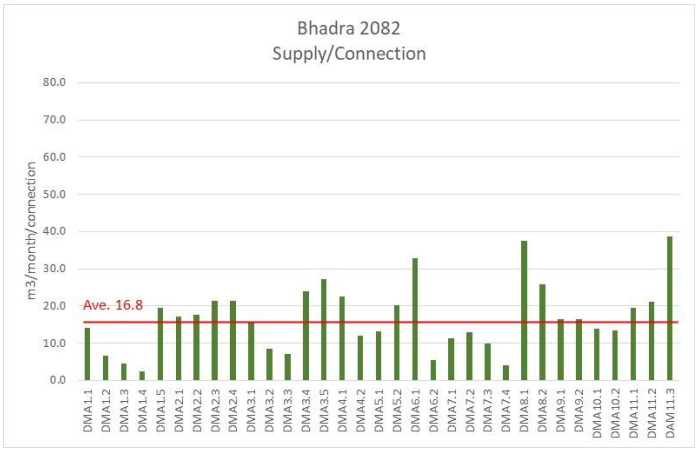
Table 7.2.1 Monitoring Format of Water Supply Volume by DMA wise

Year:2082	1	1		2		3		4		5		6		7		8		9		10		11		12	
	Baisakha	Baisakha		Jestha		Asadh		Shrawan		Bhadra		Ashwin		Kartik		Mangsir		Poush		magh		Falgun		Chaitra	
DMA	No. of Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection
DMA1.1	1,144	21,648	18.9	13,221	11.6	6,092	5.3	11,017	9.6	16,049	14.0	13,973	12.2	27,747	24.3	29,252	25.6	29,370	25.7	0	0.0	0	0.0	0	0.0
DMA1.2	2,259	25,922	11.5	35,173	15.6	19,444	8.6	16,136	7.1	15,011	6.6	18,217	8.1	28,727	12.7	37,082	16.4	41,999	18.6	0	0.0	0	0.0	0	0.0
DMA1.3	3,252	37,697	11.6	24,193	7.4	15,796	4.9	19,892	6.1	14,553	4.5	16,613	5.1	50,400	15.5	62,017	19.1	56,966	17.5	0	0.0	0	0.0	0	0.0
DMA1.4	2,864	5,717	2.0	4,591	1.6	1,946	0.7	3,314	1.2	7,159	2.5	6,845	2.4	5,161	1.8	19,453	6.8	8,288	2.9	0	0.0	0	0.0	0	0.0
DMA1.5	1,013	26,675	26.3	19,455	19.2	15,818	15.6	13,108	12.9	19,660	19.4	18,398	18.2	25,601	25.3	40,877	40.4	32,025	31.6	0	0.0	0	0.0	0	0.0
DMA2.1	2,601	41,335	15.9	48,209	18.5	18,312	7.0	15,388	5.9	44,703	17.2	52,792	20.3	73,993	28.4	99,200	38.1	85,590	32.9	0	0.0	0	0.0	0	0.0
DMA2.2	4,245	97,828	23.0	88,406	20.8	35,715	8.4	48,721	11.5	74,516	17.6	96,162	22.7	96,259	22.7	125,271	29.5	67,604	15.9	0	0.0	0	0.0	0	0.0
DMA2.3	1,099	23,446	21.3	27,561	25.1	7,506	6.8	16,152	14.7	23,541	21.4	16,114	14.7	21,198	19.3	34,262	31.2	32,861	29.9	0	0.0	0	0.0	0	0.0
DMA2.4	1,726	27,410	15.9	31,419	18.2	16,988	9.8	18,450	10.7	36,817	21.3	28,018	16.2	27,321	15.8	35,194	20.4	43,056	24.9	0	0.0	0	0.0	0	0.0
DMA3.1	2,695	59,187	22.0	52,864	19.6	26,607	9.9	32,091	11.9	42,450	15.8	41,410	15.4	45,549	16.9	60,547	22.5	82,687	30.7	0	0.0	0	0.0	0	0.0
DMA3.2	2,638	19,912	7.5	16,719	6.3	7,802	3.0	9,946	3.8	22,357	8.5	21,939	8.3	30,817	11.7	44,383	16.8	1,980	0.8	0	0.0	0	0.0	0	0.0
DMA3.3	2,307	19,119	8.3	12,201	5.3	13,993	6.1	11,359	4.9	16,331	7.1	10,784	4.7	6,494	2.8	13,961	6.1	6,345	2.8	0	0.0	0	0.0	0	0.0
DMA3.4	900	25,964	28.8	22,342	24.8	9,682	10.8	10,516	11.7	21,542	23.9	20,233	22.5	23,032	25.6	33,976	37.8	22,445	24.9	0	0.0	0	0.0	0	0.0
DMA3.5	1,520	30,491	20.1	29,776	19.6	19,133	12.6	21,938	14.4	41,349	27.2	25,625	16.9	51,037	33.6	37,626	24.8	28,972	19.1	0	0.0	0	0.0	0	0.0
DMA4.1	569	20,624	36.2	20,328	35.7	16,961	29.8	12,591	22.1	12,792	22.5	15,569	27.4	19,270	33.9	16,257	28.6	27,560	48.4	0	0.0	0	0.0	0	0.0
DMA4.2	1,222	32,362	26.5	29,019	23.7	19,335	15.8	15,577	12.7	14,663	12.0	19,796	16.2	25,419	20.8	20,552	16.8	23,110	18.9	0	0.0	0	0.0	0	0.0
DMA5.1	5,648	104,751	18.5	113,842	20.2	66,889	11.8	67,444	11.9	74,886	13.3	76,034	13.5	117,202	20.8	160,002	28.3	148,855	26.4	0	0.0	0	0.0	0	0.0
DMA5.2	3,617	73,329	20.3	94,180	26.0	42,194	11.7	57,770	16.0	72,932	20.2	58,361	16.1	75,219	20.8	120,350	33.3	107,295	29.7	0	0.0	0	0.0	0	0.0
DMA6.1	3,666	92,386	25.2	225,885	61.6	45,045	12.3	0	0.0	120,495	32.9	157,296	42.9	144,778	39.5	169,591	46.3	211,028	57.6	0	0.0	0	0.0	0	0.0
DMA6.2	4,559	20,120	4.4	107,860	23.7	51,579	11.3	38,735	8.5	24,491	5.4	53,359	11.7	7,525	1.7	63,393	13.9	23,176	5.1	0	0.0	0	0.0	0	0.0
DMA7.1	2,350	42,330	18.0	34,721	14.8	21,020	8.9	25,749	11.0	26,498	11.3	35,978	15.3	33,058	14.1	44,179	18.8	37,704	16.0	0	0.0	0	0.0	0	0.0
DMA7.2	2,480	44,289	17.9	38,732	15.6	24,663	9.9	39,861	16.1	32,022	12.9	29,824	12.0	42,822	17.3	89,470	36.1	49,134	19.8	0	0.0	0	0.0	0	0.0
DMA7.3	3,100	33,038	10.7	55,121	17.8	27,045	8.7	32,592	10.5	30,638	9.9	29,986	9.7	48,528	15.7	50,049	16.1	52,972	17.1	0	0.0	0	0.0	0	0.0
DMA7.4	4,475	46,350	10.4	34,726	7.8	31,530	7.0	23,479	5.2	18,656	4.2	45,727	10.2	55,808	12.5	91,910	20.5	81,872	18.3	0	0.0	0	0.0	0	0.0
DMA8.1	3,893	243,448	62.5	253,177	65.0	111,160	28.6	180,034	46.2	145,776	37.4	168,523	43.3	211,259	54.3	274,338	70.5	256,717	65.9	0	0.0	0	0.0	0	0.0
DMA8.2	2,800	112,901	40.3	86,608	30.9	70,131	25.0	67,884	24.2	72,491	25.9	81,403	29.1	72,187	25.8	76,861	27.5	72,160	25.8	0	0.0	0	0.0	0	0.0
DMA9.1	2,389	113,632	47.6	108,407	45.4	60,422	25.3	49,032	20.5	39,160	16.4	51,395	21.5	58,327	24.4	81,353	34.1	99,425	41.6	0	0.0	0	0.0	0	0.0
DMA9.2	4,007	95,662	23.9	96,331	24.0	63,773	15.9	57,680	14.4	65,922	16.5	74,004	18.5	70,840	17.7	134,651	33.6	133,988	33.4	0	0.0	0	0.0	0	0.0
DMA10.1	480	9,223	19.2	10,751	22.4	4,883	10.2	7,236	15.1	6,646	13.8	7,211	15.0	28,696	59.8	16,266	33.9	23,945	49.9	0	0.0	0	0.0	0	0.0
DMA10.2	2,671	55,874	20.9	53,489	20.0	33,176	12.4	33,812	12.7	35,507	13.3	44,055	16.5	77,317	28.9	59,582	22.3	85,442	32.0	0	0.0	0	0.0	0	0.0
DMA11.1	2,075	39,163	18.9	34,347	16.6	28,235	13.6	42,134	20.3	40,646	19.6	33,276	16.0	43,180	20.8	60,738	29.3	53,179	25.6	0	0.0	0	0.0	0	0.0
DMA11.2	1,681	48,781	29.0	27,279	16.2	20,924	12.4	41,258	24.5	35,708	21.2	31,406	18.7	30,385	18.1	55,741	33.2	53,264	31.7	0	0.0	0	0.0	0	0.0
DAM11.3	1,239	92,592	74.7	75,878	61.2	49,886	40.3	64,198	51.8	47,964	38.7	62,830	50.7	123,897	100.0	132,456	106.9	176,441	142.4						
Total / Avarage	81,945	1,690,614	23.0	1,850,933	23.1	953,799	12.7	1,040,896	14.3	1,265,967	16.8	1,400,326	17.9	1,675,154	24.3	2,258,383	29.9	2,081,013	29.8	0	0.0	0	0.0	0	0.0
More than 1.5 times of Average			4		4		4		4		4		4		3		2		4		32		32		32
Less than 1/2 of Average			7		5		5		7		6		5		4		3		4		32		32		32

Figure 7.2.1 Monitoring Graph of Water Supply Volume by DMA wise (1/2)







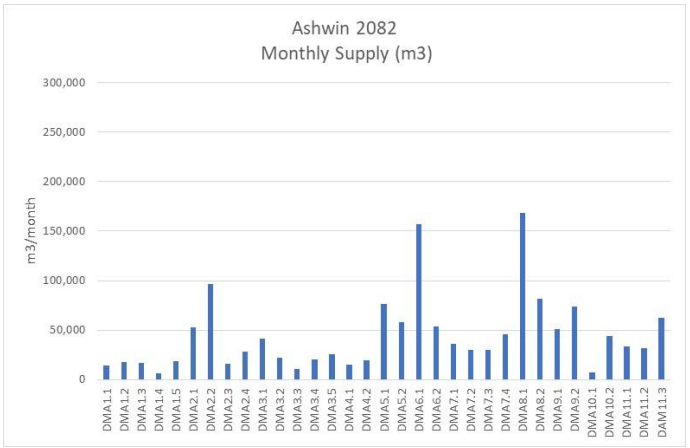


Figure 7.2.2 Monitoring Graph of Water Supply Volume by DMA wise (2/2)

Table 7.2.2 Monitoring Record of Operation & Maintenance of SRTs (1/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Anamnagar (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Arubari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Khumaltar (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Kirtipur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Mahankalchaur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

Table 7.2.3 Monitoring Record of Operation & Maintenance of SRTs (2/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Mahankalchaur (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Minbhawan (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Tigeni																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Katunje																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

7.3 Actions to be taken by each Branch Office

Improvements in water supply services should not be evaluated solely based on water volume. By accurately notifying customers of water delivery schedule and ensuring KUKL operators adhere to these schedules, customer satisfaction can be enhanced.

From this perspective, at the branch office level, efforts must be made to reduce customer complaints by verifying monthly whether any complaints are received regarding the pre-planned water supply schedule.

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicator must be monitored by each branch manager.

PI-6: Number of grievances about water supply hour especially the gap between standard supply hour and real supply hour (Table 7.3.1, Table 7.3.2)

Action-1: The branch manager must accurately track the number of customers within the DMA under their branch's jurisdiction.

Action-2: Report the number of customers per DMA required for the monitoring sheets created by the Operation Division and Production Division to the responsible personnel at headquarters.

Action-3: Valve operators shall be assigned to accurately open and close valves according to the water supply schedule determined in this main water distribution management plan.

Action-4: Analyze customer complaints and requests received by the branch office each month, and tally the number of complaints and requests regarding the accuracy of the water supply schedule.

Action-5: Achieve a 100% water meter installation rate for customers within the DMA.

Action-6: Achieve a 100% water meter reading rate for customers within the DMA.

Action-7: Measure turbidity and residual chlorine at the locations specified by the Central Laboratory at the prescribed frequency and report the results to the Central Laboratory.

Table 7.3.1 Monitoring Record of Grievances about Water Supply Hour (1/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
1.1	1.1.1	Maharajgunj	5:00	14:00																												
1.1	1.1.2	Maharajgunj	5:00	14:00																												
1.1	1.1.3	Maharajgunj	5:00	14:00																												
1.2	1.2.1	Maharajgunj	9:00	16:00																												
1.2	1.2.2	Baneshwor	9:00	16:00																												
1.2	1.2.3(A)	Maharajgunj	9:00	16:00																												
1.2	1.2.3(B)	Maharajgunj	9:00	16:00																												
1.3	1.3.1	Tripureshwor	12:00	21:00																												
1.3	1.3.2(A)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(B)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(C)	Tripureshwor	12:00	21:00																												
1.4	1.4.1	Tripureshwor	15:00	21:00																												
1.4	1.4.2	Tripureshwor	15:00	21:00																												
1.5	1.5.1	Tripureshwor	5:00	15:00																												
1.5	1.5.2	Tripureshwor	5:00	15:00																												
1.5	1.5.3	Tripureshwor	5:00	15:00																												
2.1	2.1.1(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.1(B)	Maharajgunj	6:00	12:00																												
2.1	2.1.1(B)	Mahankal	6:00	12:00																												
2.1	2.1.2(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.2(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.4	Mahankalchaur	6:00	12:00																												
2.2	2.2.1	Baneshwor	14:00	20:00																												
2.2	2.2.2	Baneshwor	14:00	20:00																												
2.2	2.2.3	Baneshwor	14:00	20:00																												
2.2	2.2.4	Baneshwor	14:00	20:00																												
2.3	2.3.1(A)	Baneshwor	5:00	12:00																												
2.3	2.3.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Mahankal	5:00	12:00																												
2.4	2.4.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(C)	Baneshwor	5:00	12:00																												
3.1	3.1.1(A)	Baneshwor	14:00	21:00																												
3.1	3.1.1(B)	Baneshwor	14:00	21:00																												
3.1	3.1.1(C)	Baneshwor	14:00	21:00																												
3.1	3.1.2(A)	Baneshwor	14:00	21:00																												
3.1	3.1.2(B)	Baneshwor	14:00	21:00																												
3.1	3.1.2(C)	Baneshwor	14:00	21:00																												
3.2	3.2.1(A)	Baneshwor	5:00	12:00																												
3.2	3.2.1(B)	Baneshwor	5:00	12:00																												
3.2	3.2.1(C)	Baneshwor	5:00	12:00																												
3.2	3.2.2(A)	Baneshwor	5:00	12:00																												
3.2	3.2.2(B)	Baneshwor	5:00	12:00																												
3.2	3.2.2(C)	Baneshwor	5:00	12:00																												
3.3	3.3.1(A)	Baneshwor	14:00	20:00																												
3.3	3.3.1(B)	Baneshwor	14:00	20:00																												
3.3	3.3.1(C)	Baneshwor	14:00	20:00																												
3.3	3.3.1(D)	Baneshwor	14:00	20:00																												
3.3	3.3.1(E)	Baneshwor	14:00	20:00																												
3.4	3.4.1(A)	Baneshwor	9:00	15:00																												
3.4	3.4.1(B)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Maharajgunj	9:00	15:00																												
3.5	3.5.1(B)	Baneshwor	9:00	15:00																												
3.5	3.5.2	Baneshwor	9:00	15:00																												
3.5	3.5.2	Maharajgunj	9:00	15:00																												
4.1	4.1.1	Baneshwor	12:00	16:00																												
4.1	4.1.2	Baneshwor	12:00	16:00																												
4.2	4.2.1	Tripureshwor	11:00	20:00																												
4.2	4.2.2	Tripureshwor	11:00	20:00																												
4.2	4.2.3	Tripureshwor	11:00	20:00																												
5.1	5.1.1	Lalitpur	20:00	8:00																												
5.1	5.1.2	Lalitpur	20:00	8:00																												
5.1	5.1.3	Lalitpur	20:00	8:00																												
5.2	5.2.1(A)	Lalitpur	20:00	8:00																												
5.2	5.2.1(B)	Lalitpur	20:00	8:00																												
5.2	5.2.1(C)	Lalitpur	20:00	8:00																												
5.2	5.2.1(D)	Lalitpur	20:00	8:00																												
5.2	5.2.2(A)	Lalitpur	20:00	8:00																												
5.2	5.2.2(B)	Lalitpur	20:00	8:00																												
5.2	5.2.2(C)	Lalitpur	20:00	8:00																												
5.2	5.2.2(D)	Lalitpur	20:00	8:00																												
5.2	5.2.2(E)	Lalitpur	20:00	8:00																												
5.2	5.2.3(A)	Lalitpur	20:00	8:00																												
5.2	5.2.3(B)	Lalitpur	20:00	8:00																												
6.1	6.1.1(A)	Lalitpur	6:00	20:00																												
6.1	6.1.1(B)	Lalitpur	6:00	20:00																												
6.1	6.1.2	Lalitpur	6:00	20:00																												
6.1	6.1.3	Lalitpur	6:00	20:00																												
6.2	6.2.1	Lalitpur	17:00	8:00																												
6.2	6.2.2	Lalitpur	17:00	8:00																												
6.2	6.2.3	Lalitpur	17:00	8:00																												
7.1	7.1.1	Maharajgunj	17:00	22:00																												
7.1	7.1.2	Chhetrapati	17:00	22:00																												
7.2	7.2.1(A)	Chhetrapati	7:00	12:00																												
7.2	7.2.1(B)	Chhetrapati	7:00	12:00																												
7.2	7.2.2(A)	Maharajgunj	7:00	12:00																												
7.2	7.2.2(B)	Maharajgunj	7:00	12:00																												
7.2	7.2.3	Maharajgunj	7:00	12:00																												
7.3	7.3.1(A)	Chhetrapati	7:00	12:00																												
7.3	7.3.1(B)	Chhetrapati	7:00	12:00																												
7.3	7.3.2	Chhetrapati	7:00	12:00																												
7.3	7.3.3	Maharajgunj	7:00	12:00																												
7.4	7.4.1(A)	Chhetrapati	7:00	12:00																												
7.4	7.4.1(B)	Chhetrapati	7:00	12:00																												
7.4	7.4.2(A)	Chhetrapati	7:00	12:00																												
7.4	7.4.2(A)	Lalitpur	7:00	12:00																												
7.4	7.4.2(B)	Chhetrapati	7:00	12:00																												
7.4	7.4.3	Chhetrapati	7:00	12:00																												
7.4	7.4.3	Maharajgunj	7:00	12:00																												
7.4	7.4.4	Maharajgunj	7:00	12:00																												

Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

Table 7.3.2 Monitoring Record of Grievances about Water Supply Hour (2/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
8.1	8.1.1	Lalitpur	8:00	20:00																												
8.1	8.1.2	Lalitpur	20:00	8:00																												
8.1	8.1.3	Lalitpur	20:00	8:00																												
8.2	8.2.1(A)	Lalitpur	17:00	8:00																												
8.2	8.2.1(B)	Lalitpur	17:00	8:00																												
8.2	8.2.1(C)	Lalitpur	17:00	8:00																												
8.2	8.2.2(A)	Lalitpur	17:00	8:00																												
8.2	8.2.2(B)	Lalitpur	17:00	8:00																												
8.2	8.2.2(C)	Lalitpur	17:00	8:00																												
9.1	9.1.1	Lalitpur	20:00	6:00																												
9.1	9.1.2	Lalitpur	20:00	6:00																												
9.1	9.1.3	Lalitpur	20:00	6:00																												
9.2	9.2.1	Lalitpur	6:00	20:00																												
9.2	9.2.2	Lalitpur	6:00	20:00																												
9.2	9.2.3	Lalitpur	6:00	20:00																												
9.2	9.2.4	Lalitpur	6:00	20:00																												
9.2	9.2.5	Lalitpur	6:00	20:00																												
9.2	9.2.6	Lalitpur	6:00	20:00																												
9.2	9.2.7	Lalitpur	6:00	20:00																												
10.1	10.1.1	Maharajgunj	12:00	17:00																												
10.2	10.2.1(A)	Chhetrapati	17:00	22:00																												
10.2	10.2.1(B)	Chhetrapati	17:00	22:00																												
10.2	10.2.1(C)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(A)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(B)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(C)	Chhetrapati	17:00	22:00																												
11.1	11.1.1	Tripureshwor	18:00	10:00																												
11.2	11.2.1	Tripureshwor	18:00	10:00																												
11.2	11.2.2	Tripureshwor	18:00	10:00																												
Demo	Demo	Baneshwor	5:00	21:00																												

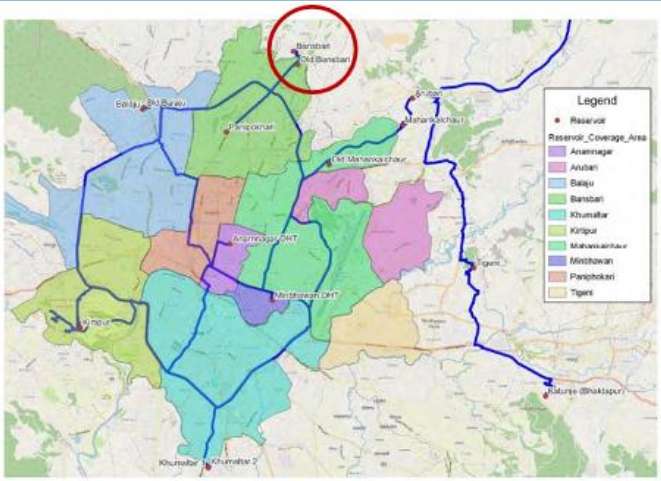
Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

8. Example of SOP for service reservoirs

Standard Operating Procedure
Bansbari SRT (Service Reservoir Tank)

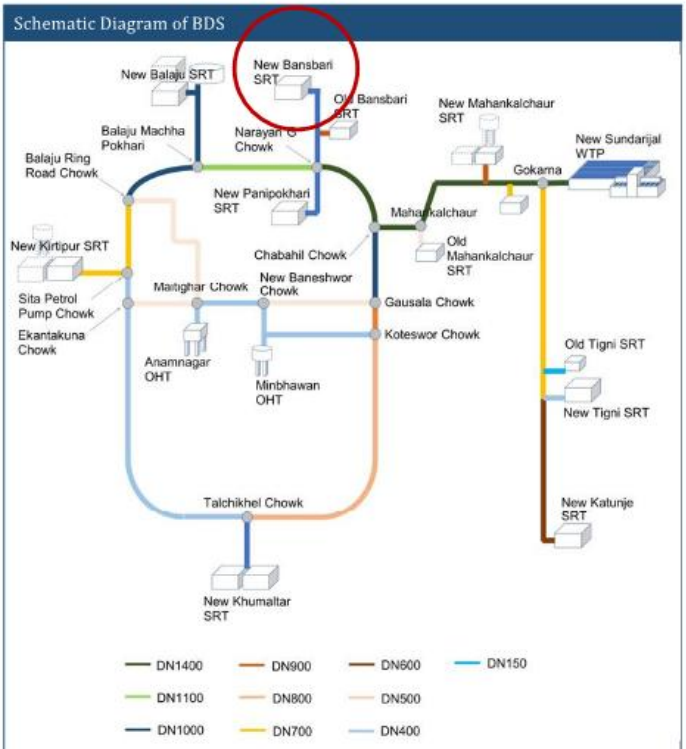
Layout of facilities

General Layout of Bulk Distribution System (BDS)



Layout of facilities

Schematic Diagram of BDS

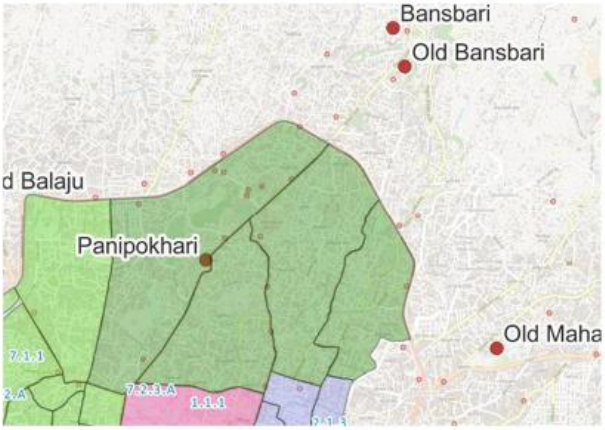


Bulk Distribution System Schematic Diagram

Layout of facilities

District Metered Area (DMA) covered by Bansbari SRT

The coverage area of Bansbari SRT has yet to be divided in DMAs.
This area is called DNI-7c and divided into several DMAs which will be constructed by the Package 6.



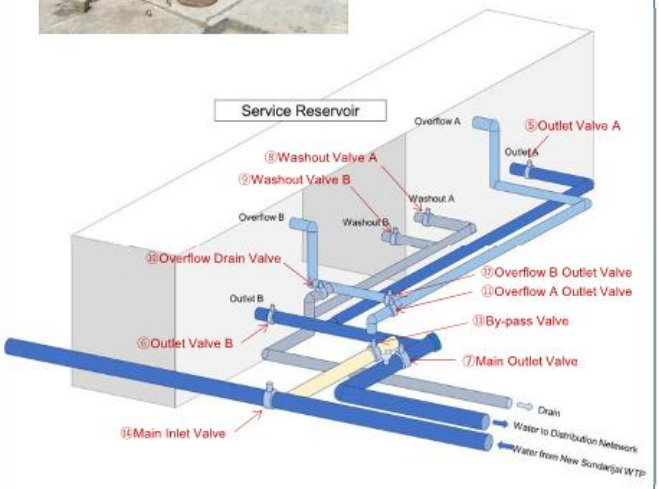
Layout of facilities

Outline of Bansbari SRT

No	Name	Objective	DN	Chamber Drawing No.
1	Flowmeter A	Inflow Measurement Reservoir A	700mm	BDS1-E-C-07
2	Flowmeter B	Inflow Measurement Reservoir A	700mm	BDS1-E-C-09
3	Inlet Valve A	Open/Stop Inflow Reservoir A	700mm	BDS1-E-C-06
4	Inlet Valve B	Open/Stop Inflow Reservoir B	700mm	BDS1-E-C-08
5	Outlet Valve A	Open/Stop Outflow Reservoir A	800mm	BDS1-E-C-10
6	Outlet Valve B	Open/Stop Outflow Reservoir B	800mm	BDS1-E-C-12
7	Main Outlet Valve	Regulate Total Outflow Volume	1200mm	BDS1-E-C-13
8	Washout Valve A	Sand discharge from Reservoir A	500mm	BDS1-E-C-15
9	Washout Valve B	Sand discharge from Reservoir B	500mm	BDS1-E-C-15
10	Overflow Drain	Discharge overflow to washout line	500mm	BDS1-E-C-14
11	Overflow A Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
12	Overflow B Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
13	By-pass Valve	Supply water without passing reservoir	1000mm	BDS1-E-C-13
14	Main Inlet Valve	Regulate Total Inflow Volume	1000mm	BDS1-E-C-05
15	Air Valve	Air release from the main outlet line	200mm	BDS1-E-C-13

Layout of facilities

Isometric Schematic Image of Pipeline Layout (Outlet side)



Operating Procedure

Normal Operation

Operating Procedure

Emergent Operation

If there is an accident or malfunction in both reservoirs A and B and water cannot be stored, the bypass valve on the Inlet Pipe should be opened to continue transmission of water.

[Caution]

When continuing to supply water through the bypass pipe, the following valves of the reservoir should be closed in advance to prevent water from entering the reservoir.
1. Main Inflow Valve
2. Outlet Valves of Reservoirs
3. Overflow Valves of Reservoirs

Cleaning of Reservoir

Direction of Water Flow during Cleaning of Reservoir

Steps for Cleaning of Reservoir

Step 1

Reservoir cleaning should be performed separately for A and B. Close one of the Inlet Valve to shut down entering water into the reservoir.

Step 2

When the water level in the reservoir is low enough, close the Outlet Valve.

Step 3

Open the Washout Valve to drain the water that has accumulated at the bottom of reservoir.

Steps for Cleaning of Reservoir

Step 4

Operators go inside and uses a wiper and nylon brush to scrape sand and mud from the walls and bottom in the direction of the Washout Port.

Step 5

If mud or sand remains in the middle of the interior, open the Inlet Valve of reservoir slightly to draw in water, and then scrape it out again with a scraper.

Step 6

Once the interior has been cleaned, the operator goes outside.
Then close the washout valve.

Steps for Cleaning of Reservoir

Step 7

Then slowly open the Inlet Valve.

Step 8

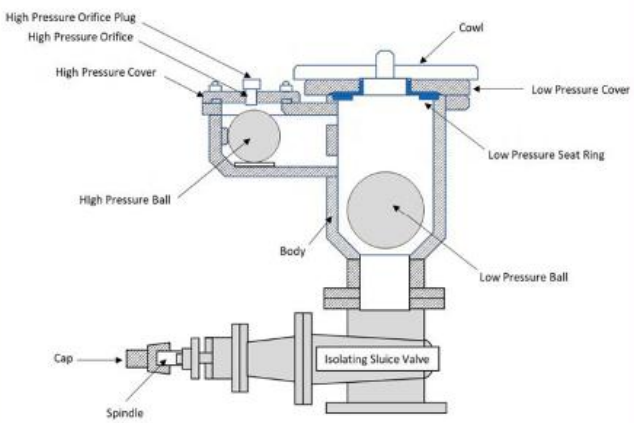
Wait a few hours to fill the reservoir.

Step 9

Once the reservoir has recovered more than half of its water level, slowly open the Outlet Valve.

Cleaning of Air Valve

Structure of Air Valve (Indian Valve International)

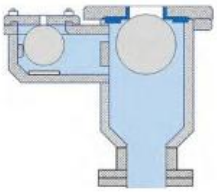


[Caution]

When clean the air valve, make sure that the Isolation Sluice Valve is completely closed. After closed the Isolation Sluice Valve, you can dismantle the cowl and top cover of the air valve.

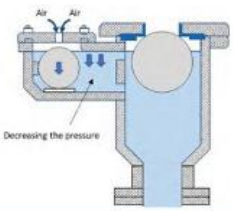
Function of Kinetic Air Valve

Normal Operation under High Pressure



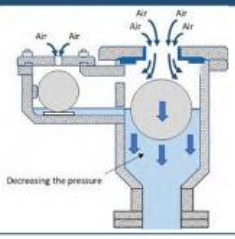
The pipe remains filled with water and the internal float ball plugs the air outlet orifice.

When a small air pocket occurs in the pipe



When a small amount of air accumulates in the air valve, the water level begins to drop, which causes the High Pressure Ball to drop and the small orifice to open. (Small exhaust mode)

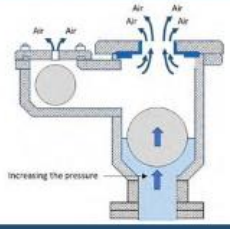
When the water in the reservoir runs out and a large amount of air accumulates



When a large amount of air accumulates, the water level drops below High Pressure Ball, which causes the Low Pressure Ball to drop and the large orifice to open. (Large exhaust mode).

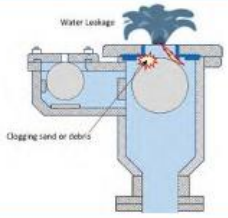
Function of Kinetic Air Valve

When water begins to accumulate in the pipe.



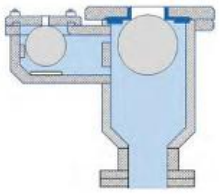
As the water pressure in the pipe increases, the water level rises and the Low Pressure Ball plugs the orifice.

When debris or sand clog the orifice



When debris or sand clog the orifice of air exhaust, the leaks will occur under high pressure.

When the pipe is perfectly filled with water



When water fills the pipe and the water pressure increases, the High Pressure Ball plugs the orifice.

Site Cleaning

Keeping premises clean

- Ensure that there is no debris or hazardous materials in the vicinity of the reservoir.
- The valve chamber should be kept clean and free of cobwebs, debris, and puddles, and no disposed material should be left inside.
- Do not place hazardous or flammable materials near the reservoir.

- Service Reservoir Tank and Water Treatment Plants are places where drinking water is stored, so animals should not be allowed to enter.

Meter Reading

Flowmeter on Inlet Pipe

Flowmeter on Outlet Pipe

In Bansbari SRT, there is no water meter on the outlet pipe.

How to read the flowmeter

Instantaneous Flow (m3/hour)

Accumulated Flow (m3)

The operators should keep record of "Accumulated Water Flow" in daily recording sheet

Recording of water volume

Operator's duty

- Once a day, the operator should check the flowmeter reading and note it on the record form.

Date	Time	Meter Reading		Daily Inflow	Name of Recorder
		Reservoir A	Reservoir B		

Standard Inspection

Daily Inspection

- Operators shall check the condition of facilities and clean the site once per day.

Items	Target	Status	Evaluation
External of tank	Concrete	No Water Leakage	☐Yes/☐No
	Painting	No Crack	☐Yes/☐No
		No Peeling	☐Yes/☐No
	Steps	Firmly Fixed	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No
	Cable	No disconnection	☐Yes/☐No
Valves	Operation Panel	No broken parts	☐Yes/☐No
	Button	No broken button	☐Yes/☐No
	Operation Wheel	Smoothly operating	☐Yes/☐No
	Chamber	No waste/garbage inside	☐Yes/☐No
Pipes	Exposed pipe	No Water Leakage	☐Yes/☐No
	Chamber	No Water Leakage	☐Yes/☐No
Chamber	Cover	Smoothly opening	☐Yes/☐No

Standard Inspection

Annual Inspection

- When cleaning the reservoir tank once per year, conduct an annual inspection of the following items:

Items	Target	Status	Evaluation
Internal of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Level Gauge	Drop of sensor	☐Yes/☐No
		Rust or Corrosion	☐Yes/☐No
External of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
		Water Leakage	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Steps	Corrosion	☐Yes/☐No
	Ventilation	Corrosion	☐Yes/☐No
Facilities	Valves	Greasing on gear	☐Yes/☐No
	Pipes	Water Leakage	☐Yes/☐No
	Chamber	Cleaning of inside	☐Yes/☐No
		Corrosion of Cover	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No

Inspection Schedule

Annual Inspection Plan

Month	Day	What to do
Baisakh		
Jestha		
Asadh		
Shrawan		
Bhadra		
Ashwin		
Kartik		
Mangsir		
Poush		
Magh		
Falgun		
Chaitra		

Water Distribution Management Plan
For
District Metered Area (DMA)
In
Kathmandu Valley

3rd version: 24 February 2026

Kathmandu Upatyaka Khanepani Limited (KUKL)

JICA Expert Team

Kathmandu Upatyaka Khanepani Limited

Japan International Cooperation Agency

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1. Introduction

1.1 Basic Approach to the Water Distribution Management

The maintenance and management of water supply facilities is an indispensable daily task for KUKL and should be carried out from a long-term perspective in order to achieve the following objectives.

Security: To supply safe water with assured quality to water users for drinking in the Kathmandu Valley.

Stability: To provide a stable supply of water necessary for daily life anytime, anywhere.

1.2 Procedure for Development of the Water Distribution Management Plan

Water service is a business that consists of providing drinking water to water users and collecting fees in return. Therefore, in the Water Distribution Management Plan, water utilities themselves need to set more specific management targets based on their Performance Indicators and monitor them in their daily operations.

The workflow of water distribution management in water utility management is as follows

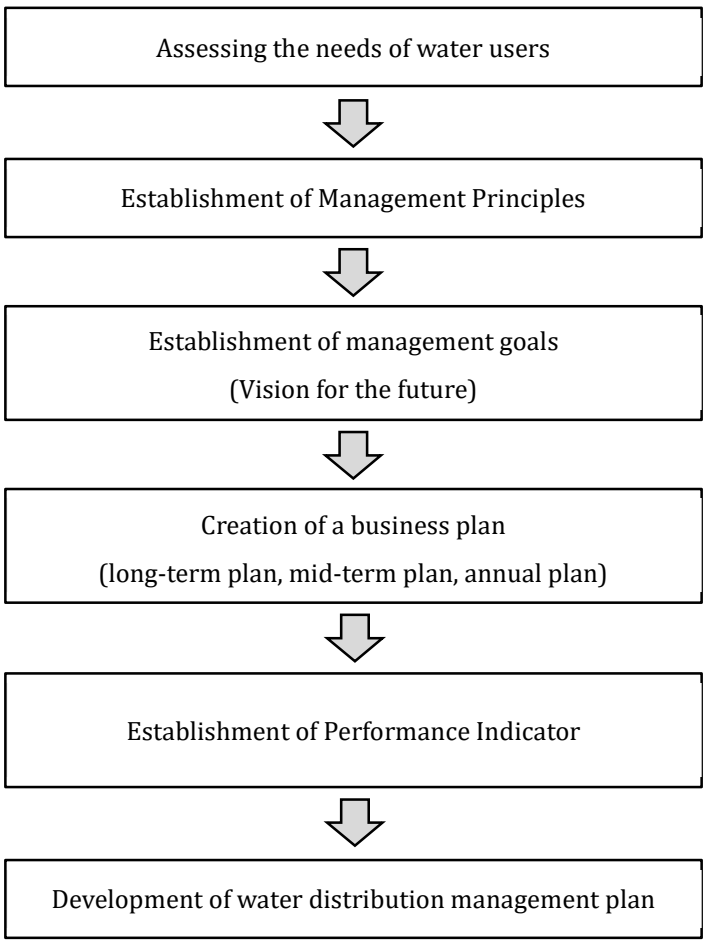


Figure 1.2.1 Relationship between water supply management and maintenance

2. Purpose of the Water Distribution Management Plan

The purpose of the Water Distribution Management Plan is to ensure that KUKL, as the entity responsible for operation and maintenance, properly manages the water supply facilities and provides water to water users in a manner that is equitable in terms of both quantity and time, thereby contributing to the improvement of the living environment.

This Water Distribution Management Plan is the most basic document for KUKL in maintenance and management.

KUKL is required to maintain and repair the water supply facilities to keep them in good condition.

3. Target District Metered Area (DMA)

This Water Distribution Management Plan covers DMAs constructed within the ring road.

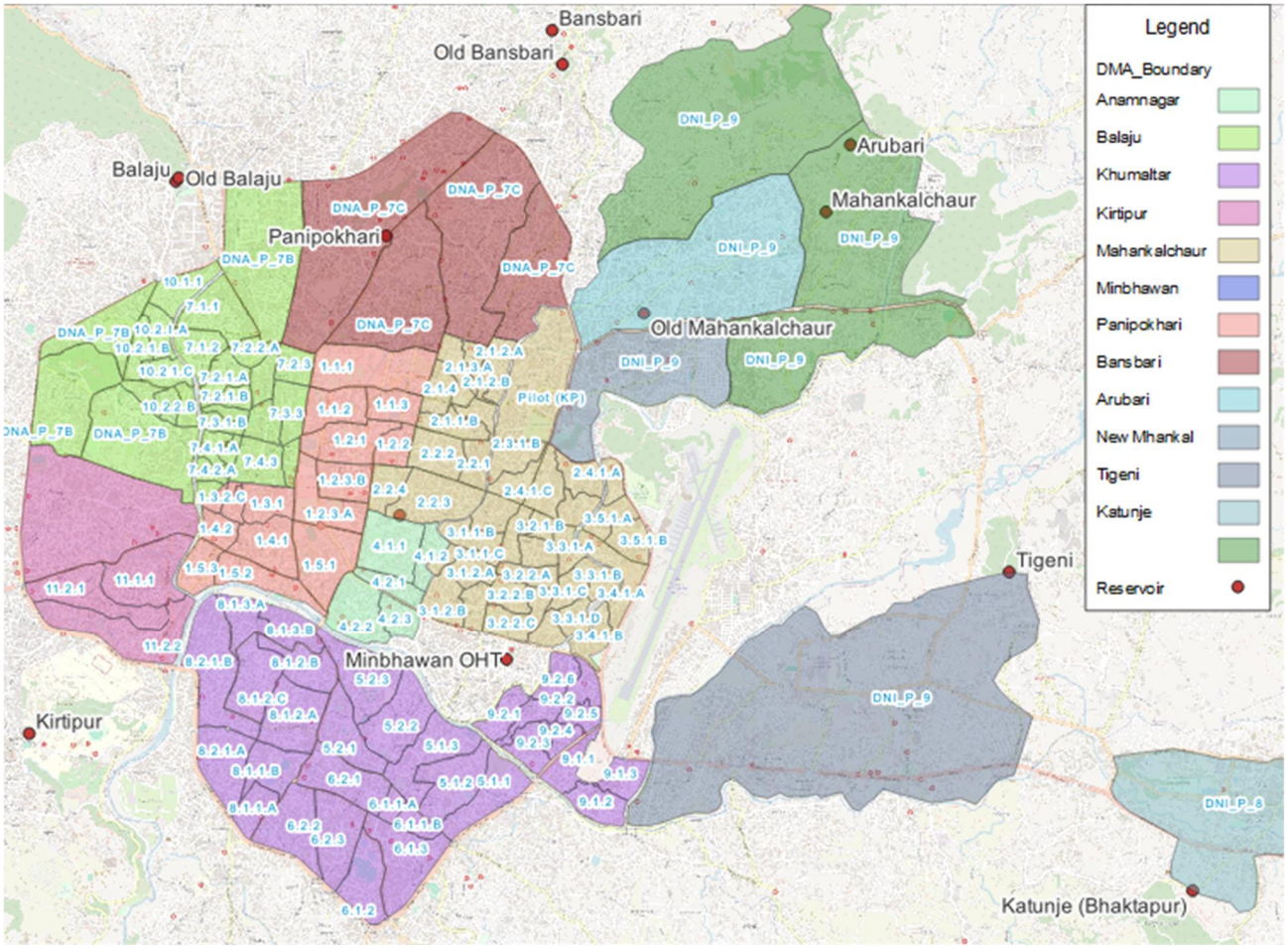


Figure 3.1.1 DMAs constructed in the Ring Road

The following figure is the water supply area covered by each of the service reservoir tanks.

The three water distribution reservoirs located within the ring road are Anamnagar, Minbhawan, and Panipokhari; the other reservoirs may also cover water supply outside the ring road.

In addition, some of the reservoirs supply the old distribution network, but in the future, they will be switched to supply the new distribution network constructed by Melamchi Water Supply Project.

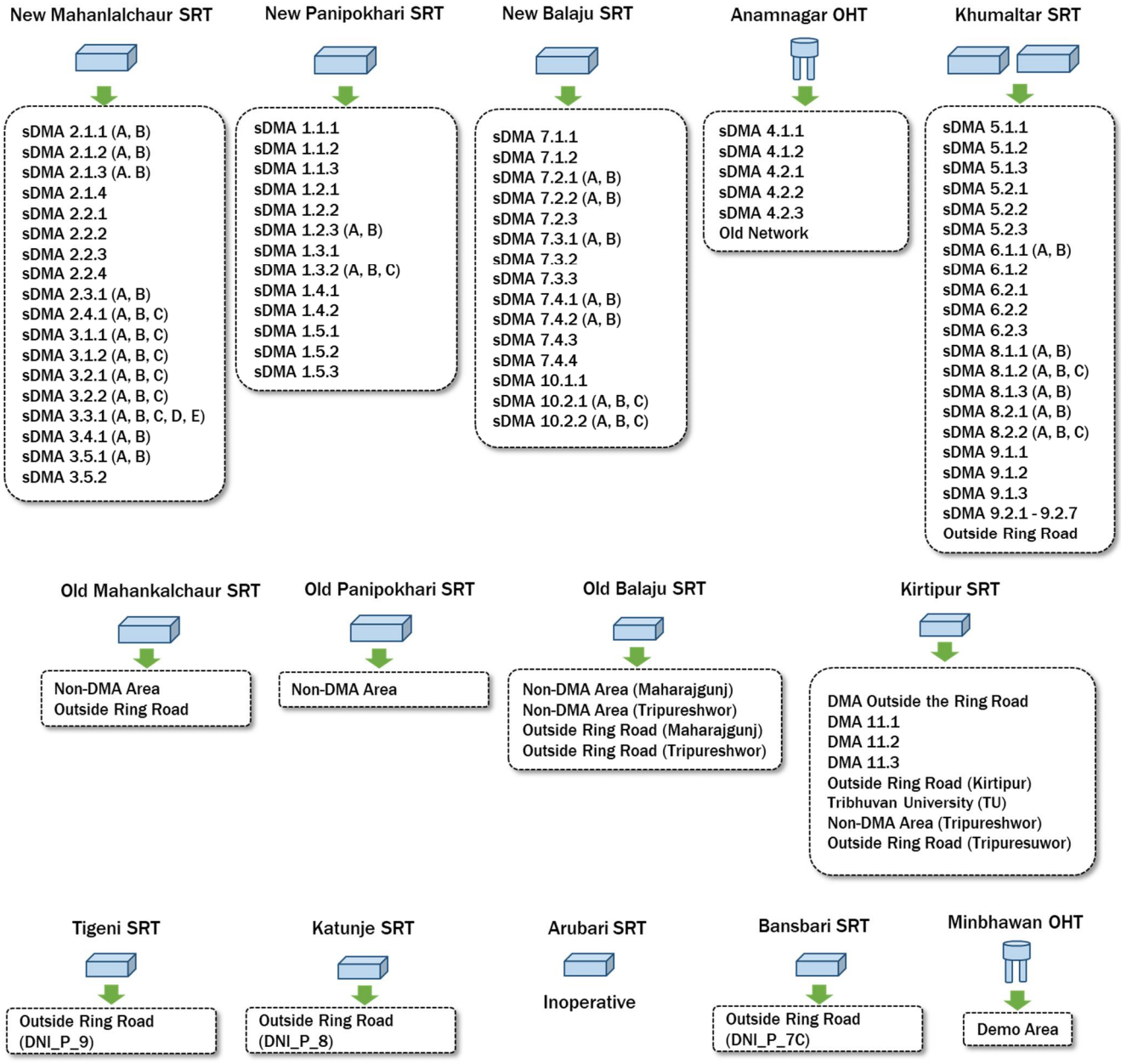


Figure 3.1.2 Sub-DMA covered by each Service Reservoir Tanks (SRTs)

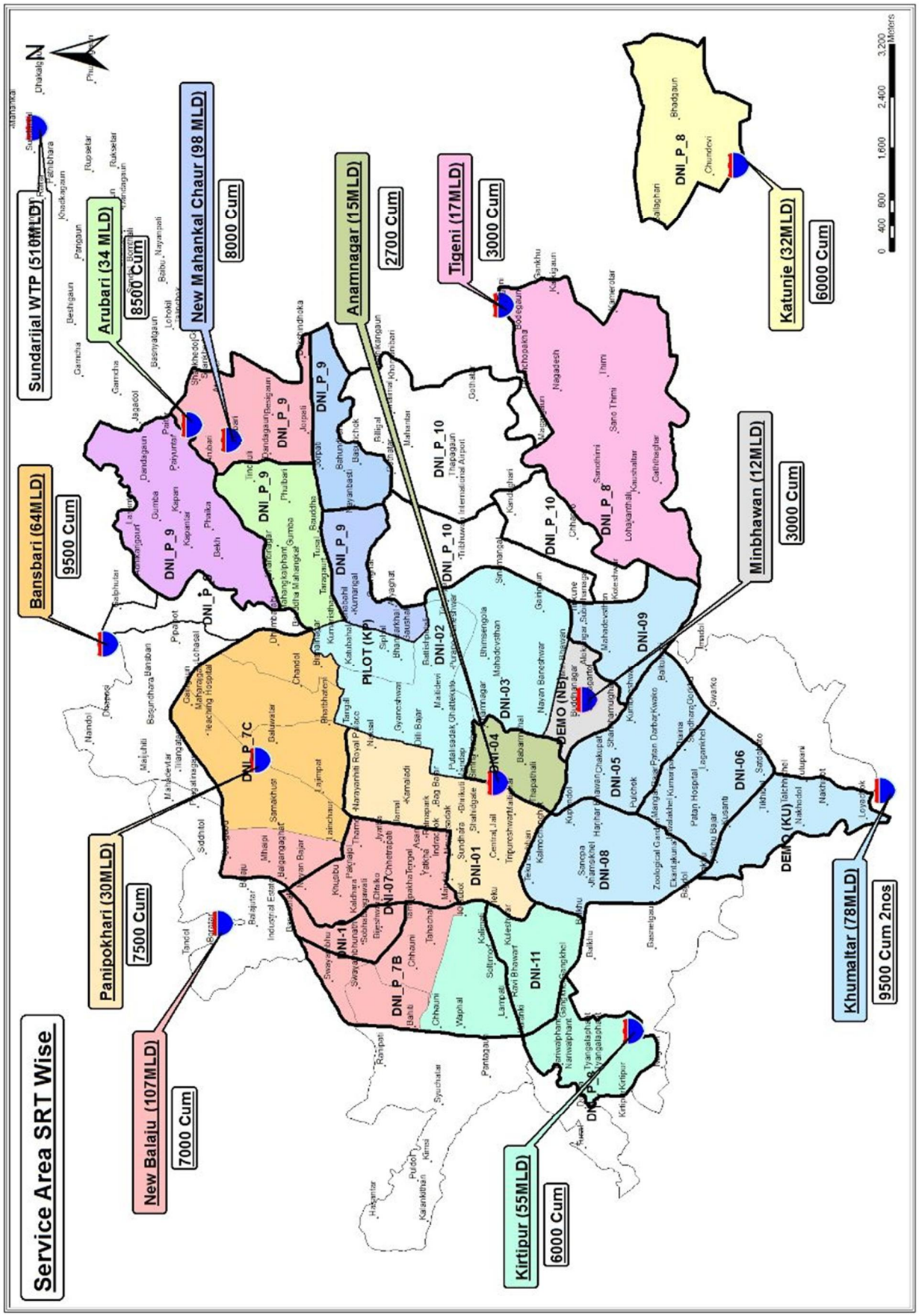


Figure 3.1.3 Water Coverage Area by SRT wise

4. Basic Information on DMAs and Sub-DMAs

The number of customers and estimated demand for each Sub-DMA are shown below.

Table 4.1.1 Estimated Demand in each DMA/Sub-DMA

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
1	1.1	1.1.1	Maharajgunj	Kathmandu				
		1.1.2	Maharajgunj	Kathmandu	12	1,144	135	1,853.3
		1.1.3	Maharajgunj	Kathmandu				
						1,144	Sub total	1,853.3
	1.2	1.2.1	Maharajgunj	Kathmandu				
		1.2.2	Baneshwor	Kathmandu	12	2,259	135	3,659.6
		1.2.3(A)	Maharajgunj	Kathmandu				
		1.2.3(B)	Maharajgunj	Kathmandu				
						2,259	Sub total	3,659.6
	1.3	1.3.1	Tripureshwor	Kathmandu				
		1.3.2(A)	Tripureshwor	Kathmandu	12	3,252	135	5,268.2
		1.3.2(B)	Tripureshwor	Kathmandu				
		1.3.2(C)	Tripureshwor	Kathmandu				
						3,252	Sub total	5,268.2
	1.4	1.4.1	Tripureshwor	Kathmandu	12	2,864	135	4,639.7
		1.4.2	Tripureshwor	Kathmandu				
						2,864	Sub total	4,639.7
	1.5	1.5.1	Tripureshwor	Kathmandu	12	262	135	424.4
		1.5.2	Tripureshwor	Kathmandu	12	365	135	591.3
		1.5.3	Tripureshwor	Kathmandu	12	386	135	625.3
						1,013	Sub total	1,641.1
2	2.1	2.1.1(A)	Mahankalchaur	Kathmandu	12	401	135	649.6
		2.1.1(B)	Maharajgunj & Mahankal	Kathmandu	12	433	135	701.5
		2.1.2(A)	Mahankalchaur	Kathmandu	12	553	135	895.9
		2.1.2(B)	Mahankalchaur	Kathmandu	12	135	135	218.7
		2.1.3(A)	Mahankalchaur	Kathmandu	12	508	135	823.0
		2.1.3(B)	Mahankalchaur	Kathmandu	12	292	135	473.0
		2.1.4	Mahankalchaur	Kathmandu	12	279	135	452.0
						2,601	Sub total	4,213.6
	2.2	2.2.1	Baneshwor	Kathmandu	12	770	135	1,247.4
		2.2.2	Baneshwor	Kathmandu	12	872	135	1,412.6
		2.2.3	Baneshwor	Kathmandu	12	1,989	135	3,222.2
		2.2.4	Baneshwor	Kathmandu	12	614	135	994.7
						4,245	Sub total	6,876.9
	2.3	2.3.1(A)	Baneshwor	Kathmandu	12	510	135	826.2
		2.3.1(B)	Baneshwor	Kathmandu	12	589	135	954.2
						1,099	Sub total	1,780.4
	2.4	2.4.1(A)	Baneshwor & Mahankal	Kathmandu	12	514	135	832.7
		2.4.1(B)	Baneshwor	Kathmandu	12	477	135	772.7
		2.4.1(C)	Baneshwor	Kathmandu	12	735	135	1,190.7
						1,726	Sub total	2,796.1
3	3.1	3.1.1(A)	Baneshwor	Kathmandu	12	415	135	672.3
		3.1.1(B)	Baneshwor	Kathmandu	12	363	135	588.1
		3.1.1(C)	Baneshwor	Kathmandu	12	348	135	563.8
		3.1.2(A)	Baneshwor	Kathmandu	12	503	135	814.9
		3.1.2(B)	Baneshwor	Kathmandu	12	610	135	988.2
		3.1.2(C)	Baneshwor	Kathmandu	12	456	135	738.7
						2,695	Sub total	4,365.9
	3.2	3.2.1(A)	Baneshwor	Kathmandu	12	417	135	675.5
		3.2.1(B)	Baneshwor	Kathmandu	12	287	135	464.9
		3.2.1(C)	Baneshwor	Kathmandu	12	478	135	774.4
		3.2.2(A)	Baneshwor	Kathmandu	12	479	135	776.0
		3.2.2(B)	Baneshwor	Kathmandu	12	484	135	784.1
		3.2.2(C)	Baneshwor	Kathmandu	12	493	135	798.7
						2,638	Sub total	4,273.6
	3.3	3.3.1(A)	Baneshwor	Kathmandu	12	403	135	652.9
		3.3.1(B)	Baneshwor	Kathmandu	12	533	135	863.5
		3.3.1(C)	Baneshwor	Kathmandu	12	503	135	814.9
		3.3.1(D)	Baneshwor	Kathmandu	12	481	135	779.2
		3.3.1(E)	Baneshwor	Kathmandu	12	387	135	626.9
						2,307	Sub total	3,737.3
	3.4	3.4.1(A)	Baneshwor	Kathmandu	12	536	135	868.3
		3.4.1(B)	Baneshwor	Kathmandu	12	364	135	589.7
						900	Sub total	1,458.0
	3.5	3.5.1(A)	Baneshwor & Maharajgunj	Kathmandu	12	551	135	892.6
		3.5.1(B)	Baneshwor	Kathmandu	12	587	135	950.9
		3.5.2	Baneshwor & Maharajgunj	Kathmandu	12	382	135	618.8
						1,520	Sub total	2,462.4
4	4.1	4.1.1	Baneshwor	Kathmandu				
		4.1.2	Baneshwor	Kathmandu	12	569	135	921.8
						569	Sub total	921.8
	4.2	4.2.1	Tripureshwor	Kathmandu	12	256	135	414.7
		4.2.2	Tripureshwor	Kathmandu	12	520	135	842.4
		4.2.3	Tripureshwor	Kathmandu	12	446	135	722.5
						1,222	Sub total	1,979.6

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
5	5.1	5.1.1	Lalitpur	Lalitpur				
		5.1.2	Lalitpur	Lalitpur	12	5,648	135	9,149.8
		5.1.3	Lalitpur	Lalitpur				
						5,648	Sub total	9,149.8
	5.2	5.2.1(A)	Lalitpur	Lalitpur				
		5.2.1(B)	Lalitpur	Lalitpur				
		5.2.1(C)	Lalitpur	Lalitpur				
		5.2.1(D)	Lalitpur	Lalitpur				
		5.2.2(A)	Lalitpur	Lalitpur				
		5.2.2(B)	Lalitpur	Lalitpur	12	3,617	135	5,859.5
		5.2.2(C)	Lalitpur	Lalitpur				
		5.2.2(D)	Lalitpur	Lalitpur				
		5.2.2(E)	Lalitpur	Lalitpur				
		5.2.3(A)	Lalitpur	Lalitpur				
		5.2.3(B)	Lalitpur	Lalitpur				
						3,617	Sub total	5,859.5
6	6.1	6.1.1(A)	Lalitpur	Lalitpur				
		6.1.1(B)	Lalitpur	Lalitpur	12	3,666	135	5,938.9
		6.1.2	Lalitpur	Lalitpur				
		6.1.3	Lalitpur	Lalitpur				
						3,666	Sub total	5,938.9
	6.2	6.2.1	Lalitpur	Lalitpur				
		6.2.2	Lalitpur	Lalitpur	12	4,559	135	7,385.6
		6.2.3	Lalitpur	Lalitpur				
						4,559	Sub total	7,385.6
7	7.1	7.1.1	Maharajgunj	Kathmandu	12	1,549	135	2,509.4
		7.1.2	Tripureshwor	Kathmandu	12	801	135	1,297.6
						2,350	Sub total	3,807.0
	7.2	7.2.1(A)	Tripureshwor	Kathmandu				
		7.2.1(B)	Tripureshwor	Kathmandu				
		7.2.2(A)	Maharajgunj	Kathmandu	12	2,480	135	4,017.6
		7.2.2(B)	Maharajgunj	Kathmandu				
		7.2.3	Maharajgunj	Kathmandu				
						2,480	Sub total	4,017.6
	7.3	7.3.1(A)	Tripureshwor	Kathmandu				
		7.3.1(B)	Tripureshwor	Kathmandu	12	3,100	135	5,022.0
		7.3.2	Tripureshwor	Kathmandu				
		7.3.3	Maharajgunj	Kathmandu				
						3,100	Sub total	5,022.0
	7.4	7.4.1(A)	Tripureshwor	Kathmandu				
		7.4.1(B)	Tripureshwor	Kathmandu				
		7.4.2(A)	Tripureshwor & Lalitpur	Kathmandu	12	4,475	135	7,249.5
		7.4.2(B)	Tripureshwor	Kathmandu				
		7.4.3	Tripureshwor & Maharajgunj	Kathmandu				
		7.4.4	Maharajgunj	Kathmandu				
						4,475	Sub total	7,249.5
8	8.1	8.1.1(A)	Lalitpur	Lalitpur				
		8.1.1(B)	Lalitpur	Lalitpur				
		8.1.2(A)	Lalitpur	Lalitpur				
		8.1.2(B)	Lalitpur	Lalitpur	12	3,893	135	6,306.7
		8.1.2(C)	Lalitpur	Lalitpur				
		8.1.3(A)	Lalitpur	Lalitpur				
		8.1.3(B)	Lalitpur	Lalitpur				
						3,893	Sub total	6,306.7
	8.2	8.2.1(A)	Lalitpur	Lalitpur				
		8.2.1(B)	Lalitpur	Lalitpur				
		8.2.1(C)	Lalitpur	Lalitpur				
		8.2.2(A)	Lalitpur	Lalitpur	12	2,800	135	4,536.0
		8.2.2(B)	Lalitpur	Lalitpur				
		8.2.2(C)	Lalitpur	Lalitpur				
						2,800	Sub total	4,536.0
9	9.1	9.1.1	Baneshwor	Lalitpur	12	799	135	1,294.4
		9.1.2	Baneshwor	Lalitpur	12	1,038	135	1,681.6
		9.1.3	Baneshwor	Lalitpur	12	552	135	894.2
						2,389	Sub total	3,870.2
	9.2	9.2.1	Baneshwor	Lalitpur	12	742	135	1,202.0
		9.2.2	Baneshwor	Lalitpur	12	630	135	1,020.6
		9.2.3	Baneshwor	Lalitpur	12	676	135	1,095.1
		9.2.4	Baneshwor	Lalitpur	12	406	135	657.7
		9.2.5	Baneshwor	Lalitpur	12	447	135	724.1
		9.2.6	Baneshwor	Lalitpur	12	623	135	1,009.3
		9.2.7	Baneshwor	Lalitpur	12	483	135	782.5
						4,007	Sub total	6,491.3
10	10.1	10.1.1	Maharajgunj	Kathmandu	12	480	135	777.6
					12	480	Sub total	777.6
	10.2	10.2.1(A)	Tripureshwor	Kathmandu				
		10.2.1(B)	Tripureshwor	Kathmandu				
		10.2.1(C)	Tripureshwor	Kathmandu				
		10.2.2(A)	Tripureshwor	Kathmandu	12	2,671	135	4,327.0
		10.2.2(B)	Tripureshwor	Kathmandu				
		10.2.2(C)	Tripureshwor	Kathmandu				
						2,671	Sub total	4,327.0
11	11.1	11.1.1	Tripureshwor	Kathmandu	12	2,075	135	3,361.5
						2,075	Sub total	3,361.5
	11.2	11.2.1	Tripureshwor	Kathmandu	12	1,681	135	2,723.2
						1,681	Sub total	2,723.2
	11.3	11.3.1	Tripureshwor	Kathmandu	12	1,239	135	2,007.2
						1,239	Sub total	2,007.2
Demo	Demo	Demo	Baneshwor	Kathmandu	12	5,000	135	8,100.0
						5,000	Sub total	8,100.0
Total	33					88,184		142,858.1

The table above calculates the water demand in DMAs and the existing Demo Area.

However, since the BDS Reservoir supplies water to areas other than the DMAs, it is necessary to estimate the demand for those areas.

Table 4. 1.2 Estimated number of households in the areas except for DMAs and Demo Area

Breakdown of household (connection) for the areas except 32 DMAs

Non DMA Area inside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to DNI 7B (Mhepi, Balaju Area)	2,500	Maharajgunj	Old Balaju
Supply to DNI 7B (Chauni Area)	3,300	Tripureshwor	Old Balaju
Supply to DNI 7B (Tahachal Area)	4,400	Tripureshwor	Kirtipur
Supply to DNI 7B (Kimdol, Dallu, Swoyambhu)	3,300	Tripureshwor (Ex-Chhetrapati)	Old Balaju
Supply to DNI 7C (Lainchaur, Galkopakha, Kapurdhara, Samakhusi, Gongabu)	10,500	Maharajgunj	Old Bansbari
Supply to DNI 7C (Khursanitar Area)	2,000	Maharajgunj	Old Panipokhari
Supply to DNI 7C (Bishalnagar, Chandol)	7,650	Mahankalchaur	Old Mahankal
Supply to Kalopur Pilot Area	2,300	Mahankalchaur	Old Mahankal
Outside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to Tarkeshwor, Banasthali, Dhunge dhara	8,000	Maharajgunj	Old Balaju
Supply to Tokha, Dhapasi, Basundhara (outside ringroad)	7,500	Maharajgunj	Old Bansbari
Supply to Kumari Club, Arcade colony	500	Tripureshwor (Ex-Chhetrapati)	Kirtipur
Supply to Outside the Ringroad by Tripureshwor	2,000	Tripureshwor	Old Balaju
Supply to Kapan, Jorpati	24,701	Mahankalchaur	Old Mahankal
Supply to Kirtipur Customer except for Tribhuvan University	10,054	Kirtipur	Kirtipur
Supply to Kusunti, Bagdol, Nakhu, Nakhipot, Khumaltar, Gwarko, ANFA, Dhapakhel, Dholahiti, Sunakothi	7,395	Lalitpur	Khumaltar
Supply to Kaushaltar, Lokanthali, Gatthaghar, Nagadesh, Sintitar, Dhunchepakha, Saraswatikhel, Thimi Core city, New Thimi, Old Thimi, Bappa, Kamerotar, Madhyapur Hospital	16,596	Madhyapur-Thimi	Thigni
Supply to Kamalbinayak planning, Liwali Planning, Byasi, Bansagopal, Nasamana, Gapali, Tekhacho, Sukuldhoka, Tulachhen, Khiche, Choche, Hanumante Purba, Chundevi, Ghalate, Pandubazar, Shrijananagar, Suryamadhi, Dattatraya, Chyamasingh, Wakupati, Chango road, Mahalaxmi, Bholachhen, Golmadhi, Jagati,	13,560	Bhaktapur	Katunje

Those values should be revised by the respective branch under the supervision by Operation Division.

After filling in the number of households in the areas Non-DMA and outside the Ring Road, the demand to be allocated to each SRT is calculated as follows:

Table 4.1.3 Estimated water demand in the areas except for DMAs and Demo Area

Breakdown of demand for the areas except for 33 DMAs

No of users per connection 12 persons/connection

Demand per capita 135 L/day/person

	Additional Water Demand except for 33 DMAs (m3/day)							
	Balaju	Kirtipur	Bansbari	Panipokhari	Old Mahnkalchaur	Khumaltar	Tigeni	Katunje
Maharajgunj Branch Area								
Non-DMA area inside the Ring Road	4,050		17,010	3,240				
Outside the Ring Road	12,960		12,150					
Tripureshwor Branch Area								
Non-DMA area inside the Ring Road	5,346	7,128						
Outside the Ring Road		810						
Ex-Chhetrapati Branch Area								
Non-DMA area inside the Ring Road	5,346							
Outside the Ring Road	3,240							
Mahankalchaur Branch Area								
Non-DMA area inside the Ring Road					16,119			
Outside the Ring Road					40,016			
Kirtipur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road		16,287						
Madhyapur-Thimi Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road							26,886	
Lalitpur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road						11,980		
Bhaktapur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road								21,967
Total								
Non-DMA area inside the Ring Road	14,742	7,128	17,010	3,240	16,119	0	0	0
Outside the Ring Road	16,200	17,097	12,150	0	40,016	11,980	26,886	21,967

5. Water Receiving Plan from Bulk Distribution System (BDS)

The BDS component will provide water supply to the Kathmandu Metro area using a combination of new water sources developed under Sub-Project 1 of the Melamchi Water Supply Project and other existing water sources.

In order to supply various areas within the Kathmandu Metro area, the new water treatment plant constructed at Sundarijal is the starting point in the water supply network, which will be routed through distribution reservoirs at Mahankalchaur, along the ring road and along the longitudinal route.

The distribution zones, called DMA, are designed to be independent with scattered distribution reservoirs to ensure the stability of water pressure and supply.

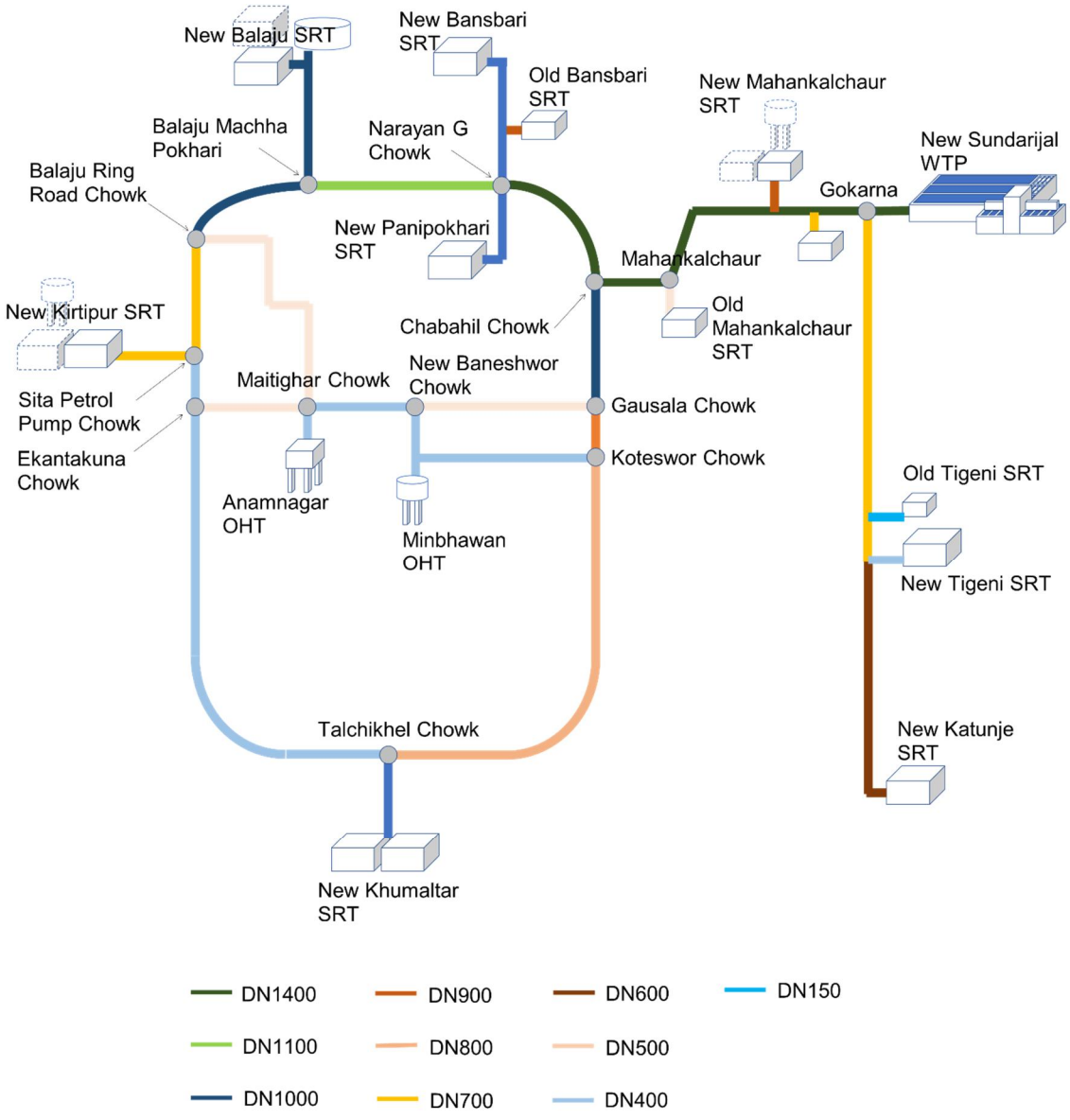


Figure 5.1.1 Schematic Water Supply Network of BDS

The amount of water to be delivered to each Service Reservoir Tank is determined based on the following steps.

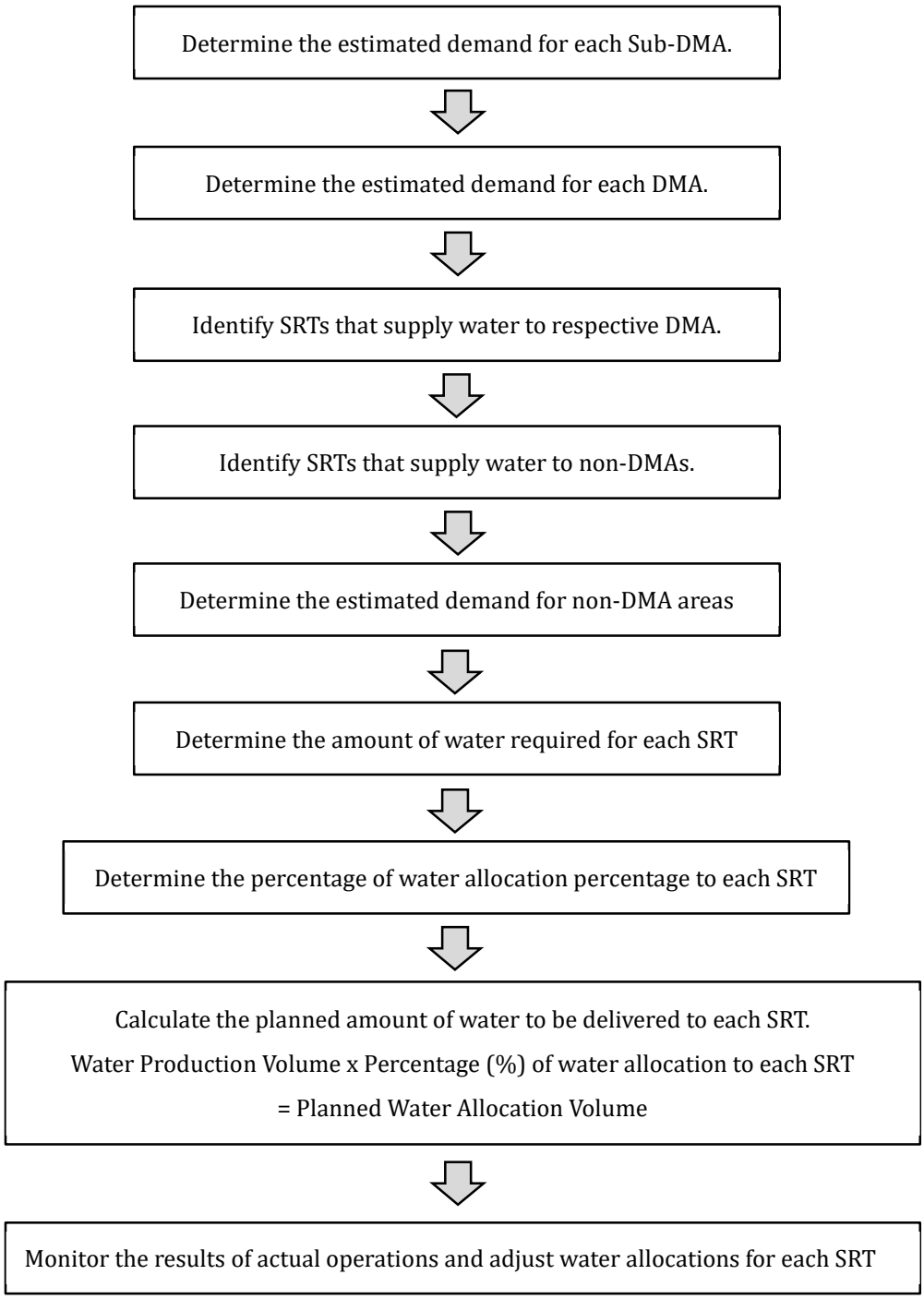


Figure 5.1.2 Steps to determine water allocation for each SRT

Table 5.1.1 Draft of Water Demand and Demand Percentage to each SRT

DMA	Estimated Demand (m3/day)	Demand Percentage (%)	Reservoir
1.1	1,853	0.53	Panipokhari
1.2	3,660	1.05	Panipokhari
1.3	5,268	1.52	Panipokhari
1.4	4,640	1.34	Panipokhari
1.5	1,641	0.47	Panipokhari
2.1	4,214	1.21	New Mahankalchaur
2.2	6,877	1.98	New Mahankalchaur
2.3	1,780	0.51	New Mahankalchaur
2.4	2,796	0.80	New Mahankalchaur
3.1	4,366	1.26	New Mahankalchaur
3.2	4,274	1.23	New Mahankalchaur
3.3	3,737	1.08	New Mahankalchaur
3.4	1,458	0.42	New Mahankalchaur
3.5	2,462	0.71	New Mahankalchaur
4.1	922	0.27	Anamnagar
4.2	1,980	0.57	Anamnagar
5.1	9,150	2.63	Khumaltar
5.2	5,860	1.69	Khumaltar
6.1	5,939	1.71	Khumaltar
6.2	7,386	2.13	Khumaltar
7.1	3,807	1.10	Balaju
7.2	4,018	1.16	Balaju
7.3	5,022	1.45	Balaju
7.4	7,250	2.09	Balaju
8.1	6,307	1.81	Khumaltar
8.2	4,536	1.31	Khumaltar
9.1	3,870	1.11	Khumaltar
9.2	6,491	1.87	Khumaltar
10.1	778	0.22	Balaju
10.2	4,327	1.25	Balaju
11.1	3,362	0.97	Kirtipur
11.2	2,723	0.78	Kirtipur
11.3	2,007	0.58	Kirtipur
Demo Area	8,100	2.33	Minbhawan
Tribhuvan University (TU)	100	0.03	Kirtipur
Non-DMA within the Ring Road	0	0.00	Anamnagar
Non-DMA within the Ring Road	14,742	4.24	Balaju
Non-DMA within the Ring Road	17,010	4.90	Bansbari
Non-DMA within the Ring Road	0	0.00	Khumaltar
Non-DMA within the Ring Road	7,128	2.05	Kirtipur
Non-DMA within the Ring Road	16,119	4.64	Old Mahankalchaur
Non-DMA within the Ring Road	0	0.00	Minbhawan
Non-DMA within the Ring Road	3,240	0.93	Panipokhari
Outside Ring Road	0	0.00	Arubari
Outside Ring Road	12,150	3.50	Bansbari
Outside Ring Road	16,200	4.66	Balaju
Outside Ring Road	11,980	3.45	Khumaltar
Outside Ring Road	17,097	4.92	Kirtipur
Outside Ring Road	40,016	11.52	Old Mahankalchaur
Outside Ring Road	0	0.00	Panipokhari
Outside Ring Road	26,886	7.74	Tigeni
Outside Ring Road	21,967	6.32	Katunje
Total	347,493	100.0	

Currently, water conduction from the Melamchi River is suspended during the rainy season, so the limited amount of water must be equally distributed according to the estimated demand.

Table 5.1.2 Standard Water Production (Main)

	Dry Season with Melamchi water	Monsoon Season without Melamchi water
Supply volume to BDS from New Sundarijal WTP	192 MLD	48 MLD
Production of Mahankalchaur WTP with existing water sources	16.37 MLD	20.67 MLD
Production of Bansbari WTP with existing water sources	10.18 MLD	18.33 MLD
Production of Bode WTP with existing water sources	7.90 MLD	8.08 MLD
Total	226.45 MLD	95.08 MLD

Source: KUKL Annual Report

Table 5.1.3 Water Production Record 2080/2081

		Mahanlakchaur WTP	Bansbari WTP	Bode WTP
Shrawan	July-August	20.15	22.43	8.91
Bhadra	August-September	25.54	30.96	8.08
Ashwin	September-October	17.00	29.32	8.32
Kartik	October-November	20.80	22.83	8.19
Mangsir	November-December	22.86	10.47	8.15
Paush	December-January	22.80	5.83	8.13
Magh	January-February	13.46	5.43	7.64
Falgun	February-March	15.34	19.34	7.50
Chaitra	March-April	9.73	2.7	7.70
Baishakh	April-May	9.66	4.67	8.00
Jestha	May-June	11.26	1.09	7.55
Ashad	June-July	29.22	7.85	7.55
Daily Average (MLD)		18.15	13.58	7.98
Monsoon season average without operation of Melamchi tunnel (MLD)		20.63	18.33	8.08
Dry season average with operation of Melamchi tunnel (MLD)		16.37	10.18	7.90

Source: KUKL Annual Report

Note: The operation of the Melamchi Diversion Tunnel will be suspended from the end-May to the mid-October.

Figure 5.1.4 Water Allocation Plan in Dry Season

Dry Season with Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	1,603				1,603	289	1,892
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	31,020				31,020	5,595	36,615
Bansbari (New & Old)	29,160	8.39	16,112		10,180		5,932	2,906	8,838
Khumaltar	61,518	17.70	33,990				33,990	6,131	40,121
Kirtipur	32,417	9.33	17,911				17,911	3,231	21,142
Mahankalchaur (New)	31,964	9.20	17,661				17,661	3,185	20,847
Mahankalchaur (Old)	56,135	16.15	31,016	16,370			14,646	5,594	20,240
Minbhawan	8,100	2.33	4,475				4,475	807	5,283
Panipokhari (New & Old)	20,302	5.84	11,217				11,217	2,023	13,241
Tigeni	26,886	7.74	14,855			8,080	6,775	2,679	9,455
Katunje	21,967	6.32	12,137				12,137	2,189	14,327
Total	347,493	100.00	192,000				157,370	34,630	192,000
			(F)				(G)		

Figure 5.1.5 Water Allocation Plan in Monsoon Season

Monsoon Season without Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	401				401	129	530
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	7,755				7,755	2,504	10,259
Bansbari (New & Old)	29,160	8.39	4,028		18,330		0	1,300	1,300
Khumaltar	61,518	17.70	8,498				8,498	2,743	11,241
Kirtipur	32,417	9.33	4,478				4,478	1,446	5,923
Mahankalchaur (New)	31,964	9.20	4,415				4,415	1,425	5,841
Mahankalchaur (Old)	56,135	16.15	7,754	20,630			0	2,503	2,503
Minbhawan	8,100	2.33	1,119				1,119	361	1,480
Panipokhari (New & Old)	20,302	5.84	2,804				2,804	905	3,710
Tigeni	26,886	7.74	3,714			7,900	0	1,199	1,199
Katunje	21,967	6.32	3,034				3,034	980	4,014
Total	347,493	100.00	48,000				32,504	15,496	48,000
			(F)				(G)		

6. Target of Water Supply Hour, Frequency of Water Supply and Water Supply Volume

[Supply Hour]

2 hours or more per supply day for all DMAs

[Supply Frequency]

Dry Season with Melamchi water:	At least once every 3 days in all DMAs
Monsoon Season without Melamchi water:	At least once every 5 days in all DMAs

[Supply Volume]

The amount of water allocated to each SRT is compared with the estimated demand of each Sub-DMA and other water supply areas to determine the water supply frequency and hours for each area so that water supply is achieved equally in all areas.

The following page shows the standard water supply schedule created by KUKL's Operation Division. Since available water sources differ between the monsoon and dry seasons, headquarters must review the need for monthly adjustments to the water supply schedule based on local conditions.

Table 6.1.1 Water Supply Plan in Dry Season with Melamchi water (1/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																												
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
Anamnagar	79	1,892	4.1	4.1.1	921.8	14:00	20:00			√			√			√			√			√			√			√			√			√			√
				4.1.2		14:00	22:00			√			√			√			√			√			√			√			√			√			√
			4.2	4.2.1	414.7	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.2	842.4	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.3	722.5	11:00	22:00			√			√			√			√			√			√			√			√			√			√
			Old Network	1st Shift	0.0	4:00	5:00	√			√			√			√			√			√			√			√			√			√		
				2nd Shift		20:00	21:00	√			√			√			√			√			√			√			√			√			√		
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																																
Balaju	1,526	36,615	7.1	7.1.1	2,509.4	4:00	12:00				√				√				√				√				√				√				√		
				7.1.2	1,297.6	4:00	12:00				√				√				√				√				√				√				√		
			7.2	7.2.1(A)	4,017.6	4:00	12:00		√				√				√				√			√			√				√				√
				7.2.1(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(A)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.3		4:00	12:00		√				√				√				√			√			√				√				√
			7.3	7.3.1(A)	5,022.0	7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.1(B)		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.2		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.3		7:00	19:00	√				√				√				√			√			√			√			√			√	
			7.4	7.4.1(A)	7,249.5	7:00	19:00			√				√				√				√			√				√			√				
				7.4.1(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(A)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.3		7:00	19:00			√				√				√				√			√				√			√				
				7.4.4		7:00	19:00			√				√				√				√			√				√			√				
			10.1	10.1.1	777.6	12:00	17:00				√				√				√				√				√				√				√		
			10.2	10.2.1(A)	4,327.0	17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(B)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(C)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.2(A)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(B)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(C)		13:00	20:00				√				√				√				√				√				√				√		
			Old Network	1st Shift	14,742.0	5:30	8:00		√					√					√					√					√					√			
				2nd Shift		8:00	20:00		√					√					√					√					√					√			
			Outside Ring Road		16,200.0	18:15	20:15					√					√				√					√				√						√
Bansbari	368	8,838	Old Network	1st zone, 1st Shift	17,010.0	5:30	8:00	√				√				√				√				√				√				√				√	
				1st zone, 2nd Shift		10:30	13:00	√				√				√				√				√				√				√				√	
				1st zone, 3rd Shift		15:30	18:00	√				√				√				√				√				√				√				√	
				1st zone, 4th Shift		20:30	23:00	√				√				√				√				√				√				√				√	
				2nd Zone, 1st Shift		3:00	5:30		√				√				√				√				√				√				√				√
				2nd Zone 2nd Shift		8:00	10:30		√				√				√				√				√				√				√				√
				2nd Zone 3rd Shift		13:00	15:30		√				√				√				√				√				√				√				√
				2nd Zone 4th Shift		18:00	20:30		√				√				√				√				√				√				√				√
				3rd Zone, 1st Shift		3:00	5:30			√				√				√				√			√				√				√				
				3rd Zone, 2nd Shift		8:00	10:30			√				√				√				√			√				√				√				
				3rd Zone, 3rd Shift		13:00	15:30			√				√				√				√			√				√				√				
				3rd Zone, 4th Shift		18:00	20:30			√				√				√				√			√				√				√				
			Outside Ring Road	1st Shift	12,150.0	3:00	18:00				√				√				√				√				√				√				√		
				2nd Shift		18:00	21:00				√				√				√				√				√				√				√		
				3rd Shift		21:00	0:00				√				√				√				√				√				√				√		
				4th Shift		0:00	3:00				√				√				√				√				√				√				√		
Khumaltar	1,672	40,121	5.1	5.1.1	9,149.8	18:00	6:00			√				√				√				√				√				√				√		
				5.1.2		18:00	6:00			√				√				√				√				√				√				√		
				5.1.3		18:00	6:00			√				√				√				√				√				√				√		
			5.2	5.2.1	5,859.5	6:00	18:00		√				√				√				√			√			√				√				√
				5.2.2		6:00	18:00		√				√				√				√			√			√				√				√
				5.2.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.1	6.1.1(A)	5,938.9	6:00	18:00		√				√				√				√			√			√				√				√
				6.1.1(B)		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.2		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.2	6.2.1	7,385.6	18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.2		18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.3		18:00	18:00	√				√				√				√				√				√				√				√	
			8.1	8.1.1	6,306.7	6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.2		6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.3		6:00	6:00	√				√				√				√				√				√				√				√	
			8.2	8.2.1	4,536.0	6:00	18:00		√				√				√				√			√				√				√				√
				8.2.2		6:00	18:00		√				√				√				√			√				√				√				√
			9.1	9.1.1	1,294.4	19:00	6:00				√				√				√				√				√				√				√		
				9.1.2	1,681.6	19:00	6:00				√				√				√				√				√				√				√		
				9.1.3	894.2	19:00	6:00				√				√				√				√				√				√				√		
			9.2	9.2.1	1,202.0	6:00	19:00				√				√				√				√				√				√				√		
				9.2.2	1,020.6	6:00	19:00				√				√				√				√				√				√				√		
				9.2.3	1,095.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.4	657.7	6:00	19:00				√				√				√				√				√				√				√		
				9.2.5	724.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.6	1,009.3	6:00	19:00				√				√				√				√				√				√				√		
				9.2.7	782.5	6:00	19:00				√				√				√				√				√				√				√		

Table 6.1.2 Water Supply Plan in Dry Season with Melamchi water (2/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			Old Network		0.0																														
			Outside Ring Road	1st Zone I	11,980.0	5:00	21:00		√				√				√				√			√				√				√				√
				1st Zone - II(a)		5:00	14:00				√				√				√				√			√				√				√		
				1st Zone - II(b)		8:00	9:00				√				√				√				√			√				√				√		
				1st Zone - II©		5:00	20:00				√				√				√				√			√				√				√		
				1st Zone - III		5:00	8:00	√				√				√				√				√				√				√				√	
				2nd Zone - I		6:00	18:00			√								√								√								√		
				2nd Zone - II		6:00	18:00							√								√								√						√
				3rd Zone - I		7:00	19:00	√				√				√				√				√				√				√				√	
				3rd Zone - II		7:00	19:00			√				√				√				√				√				√				√		
				4th Zone - I		6:00	20:00			√				√				√				√				√				√				√		
				4th Zone - II		17:00	0:00				√				√				√				√				√				√				√		
				4th Zone - III		17:00	0:00					√				√				√				√			√				√				√		
				4th Zone - IV		17:00	0:00						√				√				√				√			√				√					
Kirtipur	881	21,142	11.1	11.1.1	3,361.5	18:00	6:00	√			√			√			√			√			√			√			√			√			
			11.2	11.2.1	2,723.2	18:00	6:00		√			√			√			√			√			√			√			√			√		
			11.3	11.3.1	2,007.2	18:00	6:00			√			√			√			√			√			√			√			√			√	
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network	Zone 1	7,128.0	6:00	18:00		√							√							√						√							√
				Zone 2		6:00	18:00			√							√							√							√						
				Zone 3		6:00	18:00				√							√							√							√					
				Zone 4		6:00	18:00					√							√							√							√				
				Zone 5		6:00	18:00						√							√							√							√			
				Zone 6		6:00	18:00							√							√							√							√		
				Zone 7		6:00	18:00	√							√							√							√							√	
				Tyanglaphant - I		6:00	16:00		√		√		√			√		√		√			√		√		√			√		√		√			√
				Tyanglaphant - II a		8:00	16:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Tyanglaphant - II b		8:00	17:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III a		7:00	13:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III b		6:00	2:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		9:00	15:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		15:30	18:30			√		√					√		√					√		√					√		√				
				Maitri Chandani		16:00	19:00				√		√					√		√						√		√					√		√		√
				Maitri Chandani		9:00	15:00							√								√							√							√	
				Panga Dokashi -I		12:00	17:00			√							√							√							√						
				Panga Dokashi -II		8:00	13:00					√							√							√							√				
				Panga Dokashi -III		8:00	11:20	√							√							√						√							√		
				Bhatkepati - I		8:00	14:00		√							√							√							√							√
				Bhatkepati - II		10:00	17:00			√							√							√							√						
				Bhatkepati - III		10:00	17:00				√							√							√							√					
				Nagaun - I		9:00	17:00					√							√							√							√				
				Nagaun - II		10:00	17:00						√							√							√							√			
				Nagaun - III		8:00	16:00							√							√							√							√		
				Nagaun - IV		9:00	12:00								√							√							√							√	
				Jakha-Sikhunchhe D		9:00	10:00			√			√				√			√			√			√			√			√				
				Jakha-Sikhunchhe U		8:00	9:00				√				√			√			√			√			√			√			√			√	
				Nagaun & Old		5:00	11:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Nagaun & Old		5:00	11:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		10:00	19:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				KIRTIPUR old		10:00	19:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		4:00	20:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Kwachwo - I		4:00	22:00		√							√							√							√							√
				Kwachwo - II		3:00	8:00			√							√							√							√						
				Kwachwo - III		4:00	7:00				√							√							√							√					
				Kwachwo R - I		5:00	9:00					√							√							√							√				
				Kwachwo R - I		3:00	22:00						√							√							√							√			
				Kwachwo R - I		4:00	8:00							√							√							√							√		
				Kwachwo R - I		4:00	7:00								√							√							√							√	
				Bhajangal - I		4:00	9:00			√		√			√		√		√				√		√		√			√		√		√			√
				Bhajangal - II		6:00	10:00		√			√			√	√			√			√	√			√			√	√			√			√	√
				Bhajangal - III		5:00	10:00			√	√		√				√	√		√				√	√		√				√	√		√			
				Nayabazar Area		10:00	18:10		√						√								√							√							√
				Nayabazar Area - I		8:00	18:00				√			√				√			√				√			√				√			√		
				Nayabazar Area - II		14:00	19:00					√							√							√							√				
				Nayabazar Area - II		11:30	16:30	√							√							√							√							√	
Mahankalchaur	1,712	41,087	2.1	2.1.1(A)	649.6	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.1(B)	701.5	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(A)	895.9	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(B)	218.7	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(A)	823.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(B)	473.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.4	452.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
			2.2	2.2.1	1,247.4	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.2	1,412.6	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.3	3,222.2	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.4	994.7	12:00	22:00	√			√			√			√			√			√			√			√			√			
			2.3	2.3.1(A)	826.2	1:00	8:00		√			√			√			√			√			√			√			√				√	
				2.3.1(B)	954.2	1:00	8:00		√			√			√			√			√			√			√			√				√	

Table 6.1.3 Water Supply Plan in Dry Season with Melamchi water (3/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			2.4	2.4.1(A)	832.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(B)	772.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(C)	1,190.7	7:00	12:00	√			√			√			√			√			√			√			√			√			√		
			3.1	3.1.1(A)	672.3	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(B)	588.1	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(C)	563.8	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(A)	814.9	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(B)	988.2	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(C)	738.7	13:00	17:00			√			√			√			√			√			√			√			√			√		√
			3.2	3.2.1(A)	675.5	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(B)	464.9	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(C)	774.4	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(A)	776.0	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(B)	784.1	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(C)	798.7	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
			3.3	3.3.1(A)	652.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(B)	863.5	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(C)	814.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(D)	779.2	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(E)	626.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
			3.4	3.4.1(A)	868.3	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
				3.4.1(B)	589.7	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
			3.5	3.5.1(A)	892.6	4:00	7:00			√			√			√			√			√			√			√			√			√		√
				3.5.1(B)	950.9	7:00	12:00			√			√			√			√			√			√			√			√			√		√
				3.5.2	618.8	7:00	12:00			√			√			√			√			√			√			√			√			√		√
			Old Network	Zone 1	16,119.0	8:00	7:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	7:00			√			√			√			√			√			√			√			√			√			
				Zone 3		10:00	7:00	√			√			√			√			√			√			√			√			√			√			
			Outside Ring Road	Zone 1	40,016.0	8:00	10:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	8:00			√			√			√			√			√			√			√			√			√			
				Zone 3		20:00	0:00	√			√			√			√			√			√			√			√			√			√		
				Zone 4 i		4:00	3:00		√						√							√								√							
				Zone 4 ii		3:00	3:00			√						√								√							√						
				Zone 5 i		4:00	5:00	√							√							√						√								
				Zone 5 ii		5:00	5:00		√							√							√						√							
				Zone 5 iii		5:00	5:00			√							√							√							√						
				Zone 5 iv		5:00	5:00				√							√							√							√					
				Zone 5 v		5:00	4:00					√							√							√							√				
				Zone 5 vi		4:00	22:00						√							√							√							√			
				Zone 5 vii		4:00	4:00							√							√							√							√		
				Zone 6 i		5:00	22:00				√							√				√							√								
				Zone 6 ii		6:00	19:00					√							√							√							√				
				Zone 6 iii		19:00	5:00						√							√							√							√			
				Zone 6 iv		5:00	17:00							√							√							√							√		
Minbhawan	220	5,283	Demo Area	Zone 1	8,100.0	5:00	11:00		√			√			√			√			√			√			√			√			√		√	
				Zone 1 - II		3:00	8:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		5:00	11:00			√			√			√			√			√			√			√			√			√			√
				Zone 2 - II		3:00	8:00			√			√			√			√			√			√			√			√			√			√
				Zone 3		5:00	10:00	√			√			√			√			√			√			√			√			√			√		
				Zone 3 - II		12:00	18:00	√			√			√			√			√			√			√			√			√			√		
Panipokhari	552	13,241	1.1	1.1.1	1,853.3	12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.2		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.3		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
			1.2	1.2.1	3,659.6	12:00	16:00		√			√			√			√			√			√			√			√			√		√	
				1.2.2		7:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.2.3(A)		16:00	20:00		√				√				√				√				√				√				√			√
				1.2.3(B)		16:00	20:00		√				√				√				√				√				√				√			√
			1.3	1.3.1	5,268.2	6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(A)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(B)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(C)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
			1.4	1.4.1	4,639.7	16:00	18:00			√			√			√			√			√			√			√			√			√		√
				1.4.2		16:00	18:00			√			√			√			√			√			√			√			√			√		√
			1.5	1.5.1	424.4	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.2	591.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.3	625.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
			Old Network	1st Zone, 1st Shift	3,240.0	4:00	7:00				√					√			√				√				√				√				√	
				1st Zone, 2nd Shift		07"00	9:00				√					√			√				√				√				√				√	
				1st Zone, 3rd Shift		9:00	11:00				√					√			√				√				√				√				√	
				1st Zone, 4th Shift		11:00	13:00				√					√			√				√				√				√				√	
				1st Zone, 5th Shift		13:00	16:00				√					√			√				√				√				√				√	
				1st Zone, 6th Shift		16:00	19:00				√					√			√				√				√				√				√	
				1st Zone, 7th Shift		19:00	22:00				√					√			√				√				√				√				√	
				2nd Zone		4:00	7:00	√				√				√				√				√				√				√				√	
			Outside Ring Road		0.0																															
Tigeni	394	9,455	Outside Ring Road	1st zone	26,886.0	5:00	4:00	√				√				√				√				√				√				√				√	
				2nd zone		5:00	4:00		√				√				√				√				√				√				√				√
				3rd zone		5:00	4:00			√			√			√			√			√			√			√			√			√			√
				4th zone		5:00	4:00				√				√				√				√				√				√				√		
Katunje	597	14,327	Outside Ring Road	1st zone - I	21,967.0	4:00	10:00				√				√				√				√				√				√				√	
				1st zone - II		16:00	20:00				√				√				√				√				√				√				√	
				2nd zone - I		4:00	10:00	√				√				√				√				√				√				√				√	
				2nd zone - II		16:00	20:00	√				√				√				√				√				√				√				√	
				3rd zone - I		4:00	10:00		√				√				√				√				√				√				√				√
				3rd zone - II		16:00	20:00		√				√				√				√				√				√				√				√
				4th zone - I		4:00	10:00			√			√			√			√			√			√			√			√			√			√
				4th zone - II		16:00	20:00			√			√			√			√			√			√			√			√			√			√
				5th zone -I		10:00	14:00				√				√				√				√				√				√				√	
				5th zone - II		20:00	0:00				√				√				√				√				√				√				√	
				6th zone - I		10:00	14:00			√			√			√			√			√			√			√			√			√			√
				6th zone - II		20:00	0:00			√			√			√			√			√			√			√			√			√			√
		192,000		Total	347,493.1																															

Table 6.1.4 Water Supply Plan in Monsoon Season without Melamchi water (1/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Anamnagar	22	530	4.1	4.1.1	921.8																															
				4.1.2		14:00	20:00			√						√						√						√						√				
			4.2	4.2.1	414.7	11:00	20:00			√						√						√						√						√				
				4.2.2	842.4	11:00	20:00			√						√						√						√						√				
				4.2.3	722.5	11:00	20:00			√						√						√						√						√				
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																															
Balaju	427	10,259	7.1	7.1.1	2,509.4	17:00	22:00						√						√						√						√					√	
				7.1.2	1,297.6	17:00	22:00						√						√						√						√					√	
			7.2	7.2.1(A)		4:00	11:00						√						√						√						√					√	
				7.2.1(B)		4:00	11:00						√						√						√						√					√	
				7.2.2(A)	4,017.6	4:00	11:00						√						√						√						√					√	
				7.2.2(B)		4:00	11:00						√						√						√						√					√	
				7.2.3		4:00	11:00						√						√						√						√					√	
			7.3	7.3.1(A)		4:00	13:00					√						√					√						√					√		
				7.3.1(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(A)	5,022.0	4:00	13:00					√						√					√						√					√		
				7.3.2(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(C)		4:00	13:00					√						√					√						√					√		
				7.3.3		4:00	13:00					√						√					√						√					√		
			7.4	7.4.1(A)		4:00	13:00				√						√						√	√					√					√		
				7.4.1(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.2(A)	0.0	4:00	13:00				√						√						√	√					√					√		
				7.4.2(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.3		4:00	13:00				√						√						√	√					√					√		
				7.4.4		4:00	13:00				√						√						√	√					√					√		
			10.1	10.1.1	777.6																															
			10.2	10.2.1(A)		15:00	20:00					√						√						√						√					√		
				10.2.1(B)		15:00	20:00					√						√						√						√					√		
				10.2.1(C)	4,327.0	15:00	20:00					√						√						√						√					√		
				10.2.2(A)		15:00	20:00				√						√						√						√					√		
				10.2.2(B)		15:00	20:00				√						√						√						√					√		
				10.2.2(C)		15:00	20:00				√						√						√						√					√		
			Old Network	1st Zone		6:00	8:00				√						√						√						√					√		
				2nd Zone		8:00	18:00				√						√						√						√					√		
				1st zone, 1st Shift		3:30	5:00			√						√						√						√					√				
				1st zone, 2nd Shift		7:00	8:00			√						√						√						√					√				
				1st zone, 3rd Shift		13:00	17:00			√						√						√						√					√				
				2nd Zone, 1st Shift		14:30	15:30						√						√						√						√					√	
				2nd Zone 2nd Shift		15:30	16:30						√						√						√						√					√	
				2nd Zone 3rd Shift	14,742.0	16:30	17:30						√						√						√						√					√	
				3rd Zone, 1st Shift		14:30	15:30				√						√						√						√					√		
				3rd Zone, 2nd Shift		15:30	16:30				√						√						√						√					√		
				3rd Zone, 3rd Shift		16:30	17:30				√						√						√						√					√		
				3rd Zone, 4th Shift		17:30	18:30				√						√						√						√					√		
				3rd Zone, 5th Shift		18:30	19:30				√						√						√						√					√		
				4th Zone, 1st Shift		14:30	17:00			√						√						√						√						√		
				4th Zone, 2nd Shift		15:30	17:00			√						√						√						√						√		
				5th Zone, 1st Shift		15:30	17:00				√						√						√						√					√		
			Outside Ring Road	1st Zone	16,200.0	5:15	8:00						√						√						√						√					√	
				2nd Zone		5:15	8:00			√						√						√						√						√				
Bansbari	54	1,300	Old Network	1st zone, 1st Shift		3:00	5:00				√						√						√						√					√		
				1st zone, 2nd Shift		9:00	11:00				√						√						√						√					√		
				1st zone, 3rd Shift		15:00	17:00				√						√						√						√					√		
				2nd Zone, 1st Shift		3:00	5:00					√						√						√						√					√	
				2nd Zone 2nd Shift		9:00	11:00					√						√						√						√					√	
				2nd Zone 3rd Shift		15:00	17:00					√						√						√						√					√	
				3rd Zone, 1st Shift		3:00	5:00						√						√						√						√					√	
				3rd Zone, 2nd Shift	17,010.0	9:00	11:00						√						√						√						√					√	
				4th Zone, 1st Shift		3:00	5:00	√						√						√						√						√					√
				4th Zone, 2nd Shift		9:00	11:00	√						√						√						√						√					√
				4th Zone, 3rd Shift		15:00	17:00	√						√						√						√						√					√
				5th Zone, 1st Shift		3:00	5:00		√						√						√						√						√				
				5th Zone, 2nd Shift		9:00	11:00		√						√						√						√						√				
				5th Zone, 3rd Shift		15:00	17:00		√						√						√						√						√				
				6th Zone, 1st Shift		18:00	22:00			√						√						√						√					√				
			Outside Ring Road	1st zone, 1st Shift		3:00	5:30		√					√						√					√						√						
				1st zone, 2nd Shift		14:00	15:30		√					√						√					√						√						
				1st zone, 3rd Shift		15:30	16:30		√					√						√					√						√						
				2nd Zone, 1st Shift		3:00	5:00			√					√					√						√						√					
				2nd Zone 2nd Shift	12,150.0	14:00	16:00			√					√					√						√						√					
				3rd Zone, 1st Shift		3:00	5:00				√					√						√						√						√		
				3rd Zone, 2nd Shift		14:00	16:00				√					√						√						√						√		
				4th Zone, 1st Shift		3:00	5:00					√					√					√						√					√			
				4th Zone, 2nd Shift		14:00	16:00					√					√					√						√					√			
				5th Zone, 1st Shift		3:00	5:00	√					√					√					√						√								√

Table 6.1.5 Water Supply Plan in Monsoon Season without Melamchi water (2/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																								
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Khumaltar	468	11,241	5.1	5.1.1	9,149.8	14:00	21:00							7							14							21							28			
				5.1.2		14:00	21:00							7							14							21							28			
				5.1.3		14:00	21:00							7							14							21							28			
			5.2	5.2.1	5,859.5	4:00	11:00						6							13						20							27				
				5.2.2		4:00	11:00						6							13						20							27				
				5.2.3		4:00	11:00						6							13						20							27				
			6.1	6.1(DNI)	5,938.9	19:00	6:00						6							13						20							27				
				6.1(DNI)		19:00	6:00							7							14							21							28			
			6.2	6.2(DNI)	7,385.6	18:00	6:00				4							11						18							25						
				6.2(DNI)		18:00	6:00					5							12							19							26					
			8.1	8.1 (DNI)	6,306.7	8:00	20:00					5							12							19							26					
			8.2	8.2 (DNI)	4,536.0	8:00	20:00					5							12							19							26					
			9.1	9.1.1	1,294.4	20:00	5:00								√							√							√							√		
				9.1.2	1,681.6	20:00	5:00								√							√							√							√		
				9.1.3	894.2	20:00	5:00								√							√							√							√		
			9.2	9.2.1	1,202.0	5:00	19:00							√							√							√							√		
				9.2.2	1,020.6	5:00	19:00							√							√							√							√		
				9.2.3	1,095.1	5:00	19:00							√							√							√							√		
				9.2.4	657.7	5:00	19:00							√							√							√							√		
				9.2.5	724.1	5:00	19:00							√							√							√							√		
				9.2.6	1,009.3	5:00	19:00							√							√							√							√		
				9.2.7	782.5	5:00	19:00							√							√							√							√		
			Old Network		0.0																																	
			Outside Ring Road	8.1 (20" KUKL)	11,980.0	6:00	14:00				4							11						18							25						
				8.1 (20" KUKL)		15:00	17:00				4							11						18							25						
				8.1 (20" KUKL)		7:00	16:00		2							9						16								23							30	
				8.1 (20" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	13:00							7							14							21							28			
Kirtipur	247	5,923	11.1	11.1.1	3,361.5	18:00	6:00	√						√						√					√						v	√						√
			11.2	11.2.1	2,723.2	18:00	6:00						√						√						√					√						v		
			11.3	11.3.1	2,723.2	18:00	6:00					√						√						√					√						v			
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network		7,128.0	7:00	17:00																															
			Siwalaya System	Siwalaya 1		7:00	12:30							√							√							√							√			
				Siwalaya 1		7:00	9:40	√							√							√							√							√			
			Bhajangal System	Bhajangal R1		4:00	8:40	√				√			√				√			√				√			√				√			√			
				Bhajangal R2		5:00	5:40	√		√					√		√					√		√					√		√					√			√
				Bhajangal R3		5:00	8:40	√			√				√			√				√			√					√			√				√		
				Bhajangal R4		5:00	5:40		√					√		√						√		√				√		√					√		√	
						18:30	20:00		√					√		√						√		√				√		√					√		√	
				Bhajangal R5		6:00	8:40		√			√				√			√				√			√				√			√				√	
				Bhajangal D		8:00	14:40			√			√				√			√				√			√				√			√				√
				Bhajangal K		8:00	11:20				√			√				√			√				√			√				√			√			
				Gurung Compound		14:40	18:00				√							√							√							√						
			Chilancho System	Chilancho 1		4:00	7:30	√				√			√				√			√				√			√				√			√		
						21:00	22:00	√				√			√				√			√				√			√				√			√		
				Chilancho 2		6:00	9:00		√				√			√				√			√				√			√				√			√	
						19:30	20:00		√				√			√				√			√				√			√				√			√	
				Chilancho 3		4:00	8:00				√			√				√			√				√			√				√			√		
				Chilancho 4		16:00	19:00	√				√		√	√			√	√		√	√			√	√		√	√			√	√		√	√		
				Chilancho 5		14:30	18:30		√				√	√		√		√		√	√		√		√		√	√		√		√		√		√		
				Chilancho 6		14:15	18:00				√			√				√							√				√			√			√			
			Devdhoka System	Devdhoka 1	17,097.0	6:00	15:00	√							√							√							√							√		
						12:00	15:00	√							√							√							√							√		
				Devdhoka 2		6:00	19:00		√							√							√							√							√	
						15:00	19:00		√							√							√							√							√	
				Devdhoka 3		6:00	11:00			√							√							√							√							√
						13:00	14:00			√							√							√							√							√
				Devdhoka 4		6:00	10:00				√							√							√							√						
				Devdhoka 5		6:00	9:00					√							√							√							√						
						12:00	15:30					√							√														√						
				Devdhoka 6		6:00	9:00						√							√							√							√				
						15:00	18:30						√							√							√							√				
				Devdhoka 7		6:00	21:00							√							√							√							√			
						15:00	18:30							√							√							√							√			
			Kwacho System	Kwacho 1		4:00	6:30	√				√			√				√			√				√			√				√			√		
						18:30	19:30	√				√			√				√			√				√			√				√			√		
				Kwacho 2		3:00	6:30		√				√			√				√			√				√			√				√			√	
				Kwacho 3		4:00	5:30			√				√			√				√			√				√			√				√			√
			Jakha System	Water is used when local																																		
			Nagau System	Nagau 1 (8 area)		5:00	9:00	√		√		√			√		√		√			√		√		√			√		√		√			√			√
				Nagau 2 (8 area)		5:00	9:00		√		√		√			√		√			√		√		√		√			√		√		√			√		
Mahankalchaur	348	8,344	2.1	2.1.1(A)	649.0	11:00	14:00	√						√							√						√					√						
				2.1.1(B)	701.5	11:00	14:00	√						√							√						√					√						
				2.1.2(A)	895.9	11:00	14:00	√						√							√						√					√						
				2.1.2(B)	218.7	11:00	14:00	√						√							√						√					√						
				2.1.3(A)	823.0	11:00	14:00	√						√							√						√					√						
				2.1.3(B)	473.0	11:00	14:00	√						√							√						√					√						
				2.1.4	452.0	11:00	14:00	√						√							√						√					√						
			2.2	2.2.1	1,247.4	13:00	22:00			√						√						√						√						√			
				2.2.2	1,412.6	13:00	22:00			√						√						√						√						√			
				2.2.3	3,222.2	13:00	22:00			√						√						√						√						√			
				2.2.4	994.7	13:00	22:00			√						√						√						√						√			
			2.3	2.3.1(A)	826.2	22:00	1:00		√						√						√						√					√					
				2.3.1(B)	954.2	22:00	1:00		√						√						√						√					√					
			2.4	2.4.1(A)	832.7	14:00	20:00	√						√						√					√						√						
				2.4.1(B)	772.7	14:00	20:00	√						√						√					√						√						
				2.4.1(C)	1,190.7	14:00	20:00	√						√						√					√						√						

Table 6.1.6 Water Supply Plan in Monsoon Season without Melamchi water (3/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																													
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
			3.1	3.1.1(A)	672.3	11:00	17:00		√						√						√						√						√					
				3.1.1(B)	588.1	11:00	17:00		√						√						√						√						√					
				3.1.1(C)	563.8	11:00	17:00		√						√						√						√						√					
				3.1.2(A)	814.9	11:00	17:00		√						√						√						√						√					
				3.1.2(B)	988.2	11:00	17:00		√						√						√						√						√					
				3.1.2(C)	738.7	11:00	17:00		√						√						√						√						√					
			3.2	3.2.1(A)	675.5	6:00	12:00			√						√						√						√						√				
				3.2.1(B)	464.9	6:00	12:00			√						√						√						√						√				
				3.2.1(C)	774.4	6:00	12:00			√						√						√						√						√				
				3.2.2(A)	776.0	6:00	12:00			√						√						√						√						√				
				3.2.2(B)	784.1	6:00	12:00			√						√						√						√						√				
				3.2.2(C)	798.7	6:00	12:00			√						√						√						√						√				
			3.3	3.3.1(A)	652.9	15:00	21:00		√						√						√						√						√					
				3.3.1(B)	863.5	15:00	21:00		√						√						√						√						√					
				3.3.1(C)	814.9	15:00	21:00		√						√						√						√						√					
				3.3.1(D)	779.2	15:00	21:00		√						√						√						√						√					
				3.3.1(E)	626.9	15:00	21:00		√						√						√						√						√					
			3.4	3.4.1(A)	868.3	20:00	23:00	√						√					√					√							√							
				3.4.1(B)	589.7	20:00	23:00	√						√					√					√							√							
			3.5	3.5.1(A)	802.6	4:00	10:00		√						√						√						√						√					
				3.5.1(B)	950.9	4:00	10:00		√						√						√						√						√					
				3.5.2	618.8	4:00	10:00		√						√						√						√						√					
			Old Network	Zone 1 a	16,119.0	8:00	10:00		√			√			√			√			√			√			√			√			√			√		
				Zone 1 b		16:00	19:00		√			√			√			√			√			√			√			√			√			√		
				Zone 2		4:00	8:00			√			√			√			√			√			√			√			√			√			√	
				Zone 3 a		11:00	13:00	√			√			√			√			√			√			√			√			√			√			√
				Zone 3 b		13:00	16:00	√			√			√			√			√			√			√			√			√			√			√
			Outside Ring Road	Zone 1-gravity	19,846.4																																	
				Zone 2-gravity																																		
				Zone 3 a-pumping																																		
				Zone 3 b-pumping																																		
				Zone 3 c-pumping																																		
				Zone 3 d-pumping																																		
				Zone 3 e-pumping																																		
				Zone 3 f-pumping																																		
				Zone 3 g-pumping																																		
Minbhawan	62	1,480	Demo Area	Zone 1	8,100.0	10:00	12:30						√						√						√					√						√	
				Zone 2		18:00	20:30						√						√						√					√						√	
				Zone3		5:00	8:00	√						√						√						√						√						√
				Zone 4		15:00	18:00	√						√						√						√						√						√
				Zone 5		5:00	8:00		√						√						√						√						√					
				Zone 6		12:00	16:00		√						√						√						√						√					
Panipokhari	155	3,710	1.1	1.1.1	1,853.3	4:00	22:00							√						√						√						√					√
				1.1.2										√						√						√						√					√
				1.1.3										√						√						√						√					√
			1.2	1.2.1	3,659.6	4:00	7:00								√						√						√						√				
				1.2.2											√						√						√						√				
				1.2.3(A)											√						√						√						√				
				1.2.3(B)											√						√						√						√				
			1.3	1.3.1	5,268.2	14:00	21:00							√						√						√						√					√
				1.3.2(A)		14:00	21:00							√						√						√						√					√
				1.3.2(B)		14:00	21:00							√						√						√						√					√
				1.3.2(C)		14:00	21:00							√						√						√						√					√
			1.4	1.4.1	4,639.7	13:00	19:00						√						√					√					√						√	
				1.4.2		13:00	19:00						√						√					√					√						√	
			1.5	1.5.1	424.4	5:00	13:00							√						√						√						√					√
				1.5.2	591.3	5:00	13:00							√						√						√						√					√
				1.5.3	625.3	5:00	13:00							√						√						√						√					√
Tigeni	50	1,199	Outside Ring Road	1st zone	26,886.0	4:00	11:00		√							√						√							√						√	
				2nd zone		4:00	11:00			√							√						√							√						√
				3rd zone		4:00	11:00				√							√						√							√						
				4th zone		4:00	11:00					√							√						√							√					
				5th zone		4:00	11:00						√							√						√							√				
				6th zone		4:00	11:00							√							√						√							√			
				7th zone		4:00	11:00	√							√							√						√							√			
Katunje	167	4,014	Outside Ring Road	1st zone	21,967.0	13:00	20:00		√						√						√						√						√				
				2nd zone						√						√						√						√						√				
				3rd zone					√						√						√						√						√				
				4th zone		14:00	17:00		√			√			√			√				√			√			√			√			√			√	
				5th zone		8:00	12:00	√						√						√						√						√						√
				6th zone				√						√						√						√						√						√
				7th zone				√						√						√						√						√						√
				8th zone		6:00	10:00			√			√			√			√			√			√			√			√			√			
				9th zone		8:00	11:00		√							√						√						√						√				
		48,000		Total	317,550.0																																

7. Actions to be taken by KUKL

In the technical cooperation project by JICA, indicators are established to measure the achievement of Output 1 and the project purpose.

Both indicators must be achieved by December 2026, when the technical cooperation project concludes.

[Output 1]

The capacity of water distribution management utilizing GIS is enhanced.

Indicator 1-3: The water distribution plan for maintaining fair supply hour is prepared for the DMAs within the Ring Road.

[Project Purpose]

The KUKL's capacity of operation and maintenance of water supply is improved.

Indicator 1: The water distribution management plan for fair water supply is implemented in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

Indicator 2: Water supply hours are fair in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

To achieve the above-mentioned indicators, KUKL should implement the following actions:

7.1 Actions to be taken by Production Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-1: Monthly water inflow at each SRT from BDS
(Table 7.1.1, Table 7.1.2, Figure 7.1.1, Figure 7.1.2)

PI-2: Monthly water inflow per customer at each SRT from BDS
(Table 7.1.3, Figure 7.1.3)

PI-3: Water losses in BDS between New Sundarijal WTP and each SRT
(Table 7.1.2)

Table 7.1.1 Monitoring Format of Monthly Inflow by SRT wise (1/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Baisakh		Jestha		Asadh		Shrawan		Bhadra		Ashwin	
				14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	15164	3	231591	46	129935	26	114419	23	131183	26	372,456	74
Balaju (New)	15,556	291,578	1,098,464	237048	15	280865	18	184668	12	199020	13	181238	12	230070	15
Balaju (Old)	19,100			298687	16	239059	13	115738	6	0	0	202898	11	351175	18
Bansbari (Old)	18,000	30,605	265,132	291703	16	293788	16	44799	2	0	0	317	0	6784	0
Khumaltar	37,974	319,495	1,203,634	1023350	27	1146020	30	662190	17	734120	19	764932	20	802258	21
Kirtipur	19,949	168,358	634,255	323657	16	329460	17	198622	10	237609	12	216165	11	249046	12
Mahankalchaur (New)	19,731	291,538	1,098,313	467845	24	516628	26	225886	11	287506	15	450396	23	466119	24
Mahankalchaur (Old)	34,651	33,548	134,298	431083	12	442614	13	72781	2	0	0	303	0	162782	5
Minbhawan	5,000	42,067	158,481	236571	47	136076	27	58780	12	108294	22	119345	24	150899	30
Panipokhari (New)	10,532	105,438	397,217	137442	13	133258	13	87793	8	88573	8	95710	9	111872	11
Panipokhari (Old)	2,000			37848	19	21103	11	7043	4	17084	9	11696	6	14515	7
Tigeni	16,596	28,218	283,640	-	-	-	-	-	-	-	-	344	0	483	0
Katunje	13,560	114,086	429,797	0	0	328681	24	180919	13	154526	11	166588	12	208998	15
Average				291,700	17	341,595	21	164,096	10	161,763	11	180,086	12	240,574	18

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

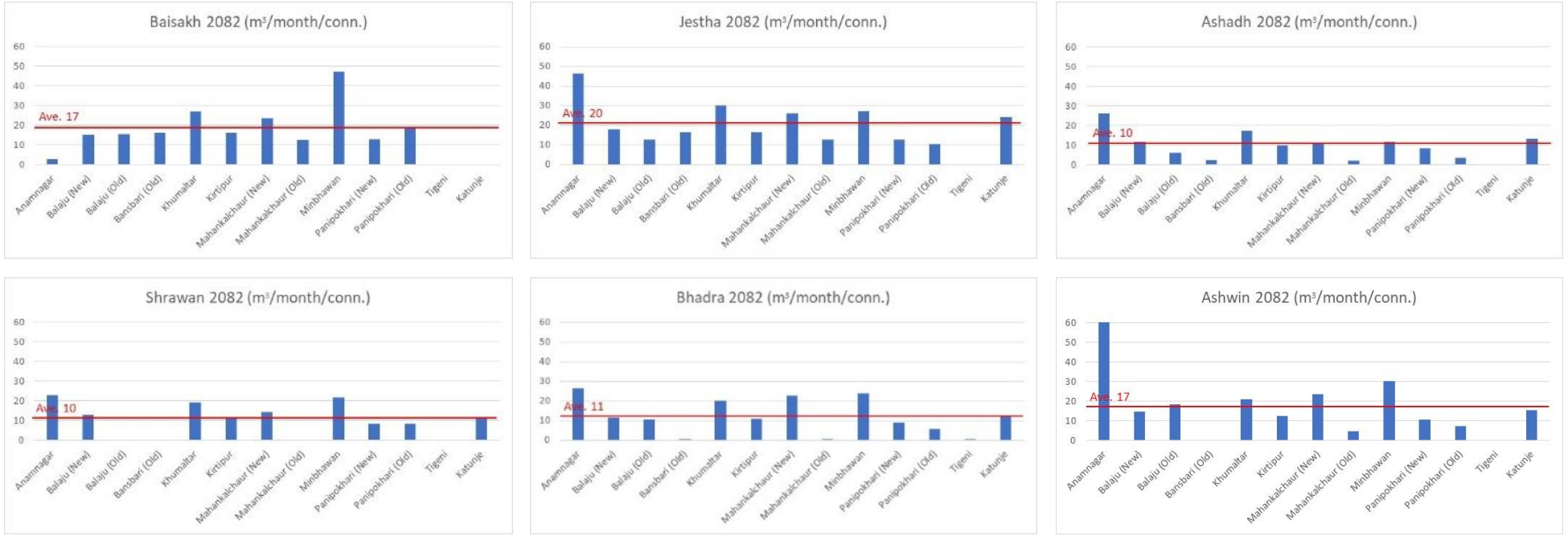


Figure 7.1.1 Change of Monthly Inflow by SRT wise (1/2)

Table 7.1.2 Monitoring Format of Monthly Inflow by SRT wise (2/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Kartik		Mangsir		Poush			Magh		Falgun		Chaitra	
				18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25		14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	14-Mar-26	15-Mar-26	13-Apr-26
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow		Inflow		Inflow			Inflow		Inflow		Inflow	
				(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	Local sources	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	182330	36	143,488	29	220,633		44		0		0		0
Balaju (New)	15,556	291,578	1,098,464	326808	21	363,390	23	414,438		27		0		0		0
Balaju (Old)	19,100			438440	23	460,982	24	585,595		31		0		0		0
Bansbari (Old)	18,000	30,605	265,132	64275	4	102,621	6	292,397	104,400	22		0		0		0
Khumaltar	37,974	319,495	1,203,634	972150	26	1,016,340	27	1,227,320		32		0		0		0
Kirtipur	19,949	168,358	634,255	335258	17	347,178	17	424,761		21		0		0		0
Mahankalchaur (New)	19,731	291,538	1,098,313	477628	24	522,914	27	618,450		31		0		0		0
Mahankalchaur (Old)	34,651	33,548	134,298	411567	12	441,275	13	487,527	681,500	34		0		0		0
Minbhawan	5,000	42,067	158,481	195975	39	140,311	28	234,816		47		0		0		0
Panipokhari (New)	10,532	105,438	397,217	192052	18	213,775	20	227,497		22		0		0		0
Panipokhari (Old)	2,000			24593	12	27277	14	53,189		27		0		0		0
Tigeni	16,596	28,218	283,640	469	0	288,000	17	288,000	161,994	27		0		0		0
Katunje	13,560	114,086	429,797	350301	26	344,498	25	398,271	-76,560	24		0		0		0
Average				305,527	20	339,388	21	420,992		30		0		0		0

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

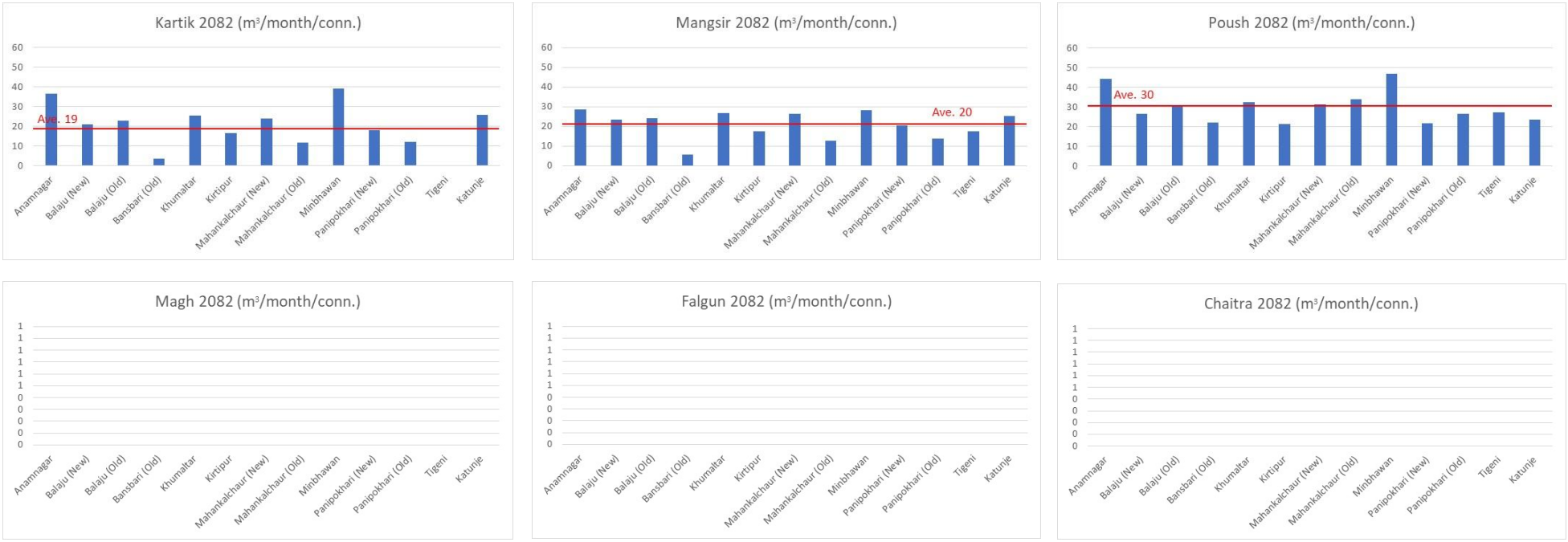


Figure 7.1.2 Change of Monthly Inflow by SRT wise (2/2)

Table 7.1.3 Monitoring Format of Water Loss in BDS

Description	Unit	January/2025	February/2025	March/2025	April/2025	May/2025	June/2025
Total Water transmitted from New Sundarijal WTP	m3						
Total water received by SRTs	m3						
Water losses in BDS	m3						
Wate losses ratio	%						
Description	Unit	July/2025	August/2025	September/2025	October/2025	November/2025	December/2025
Total Water transmitted from New Sundarijal WTP	m3	1,104,558.54	2,541550.32	2,819,664.66	4,337,372.36	4402496.86	5m796,124.00
Total water received by SRTs	m3	2,294,058.00	2,421495.00	2,707,171.00	4,290,970.00	4412049	5,691,271.00
Water losses in BDS	m3	-1,189,499.46	120,055.32	112,493.66	46,402.36	-9,552.14	104,853.00
Wate losses ratio	%	-107.69	4.72	3.99	1.07	-0.22	1.81

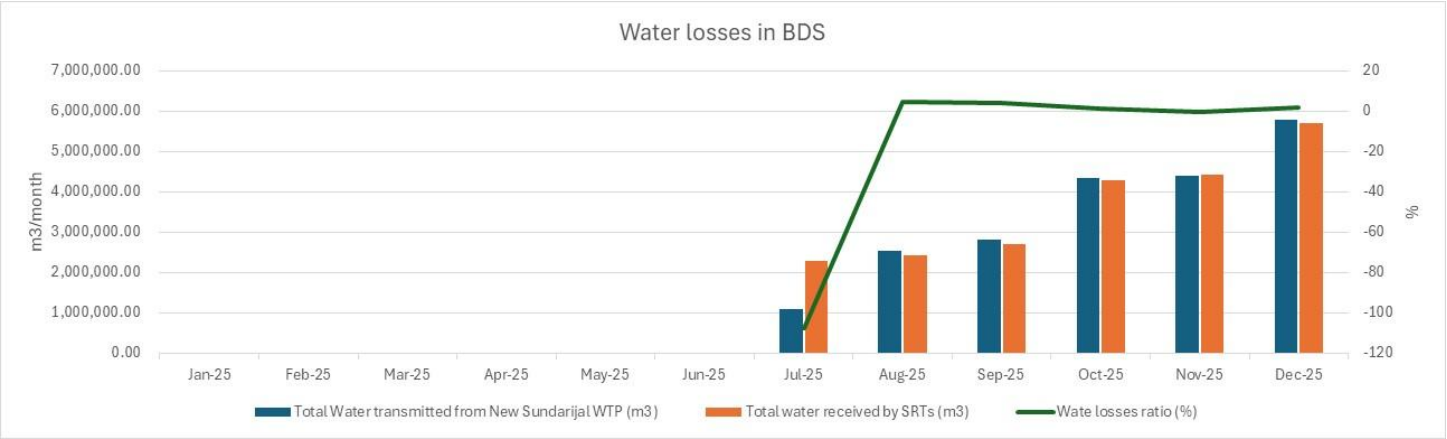


Figure 7.1.3 Change of Water Losses in BDS

7.2 Actions to be taken by Operation Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-4: Daily water supply volume as average at each DMA or sub-DMA and the volume per connection (Table 7.2.1, Figure 7.2.1, Figure 7.2.2)

[Responsibilities of the Operation Division]

- The Operations Division monitors the number of customers and water distribution volumes for each DMA on a monthly basis.
- The Operation Division monitors an indicator (PI-4) calculated by dividing the water distribution volume per DMA by the number of customers on a monthly basis.
- Using the Indicator PI-4. evaluate the feasibility of achieving equitable water distribution. If significant inequities arise or significant fluctuations occur, review the water distribution volume and distribution times for each DMA.

In addition to those main actions, the Operation division shall take responsibility for daily maintenance of SRTs. The operation division is required to take a record of the following monitoring.

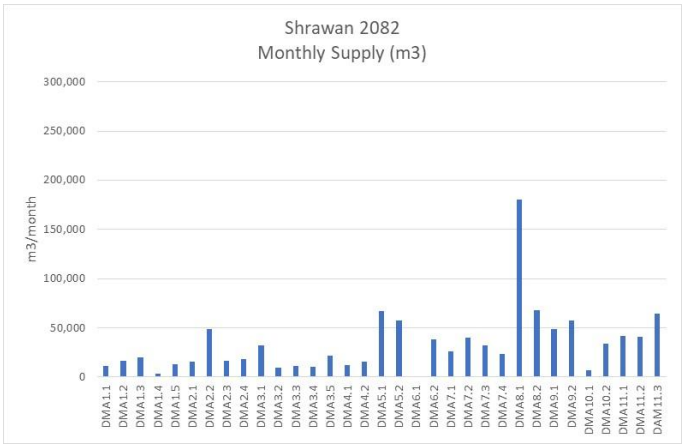
PI-5: Operation and Maintenance Status of each SRT (Table 7.2.2, Table 7.2.3)

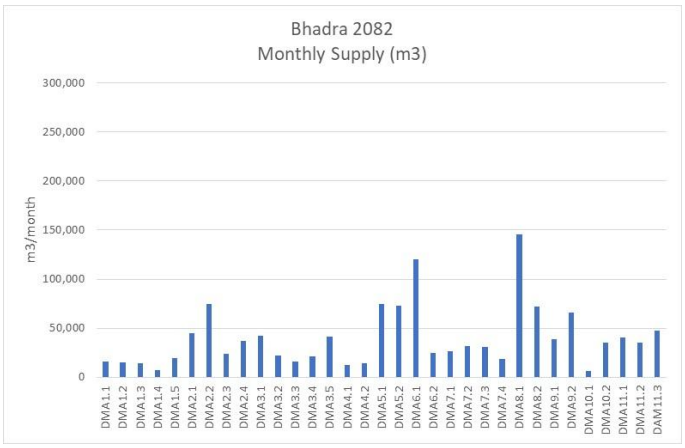
Action-1: Allocate the responsible operator (Everyday)
Action-2: Prepare a Standard Operation Procedure (SOP) for each SRT (Everyday)
Action-3: Cleaning work of the inside of valve chambers (2 times per month)
Action-4: Inspection of air valves at the outlet chamber (2 time per month)
Action-5: Cleaning work of the inside of reservoirs (1 time per year)
Action-6: Inspection of the inside of reservoirs (1 time per year)
Action-7: Water quality test (Everyday)

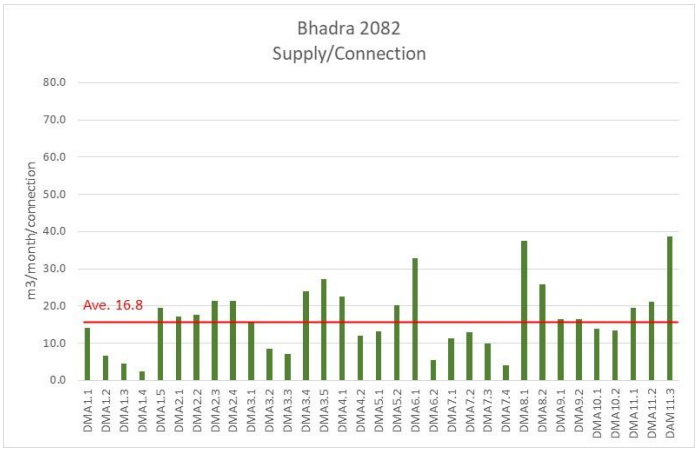
Table 7.2.1 Monitoring Format of Water Supply Volume by DMA wise

Year:2082	1	1		2		3		4		5		6		7		8		9		10		11		12	
	Baisakha	Baisakha		Jestha		Asadh		Shrawan		Bhadra		Ashwin		Kartik		Mangsir		Poush		magh		Falgun		Chaitra	
DMA	No. of Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection
DMA1.1	1,144	21,648	18.9	13,221	11.6	6,092	5.3	11,017	9.6	16,049	14.0	13,973	12.2	27,747	24.3	29,252	25.6	29,370	25.7	0	0.0	0	0.0	0	0.0
DMA1.2	2,259	25,922	11.5	35,173	15.6	19,444	8.6	16,136	7.1	15,011	6.6	18,217	8.1	28,727	12.7	37,082	16.4	41,999	18.6	0	0.0	0	0.0	0	0.0
DMA1.3	3,252	37,697	11.6	24,193	7.4	15,796	4.9	19,892	6.1	14,553	4.5	16,613	5.1	50,400	15.5	62,017	19.1	56,966	17.5	0	0.0	0	0.0	0	0.0
DMA1.4	2,864	5,717	2.0	4,591	1.6	1,946	0.7	3,314	1.2	7,159	2.5	6,845	2.4	5,161	1.8	19,453	6.8	8,288	2.9	0	0.0	0	0.0	0	0.0
DMA1.5	1,013	26,675	26.3	19,455	19.2	15,818	15.6	13,108	12.9	19,660	19.4	18,398	18.2	25,601	25.3	40,877	40.4	32,025	31.6	0	0.0	0	0.0	0	0.0
DMA2.1	2,601	41,335	15.9	48,209	18.5	18,312	7.0	15,388	5.9	44,703	17.2	52,792	20.3	73,993	28.4	99,200	38.1	85,590	32.9	0	0.0	0	0.0	0	0.0
DMA2.2	4,245	97,828	23.0	88,406	20.8	35,715	8.4	48,721	11.5	74,516	17.6	96,162	22.7	96,259	22.7	125,271	29.5	67,604	15.9	0	0.0	0	0.0	0	0.0
DMA2.3	1,099	23,446	21.3	27,561	25.1	7,506	6.8	16,152	14.7	23,541	21.4	16,114	14.7	21,198	19.3	34,262	31.2	32,861	29.9	0	0.0	0	0.0	0	0.0
DMA2.4	1,726	27,410	15.9	31,419	18.2	16,988	9.8	18,450	10.7	36,817	21.3	28,018	16.2	27,321	15.8	35,194	20.4	43,056	24.9	0	0.0	0	0.0	0	0.0
DMA3.1	2,695	59,187	22.0	52,864	19.6	26,607	9.9	32,091	11.9	42,450	15.8	41,410	15.4	45,549	16.9	60,547	22.5	82,687	30.7	0	0.0	0	0.0	0	0.0
DMA3.2	2,638	19,912	7.5	16,719	6.3	7,802	3.0	9,946	3.8	22,357	8.5	21,939	8.3	30,817	11.7	44,383	16.8	1,980	0.8	0	0.0	0	0.0	0	0.0
DMA3.3	2,307	19,119	8.3	12,201	5.3	13,993	6.1	11,359	4.9	16,331	7.1	10,784	4.7	6,494	2.8	13,961	6.1	6,345	2.8	0	0.0	0	0.0	0	0.0
DMA3.4	900	25,964	28.8	22,342	24.8	9,682	10.8	10,516	11.7	21,542	23.9	20,233	22.5	23,032	25.6	33,976	37.8	22,445	24.9	0	0.0	0	0.0	0	0.0
DMA3.5	1,520	30,491	20.1	29,776	19.6	19,133	12.6	21,938	14.4	41,349	27.2	25,625	16.9	51,037	33.6	37,626	24.8	28,972	19.1	0	0.0	0	0.0	0	0.0
DMA4.1	569	20,624	36.2	20,328	35.7	16,961	29.8	12,591	22.1	12,792	22.5	15,569	27.4	19,270	33.9	16,257	28.6	27,560	48.4	0	0.0	0	0.0	0	0.0
DMA4.2	1,222	32,362	26.5	29,019	23.7	19,335	15.8	15,577	12.7	14,663	12.0	19,796	16.2	25,419	20.8	20,552	16.8	23,110	18.9	0	0.0	0	0.0	0	0.0
DMA5.1	5,648	104,751	18.5	113,842	20.2	66,889	11.8	67,444	11.9	74,886	13.3	76,034	13.5	117,202	20.8	160,002	28.3	148,855	26.4	0	0.0	0	0.0	0	0.0
DMA5.2	3,617	73,329	20.3	94,180	26.0	42,194	11.7	57,770	16.0	72,932	20.2	58,361	16.1	75,219	20.8	120,350	33.3	107,295	29.7	0	0.0	0	0.0	0	0.0
DMA6.1	3,666	92,386	25.2	225,885	61.6	45,045	12.3	0	0.0	120,495	32.9	157,296	42.9	144,778	39.5	169,591	46.3	211,028	57.6	0	0.0	0	0.0	0	0.0
DMA6.2	4,559	20,120	4.4	107,860	23.7	51,579	11.3	38,735	8.5	24,491	5.4	53,359	11.7	7,525	1.7	63,393	13.9	23,176	5.1	0	0.0	0	0.0	0	0.0
DMA7.1	2,350	42,330	18.0	34,721	14.8	21,020	8.9	25,749	11.0	26,498	11.3	35,978	15.3	33,058	14.1	44,179	18.8	37,704	16.0	0	0.0	0	0.0	0	0.0
DMA7.2	2,480	44,289	17.9	38,732	15.6	24,663	9.9	39,861	16.1	32,022	12.9	29,824	12.0	42,822	17.3	89,470	36.1	49,134	19.8	0	0.0	0	0.0	0	0.0
DMA7.3	3,100	33,038	10.7	55,121	17.8	27,045	8.7	32,592	10.5	30,638	9.9	29,986	9.7	48,528	15.7	50,049	16.1	52,972	17.1	0	0.0	0	0.0	0	0.0
DMA7.4	4,475	46,350	10.4	34,726	7.8	31,530	7.0	23,479	5.2	18,656	4.2	45,727	10.2	55,808	12.5	91,910	20.5	81,872	18.3	0	0.0	0	0.0	0	0.0
DMA8.1	3,893	243,448	62.5	253,177	65.0	111,160	28.6	180,034	46.2	145,776	37.4	168,523	43.3	211,259	54.3	274,338	70.5	256,717	65.9	0	0.0	0	0.0	0	0.0
DMA8.2	2,800	112,901	40.3	86,608	30.9	70,131	25.0	67,884	24.2	72,491	25.9	81,403	29.1	72,187	25.8	76,861	27.5	72,160	25.8	0	0.0	0	0.0	0	0.0
DMA9.1	2,389	113,632	47.6	108,407	45.4	60,422	25.3	49,032	20.5	39,160	16.4	51,395	21.5	58,327	24.4	81,353	34.1	99,425	41.6	0	0.0	0	0.0	0	0.0
DMA9.2	4,007	95,662	23.9	96,331	24.0	63,773	15.9	57,680	14.4	65,922	16.5	74,004	18.5	70,840	17.7	134,651	33.6	133,988	33.4	0	0.0	0	0.0	0	0.0
DMA10.1	480	9,223	19.2	10,751	22.4	4,883	10.2	7,236	15.1	6,646	13.8	7,211	15.0	28,696	59.8	16,266	33.9	23,945	49.9	0	0.0	0	0.0	0	0.0
DMA10.2	2,671	55,874	20.9	53,489	20.0	33,176	12.4	33,812	12.7	35,507	13.3	44,055	16.5	77,317	28.9	59,582	22.3	85,442	32.0	0	0.0	0	0.0	0	0.0
DMA11.1	2,075	39,163	18.9	34,347	16.6	28,235	13.6	42,134	20.3	40,646	19.6	33,276	16.0	43,180	20.8	60,738	29.3	53,179	25.6	0	0.0	0	0.0	0	0.0
DMA11.2	1,681	48,781	29.0	27,279	16.2	20,924	12.4	41,258	24.5	35,708	21.2	31,406	18.7	30,385	18.1	55,741	33.2	53,264	31.7	0	0.0	0	0.0	0	0.0
DAM11.3	1,239	92,592	74.7	75,878	61.2	49,886	40.3	64,198	51.8	47,964	38.7	62,830	50.7	123,897	100.0	132,456	106.9	176,441	142.4						
Total / Avarage	81,945	1,690,614	23.0	1,850,933	23.1	953,799	12.7	1,040,896	14.3	1,265,967	16.8	1,400,326	17.9	1,675,154	24.3	2,258,383	29.9	2,081,013	29.8	0	0.0	0	0.0	0	0.0
More than 1.5 times of Average			4		4		4		4		4		4		3		2		4		32		32		32
Less than 1/2 of Average			7		5		5		7		6		5		4		3		4		32		32		32

Figure 7.2.1 Monitoring Graph of Water Supply Volume by DMA wise (1/2)







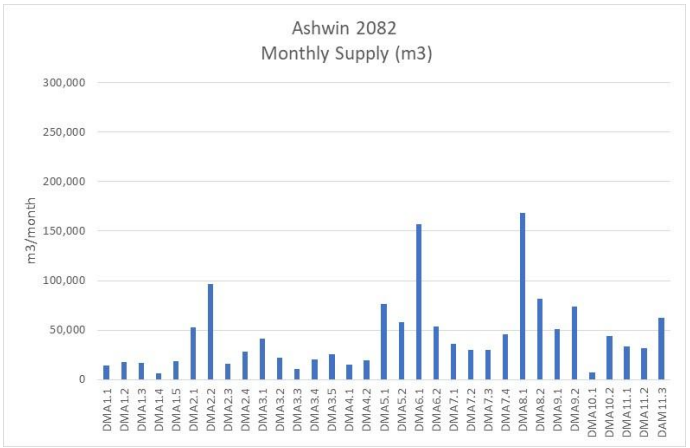


Figure 7.2.2 Monitoring Graph of Water Supply Volume by DMA wise (2/2)

Table 7.2.2 Monitoring Record of Operation & Maintenance of SRTs (1/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Anamnagar (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Arubari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Khumaltar (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Kirtipur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Mahankalchaur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

Table 7.2.3 Monitoring Record of Operation & Maintenance of SRTs (2/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Mahankalchaur (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Minbhawan (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Tigeni																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Katunje																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

7.3 Actions to be taken by each Branch Office

Improvements in water supply services should not be evaluated solely based on water volume. By accurately notifying customers of water delivery schedule and ensuring KUKL operators adhere to these schedules, customer satisfaction can be enhanced.

From this perspective, at the branch office level, efforts must be made to reduce customer complaints by verifying monthly whether any complaints are received regarding the pre-planned water supply schedule.

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicator must be monitored by each branch manager.

PI-6: Number of grievances about water supply hour especially the gap between standard supply hour and real supply hour (Table 7.3.1, Table 7.3.2)

Action-1: The branch manager must accurately track the number of customers within the DMA under their branch's jurisdiction.

Action-2: Report the number of customers per DMA required for the monitoring sheets created by the Operation Division and Production Division to the responsible personnel at headquarters.

Action-3: Valve operators shall be assigned to accurately open and close valves according to the water supply schedule determined in this main water distribution management plan.

Action-4: Analyze customer complaints and requests received by the branch office each month, and tally the number of complaints and requests regarding the accuracy of the water supply schedule.

Action-5: Achieve a 100% water meter installation rate for customers within the DMA.

Action-6: Achieve a 100% water meter reading rate for customers within the DMA.

Action-7: Measure turbidity and residual chlorine at the locations specified by the Central Laboratory at the prescribed frequency and report the results to the Central Laboratory.

Table 7.3.1 Monitoring Record of Grievances about Water Supply Hour (1/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
1.1	1.1.1	Maharajgunj	5:00	14:00																												
1.1	1.1.2	Maharajgunj	5:00	14:00																												
1.1	1.1.3	Maharajgunj	5:00	14:00																												
1.2	1.2.1	Maharajgunj	9:00	16:00																												
1.2	1.2.2	Baneshwor	9:00	16:00																												
1.2	1.2.3(A)	Maharajgunj	9:00	16:00																												
1.2	1.2.3(B)	Maharajgunj	9:00	16:00																												
1.3	1.3.1	Tripureshwor	12:00	21:00																												
1.3	1.3.2(A)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(B)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(C)	Tripureshwor	12:00	21:00																												
1.4	1.4.1	Tripureshwor	15:00	21:00																												
1.4	1.4.2	Tripureshwor	15:00	21:00																												
1.5	1.5.1	Tripureshwor	5:00	15:00																												
1.5	1.5.2	Tripureshwor	5:00	15:00																												
1.5	1.5.3	Tripureshwor	5:00	15:00																												
2.1	2.1.1(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.1(B)	Maharajgunj	6:00	12:00																												
2.1	2.1.1(B)	Mahankal	6:00	12:00																												
2.1	2.1.2(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.2(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.4	Mahankalchaur	6:00	12:00																												
2.2	2.2.1	Baneshwor	14:00	20:00																												
2.2	2.2.2	Baneshwor	14:00	20:00																												
2.2	2.2.3	Baneshwor	14:00	20:00																												
2.2	2.2.4	Baneshwor	14:00	20:00																												
2.3	2.3.1(A)	Baneshwor	5:00	12:00																												
2.3	2.3.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Mahankal	5:00	12:00																												
2.4	2.4.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(C)	Baneshwor	5:00	12:00																												
3.1	3.1.1(A)	Baneshwor	14:00	21:00																												
3.1	3.1.1(B)	Baneshwor	14:00	21:00																												
3.1	3.1.1(C)	Baneshwor	14:00	21:00																												
3.1	3.1.2(A)	Baneshwor	14:00	21:00																												
3.1	3.1.2(B)	Baneshwor	14:00	21:00																												
3.1	3.1.2(C)	Baneshwor	14:00	21:00																												
3.2	3.2.1(A)	Baneshwor	5:00	12:00																												
3.2	3.2.1(B)	Baneshwor	5:00	12:00																												
3.2	3.2.1(C)	Baneshwor	5:00	12:00																												
3.2	3.2.2(A)	Baneshwor	5:00	12:00																												
3.2	3.2.2(B)	Baneshwor	5:00	12:00																												
3.2	3.2.2(C)	Baneshwor	5:00	12:00																												
3.3	3.3.1(A)	Baneshwor	14:00	20:00																												
3.3	3.3.1(B)	Baneshwor	14:00	20:00																												
3.3	3.3.1(C)	Baneshwor	14:00	20:00																												
3.3	3.3.1(D)	Baneshwor	14:00	20:00																												
3.3	3.3.1(E)	Baneshwor	14:00	20:00																												
3.4	3.4.1(A)	Baneshwor	9:00	15:00																												
3.4	3.4.1(B)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Maharajgunj	9:00	15:00																												
3.5	3.5.1(B)	Baneshwor	9:00	15:00																												
3.5	3.5.2	Baneshwor	9:00	15:00																												
3.5	3.5.2	Maharajgunj	9:00	15:00																												
4.1	4.1.1	Baneshwor	12:00	16:00																												
4.1	4.1.2	Baneshwor	12:00	16:00																												
4.2	4.2.1	Tripureshwor	11:00	20:00																												
4.2	4.2.2	Tripureshwor	11:00	20:00																												
4.2	4.2.3	Tripureshwor	11:00	20:00																												
5.1	5.1.1	Lalitpur	20:00	8:00																												
5.1	5.1.2	Lalitpur	20:00	8:00																												
5.1	5.1.3	Lalitpur	20:00	8:00																												
5.2	5.2.1(A)	Lalitpur	20:00	8:00																												
5.2	5.2.1(B)	Lalitpur	20:00	8:00																												
5.2	5.2.1(C)	Lalitpur	20:00	8:00																												
5.2	5.2.1(D)	Lalitpur	20:00	8:00																												
5.2	5.2.2(A)	Lalitpur	20:00	8:00																												
5.2	5.2.2(B)	Lalitpur	20:00	8:00																												
5.2	5.2.2(C)	Lalitpur	20:00	8:00																												
5.2	5.2.2(D)	Lalitpur	20:00	8:00																												
5.2	5.2.2(E)	Lalitpur	20:00	8:00																												
5.2	5.2.3(A)	Lalitpur	20:00	8:00																												
5.2	5.2.3(B)	Lalitpur	20:00	8:00																												
6.1	6.1.1(A)	Lalitpur	6:00	20:00																												
6.1	6.1.1(B)	Lalitpur	6:00	20:00																												
6.1	6.1.2	Lalitpur	6:00	20:00																												
6.1	6.1.3	Lalitpur	6:00	20:00																												
6.2	6.2.1	Lalitpur	17:00	8:00																												
6.2	6.2.2	Lalitpur	17:00	8:00																												
6.2	6.2.3	Lalitpur	17:00	8:00																												
7.1	7.1.1	Maharajgunj	17:00	22:00																												
7.1	7.1.2	Chhetrapati	17:00	22:00																												
7.2	7.2.1(A)	Chhetrapati	7:00	12:00																												
7.2	7.2.1(B)	Chhetrapati	7:00	12:00																												
7.2	7.2.2(A)	Maharajgunj	7:00	12:00																												
7.2	7.2.2(B)	Maharajgunj	7:00	12:00																												
7.2	7.2.3	Maharajgunj	7:00	12:00																												
7.3	7.3.1(A)	Chhetrapati	7:00	12:00																												
7.3	7.3.1(B)	Chhetrapati	7:00	12:00																												
7.3	7.3.2	Chhetrapati	7:00	12:00																												
7.3	7.3.3	Maharajgunj	7:00	12:00																												
7.4	7.4.1(A)	Chhetrapati	7:00	12:00																												
7.4	7.4.1(B)	Chhetrapati	7:00	12:00																												
7.4	7.4.2(A)	Chhetrapati	7:00	12:00																												
7.4	7.4.2(A)	Lalitpur	7:00	12:00																												
7.4	7.4.2(B)	Chhetrapati	7:00	12:00																												
7.4	7.4.3	Chhetrapati	7:00	12:00																												
7.4	7.4.3	Maharajgunj	7:00	12:00																												
7.4	7.4.4	Maharajgunj	7:00	12:00																												

Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

Table 7.3.2 Monitoring Record of Grievances about Water Supply Hour (2/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
8.1	8.1.1	Lalitpur	8:00	20:00																												
8.1	8.1.2	Lalitpur	20:00	8:00																												
8.1	8.1.3	Lalitpur	20:00	8:00																												
8.2	8.2.1(A)	Lalitpur	17:00	8:00																												
8.2	8.2.1(B)	Lalitpur	17:00	8:00																												
8.2	8.2.1(C)	Lalitpur	17:00	8:00																												
8.2	8.2.2(A)	Lalitpur	17:00	8:00																												
8.2	8.2.2(B)	Lalitpur	17:00	8:00																												
8.2	8.2.2(C)	Lalitpur	17:00	8:00																												
9.1	9.1.1	Lalitpur	20:00	6:00																												
9.1	9.1.2	Lalitpur	20:00	6:00																												
9.1	9.1.3	Lalitpur	20:00	6:00																												
9.2	9.2.1	Lalitpur	6:00	20:00																												
9.2	9.2.2	Lalitpur	6:00	20:00																												
9.2	9.2.3	Lalitpur	6:00	20:00																												
9.2	9.2.4	Lalitpur	6:00	20:00																												
9.2	9.2.5	Lalitpur	6:00	20:00																												
9.2	9.2.6	Lalitpur	6:00	20:00																												
9.2	9.2.7	Lalitpur	6:00	20:00																												
10.1	10.1.1	Maharajgunj	12:00	17:00																												
10.2	10.2.1(A)	Chhetrapati	17:00	22:00																												
10.2	10.2.1(B)	Chhetrapati	17:00	22:00																												
10.2	10.2.1(C)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(A)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(B)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(C)	Chhetrapati	17:00	22:00																												
11.1	11.1.1	Tripureshwor	18:00	10:00																												
11.2	11.2.1	Tripureshwor	18:00	10:00																												
11.2	11.2.2	Tripureshwor	18:00	10:00																												
Demo	Demo	Baneshwor	5:00	21:00																												

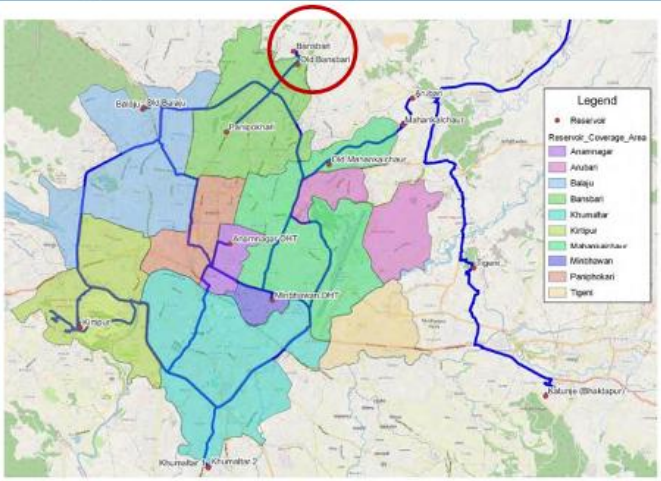
Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

8. Example of SOP for service reservoirs

Standard Operating Procedure
Bansbari SRT (Service Reservoir Tank)

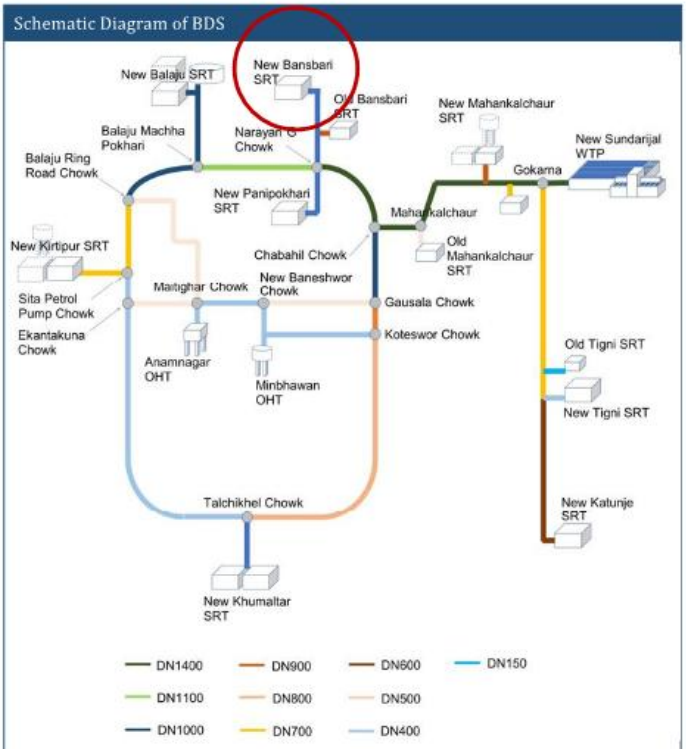
Layout of facilities

General Layout of Bulk Distribution System (BDS)



Layout of facilities

Schematic Diagram of BDS

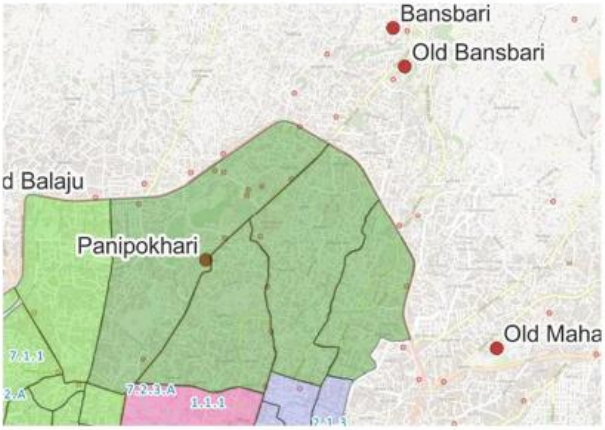


Bulk Distribution System Schematic Diagram

Layout of facilities

District Metered Area (DMA) covered by Bansbari SRT

The coverage area of Bansbari SRT has yet to be divided in DMAs.
This area is called DNI-7c and divided into several DMAs which will be constructed by the Package 6.



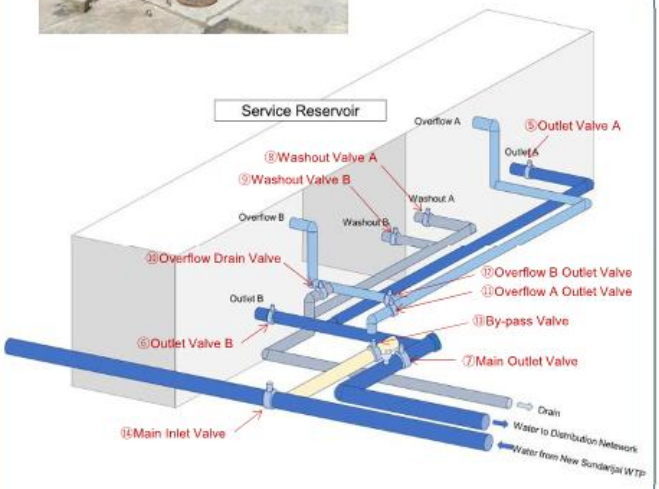
Layout of facilities

Outline of Bansbari SRT

No	Name	Objective	DN	Chamber Drawing No.
1	Flowmeter A	Inflow Measurement Reservoir A	700mm	BDS1-E-C-07
2	Flowmeter B	Inflow Measurement Reservoir A	700mm	BDS1-E-C-09
3	Inlet Valve A	Open/Stop Inflow Reservoir A	700mm	BDS1-E-C-06
4	Inlet Valve B	Open/Stop Inflow Reservoir B	700mm	BDS1-E-C-08
5	Outlet Valve A	Open/Stop Outflow Reservoir A	800mm	BDS1-E-C-10
6	Outlet Valve B	Open/Stop Outflow Reservoir B	800mm	BDS1-E-C-12
7	Main Outlet Valve	Regulate Total Outflow Volume	1200mm	BDS1-E-C-13
8	Washout Valve A	Sand discharge from Reservoir A	500mm	BDS1-E-C-15
9	Washout Valve B	Sand discharge from Reservoir B	500mm	BDS1-E-C-15
10	Overflow Drain	Discharge overflow to washout line	500mm	BDS1-E-C-14
11	Overflow A Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
12	Overflow B Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
13	By-pass Valve	Supply water without passing reservoir	1000mm	BDS1-E-C-13
14	Main Inlet Valve	Regulate Total Inflow Volume	1000mm	BDS1-E-C-05
15	Air Valve	Air release from the main outlet line	200mm	BDS1-E-C-13

Layout of facilities

Isometric Schematic Image of Pipeline Layout (Outlet side)



Operating Procedure

Normal Operation

Operating Procedure

Emergent Operation

If there is an accident or malfunction in both reservoirs A and B and water cannot be stored, the bypass valve on the Inlet Pipe should be opened to continue transmission of water.

[Caution]

When continuing to supply water through the bypass pipe, the following valves of the reservoir should be closed in advance to prevent water from entering the reservoir.
1. Main Inflow Valve
2. Outlet Valves of Reservoirs
3. Overflow Valves of Reservoirs

Cleaning of Reservoir

Direction of Water Flow during Cleaning of Reservoir

Steps for Cleaning of Reservoir

Step 1

Reservoir cleaning should be performed separately for A and B. Close one of the Inlet Valve to shut down entering water into the reservoir.

Step 2

When the water level in the reservoir is low enough, close the Outlet Valve.

Step 3

Open the Washout Valve to drain the water that has accumulated at the bottom of reservoir.

Steps for Cleaning of Reservoir

Step 4

Operators go inside and uses a wiper and nylon brush to scrape sand and mud from the walls and bottom in the direction of the Washout Port.

Step 5

If mud or sand remains in the middle of the interior, open the Inlet Valve of reservoir slightly to draw in water, and then scrape it out again with a scraper.

Step 6

Once the interior has been cleaned, the operator goes outside.
Then close the washout valve.

Steps for Cleaning of Reservoir

Step 7

Then slowly open the Inlet Valve.

Step 8

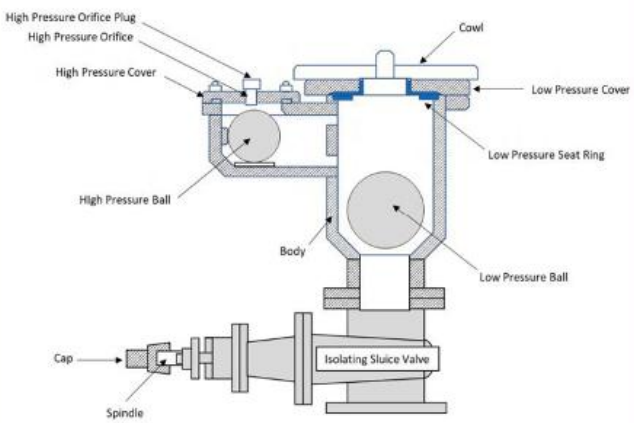
Wait a few hours to fill the reservoir.

Step 9

Once the reservoir has recovered more than half of its water level, slowly open the Outlet Valve.

Cleaning of Air Valve

Structure of Air Valve (Indian Valve International)

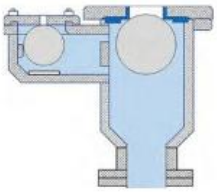


[Caution]

When clean the air valve, make sure that the Isolation Sluice Valve is completely closed. After closed the Isolation Sluice Valve, you can dismantle the cowl and top cover of the air valve.

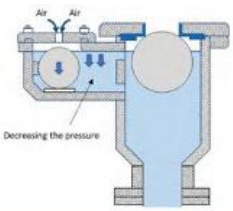
Function of Kinetic Air Valve

Normal Operation under High Pressure



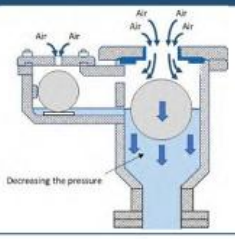
The pipe remains filled with water and the internal float ball plugs the air outlet orifice.

When a small air pocket occurs in the pipe



When a small amount of air accumulates in the air valve, the water level begins to drop, which causes the High Pressure Ball to drop and the small orifice to open. (Small exhaust mode)

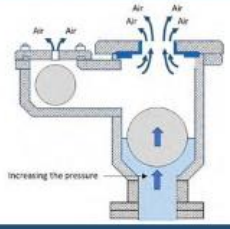
When the water in the reservoir runs out and a large amount of air accumulates



When a large amount of air accumulates, the water level drops below High Pressure Ball, which causes the Low Pressure Ball to drop and the large orifice to open. (Large exhaust mode).

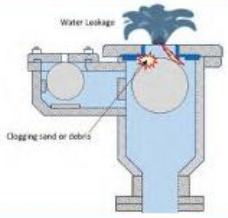
Function of Kinetic Air Valve

When water begins to accumulate in the pipe.



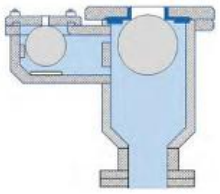
As the water pressure in the pipe increases, the water level rises and the Low Pressure Ball plugs the orifice.

When debris or sand clog the orifice



When debris or sand clog the orifice of air exhaust, the leaks will occur under high pressure.

When the pipe is perfectly filled with water



When water fills the pipe and the water pressure increases, the High Pressure Ball plugs the orifice.

Site Cleaning

Keeping premises clean

- Ensure that there is no debris or hazardous materials in the vicinity of the reservoir.
- The valve chamber should be kept clean and free of cobwebs, debris, and puddles, and no disposed material should be left inside.
- Do not place hazardous or flammable materials near the reservoir.

- Service Reservoir Tank and Water Treatment Plants are places where drinking water is stored, so animals should not be allowed to enter.

Meter Reading

Flowmeter on Inlet Pipe

Flowmeter on Outlet Pipe

In Bansbari SRT, there is no water meter on the outlet pipe.

How to read the flowmeter

Instantaneous Flow (m3/hour)

Accumulated Flow (m3)

The operators should keep record of "Accumulated Water Flow" in daily recording sheet

Recording of water volume

Operator's duty

- Once a day, the operator should check the flowmeter reading and note it on the record form.

Date	Time	Meter Reading		Daily Inflow	Name of Recorder
		Reservoir A	Reservoir B		

Standard Inspection

Daily Inspection

- Operators shall check the condition of facilities and clean the site once per day.

Items	Target	Status	Evaluation
External of tank	Concrete	No Water Leakage	☐Yes/☐No
	Painting	No Crack	☐Yes/☐No
		No Peeling	☐Yes/☐No
	Steps	Firmly Fixed	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No
	Cable	No disconnection	☐Yes/☐No
Valves	Operation Panel	No broken parts	☐Yes/☐No
	Button	No broken button	☐Yes/☐No
	Operation Wheel	Smoothly operating	☐Yes/☐No
	Chamber	No waste/garbage inside	☐Yes/☐No
Pipes	Exposed pipe	No Water Leakage	☐Yes/☐No
	Chamber	No Water Leakage	☐Yes/☐No
Chamber	Cover	Smoothly opening	☐Yes/☐No

Standard Inspection

Annual Inspection

- When cleaning the reservoir tank once per year, conduct an annual inspection of the following items:

Items	Target	Status	Evaluation
Internal of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Level Gauge	Drop of sensor	☐Yes/☐No
		Rust or Corrosion	☐Yes/☐No
External of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
		Water Leakage	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Steps	Corrosion	☐Yes/☐No
	Ventilation	Corrosion	☐Yes/☐No
Facilities	Valves	Greasing on gear	☐Yes/☐No
	Pipes	Water Leakage	☐Yes/☐No
	Chamber	Cleaning of inside	☐Yes/☐No
		Corrosion of Cover	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No

Inspection Schedule

Annual Inspection Plan

Month	Day	What to do
Baisakh		
Jestha		
Asadh		
Shrawan		
Bhadra		
Ashwin		
Kartik		
Mangsir		
Poush		
Magh		
Falgun		
Chaitra		

Water Distribution Management Plan
For
District Metered Area (DMA)
In
Kathmandu Valley

3rd version: 24 February 2026

Kathmandu Upatyaka Khanepani Limited (KUKL)

JICA Expert Team

Kathmandu Upatyaka Khanepani Limited

Japan International Cooperation Agency

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1. Introduction

1.1 Basic Approach to the Water Distribution Management

The maintenance and management of water supply facilities is an indispensable daily task for KUKL and should be carried out from a long-term perspective in order to achieve the following objectives.

Security: To supply safe water with assured quality to water users for drinking in the Kathmandu Valley.

Stability: To provide a stable supply of water necessary for daily life anytime, anywhere.

1.2 Procedure for Development of the Water Distribution Management Plan

Water service is a business that consists of providing drinking water to water users and collecting fees in return. Therefore, in the Water Distribution Management Plan, water utilities themselves need to set more specific management targets based on their Performance Indicators and monitor them in their daily operations.

The workflow of water distribution management in water utility management is as follows

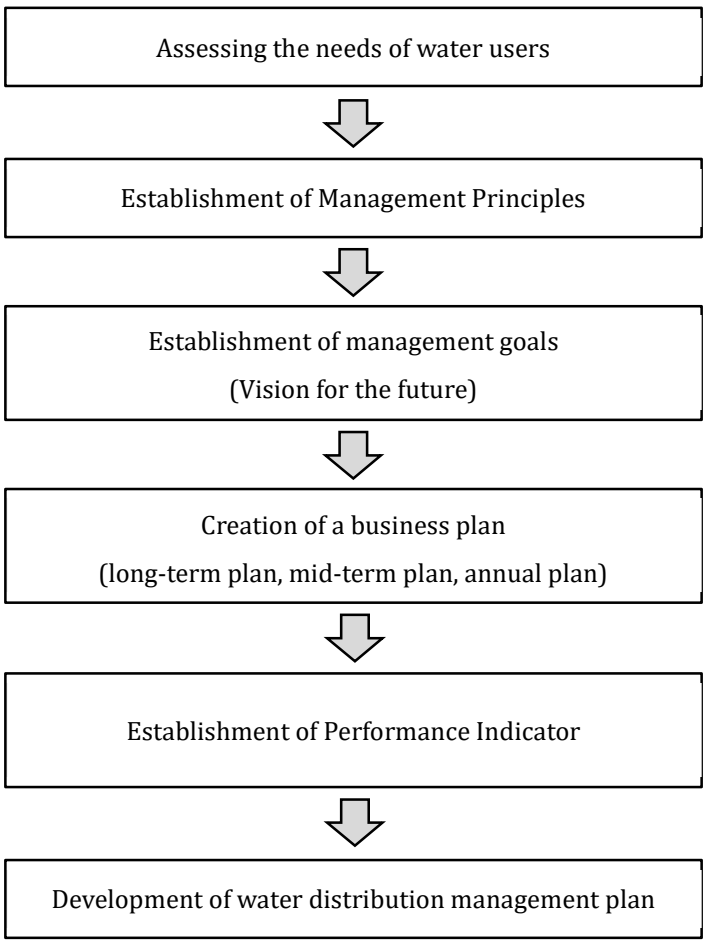


Figure 1.2.1 Relationship between water supply management and maintenance

2. Purpose of the Water Distribution Management Plan

The purpose of the Water Distribution Management Plan is to ensure that KUKL, as the entity responsible for operation and maintenance, properly manages the water supply facilities and provides water to water users in a manner that is equitable in terms of both quantity and time, thereby contributing to the improvement of the living environment.

This Water Distribution Management Plan is the most basic document for KUKL in maintenance and management.

KUKL is required to maintain and repair the water supply facilities to keep them in good condition.

3. Target District Metered Area (DMA)

This Water Distribution Management Plan covers DMAs constructed within the ring road.

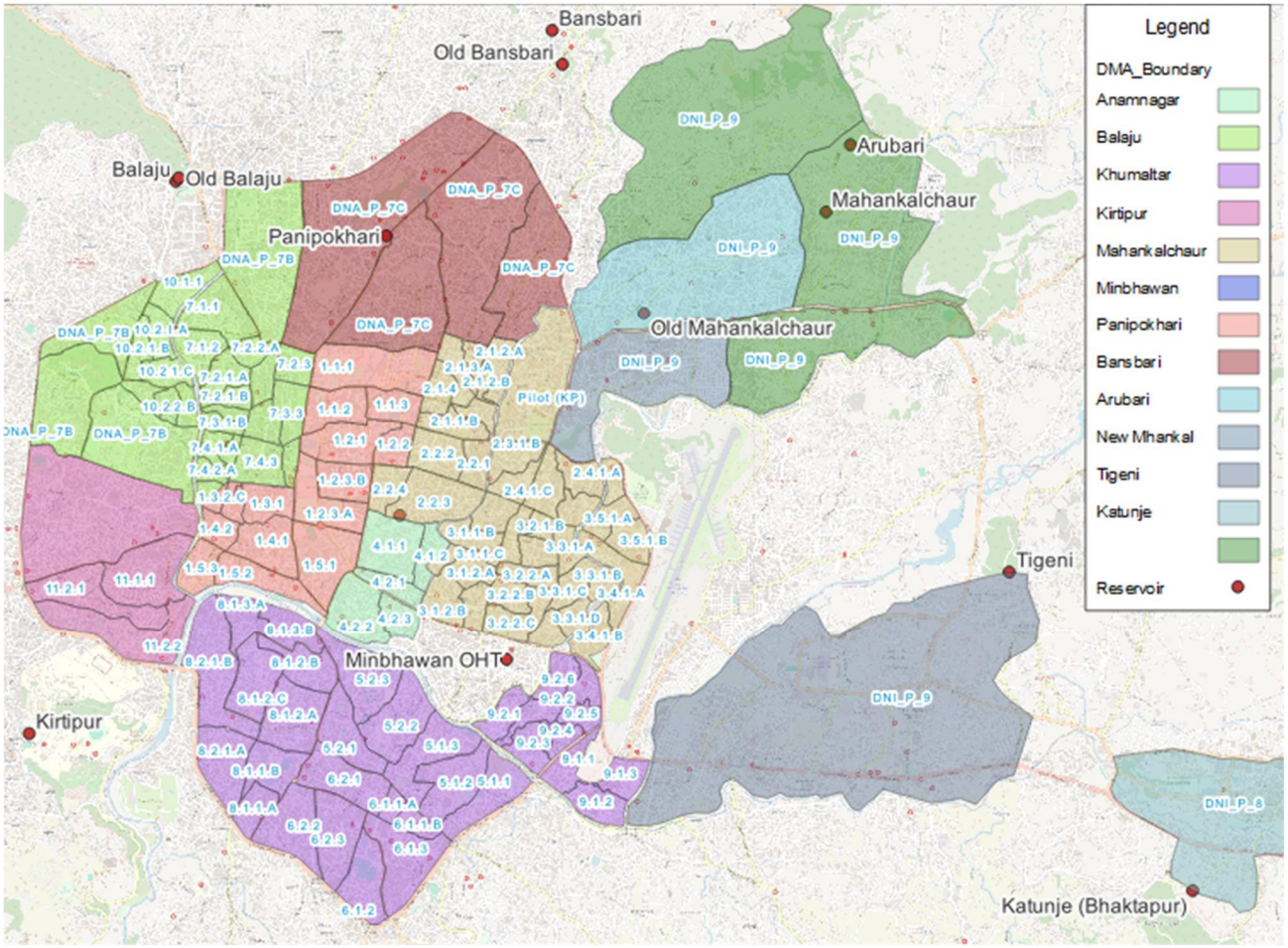


Figure 3.1.1 DMAs constructed in the Ring Road

The following figure is the water supply area covered by each of the service reservoir tanks.

The three water distribution reservoirs located within the ring road are Anamnagar, Minbhawan, and Panipokhari; the other reservoirs may also cover water supply outside the ring road.

In addition, some of the reservoirs supply the old distribution network, but in the future, they will be switched to supply the new distribution network constructed by Melamchi Water Supply Project.

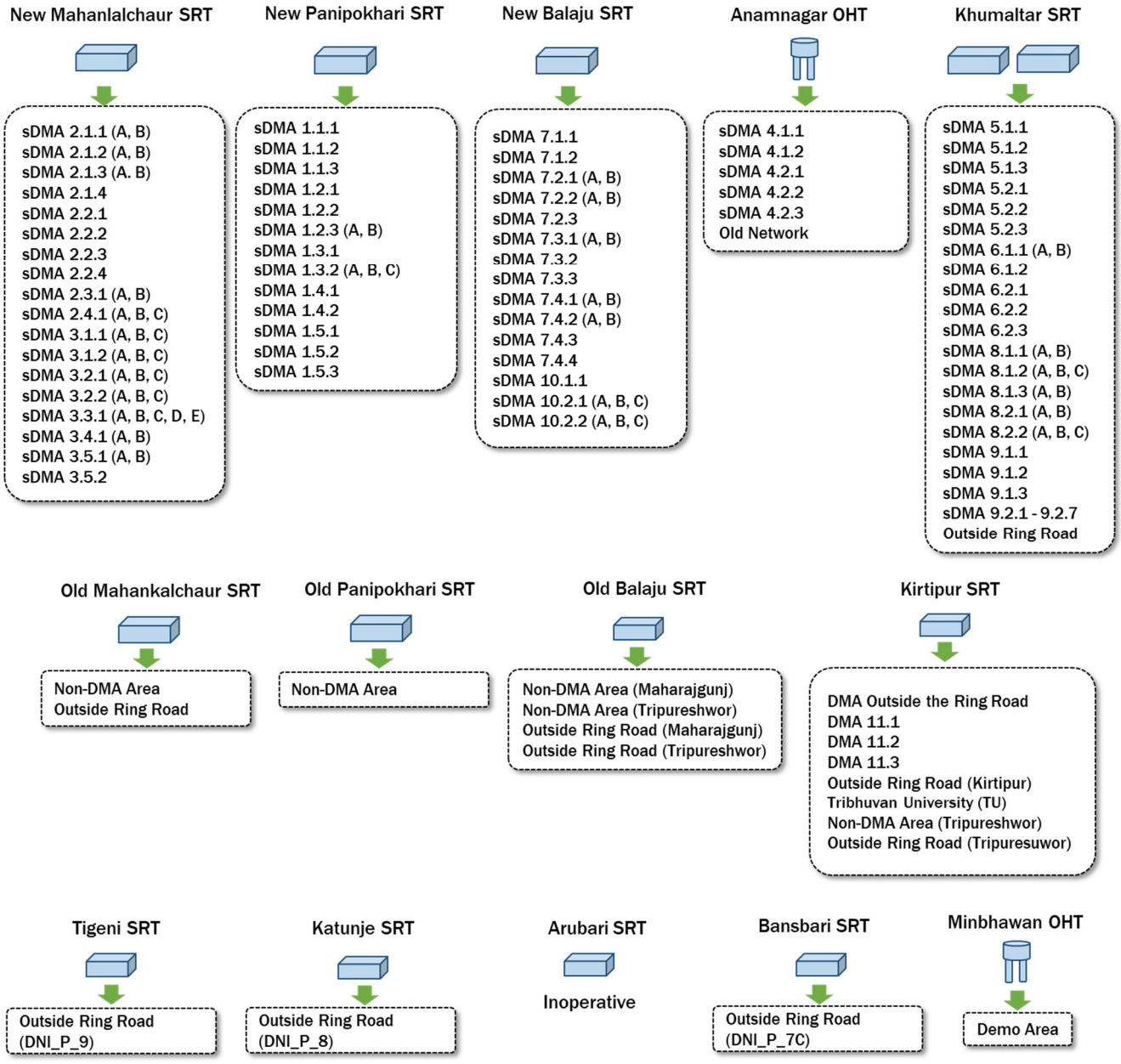


Figure 3.1.2 Sub-DMA covered by each Service Reservoir Tanks (SRTs)

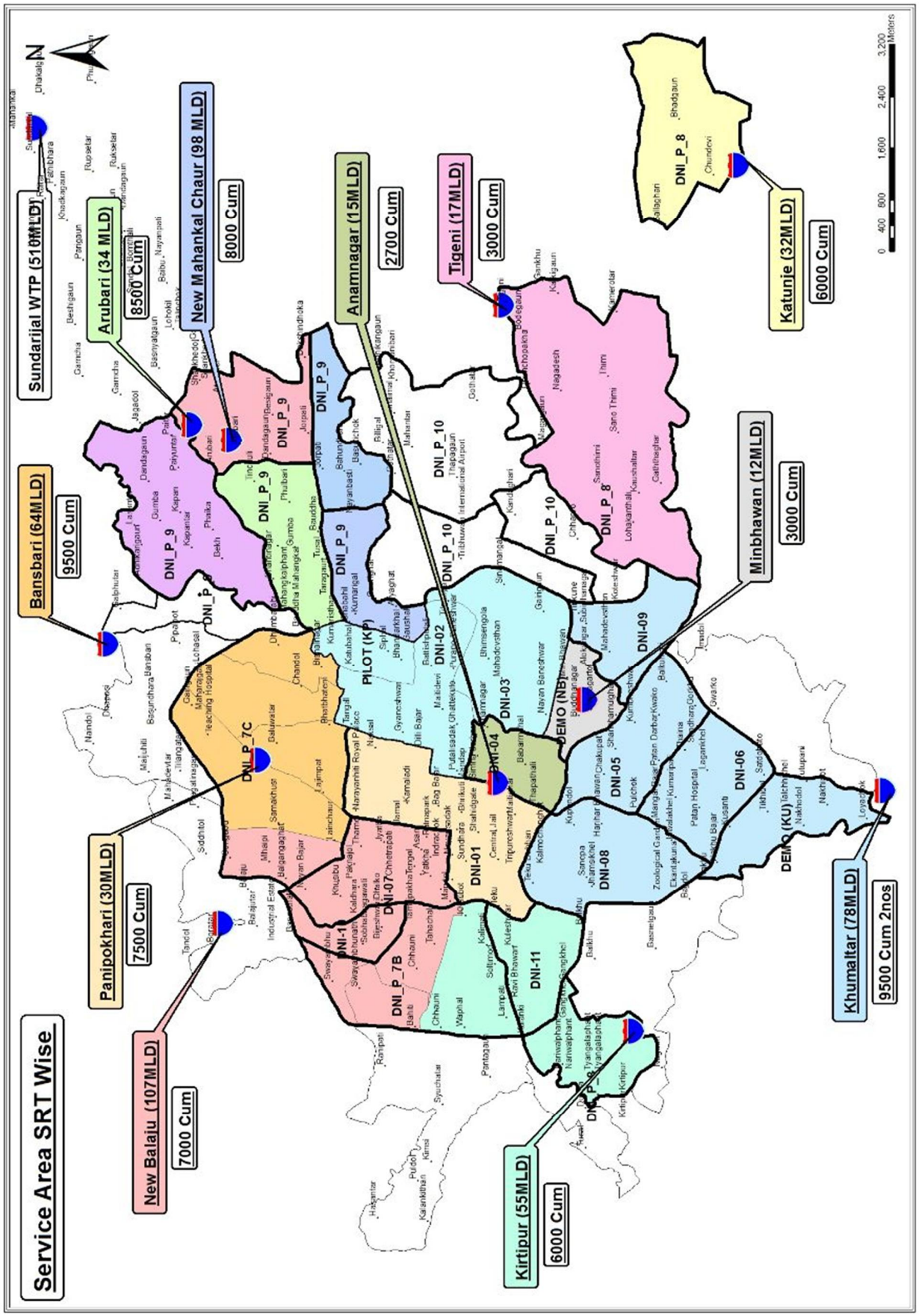


Figure 3.1.3 Water Coverage Area by SRT wise

4. Basic Information on DMAs and Sub-DMAs

The number of customers and estimated demand for each Sub-DMA are shown below.

Table 4.1.1 Estimated Demand in each DMA/Sub-DMA

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
1	1.1	1.1.1	Maharajgunj	Kathmandu				
		1.1.2	Maharajgunj	Kathmandu	12	1,144	135	1,853.3
		1.1.3	Maharajgunj	Kathmandu				
						1,144	Sub total	1,853.3
	1.2	1.2.1	Maharajgunj	Kathmandu				
		1.2.2	Baneshwor	Kathmandu	12	2,259	135	3,659.6
		1.2.3(A)	Maharajgunj	Kathmandu				
		1.2.3(B)	Maharajgunj	Kathmandu				
						2,259	Sub total	3,659.6
	1.3	1.3.1	Tripureshwor	Kathmandu				
		1.3.2(A)	Tripureshwor	Kathmandu	12	3,252	135	5,268.2
		1.3.2(B)	Tripureshwor	Kathmandu				
		1.3.2(C)	Tripureshwor	Kathmandu				
						3,252	Sub total	5,268.2
	1.4	1.4.1	Tripureshwor	Kathmandu	12	2,864	135	4,639.7
		1.4.2	Tripureshwor	Kathmandu				
						2,864	Sub total	4,639.7
	1.5	1.5.1	Tripureshwor	Kathmandu	12	262	135	424.4
		1.5.2	Tripureshwor	Kathmandu	12	365	135	591.3
		1.5.3	Tripureshwor	Kathmandu	12	386	135	625.3
						1,013	Sub total	1,641.1
2	2.1	2.1.1(A)	Mahankalchaur	Kathmandu	12	401	135	649.6
		2.1.1(B)	Maharajgunj & Mahankal	Kathmandu	12	433	135	701.5
		2.1.2(A)	Mahankalchaur	Kathmandu	12	553	135	895.9
		2.1.2(B)	Mahankalchaur	Kathmandu	12	135	135	218.7
		2.1.3(A)	Mahankalchaur	Kathmandu	12	508	135	823.0
		2.1.3(B)	Mahankalchaur	Kathmandu	12	292	135	473.0
		2.1.4	Mahankalchaur	Kathmandu	12	279	135	452.0
						2,601	Sub total	4,213.6
	2.2	2.2.1	Baneshwor	Kathmandu	12	770	135	1,247.4
		2.2.2	Baneshwor	Kathmandu	12	872	135	1,412.6
		2.2.3	Baneshwor	Kathmandu	12	1,989	135	3,222.2
		2.2.4	Baneshwor	Kathmandu	12	614	135	994.7
						4,245	Sub total	6,876.9
	2.3	2.3.1(A)	Baneshwor	Kathmandu	12	510	135	826.2
		2.3.1(B)	Baneshwor	Kathmandu	12	589	135	954.2
						1,099	Sub total	1,780.4
	2.4	2.4.1(A)	Baneshwor & Mahankal	Kathmandu	12	514	135	832.7
		2.4.1(B)	Baneshwor	Kathmandu	12	477	135	772.7
		2.4.1(C)	Baneshwor	Kathmandu	12	735	135	1,190.7
						1,726	Sub total	2,796.1
3	3.1	3.1.1(A)	Baneshwor	Kathmandu	12	415	135	672.3
		3.1.1(B)	Baneshwor	Kathmandu	12	363	135	588.1
		3.1.1(C)	Baneshwor	Kathmandu	12	348	135	563.8
		3.1.2(A)	Baneshwor	Kathmandu	12	503	135	814.9
		3.1.2(B)	Baneshwor	Kathmandu	12	610	135	988.2
		3.1.2(C)	Baneshwor	Kathmandu	12	456	135	738.7
						2,695	Sub total	4,365.9
	3.2	3.2.1(A)	Baneshwor	Kathmandu	12	417	135	675.5
		3.2.1(B)	Baneshwor	Kathmandu	12	287	135	464.9
		3.2.1(C)	Baneshwor	Kathmandu	12	478	135	774.4
		3.2.2(A)	Baneshwor	Kathmandu	12	479	135	776.0
		3.2.2(B)	Baneshwor	Kathmandu	12	484	135	784.1
		3.2.2(C)	Baneshwor	Kathmandu	12	493	135	798.7
						2,638	Sub total	4,273.6
	3.3	3.3.1(A)	Baneshwor	Kathmandu	12	403	135	652.9
		3.3.1(B)	Baneshwor	Kathmandu	12	533	135	863.5
		3.3.1(C)	Baneshwor	Kathmandu	12	503	135	814.9
		3.3.1(D)	Baneshwor	Kathmandu	12	481	135	779.2
		3.3.1(E)	Baneshwor	Kathmandu	12	387	135	626.9
						2,307	Sub total	3,737.3
	3.4	3.4.1(A)	Baneshwor	Kathmandu	12	536	135	868.3
		3.4.1(B)	Baneshwor	Kathmandu	12	364	135	589.7
						900	Sub total	1,458.0
	3.5	3.5.1(A)	Baneshwor & Maharajgunj	Kathmandu	12	551	135	892.6
		3.5.1(B)	Baneshwor	Kathmandu	12	587	135	950.9
		3.5.2	Baneshwor & Maharajgunj	Kathmandu	12	382	135	618.8
						1,520	Sub total	2,462.4
4	4.1	4.1.1	Baneshwor	Kathmandu				
		4.1.2	Baneshwor	Kathmandu	12	569	135	921.8
						569	Sub total	921.8
	4.2	4.2.1	Tripureshwor	Kathmandu	12	256	135	414.7
		4.2.2	Tripureshwor	Kathmandu	12	520	135	842.4
		4.2.3	Tripureshwor	Kathmandu	12	446	135	722.5
						1,222	Sub total	1,979.6

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
5	5.1	5.1.1	Lalitpur	Lalitpur				
		5.1.2	Lalitpur	Lalitpur	12	5,648	135	9,149.8
		5.1.3	Lalitpur	Lalitpur				
						5,648	Sub total	9,149.8
	5.2	5.2.1(A)	Lalitpur	Lalitpur				
		5.2.1(B)	Lalitpur	Lalitpur				
		5.2.1(C)	Lalitpur	Lalitpur				
		5.2.1(D)	Lalitpur	Lalitpur				
		5.2.2(A)	Lalitpur	Lalitpur				
		5.2.2(B)	Lalitpur	Lalitpur	12	3,617	135	5,859.5
		5.2.2(C)	Lalitpur	Lalitpur				
		5.2.2(D)	Lalitpur	Lalitpur				
		5.2.2(E)	Lalitpur	Lalitpur				
		5.2.3(A)	Lalitpur	Lalitpur				
		5.2.3(B)	Lalitpur	Lalitpur				
						3,617	Sub total	5,859.5
6	6.1	6.1.1(A)	Lalitpur	Lalitpur				
		6.1.1(B)	Lalitpur	Lalitpur	12	3,666	135	5,938.9
		6.1.2	Lalitpur	Lalitpur				
		6.1.3	Lalitpur	Lalitpur				
						3,666	Sub total	5,938.9
	6.2	6.2.1	Lalitpur	Lalitpur				
		6.2.2	Lalitpur	Lalitpur	12	4,559	135	7,385.6
		6.2.3	Lalitpur	Lalitpur				
						4,559	Sub total	7,385.6
7	7.1	7.1.1	Maharajgunj	Kathmandu	12	1,549	135	2,509.4
		7.1.2	Tripureshwor	Kathmandu	12	801	135	1,297.6
						2,350	Sub total	3,807.0
	7.2	7.2.1(A)	Tripureshwor	Kathmandu				
		7.2.1(B)	Tripureshwor	Kathmandu				
		7.2.2(A)	Maharajgunj	Kathmandu	12	2,480	135	4,017.6
		7.2.2(B)	Maharajgunj	Kathmandu				
		7.2.3	Maharajgunj	Kathmandu				
						2,480	Sub total	4,017.6
	7.3	7.3.1(A)	Tripureshwor	Kathmandu				
		7.3.1(B)	Tripureshwor	Kathmandu	12	3,100	135	5,022.0
		7.3.2	Tripureshwor	Kathmandu				
		7.3.3	Maharajgunj	Kathmandu				
						3,100	Sub total	5,022.0
	7.4	7.4.1(A)	Tripureshwor	Kathmandu				
		7.4.1(B)	Tripureshwor	Kathmandu				
		7.4.2(A)	Tripureshwor & Lalitpur	Kathmandu	12	4,475	135	7,249.5
		7.4.2(B)	Tripureshwor	Kathmandu				
		7.4.3	Tripureshwor & Maharajgunj	Kathmandu				
		7.4.4	Maharajgunj	Kathmandu				
						4,475	Sub total	7,249.5
8	8.1	8.1.1(A)	Lalitpur	Lalitpur				
		8.1.1(B)	Lalitpur	Lalitpur				
		8.1.2(A)	Lalitpur	Lalitpur				
		8.1.2(B)	Lalitpur	Lalitpur	12	3,893	135	6,306.7
		8.1.2(C)	Lalitpur	Lalitpur				
		8.1.3(A)	Lalitpur	Lalitpur				
		8.1.3(B)	Lalitpur	Lalitpur				
						3,893	Sub total	6,306.7
	8.2	8.2.1(A)	Lalitpur	Lalitpur				
		8.2.1(B)	Lalitpur	Lalitpur				
		8.2.1(C)	Lalitpur	Lalitpur				
		8.2.2(A)	Lalitpur	Lalitpur	12	2,800	135	4,536.0
		8.2.2(B)	Lalitpur	Lalitpur				
		8.2.2(C)	Lalitpur	Lalitpur				
						2,800	Sub total	4,536.0
9	9.1	9.1.1	Baneshwor	Lalitpur	12	799	135	1,294.4
		9.1.2	Baneshwor	Lalitpur	12	1,038	135	1,681.6
		9.1.3	Baneshwor	Lalitpur	12	552	135	894.2
						2,389	Sub total	3,870.2
	9.2	9.2.1	Baneshwor	Lalitpur	12	742	135	1,202.0
		9.2.2	Baneshwor	Lalitpur	12	630	135	1,020.6
		9.2.3	Baneshwor	Lalitpur	12	676	135	1,095.1
		9.2.4	Baneshwor	Lalitpur	12	406	135	657.7
		9.2.5	Baneshwor	Lalitpur	12	447	135	724.1
		9.2.6	Baneshwor	Lalitpur	12	623	135	1,009.3
		9.2.7	Baneshwor	Lalitpur	12	483	135	782.5
						4,007	Sub total	6,491.3
10	10.1	10.1.1	Maharajgunj	Kathmandu	12	480	135	777.6
					12	480	Sub total	777.6
	10.2	10.2.1(A)	Tripureshwor	Kathmandu				
		10.2.1(B)	Tripureshwor	Kathmandu				
		10.2.1(C)	Tripureshwor	Kathmandu				
		10.2.2(A)	Tripureshwor	Kathmandu	12	2,671	135	4,327.0
		10.2.2(B)	Tripureshwor	Kathmandu				
		10.2.2(C)	Tripureshwor	Kathmandu				
						2,671	Sub total	4,327.0
11	11.1	11.1.1	Tripureshwor	Kathmandu	12	2,075	135	3,361.5
						2,075	Sub total	3,361.5
	11.2	11.2.1	Tripureshwor	Kathmandu	12	1,681	135	2,723.2
						1,681	Sub total	2,723.2
	11.3	11.3.1	Tripureshwor	Kathmandu	12	1,239	135	2,007.2
						1,239	Sub total	2,007.2
Demo	Demo	Demo	Baneshwor	Kathmandu	12	5,000	135	8,100.0
						5,000	Sub total	8,100.0
Total	33					88,184		142,858.1

The table above calculates the water demand in DMAs and the existing Demo Area.

However, since the BDS Reservoir supplies water to areas other than the DMAs, it is necessary to estimate the demand for those areas.

Table 4. 1.2 Estimated number of households in the areas except for DMAs and Demo Area

Breakdown of household (connection) for the areas except 32 DMAs

Non DMA Area inside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to DNI 7B (Mhepi, Balaju Area)	2,500	Maharajgunj	Old Balaju
Supply to DNI 7B (Chauni Area)	3,300	Tripureshwor	Old Balaju
Supply to DNI 7B (Tahachal Area)	4,400	Tripureshwor	Kirtipur
Supply to DNI 7B (Kimdol, Dallu, Swoyambhu)	3,300	Tripureshwor (Ex-Chhetrapati)	Old Balaju
Supply to DNI 7C (Lainchaur, Galkopakha, Kapurdhara, Samakhusi, Gongabu)	10,500	Maharajgunj	Old Bansbari
Supply to DNI 7C (Khursanitar Area)	2,000	Maharajgunj	Old Panipokhari
Supply to DNI 7C (Bishalnagar, Chandol)	7,650	Mahankalchaur	Old Mahankal
Supply to Kalopur Pilot Area	2,300	Mahankalchaur	Old Mahankal
Outside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to Tarkeshwor, Banasthali, Dhunge dhara	8,000	Maharajgunj	Old Balaju
Supply to Tokha, Dhapasi, Basundhara (outside ringroad)	7,500	Maharajgunj	Old Bansbari
Supply to Kumari Club, Arcade colony	500	Tripureshwor (Ex-Chhetrapati)	Kirtipur
Supply to Outside the Ringroad by Tripureshwor	2,000	Tripureshwor	Old Balaju
Supply to Kapan, Jorpati	24,701	Mahankalchaur	Old Mahankal
Supply to Kirtipur Customer except for Tribhuvan University	10,054	Kirtipur	Kirtipur
Supply to Kusunti, Bagdol, Nakhu, Nakhipot, Khumaltar, Gwarko, ANFA, Dhapakhel, Dholahiti, Sunakothi	7,395	Lalitpur	Khumaltar
Supply to Kaushaltar, Lokanthali, Gatthaghar, Nagadesh, Sintitar, Dhunchepakha, Saraswatikhel, Thimi Core city, New Thimi, Old Thimi, Bappa, Kamerotar, Madhyapur Hospital	16,596	Madhyapur-Thimi	Thigni
Supply to Kamalbinayak planning, Liwali Planning, Byasi, Bansagopal, Nasamana, Gapali, Tekhacho, Sukuldhoka, Tulachhen, Khiche, Choche, Hanumante Purba, Chundevi, Ghalate, Pandubazar, Shrijananagar, Suryamadhi, Dattatraya, Chyamasingh, Wakupati, Chango road, Mahalaxmi, Bholachhen, Golmadhi, Jagati,	13,560	Bhaktapur	Katunje

Those values should be revised by the respective branch under the supervision by Operation Division.

After filling in the number of households in the areas Non-DMA and outside the Ring Road, the demand to be allocated to each SRT is calculated as follows:

Table 4.1.3 Estimated water demand in the areas except for DMAs and Demo Area

Breakdown of demand for the areas except for 33 DMAs

No of users per connection 12 persons/connection

Demand per capita 135 L/day/person

	Additional Water Demand except for 33 DMAs (m3/day)							
	Balaju	Kirtipur	Bansbari	Panipokhari	Old Mahnkalchaur	Khumaltar	Tigeni	Katunje
Maharajgunj Branch Area								
Non-DMA area inside the Ring Road	4,050		17,010	3,240				
Outside the Ring Road	12,960		12,150					
Tripureshwor Branch Area								
Non-DMA area inside the Ring Road	5,346	7,128						
Outside the Ring Road		810						
Ex-Chhetrapati Branch Area								
Non-DMA area inside the Ring Road	5,346							
Outside the Ring Road	3,240							
Mahankalchaur Branch Area								
Non-DMA area inside the Ring Road					16,119			
Outside the Ring Road					40,016			
Kirtipur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road		16,287						
Madhyapur-Thimi Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road							26,886	
Lalitpur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road						11,980		
Bhaktapur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road								21,967
Total								
Non-DMA area inside the Ring Road	14,742	7,128	17,010	3,240	16,119	0	0	0
Outside the Ring Road	16,200	17,097	12,150	0	40,016	11,980	26,886	21,967

5. Water Receiving Plan from Bulk Distribution System (BDS)

The BDS component will provide water supply to the Kathmandu Metro area using a combination of new water sources developed under Sub-Project 1 of the Melamchi Water Supply Project and other existing water sources.

In order to supply various areas within the Kathmandu Metro area, the new water treatment plant constructed at Sundarijal is the starting point in the water supply network, which will be routed through distribution reservoirs at Mahankalchaur, along the ring road and along the longitudinal route.

The distribution zones, called DMA, are designed to be independent with scattered distribution reservoirs to ensure the stability of water pressure and supply.

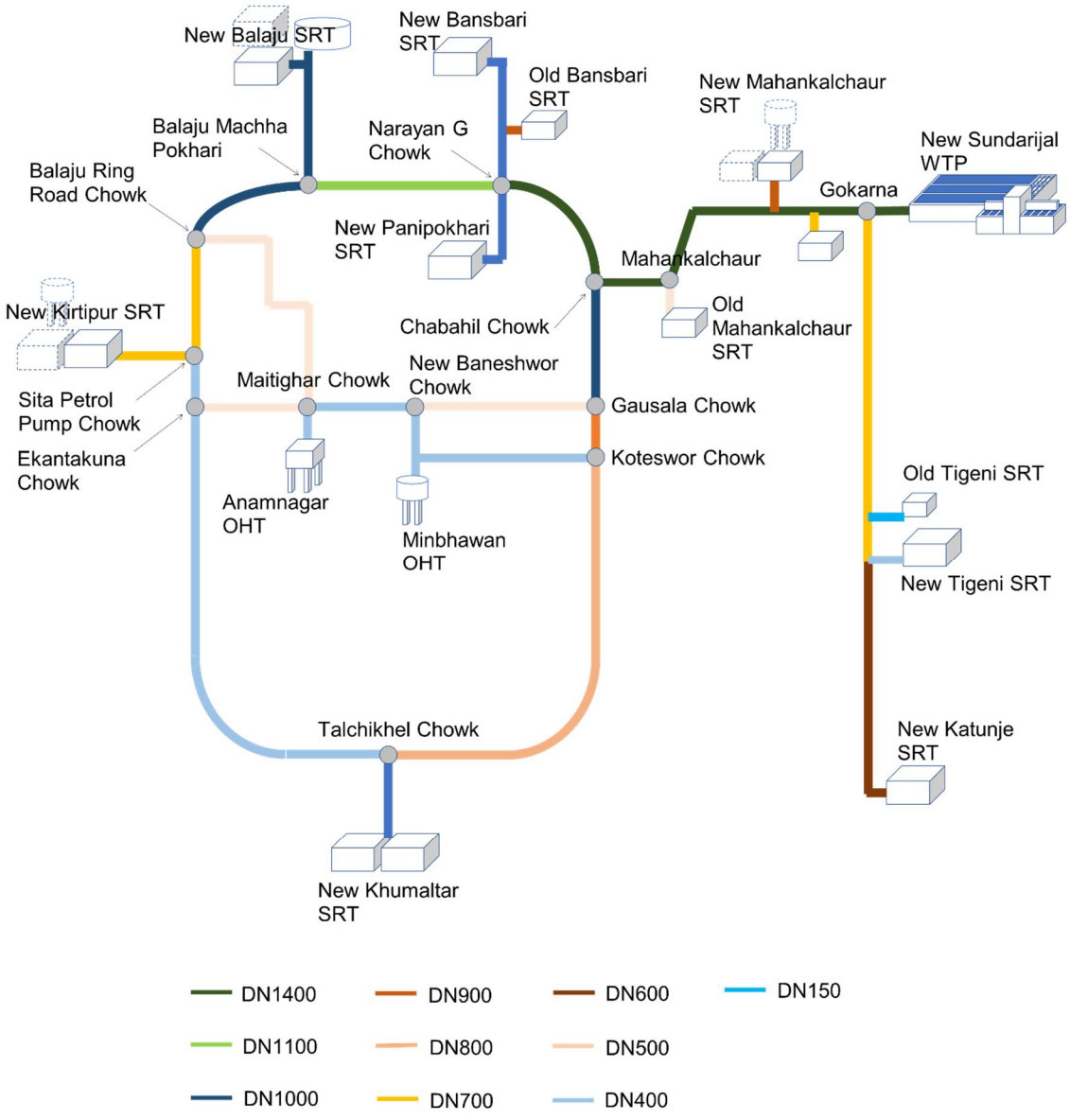


Figure 5.1.1 Schematic Water Supply Network of BDS

The amount of water to be delivered to each Service Reservoir Tank is determined based on the following steps.

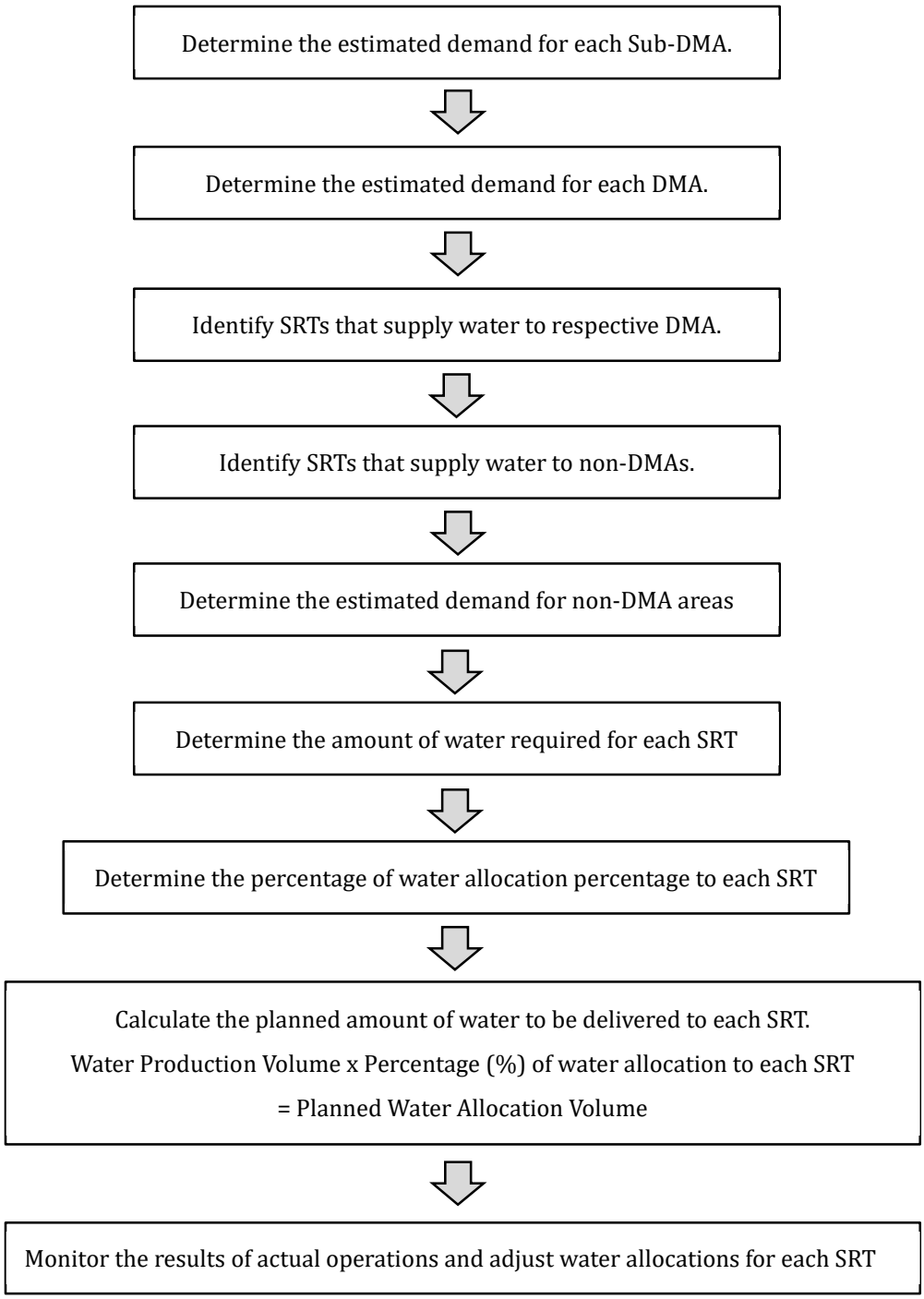


Figure 5.1.2 Steps to determine water allocation for each SRT

Table 5.1.1 Draft of Water Demand and Demand Percentage to each SRT

DMA	Estimated Demand (m3/day)	Demand Percentage (%)	Reservoir
1.1	1,853	0.53	Panipokhari
1.2	3,660	1.05	Panipokhari
1.3	5,268	1.52	Panipokhari
1.4	4,640	1.34	Panipokhari
1.5	1,641	0.47	Panipokhari
2.1	4,214	1.21	New Mahankalchaur
2.2	6,877	1.98	New Mahankalchaur
2.3	1,780	0.51	New Mahankalchaur
2.4	2,796	0.80	New Mahankalchaur
3.1	4,366	1.26	New Mahankalchaur
3.2	4,274	1.23	New Mahankalchaur
3.3	3,737	1.08	New Mahankalchaur
3.4	1,458	0.42	New Mahankalchaur
3.5	2,462	0.71	New Mahankalchaur
4.1	922	0.27	Anamnagar
4.2	1,980	0.57	Anamnagar
5.1	9,150	2.63	Khumaltar
5.2	5,860	1.69	Khumaltar
6.1	5,939	1.71	Khumaltar
6.2	7,386	2.13	Khumaltar
7.1	3,807	1.10	Balaju
7.2	4,018	1.16	Balaju
7.3	5,022	1.45	Balaju
7.4	7,250	2.09	Balaju
8.1	6,307	1.81	Khumaltar
8.2	4,536	1.31	Khumaltar
9.1	3,870	1.11	Khumaltar
9.2	6,491	1.87	Khumaltar
10.1	778	0.22	Balaju
10.2	4,327	1.25	Balaju
11.1	3,362	0.97	Kirtipur
11.2	2,723	0.78	Kirtipur
11.3	2,007	0.58	Kirtipur
Demo Area	8,100	2.33	Minbhawan
Tribhuvan University (TU)	100	0.03	Kirtipur
Non-DMA within the Ring Road	0	0.00	Anamnagar
Non-DMA within the Ring Road	14,742	4.24	Balaju
Non-DMA within the Ring Road	17,010	4.90	Bansbari
Non-DMA within the Ring Road	0	0.00	Khumaltar
Non-DMA within the Ring Road	7,128	2.05	Kirtipur
Non-DMA within the Ring Road	16,119	4.64	Old Mahankalchaur
Non-DMA within the Ring Road	0	0.00	Minbhawan
Non-DMA within the Ring Road	3,240	0.93	Panipokhari
Outside Ring Road	0	0.00	Arubari
Outside Ring Road	12,150	3.50	Bansbari
Outside Ring Road	16,200	4.66	Balaju
Outside Ring Road	11,980	3.45	Khumaltar
Outside Ring Road	17,097	4.92	Kirtipur
Outside Ring Road	40,016	11.52	Old Mahankalchaur
Outside Ring Road	0	0.00	Panipokhari
Outside Ring Road	26,886	7.74	Tigeni
Outside Ring Road	21,967	6.32	Katunje
Total	347,493	100.0	

Currently, water conduction from the Melamchi River is suspended during the rainy season, so the limited amount of water must be equally distributed according to the estimated demand.

Table 5.1.2 Standard Water Production (Main)

	Dry Season with Melamchi water	Monsoon Season without Melamchi water
Supply volume to BDS from New Sundarijal WTP	192 MLD	48 MLD
Production of Mahankalchaur WTP with existing water sources	16.37 MLD	20.67 MLD
Production of Bansbari WTP with existing water sources	10.18 MLD	18.33 MLD
Production of Bode WTP with existing water sources	7.90 MLD	8.08 MLD
Total	226.45 MLD	95.08 MLD

Source: KUKL Annual Report

Table 5.1.3 Water Production Record 2080/2081

		Mahanlakchaur WTP	Bansbari WTP	Bode WTP
Shrawan	July-August	20.15	22.43	8.91
Bhadra	August-September	25.54	30.96	8.08
Ashwin	September-October	17.00	29.32	8.32
Kartik	October-November	20.80	22.83	8.19
Mangsir	November-December	22.86	10.47	8.15
Paush	December-January	22.80	5.83	8.13
Magh	January-February	13.46	5.43	7.64
Falgun	February-March	15.34	19.34	7.50
Chaitra	March-April	9.73	2.7	7.70
Baishakh	April-May	9.66	4.67	8.00
Jestha	May-June	11.26	1.09	7.55
Ashad	June-July	29.22	7.85	7.55
Daily Average (MLD)		18.15	13.58	7.98
Monsoon season average without operation of Melamchi tunnel (MLD)		20.63	18.33	8.08
Dry season average with operation of Melamchi tunnel (MLD)		16.37	10.18	7.90

Source: KUKL Annual Report

Note: The operation of the Melamchi Diversion Tunnel will be suspended from the end-May to the mid-October.

Figure 5.1.4 Water Allocation Plan in Dry Season

Dry Season with Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	1,603				1,603	289	1,892
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	31,020				31,020	5,595	36,615
Bansbari (New & Old)	29,160	8.39	16,112		10,180		5,932	2,906	8,838
Khumaltar	61,518	17.70	33,990				33,990	6,131	40,121
Kirtipur	32,417	9.33	17,911				17,911	3,231	21,142
Mahankalchaur (New)	31,964	9.20	17,661				17,661	3,185	20,847
Mahankalchaur (Old)	56,135	16.15	31,016	16,370			14,646	5,594	20,240
Minbhawan	8,100	2.33	4,475				4,475	807	5,283
Panipokhari (New & Old)	20,302	5.84	11,217				11,217	2,023	13,241
Tigeni	26,886	7.74	14,855			8,080	6,775	2,679	9,455
Katunje	21,967	6.32	12,137				12,137	2,189	14,327
Total	347,493	100.00	192,000				157,370	34,630	192,000
			(F)				(G)		

Figure 5.1.5 Water Allocation Plan in Monsoon Season

Monsoon Season without Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	401				401	129	530
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	7,755				7,755	2,504	10,259
Bansbari (New & Old)	29,160	8.39	4,028		18,330		0	1,300	1,300
Khumaltar	61,518	17.70	8,498				8,498	2,743	11,241
Kirtipur	32,417	9.33	4,478				4,478	1,446	5,923
Mahankalchaur (New)	31,964	9.20	4,415				4,415	1,425	5,841
Mahankalchaur (Old)	56,135	16.15	7,754	20,630			0	2,503	2,503
Minbhawan	8,100	2.33	1,119				1,119	361	1,480
Panipokhari (New & Old)	20,302	5.84	2,804				2,804	905	3,710
Tigeni	26,886	7.74	3,714			7,900	0	1,199	1,199
Katunje	21,967	6.32	3,034				3,034	980	4,014
Total	347,493	100.00	48,000				32,504	15,496	48,000
			(F)				(G)		

6. Target of Water Supply Hour, Frequency of Water Supply and Water Supply Volume

[Supply Hour]

2 hours or more per supply day for all DMAs

[Supply Frequency]

Dry Season with Melamchi water:	At least once every 3 days in all DMAs
Monsoon Season without Melamchi water:	At least once every 5 days in all DMAs

[Supply Volume]

The amount of water allocated to each SRT is compared with the estimated demand of each Sub-DMA and other water supply areas to determine the water supply frequency and hours for each area so that water supply is achieved equally in all areas.

The following page shows the standard water supply schedule created by KUKL's Operation Division. Since available water sources differ between the monsoon and dry seasons, headquarters must review the need for monthly adjustments to the water supply schedule based on local conditions.

Table 6.1.1 Water Supply Plan in Dry Season with Melamchi water (1/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																												
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
Anamnagar	79	1,892	4.1	4.1.1	921.8	14:00	20:00			√			√			√			√			√			√			√			√			√			√
				4.1.2		14:00	22:00			√			√			√			√			√			√			√			√			√			√
			4.2	4.2.1	414.7	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.2	842.4	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.3	722.5	11:00	22:00			√			√			√			√			√			√			√			√			√			√
			Old Network	1st Shift	0.0	4:00	5:00	√			√			√			√			√			√			√			√			√			√		
				2nd Shift		20:00	21:00	√			√			√			√			√			√			√			√			√			√		
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																																
Balaju	1,526	36,615	7.1	7.1.1	2,509.4	4:00	12:00				√				√				√				√				√				√				√		
				7.1.2	1,297.6	4:00	12:00				√				√				√				√				√				√				√		
			7.2	7.2.1(A)	4,017.6	4:00	12:00		√				√				√				√			√			√				√				√
				7.2.1(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(A)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.3		4:00	12:00		√				√				√				√			√			√				√				√
			7.3	7.3.1(A)	5,022.0	7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.1(B)		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.2		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.3		7:00	19:00	√				√				√				√			√			√			√			√			√	
			7.4	7.4.1(A)	7,249.5	7:00	19:00			√				√				√				√			√				√			√				
				7.4.1(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(A)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.3		7:00	19:00			√				√				√				√			√				√			√				
				7.4.4		7:00	19:00			√				√				√				√			√				√			√				
			10.1	10.1.1	777.6	12:00	17:00				√				√				√				√				√				√				√		
			10.2	10.2.1(A)	4,327.0	17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(B)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(C)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.2(A)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(B)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(C)		13:00	20:00				√				√				√				√				√				√				√		
			Old Network	1st Shift	14,742.0	5:30	8:00		√					√					√					√					√					√			
				2nd Shift		8:00	20:00		√					√					√					√					√					√			
			Outside Ring Road		16,200.0	18:15	20:15					√					√				√					√				√						√
Bansbari	368	8,838	Old Network	1st zone, 1st Shift	17,010.0	5:30	8:00	√				√				√				√				√				√				√				√	
				1st zone, 2nd Shift		10:30	13:00	√				√				√				√				√				√				√				√	
				1st zone, 3rd Shift		15:30	18:00	√				√				√				√				√				√				√				√	
				1st zone, 4th Shift		20:30	23:00	√				√				√				√				√				√				√				√	
				2nd Zone, 1st Shift		3:00	5:30		√				√				√				√				√				√				√				√
				2nd Zone 2nd Shift		8:00	10:30		√				√				√				√				√				√				√				√
				2nd Zone 3rd Shift		13:00	15:30		√				√				√				√				√				√				√				√
				2nd Zone 4th Shift		18:00	20:30		√				√				√				√				√				√				√				√
				3rd Zone, 1st Shift		3:00	5:30			√				√				√				√			√				√				√				
				3rd Zone, 2nd Shift		8:00	10:30			√				√				√				√			√				√				√				
				3rd Zone, 3rd Shift		13:00	15:30			√				√				√				√			√				√				√				
				3rd Zone, 4th Shift		18:00	20:30			√				√				√				√			√				√				√				
			Outside Ring Road	1st Shift	12,150.0	3:00	18:00				√				√				√				√				√				√				√		
				2nd Shift		18:00	21:00				√				√				√				√				√				√				√		
				3rd Shift		21:00	0:00				√				√				√				√				√				√				√		
				4th Shift		0:00	3:00				√				√				√				√				√				√				√		
Khumaltar	1,672	40,121	5.1	5.1.1	9,149.8	18:00	6:00			√				√				√				√				√				√				√		
				5.1.2		18:00	6:00			√				√				√				√				√				√				√		
				5.1.3		18:00	6:00			√				√				√				√				√				√				√		
			5.2	5.2.1	5,859.5	6:00	18:00		√				√				√				√			√			√				√				√
				5.2.2		6:00	18:00		√				√				√				√			√			√				√				√
				5.2.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.1	6.1.1(A)	5,938.9	6:00	18:00		√				√				√				√			√			√				√				√
				6.1.1(B)		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.2		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.2	6.2.1	7,385.6	18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.2		18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.3		18:00	18:00	√				√				√				√				√				√				√				√	
			8.1	8.1.1	6,306.7	6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.2		6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.3		6:00	6:00	√				√				√				√				√				√				√				√	
			8.2	8.2.1	4,536.0	6:00	18:00		√				√				√				√			√				√				√				√
				8.2.2		6:00	18:00		√				√				√				√			√				√				√				√
			9.1	9.1.1	1,294.4	19:00	6:00				√				√				√				√				√				√				√		
				9.1.2	1,681.6	19:00	6:00				√				√				√				√				√				√				√		
				9.1.3	894.2	19:00	6:00				√				√				√				√				√				√				√		
			9.2	9.2.1	1,202.0	6:00	19:00				√				√				√				√				√				√				√		
				9.2.2	1,020.6	6:00	19:00				√				√				√				√				√				√				√		
				9.2.3	1,095.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.4	657.7	6:00	19:00				√				√				√				√				√				√				√		
				9.2.5	724.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.6	1,009.3	6:00	19:00				√				√				√				√				√				√				√		
				9.2.7	782.5	6:00	19:00				√				√				√				√				√				√				√		

Table 6.1.2 Water Supply Plan in Dry Season with Melamchi water (2/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			Old Network		0.0																														
			Outside Ring Road	1st Zone I	11,980.0	5:00	21:00		√				√				√				√			√				√				√				√
				1st Zone - II(a)		5:00	14:00				√				√				√				√			√				√				√		
				1st Zone - II(b)		8:00	9:00				√				√				√				√			√				√				√		
				1st Zone - II©		5:00	20:00				√				√				√				√			√				√				√		
				1st Zone - III		5:00	8:00	√				√				√				√				√				√				√				√	
				2nd Zone - I		6:00	18:00			√								√								√								√		
				2nd Zone - II		6:00	18:00							√								√								√						√
				3rd Zone - I		7:00	19:00	√				√				√				√				√				√				√				√	
				3rd Zone - II		7:00	19:00			√				√				√				√				√				√				√		
				4th Zone - I		6:00	20:00			√				√				√				√				√				√				√		
				4th Zone - II		17:00	0:00				√				√				√				√				√				√				√		
				4th Zone - III		17:00	0:00					√				√				√				√			√				√				√		
				4th Zone - IV		17:00	0:00						√				√				√				√			√				√					
Kirtipur	881	21,142	11.1	11.1.1	3,361.5	18:00	6:00	√			√			√			√			√			√			√			√			√			
			11.2	11.2.1	2,723.2	18:00	6:00		√			√			√			√			√			√			√			√			√		
			11.3	11.3.1	2,007.2	18:00	6:00			√			√			√			√			√			√			√			√			√	
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network	Zone 1	7,128.0	6:00	18:00		√							√							√						√							√
				Zone 2		6:00	18:00			√							√							√							√						
				Zone 3		6:00	18:00				√							√							√							√					
				Zone 4		6:00	18:00					√							√							√							√				
				Zone 5		6:00	18:00						√							√							√							√			
				Zone 6		6:00	18:00							√							√							√							√		
				Zone 7		6:00	18:00	√							√							√							√							√	
				Tyanglaphant - I		6:00	16:00		√		√		√			√		√		√			√		√		√			√		√		√			√
				Tyanglaphant - II a		8:00	16:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Tyanglaphant - II b		8:00	17:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III a		7:00	13:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III b		6:00	2:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		9:00	15:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		15:30	18:30			√		√					√		√					√		√					√		√				
				Maitri Chandani		16:00	19:00				√		√					√		√						√		√					√		√		√
				Maitri Chandani		9:00	15:00							√								√							√							√	
				Panga Dokashi -I		12:00	17:00			√							√							√							√						
				Panga Dokashi -II		8:00	13:00					√							√							√							√				
				Panga Dokashi -III		8:00	11:20	√							√							√						√							√		
				Bhatkepati - I		8:00	14:00		√							√							√							√							√
				Bhatkepati - II		10:00	17:00			√							√							√							√						
				Bhatkepati - III		10:00	17:00				√							√							√							√					
				Nagaun - I		9:00	17:00					√							√							√							√				
				Nagaun - II		10:00	17:00						√							√							√							√			
				Nagaun - III		8:00	16:00							√							√							√							√		
				Nagaun - IV		9:00	12:00								√							√							√							√	
				Jakha-Sikhunchhe D		9:00	10:00			√			√				√			√			√			√			√			√				
				Jakha-Sikhunchhe U		8:00	9:00				√				√			√			√			√			√			√			√			√	
				Nagaun & Old		5:00	11:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Nagaun & Old		5:00	11:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		10:00	19:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				KIRTIPUR old		10:00	19:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		4:00	20:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Kwachwo - I		4:00	22:00		√							√							√							√							√
				Kwachwo - II		3:00	8:00			√							√							√							√						
				Kwachwo - III		4:00	7:00				√							√							√							√					
				Kwachwo R - I		5:00	9:00					√							√							√							√				
				Kwachwo R - I		3:00	22:00						√							√							√							√			
				Kwachwo R - I		4:00	8:00							√							√							√							√		
				Kwachwo R - I		4:00	7:00								√							√							√							√	
				Bhajangal - I		4:00	9:00			√		√			√		√		√				√		√		√			√		√		√			√
				Bhajangal - II		6:00	10:00		√			√			√	√			√			√	√			√			√	√			√			√	√
				Bhajangal - III		5:00	10:00			√	√		√				√	√		√				√	√		√				√	√		√			
				Nayabazar Area		10:00	18:10		√						√								√							√							√
				Nayabazar Area - I		8:00	18:00				√			√				√			√				√			√				√			√		
				Nayabazar Area - II		14:00	19:00					√							√							√							√				
				Nayabazar Area - II		11:30	16:30	√							√							√							√							√	
Mahankalchaur	1,712	41,087	2.1	2.1.1(A)	649.6	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.1(B)	701.5	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(A)	895.9	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(B)	218.7	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(A)	823.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(B)	473.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.4	452.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
			2.2	2.2.1	1,247.4	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.2	1,412.6	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.3	3,222.2	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.4	994.7	12:00	22:00	√			√			√			√			√			√			√			√			√			
			2.3	2.3.1(A)	826.2	1:00	8:00		√			√			√			√			√			√			√			√				√	
				2.3.1(B)	954.2	1:00	8:00		√			√			√			√			√			√			√			√				√	

Table 6.1.3 Water Supply Plan in Dry Season with Melamchi water (3/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			2.4	2.4.1(A)	832.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(B)	772.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(C)	1,190.7	7:00	12:00	√			√			√			√			√			√			√			√			√			√		
			3.1	3.1.1(A)	672.3	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(B)	588.1	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(C)	563.8	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(A)	814.9	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(B)	988.2	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(C)	738.7	13:00	17:00			√			√			√			√			√			√			√			√			√		√
			3.2	3.2.1(A)	675.5	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(B)	464.9	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(C)	774.4	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(A)	776.0	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(B)	784.1	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(C)	798.7	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
			3.3	3.3.1(A)	652.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(B)	863.5	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(C)	814.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(D)	779.2	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(E)	626.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
			3.4	3.4.1(A)	868.3	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
				3.4.1(B)	589.7	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
			3.5	3.5.1(A)	892.6	4:00	7:00			√			√			√			√			√			√			√			√			√		√
				3.5.1(B)	950.9	7:00	12:00			√			√			√			√			√			√			√			√			√		√
				3.5.2	618.8	7:00	12:00			√			√			√			√			√			√			√			√			√		√
			Old Network	Zone 1	16,119.0	8:00	7:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	7:00			√			√			√			√			√			√			√			√			√			
				Zone 3		10:00	7:00	√			√			√			√			√			√			√			√			√			√			
			Outside Ring Road	Zone 1	40,016.0	8:00	10:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	8:00			√			√			√			√			√			√			√			√			√			
				Zone 3		20:00	0:00	√			√			√			√			√			√			√			√			√			√		
				Zone 4 i		4:00	3:00		√						√							√								√							
				Zone 4 ii		3:00	3:00			√						√								√							√						
				Zone 5 i		4:00	5:00	√							√							√						√								
				Zone 5 ii		5:00	5:00		√							√							√						√							
				Zone 5 iii		5:00	5:00			√							√							√							√						
				Zone 5 iv		5:00	5:00				√							√							√							√					
				Zone 5 v		5:00	4:00					√							√							√							√				
				Zone 5 vi		4:00	22:00						√							√							√							√			
				Zone 5 vii		4:00	4:00							√							√							√							√		
				Zone 6 i		5:00	22:00				√							√				√							√								
				Zone 6 ii		6:00	19:00					√							√							√							√				
				Zone 6 iii		19:00	5:00						√							√							√							√			
				Zone 6 iv		5:00	17:00							√							√							√							√		
Minbhawan	220	5,283	Demo Area	Zone 1	8,100.0	5:00	11:00		√			√			√			√			√			√			√			√			√		√	
				Zone 1 - II		3:00	8:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		5:00	11:00			√			√			√			√			√			√			√			√			√			√
				Zone 2 - II		3:00	8:00			√			√			√			√			√			√			√			√			√			√
				Zone 3		5:00	10:00	√			√			√			√			√			√			√			√			√			√		
				Zone 3 - II		12:00	18:00	√			√			√			√			√			√			√			√			√			√		
Panipokhari	552	13,241	1.1	1.1.1	1,853.3	12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.2		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.3		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
			1.2	1.2.1	3,659.6	12:00	16:00		√			√			√			√			√			√			√			√			√		√	
				1.2.2		7:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.2.3(A)		16:00	20:00		√				√				√				√				√				√				√			√
				1.2.3(B)		16:00	20:00		√				√				√				√				√				√				√			√
			1.3	1.3.1	5,268.2	6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(A)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(B)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(C)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
			1.4	1.4.1	4,639.7	16:00	18:00			√			√			√			√			√			√			√			√			√		√
				1.4.2		16:00	18:00			√			√			√			√			√			√			√			√			√		√
			1.5	1.5.1	424.4	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.2	591.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.3	625.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
			Old Network	1st Zone, 1st Shift	3,240.0	4:00	7:00				√					√			√				√				√				√				√	
				1st Zone, 2nd Shift		07"00	9:00				√					√			√				√				√				√				√	
				1st Zone, 3rd Shift		9:00	11:00				√					√			√				√				√				√				√	
				1st Zone, 4th Shift		11:00	13:00				√					√			√				√				√				√				√	
				1st Zone, 5th Shift		13:00	16:00				√					√			√				√				√				√				√	
				1st Zone, 6th Shift		16:00	19:00				√					√			√				√				√				√				√	
				1st Zone, 7th Shift		19:00	22:00				√					√			√				√				√				√				√	
				2nd Zone		4:00	7:00	√				√				√				√				√				√				√				√	
			Outside Ring Road		0.0																															
Tigeni	394	9,455	Outside Ring Road	1st zone	26,886.0	5:00	4:00	√				√				√				√				√				√				√				√	
				2nd zone		5:00	4:00		√				√				√				√				√				√				√				√
				3rd zone		5:00	4:00			√			√			√			√			√			√			√			√			√			√
				4th zone		5:00	4:00				√				√				√				√				√				√				√		
Katunje	597	14,327	Outside Ring Road	1st zone - I	21,967.0	4:00	10:00				√				√				√				√				√				√				√	
				1st zone - II		16:00	20:00				√				√				√				√				√				√				√	
				2nd zone - I		4:00	10:00	√				√				√				√				√				√				√				√	
				2nd zone - II		16:00	20:00	√				√				√				√				√				√				√				√	
				3rd zone - I		4:00	10:00		√				√				√				√				√				√				√				√
				3rd zone - II		16:00	20:00		√				√				√				√				√				√				√				√
				4th zone - I		4:00	10:00			√			√			√			√			√			√			√			√			√			√
				4th zone - II		16:00	20:00			√			√			√			√			√			√			√			√			√			√
				5th zone -I		10:00	14:00				√				√				√				√				√				√				√	
				5th zone - II		20:00	0:00				√				√				√				√				√				√				√	
				6th zone - I		10:00	14:00			√			√			√			√			√			√			√			√			√			√
				6th zone - II		20:00	0:00			√			√			√			√			√			√			√			√			√			√
		192,000		Total	347,493.1																															

Table 6.1.4 Water Supply Plan in Monsoon Season without Melamchi water (1/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Anamnagar	22	530	4.1	4.1.1	921.8																															
				4.1.2		14:00	20:00			√						√						√						√						√				
			4.2	4.2.1	414.7	11:00	20:00			√						√						√						√						√				
				4.2.2	842.4	11:00	20:00			√						√						√						√						√				
				4.2.3	722.5	11:00	20:00			√						√						√						√						√				
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																															
Balaju	427	10,259	7.1	7.1.1	2,509.4	17:00	22:00						√						√						√						√					√	
				7.1.2	1,297.6	17:00	22:00						√						√						√						√					√	
			7.2	7.2.1(A)		4:00	11:00						√						√						√						√					√	
				7.2.1(B)		4:00	11:00						√						√						√						√					√	
				7.2.2(A)	4,017.6	4:00	11:00						√						√						√						√					√	
				7.2.2(B)		4:00	11:00						√						√						√						√					√	
				7.2.3		4:00	11:00						√						√						√						√					√	
			7.3	7.3.1(A)		4:00	13:00					√						√					√						√					√		
				7.3.1(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(A)	5,022.0	4:00	13:00					√						√					√						√					√		
				7.3.2(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(C)		4:00	13:00					√						√					√						√					√		
				7.3.3		4:00	13:00					√						√					√						√					√		
			7.4	7.4.1(A)		4:00	13:00				√						√						√	√					√					√		
				7.4.1(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.2(A)	0.0	4:00	13:00				√						√						√	√					√					√		
				7.4.2(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.3		4:00	13:00				√						√						√	√					√					√		
				7.4.4		4:00	13:00				√						√						√	√					√					√		
			10.1	10.1.1	777.6																															
			10.2	10.2.1(A)		15:00	20:00					√						√						√						√					√		
				10.2.1(B)		15:00	20:00					√						√						√						√					√		
				10.2.1(C)	4,327.0	15:00	20:00					√						√						√						√					√		
				10.2.2(A)		15:00	20:00				√						√						√						√					√		
				10.2.2(B)		15:00	20:00				√						√						√						√					√		
				10.2.2(C)		15:00	20:00				√						√						√						√					√		
			Old Network	1st Zone		6:00	8:00				√						√						√						√					√		
				2nd Zone		8:00	18:00				√						√						√						√					√		
				1st zone, 1st Shift		3:30	5:00			√						√						√						√					√				
				1st zone, 2nd Shift		7:00	8:00			√						√						√						√					√				
				1st zone, 3rd Shift		13:00	17:00			√						√						√						√					√				
				2nd Zone, 1st Shift		14:30	15:30						√						√						√						√					√	
				2nd Zone 2nd Shift		15:30	16:30						√						√						√						√					√	
				2nd Zone 3rd Shift	14,742.0	16:30	17:30						√						√						√						√					√	
				3rd Zone, 1st Shift		14:30	15:30				√						√						√						√					√		
				3rd Zone, 2nd Shift		15:30	16:30				√						√						√						√					√		
				3rd Zone, 3rd Shift		16:30	17:30				√						√						√						√					√		
				3rd Zone, 4th Shift		17:30	18:30				√						√						√						√					√		
				3rd Zone, 5th Shift		18:30	19:30				√						√						√						√					√		
				4th Zone, 1st Shift		14:30	17:00			√						√						√						√						√		
				4th Zone, 2nd Shift		15:30	17:00			√						√						√						√						√		
				5th Zone, 1st Shift		15:30	17:00				√						√						√						√					√		
			Outside Ring Road	1st Zone	16,200.0	5:15	8:00						√						√						√						√					√	
				2nd Zone		5:15	8:00			√						√						√						√						√				
Bansbari	54	1,300	Old Network	1st zone, 1st Shift		3:00	5:00				√						√						√						√					√		
				1st zone, 2nd Shift		9:00	11:00				√						√						√						√					√		
				1st zone, 3rd Shift		15:00	17:00				√						√						√						√					√		
				2nd Zone, 1st Shift		3:00	5:00					√						√						√						√					√	
				2nd Zone 2nd Shift		9:00	11:00					√						√						√						√					√	
				2nd Zone 3rd Shift		15:00	17:00					√						√						√						√					√	
				3rd Zone, 1st Shift		3:00	5:00						√						√						√						√					√	
				3rd Zone, 2nd Shift	17,010.0	9:00	11:00						√						√						√						√					√	
				4th Zone, 1st Shift		3:00	5:00	√						√						√						√						√					√
				4th Zone, 2nd Shift		9:00	11:00	√						√						√						√						√					√
				4th Zone, 3rd Shift		15:00	17:00	√						√						√						√						√					√
				5th Zone, 1st Shift		3:00	5:00		√						√						√						√						√				
				5th Zone, 2nd Shift		9:00	11:00		√						√						√						√						√				
				5th Zone, 3rd Shift		15:00	17:00		√						√						√						√						√				
				6th Zone, 1st Shift		18:00	22:00			√						√						√						√					√				
			Outside Ring Road	1st zone, 1st Shift		3:00	5:30		√					√						√					√						√						
				1st zone, 2nd Shift		14:00	15:30		√					√						√					√						√						
				1st zone, 3rd Shift		15:30	16:30		√					√						√					√						√						
				2nd Zone, 1st Shift		3:00	5:00			√					√					√						√						√					
				2nd Zone 2nd Shift	12,150.0	14:00	16:00			√					√					√						√						√					
				3rd Zone, 1st Shift		3:00	5:00				√					√						√						√						√		
				3rd Zone, 2nd Shift		14:00	16:00				√					√						√						√						√		
				4th Zone, 1st Shift		3:00	5:00					√					√					√						√					√			
				4th Zone, 2nd Shift		14:00	16:00					√					√					√						√					√			
				5th Zone, 1st Shift		3:00	5:00	√					√					√					√						√								√

Table 6.1.5 Water Supply Plan in Monsoon Season without Melamchi water (2/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																								
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Khumaltar	468	11,241	5.1	5.1.1	9,149.8	14:00	21:00							7							14							21							28			
				5.1.2		14:00	21:00							7							14							21							28			
				5.1.3		14:00	21:00							7							14							21							28			
			5.2	5.2.1	5,859.5	4:00	11:00						6							13						20							27				
				5.2.2		4:00	11:00						6							13						20							27				
				5.2.3		4:00	11:00						6							13						20							27				
			6.1	6.1(DNI)	5,938.9	19:00	6:00						6							13						20							27				
				6.1(DNI)		19:00	6:00							7							14							21							28			
			6.2	6.2(DNI)	7,385.6	18:00	6:00				4							11						18							25						
				6.2(DNI)		18:00	6:00					5							12							19							26					
			8.1	8.1 (DNI)	6,306.7	8:00	20:00					5							12							19							26					
			8.2	8.2 (DNI)	4,536.0	8:00	20:00					5							12							19							26					
			9.1	9.1.1	1,294.4	20:00	5:00								√							√							√							√		
				9.1.2	1,681.6	20:00	5:00								√							√							√							√		
				9.1.3	894.2	20:00	5:00								√							√							√							√		
			9.2	9.2.1	1,202.0	5:00	19:00							√							√							√							√		
				9.2.2	1,020.6	5:00	19:00							√							√							√							√		
				9.2.3	1,095.1	5:00	19:00							√							√							√							√		
				9.2.4	657.7	5:00	19:00							√							√							√							√		
				9.2.5	724.1	5:00	19:00							√							√							√							√		
				9.2.6	1,009.3	5:00	19:00							√							√							√							√		
				9.2.7	782.5	5:00	19:00							√							√							√							√		
			Old Network		0.0																																	
			Outside Ring Road	8.1 (20" KUKL)	11,980.0	6:00	14:00				4							11						18							25						
				8.1 (20" KUKL)		15:00	17:00				4							11						18							25						
				8.1 (20" KUKL)		7:00	16:00		2							9						16								23							30	
				8.1 (20" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	13:00							7							14							21							28			
Kirtipur	247	5,923	11.1	11.1.1	3,361.5	18:00	6:00	√						√						√					√						v	√						√
			11.2	11.2.1	2,723.2	18:00	6:00						√						√						√					√						v		
			11.3	11.3.1	2,723.2	18:00	6:00					√						√						√					√						v			
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network		7,128.0	7:00	17:00																															
			Siwalaya System	Siwalaya 1		7:00	12:30							√							√							√							√			
				Siwalaya 1		7:00	9:40	√							√							√							√							√			
			Bhajangal System	Bhajangal R1		4:00	8:40	√				√			√				√			√				√			√				√			√			
				Bhajangal R2		5:00	5:40	√		√					√		√					√		√					√		√					√			√
				Bhajangal R3		5:00	8:40	√			√				√			√				√			√					√			√				√		
				Bhajangal R4		5:00	5:40		√					√		√						√		√				√		√					√		√	
						18:30	20:00		√					√		√						√		√				√		√					√		√	
				Bhajangal R5		6:00	8:40		√			√				√			√				√			√				√			√				√	
				Bhajangal D		8:00	14:40			√			√				√			√				√			√				√			√				√
				Bhajangal K		8:00	11:20				√			√				√			√				√			√				√			√			
				Gurung Compound		14:40	18:00				√							√							√							√						
			Chilancho System	Chilancho 1		4:00	7:30	√				√			√				√			√				√			√				√			√		
						21:00	22:00	√				√			√				√			√				√			√				√			√		
				Chilancho 2		6:00	9:00		√				√			√				√			√				√			√				√			√	
						19:30	20:00		√				√			√				√			√				√			√				√			√	
				Chilancho 3		4:00	8:00				√			√				√			√				√			√				√			√		
				Chilancho 4		16:00	19:00	√				√		√	√			√	√		√	√			√	√		√	√			√	√		√	√		
				Chilancho 5		14:30	18:30		√				√	√		√		√		√	√		√		√		√	√		√		√		√		√		
				Chilancho 6		14:15	18:00				√			√				√							√				√			√			√			
			Devdhoka System	Devdhoka 1	17,097.0	6:00	15:00	√							√							√							√							√		
						12:00	15:00	√							√							√							√							√		
				Devdhoka 2		6:00	19:00		√							√							√							√							√	
						15:00	19:00		√							√							√							√							√	
				Devdhoka 3		6:00	11:00			√							√							√							√							√
						13:00	14:00			√							√							√							√							√
				Devdhoka 4		6:00	10:00				√							√							√							√						
				Devdhoka 5		6:00	9:00					√							√							√							√						
						12:00	15:30					√							√														√						
				Devdhoka 6		6:00	9:00						√							√							√							√				
						15:00	18:30						√							√							√							√				
				Devdhoka 7		6:00	21:00							√							√							√							√			
						15:00	18:30							√							√							√							√			
			Kwacho System	Kwacho 1		4:00	6:30	√				√			√				√			√				√			√				√			√		
						18:30	19:30	√				√			√				√			√				√			√				√			√		
				Kwacho 2		3:00	6:30		√				√			√				√			√				√			√				√			√	
				Kwacho 3		4:00	5:30			√				√			√				√			√				√			√				√			√
			Jakha System	Water is used when local																																		
			Nagau System	Nagau 1 (8 area)		5:00	9:00	√		√		√			√		√		√			√		√		√			√		√		√			√			√
				Nagau 2 (8 area)		5:00	9:00		√		√		√			√		√			√		√		√		√			√		√		√			√		
Mahankalchaur	348	8,344	2.1	2.1.1(A)	649.0	11:00	14:00	√						√							√						√					√						
				2.1.1(B)	701.5	11:00	14:00	√						√							√						√					√						
				2.1.2(A)	895.9	11:00	14:00	√						√							√						√					√						
				2.1.2(B)	218.7	11:00	14:00	√						√							√						√					√						
				2.1.3(A)	823.0	11:00	14:00	√						√							√						√					√						
				2.1.3(B)	473.0	11:00	14:00	√						√							√						√					√						
				2.1.4	452.0	11:00	14:00	√						√							√						√					√						
			2.2	2.2.1	1,247.4	13:00	22:00			√						√						√						√						√			
				2.2.2	1,412.6	13:00	22:00			√						√						√						√						√			
				2.2.3	3,222.2	13:00	22:00			√						√						√						√						√			
				2.2.4	994.7	13:00	22:00			√						√						√						√						√			
			2.3	2.3.1(A)	826.2	22:00	1:00		√						√						√						√					√					
				2.3.1(B)	954.2	22:00	1:00		√						√						√						√					√					
			2.4	2.4.1(A)	832.7	14:00	20:00	√						√						√					√						√						
				2.4.1(B)	772.7	14:00	20:00	√						√						√					√						√						
				2.4.1(C)	1,190.7	14:00	20:00	√						√						√					√						√						

Table 6.1.6 Water Supply Plan in Monsoon Season without Melamchi water (3/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																													
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
			3.1	3.1.1(A)	672.3	11:00	17:00		√						√						√						√						√					
				3.1.1(B)	588.1	11:00	17:00		√						√						√						√						√					
				3.1.1(C)	563.8	11:00	17:00		√						√						√						√						√					
				3.1.2(A)	814.9	11:00	17:00		√						√						√						√						√					
				3.1.2(B)	988.2	11:00	17:00		√						√						√						√						√					
				3.1.2(C)	738.7	11:00	17:00		√						√						√						√						√					
			3.2	3.2.1(A)	675.5	6:00	12:00			√						√						√						√						√				
				3.2.1(B)	464.9	6:00	12:00			√						√						√						√						√				
				3.2.1(C)	774.4	6:00	12:00			√						√						√						√						√				
				3.2.2(A)	776.0	6:00	12:00			√						√						√						√						√				
				3.2.2(B)	784.1	6:00	12:00			√						√						√						√						√				
				3.2.2(C)	798.7	6:00	12:00			√						√						√						√						√				
			3.3	3.3.1(A)	652.9	15:00	21:00		√						√						√						√						√					
				3.3.1(B)	863.5	15:00	21:00		√						√						√						√						√					
				3.3.1(C)	814.9	15:00	21:00		√						√						√						√						√					
				3.3.1(D)	779.2	15:00	21:00		√						√						√						√						√					
				3.3.1(E)	626.9	15:00	21:00		√						√						√						√						√					
			3.4	3.4.1(A)	868.3	20:00	23:00	√						√					√					√							√							
				3.4.1(B)	589.7	20:00	23:00	√						√					√					√							√							
			3.5	3.5.1(A)	802.6	4:00	10:00		√						√						√						√						√					
				3.5.1(B)	950.9	4:00	10:00		√						√						√						√						√					
				3.5.2	618.8	4:00	10:00		√						√						√						√						√					
			Old Network	Zone 1 a	16,119.0	8:00	10:00		√			√			√			√			√			√			√			√			√			√		
				Zone 1 b		16:00	19:00		√			√			√			√			√			√			√			√			√			√		
				Zone 2		4:00	8:00			√			√			√			√			√			√			√			√			√			√	
				Zone 3 a		11:00	13:00	√			√			√			√			√			√			√			√			√			√			√
				Zone 3 b		13:00	16:00	√			√			√			√			√			√			√			√			√			√			√
			Outside Ring Road	Zone 1-gravity	19,846.4																																	
				Zone 2-gravity																																		
				Zone 3 a-pumping																																		
				Zone 3 b-pumping																																		
				Zone 3 c-pumping																																		
				Zone 3 d-pumping																																		
				Zone 3 e-pumping																																		
				Zone 3 f-pumping																																		
				Zone 3 g-pumping																																		
Minbhawan	62	1,480	Demo Area	Zone 1	8,100.0	10:00	12:30						√						√						√					√						√	
				Zone 2		18:00	20:30						√						√						√					√						√	
				Zone3		5:00	8:00	√						√						√						√						√						√
				Zone 4		15:00	18:00	√						√						√						√						√						√
				Zone 5		5:00	8:00		√						√						√						√						√					
				Zone 6		12:00	16:00		√						√						√						√						√					
Panipokhari	155	3,710	1.1	1.1.1	1,853.3	4:00	22:00							√						√						√						√					√
				1.1.2										√						√						√						√					√
				1.1.3										√						√						√						√					√
			1.2	1.2.1	3,659.6	4:00	7:00								√						√						√						√				
				1.2.2											√						√						√						√				
				1.2.3(A)											√						√						√						√				
				1.2.3(B)											√						√						√						√				
			1.3	1.3.1	5,268.2	14:00	21:00							√						√						√						√					√
				1.3.2(A)		14:00	21:00							√						√						√						√					√
				1.3.2(B)		14:00	21:00							√						√						√						√					√
				1.3.2(C)		14:00	21:00							√						√						√						√					√
			1.4	1.4.1	4,639.7	13:00	19:00						√						√					√					√						√	
				1.4.2		13:00	19:00						√						√					√					√						√	
			1.5	1.5.1	424.4	5:00	13:00							√						√						√						√					√
				1.5.2	591.3	5:00	13:00							√						√						√						√					√
				1.5.3	625.3	5:00	13:00							√						√						√						√					√
Tigeni	50	1,199	Outside Ring Road	1st zone	26,886.0	4:00	11:00		√							√						√							√						√	
				2nd zone		4:00	11:00			√							√						√							√						√
				3rd zone		4:00	11:00				√							√						√							√						
				4th zone		4:00	11:00					√							√						√							√					
				5th zone		4:00	11:00						√							√						√							√				
				6th zone		4:00	11:00							√							√						√							√			
				7th zone		4:00	11:00	√							√							√						√							√			
Katunje	167	4,014	Outside Ring Road	1st zone	21,967.0	13:00	20:00		√						√						√						√						√				
				2nd zone						√						√						√						√						√				
				3rd zone					√						√						√						√						√				
				4th zone		14:00	17:00		√			√			√			√				√			√			√			√			√			√	
				5th zone		8:00	12:00	√						√						√						√						√						√
				6th zone				√						√						√						√						√						√
				7th zone				√						√						√						√						√						√
				8th zone		6:00	10:00			√			√			√			√			√			√			√			√			√			
				9th zone		8:00	11:00		√							√						√						√						√				
		48,000		Total	317,550.0																																

7. Actions to be taken by KUKL

In the technical cooperation project by JICA, indicators are established to measure the achievement of Output 1 and the project purpose.

Both indicators must be achieved by December 2026, when the technical cooperation project concludes.

[Output 1]

The capacity of water distribution management utilizing GIS is enhanced.

Indicator 1-3: The water distribution plan for maintaining fair supply hour is prepared for the DMAs within the Ring Road.

[Project Purpose]

The KUKL's capacity of operation and maintenance of water supply is improved.

Indicator 1: The water distribution management plan for fair water supply is implemented in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

Indicator 2: Water supply hours are fair in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

To achieve the above-mentioned indicators, KUKL should implement the following actions:

7.1 Actions to be taken by Production Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-1: Monthly water inflow at each SRT from BDS
(Table 7.1.1, Table 7.1.2, Figure 7.1.1, Figure 7.1.2)

PI-2: Monthly water inflow per customer at each SRT from BDS
(Table 7.1.3, Figure 7.1.3)

PI-3: Water losses in BDS between New Sundarijal WTP and each SRT
(Table 7.1.2)

Table 7.1.1 Monitoring Format of Monthly Inflow by SRT wise (1/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Baisakh		Jestha		Asadh		Shrawan		Bhadra		Ashwin	
				14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	15164	3	231591	46	129935	26	114419	23	131183	26	372,456	74
Balaju (New)	15,556	291,578	1,098,464	237048	15	280865	18	184668	12	199020	13	181238	12	230070	15
Balaju (Old)	19,100			298687	16	239059	13	115738	6	0	0	202898	11	351175	18
Bansbari (Old)	18,000	30,605	265,132	291703	16	293788	16	44799	2	0	0	317	0	6784	0
Khumaltar	37,974	319,495	1,203,634	1023350	27	1146020	30	662190	17	734120	19	764932	20	802258	21
Kirtipur	19,949	168,358	634,255	323657	16	329460	17	198622	10	237609	12	216165	11	249046	12
Mahankalchaur (New)	19,731	291,538	1,098,313	467845	24	516628	26	225886	11	287506	15	450396	23	466119	24
Mahankalchaur (Old)	34,651	33,548	134,298	431083	12	442614	13	72781	2	0	0	303	0	162782	5
Minbhawan	5,000	42,067	158,481	236571	47	136076	27	58780	12	108294	22	119345	24	150899	30
Panipokhari (New)	10,532	105,438	397,217	137442	13	133258	13	87793	8	88573	8	95710	9	111872	11
Panipokhari (Old)	2,000			37848	19	21103	11	7043	4	17084	9	11696	6	14515	7
Tigeni	16,596	28,218	283,640	-	-	-	-	-	-	-	-	344	0	483	0
Katunje	13,560	114,086	429,797	0	0	328681	24	180919	13	154526	11	166588	12	208998	15
Average				291,700	17	341,595	21	164,096	10	161,763	11	180,086	12	240,574	18

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

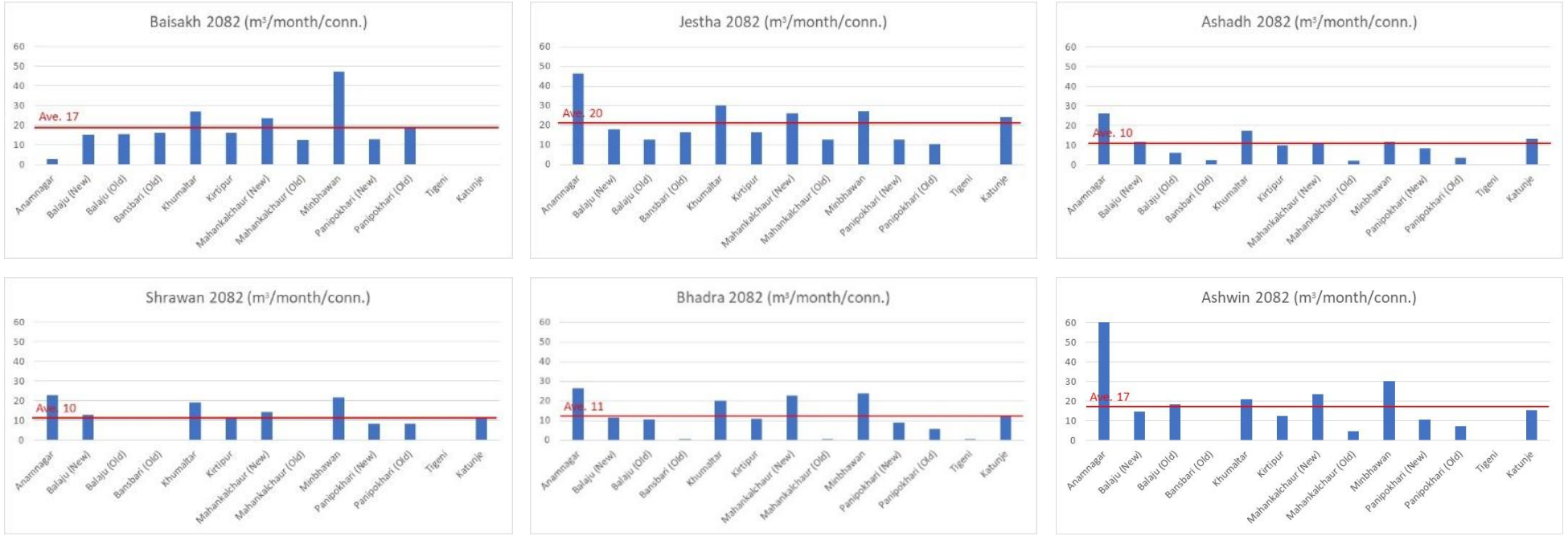


Figure 7.1.1 Change of Monthly Inflow by SRT wise (1/2)

Table 7.1.2 Monitoring Format of Monthly Inflow by SRT wise (2/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Kartik		Mangsir		Poush			Magh		Falgun		Chaitra	
				18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25		14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	14-Mar-26	15-Mar-26	13-Apr-26
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow		Inflow		Inflow			Inflow		Inflow		Inflow	
				(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	Local sources	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	182330	36	143,488	29	220,633		44		0		0		0
Balaju (New)	15,556	291,578	1,098,464	326808	21	363,390	23	414,438		27		0		0		0
Balaju (Old)	19,100			438440	23	460,982	24	585,595		31		0		0		0
Bansbari (Old)	18,000	30,605	265,132	64275	4	102,621	6	292,397	104,400	22		0		0		0
Khumaltar	37,974	319,495	1,203,634	972150	26	1,016,340	27	1,227,320		32		0		0		0
Kirtipur	19,949	168,358	634,255	335258	17	347,178	17	424,761		21		0		0		0
Mahankalchaur (New)	19,731	291,538	1,098,313	477628	24	522,914	27	618,450		31		0		0		0
Mahankalchaur (Old)	34,651	33,548	134,298	411567	12	441,275	13	487,527	681,500	34		0		0		0
Minbhawan	5,000	42,067	158,481	195975	39	140,311	28	234,816		47		0		0		0
Panipokhari (New)	10,532	105,438	397,217	192052	18	213,775	20	227,497		22		0		0		0
Panipokhari (Old)	2,000			24593	12	27277	14	53,189		27		0		0		0
Tigeni	16,596	28,218	283,640	469	0	288,000	17	288,000	161,994	27		0		0		0
Katunje	13,560	114,086	429,797	350301	26	344,498	25	398,271	-76,560	24		0		0		0
Average				305,527	20	339,388	21	420,992		30		0		0		0

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

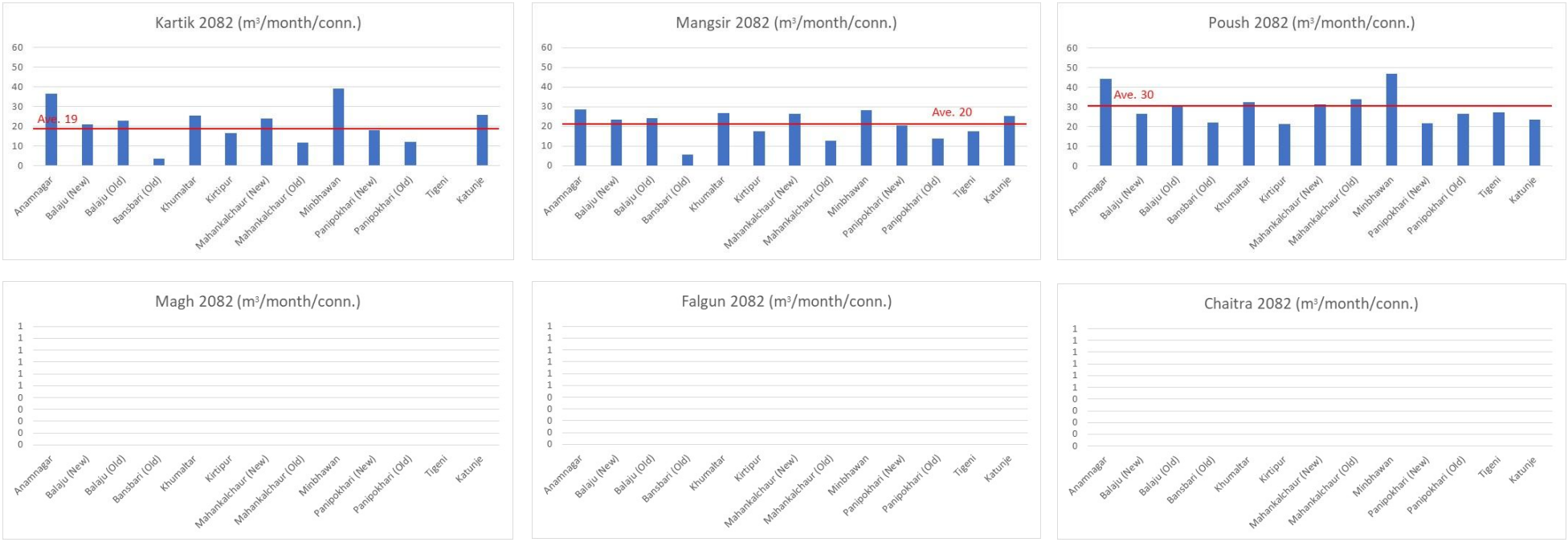


Figure 7.1.2 Change of Monthly Inflow by SRT wise (2/2)

Table 7.1.3 Monitoring Format of Water Loss in BDS

Description	Unit	January/2025	February/2025	March/2025	April/2025	May/2025	June/2025
Total Water transmitted from New Sundarijal WTP	m3						
Total water received by SRTs	m3						
Water losses in BDS	m3						
Wate losses ratio	%						
Description	Unit	July/2025	August/2025	September/2025	October/2025	November/2025	December/2025
Total Water transmitted from New Sundarijal WTP	m3	1,104,558.54	2,541550.32	2,819,664.66	4,337,372.36	4402496.86	5m796,124.00
Total water received by SRTs	m3	2,294,058.00	2,421495.00	2,707,171.00	4,290,970.00	4412049	5,691,271.00
Water losses in BDS	m3	-1,189,499.46	120,055.32	112,493.66	46,402.36	-9,552.14	104,853.00
Wate losses ratio	%	-107.69	4.72	3.99	1.07	-0.22	1.81

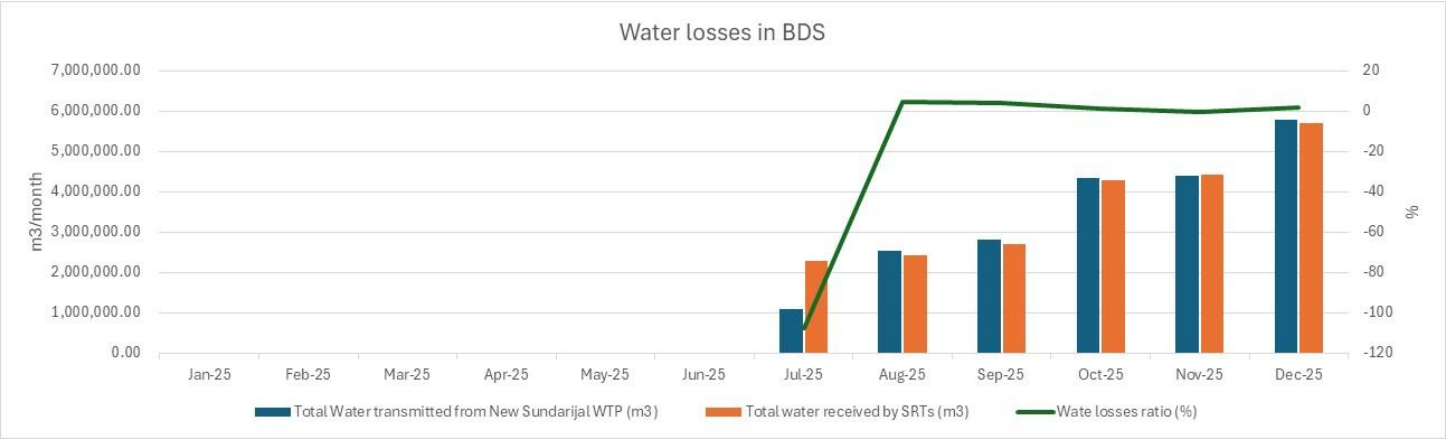


Figure 7.1.3 Change of Water Losses in BDS

7.2 Actions to be taken by Operation Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-4: Daily water supply volume as average at each DMA or sub-DMA and the volume per connection (Table 7.2.1, Figure 7.2.1, Figure 7.2.2)

[Responsibilities of the Operation Division]

- The Operations Division monitors the number of customers and water distribution volumes for each DMA on a monthly basis.
- The Operation Division monitors an indicator (PI-4) calculated by dividing the water distribution volume per DMA by the number of customers on a monthly basis.
- Using the Indicator PI-4. evaluate the feasibility of achieving equitable water distribution. If significant inequities arise or significant fluctuations occur, review the water distribution volume and distribution times for each DMA.

In addition to those main actions, the Operation division shall take responsibility for daily maintenance of SRTs. The operation division is required to take a record of the following monitoring.

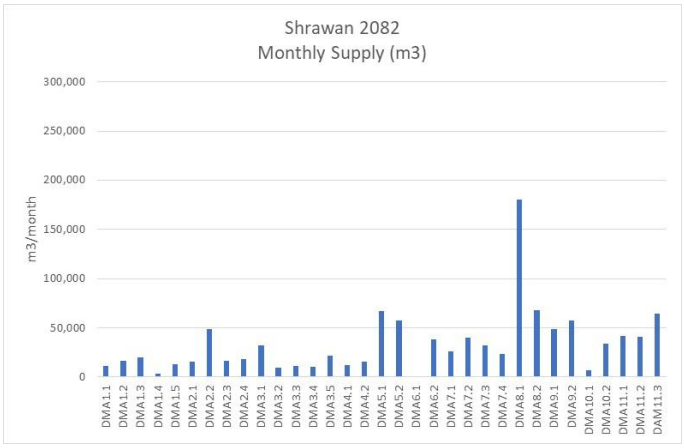
PI-5: Operation and Maintenance Status of each SRT (Table 7.2.2, Table 7.2.3)

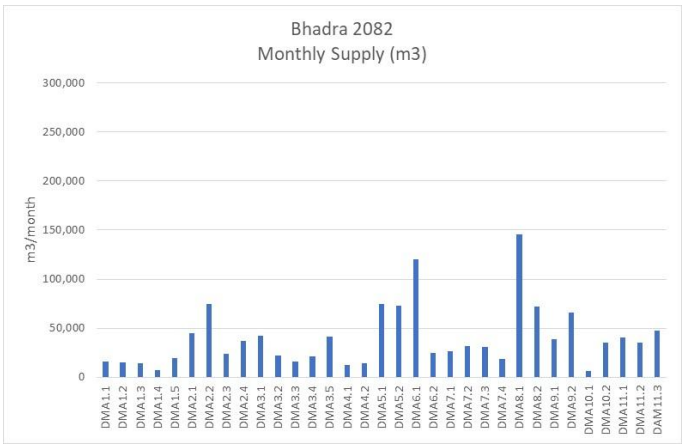
Action-1: Allocate the responsible operator (Everyday)
Action-2: Prepare a Standard Operation Procedure (SOP) for each SRT (Everyday)
Action-3: Cleaning work of the inside of valve chambers (2 times per month)
Action-4: Inspection of air valves at the outlet chamber (2 time per month)
Action-5: Cleaning work of the inside of reservoirs (1 time per year)
Action-6: Inspection of the inside of reservoirs (1 time per year)
Action-7: Water quality test (Everyday)

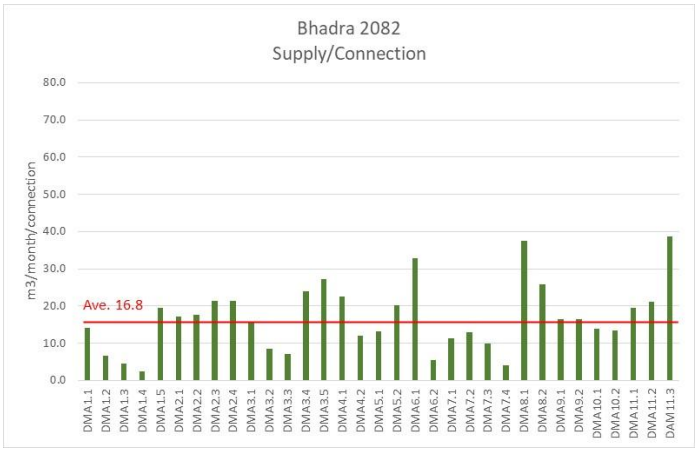
Table 7.2.1 Monitoring Format of Water Supply Volume by DMA wise

Year:2082	1	1		2		3		4		5		6		7		8		9		10		11		12	
	Baisakha	Baisakha		Jestha		Asadh		Shrawan		Bhadra		Ashwin		Kartik		Mangsir		Poush		magh		Falgun		Chaitra	
DMA	No. of Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection
DMA1.1	1,144	21,648	18.9	13,221	11.6	6,092	5.3	11,017	9.6	16,049	14.0	13,973	12.2	27,747	24.3	29,252	25.6	29,370	25.7	0	0.0	0	0.0	0	0.0
DMA1.2	2,259	25,922	11.5	35,173	15.6	19,444	8.6	16,136	7.1	15,011	6.6	18,217	8.1	28,727	12.7	37,082	16.4	41,999	18.6	0	0.0	0	0.0	0	0.0
DMA1.3	3,252	37,697	11.6	24,193	7.4	15,796	4.9	19,892	6.1	14,553	4.5	16,613	5.1	50,400	15.5	62,017	19.1	56,966	17.5	0	0.0	0	0.0	0	0.0
DMA1.4	2,864	5,717	2.0	4,591	1.6	1,946	0.7	3,314	1.2	7,159	2.5	6,845	2.4	5,161	1.8	19,453	6.8	8,288	2.9	0	0.0	0	0.0	0	0.0
DMA1.5	1,013	26,675	26.3	19,455	19.2	15,818	15.6	13,108	12.9	19,660	19.4	18,398	18.2	25,601	25.3	40,877	40.4	32,025	31.6	0	0.0	0	0.0	0	0.0
DMA2.1	2,601	41,335	15.9	48,209	18.5	18,312	7.0	15,388	5.9	44,703	17.2	52,792	20.3	73,993	28.4	99,200	38.1	85,590	32.9	0	0.0	0	0.0	0	0.0
DMA2.2	4,245	97,828	23.0	88,406	20.8	35,715	8.4	48,721	11.5	74,516	17.6	96,162	22.7	96,259	22.7	125,271	29.5	67,604	15.9	0	0.0	0	0.0	0	0.0
DMA2.3	1,099	23,446	21.3	27,561	25.1	7,506	6.8	16,152	14.7	23,541	21.4	16,114	14.7	21,198	19.3	34,262	31.2	32,861	29.9	0	0.0	0	0.0	0	0.0
DMA2.4	1,726	27,410	15.9	31,419	18.2	16,988	9.8	18,450	10.7	36,817	21.3	28,018	16.2	27,321	15.8	35,194	20.4	43,056	24.9	0	0.0	0	0.0	0	0.0
DMA3.1	2,695	59,187	22.0	52,864	19.6	26,607	9.9	32,091	11.9	42,450	15.8	41,410	15.4	45,549	16.9	60,547	22.5	82,687	30.7	0	0.0	0	0.0	0	0.0
DMA3.2	2,638	19,912	7.5	16,719	6.3	7,802	3.0	9,946	3.8	22,357	8.5	21,939	8.3	30,817	11.7	44,383	16.8	1,980	0.8	0	0.0	0	0.0	0	0.0
DMA3.3	2,307	19,119	8.3	12,201	5.3	13,993	6.1	11,359	4.9	16,331	7.1	10,784	4.7	6,494	2.8	13,961	6.1	6,345	2.8	0	0.0	0	0.0	0	0.0
DMA3.4	900	25,964	28.8	22,342	24.8	9,682	10.8	10,516	11.7	21,542	23.9	20,233	22.5	23,032	25.6	33,976	37.8	22,445	24.9	0	0.0	0	0.0	0	0.0
DMA3.5	1,520	30,491	20.1	29,776	19.6	19,133	12.6	21,938	14.4	41,349	27.2	25,625	16.9	51,037	33.6	37,626	24.8	28,972	19.1	0	0.0	0	0.0	0	0.0
DMA4.1	569	20,624	36.2	20,328	35.7	16,961	29.8	12,591	22.1	12,792	22.5	15,569	27.4	19,270	33.9	16,257	28.6	27,560	48.4	0	0.0	0	0.0	0	0.0
DMA4.2	1,222	32,362	26.5	29,019	23.7	19,335	15.8	15,577	12.7	14,663	12.0	19,796	16.2	25,419	20.8	20,552	16.8	23,110	18.9	0	0.0	0	0.0	0	0.0
DMA5.1	5,648	104,751	18.5	113,842	20.2	66,889	11.8	67,444	11.9	74,886	13.3	76,034	13.5	117,202	20.8	160,002	28.3	148,855	26.4	0	0.0	0	0.0	0	0.0
DMA5.2	3,617	73,329	20.3	94,180	26.0	42,194	11.7	57,770	16.0	72,932	20.2	58,361	16.1	75,219	20.8	120,350	33.3	107,295	29.7	0	0.0	0	0.0	0	0.0
DMA6.1	3,666	92,386	25.2	225,885	61.6	45,045	12.3	0	0.0	120,495	32.9	157,296	42.9	144,778	39.5	169,591	46.3	211,028	57.6	0	0.0	0	0.0	0	0.0
DMA6.2	4,559	20,120	4.4	107,860	23.7	51,579	11.3	38,735	8.5	24,491	5.4	53,359	11.7	7,525	1.7	63,393	13.9	23,176	5.1	0	0.0	0	0.0	0	0.0
DMA7.1	2,350	42,330	18.0	34,721	14.8	21,020	8.9	25,749	11.0	26,498	11.3	35,978	15.3	33,058	14.1	44,179	18.8	37,704	16.0	0	0.0	0	0.0	0	0.0
DMA7.2	2,480	44,289	17.9	38,732	15.6	24,663	9.9	39,861	16.1	32,022	12.9	29,824	12.0	42,822	17.3	89,470	36.1	49,134	19.8	0	0.0	0	0.0	0	0.0
DMA7.3	3,100	33,038	10.7	55,121	17.8	27,045	8.7	32,592	10.5	30,638	9.9	29,986	9.7	48,528	15.7	50,049	16.1	52,972	17.1	0	0.0	0	0.0	0	0.0
DMA7.4	4,475	46,350	10.4	34,726	7.8	31,530	7.0	23,479	5.2	18,656	4.2	45,727	10.2	55,808	12.5	91,910	20.5	81,872	18.3	0	0.0	0	0.0	0	0.0
DMA8.1	3,893	243,448	62.5	253,177	65.0	111,160	28.6	180,034	46.2	145,776	37.4	168,523	43.3	211,259	54.3	274,338	70.5	256,717	65.9	0	0.0	0	0.0	0	0.0
DMA8.2	2,800	112,901	40.3	86,608	30.9	70,131	25.0	67,884	24.2	72,491	25.9	81,403	29.1	72,187	25.8	76,861	27.5	72,160	25.8	0	0.0	0	0.0	0	0.0
DMA9.1	2,389	113,632	47.6	108,407	45.4	60,422	25.3	49,032	20.5	39,160	16.4	51,395	21.5	58,327	24.4	81,353	34.1	99,425	41.6	0	0.0	0	0.0	0	0.0
DMA9.2	4,007	95,662	23.9	96,331	24.0	63,773	15.9	57,680	14.4	65,922	16.5	74,004	18.5	70,840	17.7	134,651	33.6	133,988	33.4	0	0.0	0	0.0	0	0.0
DMA10.1	480	9,223	19.2	10,751	22.4	4,883	10.2	7,236	15.1	6,646	13.8	7,211	15.0	28,696	59.8	16,266	33.9	23,945	49.9	0	0.0	0	0.0	0	0.0
DMA10.2	2,671	55,874	20.9	53,489	20.0	33,176	12.4	33,812	12.7	35,507	13.3	44,055	16.5	77,317	28.9	59,582	22.3	85,442	32.0	0	0.0	0	0.0	0	0.0
DMA11.1	2,075	39,163	18.9	34,347	16.6	28,235	13.6	42,134	20.3	40,646	19.6	33,276	16.0	43,180	20.8	60,738	29.3	53,179	25.6	0	0.0	0	0.0	0	0.0
DMA11.2	1,681	48,781	29.0	27,279	16.2	20,924	12.4	41,258	24.5	35,708	21.2	31,406	18.7	30,385	18.1	55,741	33.2	53,264	31.7	0	0.0	0	0.0	0	0.0
DAM11.3	1,239	92,592	74.7	75,878	61.2	49,886	40.3	64,198	51.8	47,964	38.7	62,830	50.7	123,897	100.0	132,456	106.9	176,441	142.4						
Total / Avarage	81,945	1,690,614	23.0	1,850,933	23.1	953,799	12.7	1,040,896	14.3	1,265,967	16.8	1,400,326	17.9	1,675,154	24.3	2,258,383	29.9	2,081,013	29.8	0	0.0	0	0.0	0	0.0
More than 1.5 times of Average			4		4		4		4		4		4		3		2		4		32		32		32
Less than 1/2 of Average			7		5		5		7		6		5		4		3		4		32		32		32

Figure 7.2.1 Monitoring Graph of Water Supply Volume by DMA wise (1/2)







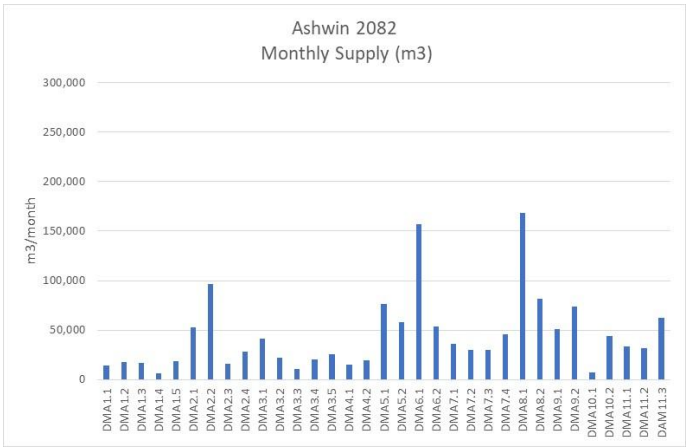


Figure 7.2.2 Monitoring Graph of Water Supply Volume by DMA wise (2/2)

Table 7.2.2 Monitoring Record of Operation & Maintenance of SRTs (1/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Anamnagar (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Arubari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Khumaltar (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Kirtipur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Mahankalchaur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

Table 7.2.3 Monitoring Record of Operation & Maintenance of SRTs (2/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Mahankalchaur (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Minbhawan (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Tigeni																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Katunje																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

7.3 Actions to be taken by each Branch Office

Improvements in water supply services should not be evaluated solely based on water volume. By accurately notifying customers of water delivery schedule and ensuring KUKL operators adhere to these schedules, customer satisfaction can be enhanced.

From this perspective, at the branch office level, efforts must be made to reduce customer complaints by verifying monthly whether any complaints are received regarding the pre-planned water supply schedule.

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicator must be monitored by each branch manager.

PI-6: Number of grievances about water supply hour especially the gap between standard supply hour and real supply hour (Table 7.3.1, Table 7.3.2)

Action-1: The branch manager must accurately track the number of customers within the DMA under their branch's jurisdiction.

Action-2: Report the number of customers per DMA required for the monitoring sheets created by the Operation Division and Production Division to the responsible personnel at headquarters.

Action-3: Valve operators shall be assigned to accurately open and close valves according to the water supply schedule determined in this main water distribution management plan.

Action-4: Analyze customer complaints and requests received by the branch office each month, and tally the number of complaints and requests regarding the accuracy of the water supply schedule.

Action-5: Achieve a 100% water meter installation rate for customers within the DMA.

Action-6: Achieve a 100% water meter reading rate for customers within the DMA.

Action-7: Measure turbidity and residual chlorine at the locations specified by the Central Laboratory at the prescribed frequency and report the results to the Central Laboratory.

Table 7.3.1 Monitoring Record of Grievances about Water Supply Hour (1/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
1.1	1.1.1	Maharajgunj	5:00	14:00																												
1.1	1.1.2	Maharajgunj	5:00	14:00																												
1.1	1.1.3	Maharajgunj	5:00	14:00																												
1.2	1.2.1	Maharajgunj	9:00	16:00																												
1.2	1.2.2	Baneshwor	9:00	16:00																												
1.2	1.2.3(A)	Maharajgunj	9:00	16:00																												
1.2	1.2.3(B)	Maharajgunj	9:00	16:00																												
1.3	1.3.1	Tripureshwor	12:00	21:00																												
1.3	1.3.2(A)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(B)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(C)	Tripureshwor	12:00	21:00																												
1.4	1.4.1	Tripureshwor	15:00	21:00																												
1.4	1.4.2	Tripureshwor	15:00	21:00																												
1.5	1.5.1	Tripureshwor	5:00	15:00																												
1.5	1.5.2	Tripureshwor	5:00	15:00																												
1.5	1.5.3	Tripureshwor	5:00	15:00																												
2.1	2.1.1(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.1(B)	Maharajgunj	6:00	12:00																												
2.1	2.1.1(B)	Mahankal	6:00	12:00																												
2.1	2.1.2(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.2(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.4	Mahankalchaur	6:00	12:00																												
2.2	2.2.1	Baneshwor	14:00	20:00																												
2.2	2.2.2	Baneshwor	14:00	20:00																												
2.2	2.2.3	Baneshwor	14:00	20:00																												
2.2	2.2.4	Baneshwor	14:00	20:00																												
2.3	2.3.1(A)	Baneshwor	5:00	12:00																												
2.3	2.3.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Mahankal	5:00	12:00																												
2.4	2.4.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(C)	Baneshwor	5:00	12:00																												
3.1	3.1.1(A)	Baneshwor	14:00	21:00																												
3.1	3.1.1(B)	Baneshwor	14:00	21:00																												
3.1	3.1.1(C)	Baneshwor	14:00	21:00																												
3.1	3.1.2(A)	Baneshwor	14:00	21:00																												
3.1	3.1.2(B)	Baneshwor	14:00	21:00																												
3.1	3.1.2(C)	Baneshwor	14:00	21:00																												
3.2	3.2.1(A)	Baneshwor	5:00	12:00																												
3.2	3.2.1(B)	Baneshwor	5:00	12:00																												
3.2	3.2.1(C)	Baneshwor	5:00	12:00																												
3.2	3.2.2(A)	Baneshwor	5:00	12:00																												
3.2	3.2.2(B)	Baneshwor	5:00	12:00																												
3.2	3.2.2(C)	Baneshwor	5:00	12:00																												
3.3	3.3.1(A)	Baneshwor	14:00	20:00																												
3.3	3.3.1(B)	Baneshwor	14:00	20:00																												
3.3	3.3.1(C)	Baneshwor	14:00	20:00																												
3.3	3.3.1(D)	Baneshwor	14:00	20:00																												
3.3	3.3.1(E)	Baneshwor	14:00	20:00																												
3.4	3.4.1(A)	Baneshwor	9:00	15:00																												
3.4	3.4.1(B)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Maharajgunj	9:00	15:00																												
3.5	3.5.1(B)	Baneshwor	9:00	15:00																												
3.5	3.5.2	Baneshwor	9:00	15:00																												
3.5	3.5.2	Maharajgunj	9:00	15:00																												
4.1	4.1.1	Baneshwor	12:00	16:00																												
4.1	4.1.2	Baneshwor	12:00	16:00																												
4.2	4.2.1	Tripureshwor	11:00	20:00																												
4.2	4.2.2	Tripureshwor	11:00	20:00																												
4.2	4.2.3	Tripureshwor	11:00	20:00																												
5.1	5.1.1	Lalitpur	20:00	8:00																												
5.1	5.1.2	Lalitpur	20:00	8:00																												
5.1	5.1.3	Lalitpur	20:00	8:00																												
5.2	5.2.1(A)	Lalitpur	20:00	8:00																												
5.2	5.2.1(B)	Lalitpur	20:00	8:00																												
5.2	5.2.1(C)	Lalitpur	20:00	8:00																												
5.2	5.2.1(D)	Lalitpur	20:00	8:00																												
5.2	5.2.2(A)	Lalitpur	20:00	8:00																												
5.2	5.2.2(B)	Lalitpur	20:00	8:00																												
5.2	5.2.2(C)	Lalitpur	20:00	8:00																												
5.2	5.2.2(D)	Lalitpur	20:00	8:00																												
5.2	5.2.2(E)	Lalitpur	20:00	8:00																												
5.2	5.2.3(A)	Lalitpur	20:00	8:00																												
5.2	5.2.3(B)	Lalitpur	20:00	8:00																												
6.1	6.1.1(A)	Lalitpur	6:00	20:00																												
6.1	6.1.1(B)	Lalitpur	6:00	20:00																												
6.1	6.1.2	Lalitpur	6:00	20:00																												
6.1	6.1.3	Lalitpur	6:00	20:00																												
6.2	6.2.1	Lalitpur	17:00	8:00																												
6.2	6.2.2	Lalitpur	17:00	8:00																												
6.2	6.2.3	Lalitpur	17:00	8:00																												
7.1	7.1.1	Maharajgunj	17:00	22:00																												
7.1	7.1.2	Chhetrapati	17:00	22:00																												
7.2	7.2.1(A)	Chhetrapati	7:00	12:00																												
7.2	7.2.1(B)	Chhetrapati	7:00	12:00																												
7.2	7.2.2(A)	Maharajgunj	7:00	12:00																												
7.2	7.2.2(B)	Maharajgunj	7:00	12:00																												
7.2	7.2.3	Maharajgunj	7:00	12:00																												
7.3	7.3.1(A)	Chhetrapati	7:00	12:00																												
7.3	7.3.1(B)	Chhetrapati	7:00	12:00																												
7.3	7.3.2	Chhetrapati	7:00	12:00																												
7.3	7.3.3	Maharajgunj	7:00	12:00																												
7.4	7.4.1(A)	Chhetrapati	7:00	12:00																												
7.4	7.4.1(B)	Chhetrapati	7:00	12:00																												
7.4	7.4.2(A)	Chhetrapati	7:00	12:00																												
7.4	7.4.2(A)	Lalitpur	7:00	12:00																												
7.4	7.4.2(B)	Chhetrapati	7:00	12:00																												
7.4	7.4.3	Chhetrapati	7:00	12:00																												
7.4	7.4.3	Maharajgunj	7:00	12:00																												
7.4	7.4.4	Maharajgunj	7:00	12:00																												

Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

Table 7.3.2 Monitoring Record of Grievances about Water Supply Hour (2/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
8.1	8.1.1	Lalitpur	8:00	20:00																												
8.1	8.1.2	Lalitpur	20:00	8:00																												
8.1	8.1.3	Lalitpur	20:00	8:00																												
8.2	8.2.1(A)	Lalitpur	17:00	8:00																												
8.2	8.2.1(B)	Lalitpur	17:00	8:00																												
8.2	8.2.1(C)	Lalitpur	17:00	8:00																												
8.2	8.2.2(A)	Lalitpur	17:00	8:00																												
8.2	8.2.2(B)	Lalitpur	17:00	8:00																												
8.2	8.2.2(C)	Lalitpur	17:00	8:00																												
9.1	9.1.1	Lalitpur	20:00	6:00																												
9.1	9.1.2	Lalitpur	20:00	6:00																												
9.1	9.1.3	Lalitpur	20:00	6:00																												
9.2	9.2.1	Lalitpur	6:00	20:00																												
9.2	9.2.2	Lalitpur	6:00	20:00																												
9.2	9.2.3	Lalitpur	6:00	20:00																												
9.2	9.2.4	Lalitpur	6:00	20:00																												
9.2	9.2.5	Lalitpur	6:00	20:00																												
9.2	9.2.6	Lalitpur	6:00	20:00																												
9.2	9.2.7	Lalitpur	6:00	20:00																												
10.1	10.1.1	Maharajgunj	12:00	17:00																												
10.2	10.2.1(A)	Chhetrapati	17:00	22:00																												
10.2	10.2.1(B)	Chhetrapati	17:00	22:00																												
10.2	10.2.1(C)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(A)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(B)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(C)	Chhetrapati	17:00	22:00																												
11.1	11.1.1	Tripureshwor	18:00	10:00																												
11.2	11.2.1	Tripureshwor	18:00	10:00																												
11.2	11.2.2	Tripureshwor	18:00	10:00																												
Demo	Demo	Baneshwor	5:00	21:00																												

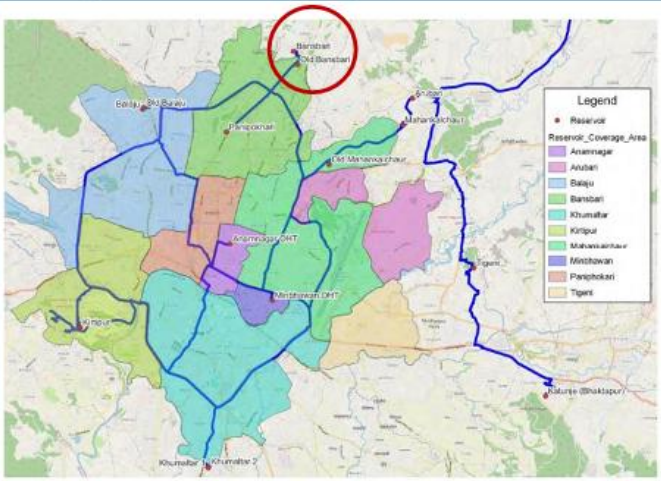
Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

8. Example of SOP for service reservoirs

Standard Operating Procedure
Bansbari SRT (Service Reservoir Tank)

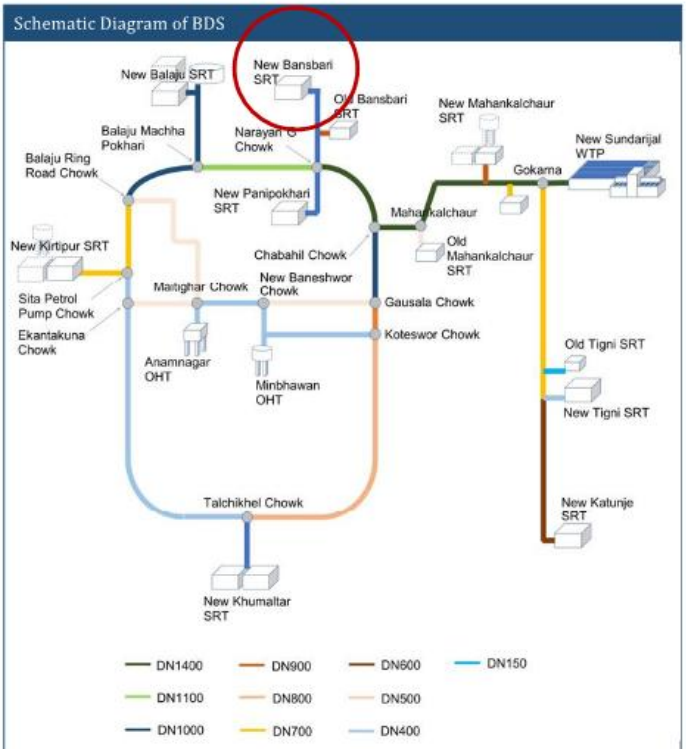
Layout of facilities

General Layout of Bulk Distribution System (BDS)



Layout of facilities

Schematic Diagram of BDS

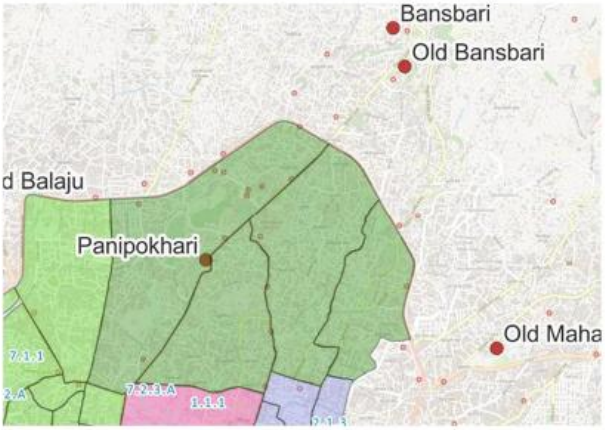


Bulk Distribution System Schematic Diagram

Layout of facilities

District Metered Area (DMA) covered by Bansbari SRT

The coverage area of Bansbari SRT has yet to be divided in DMAs.
This area is called DNI-7c and divided into several DMAs which will be constructed by the Package 6.



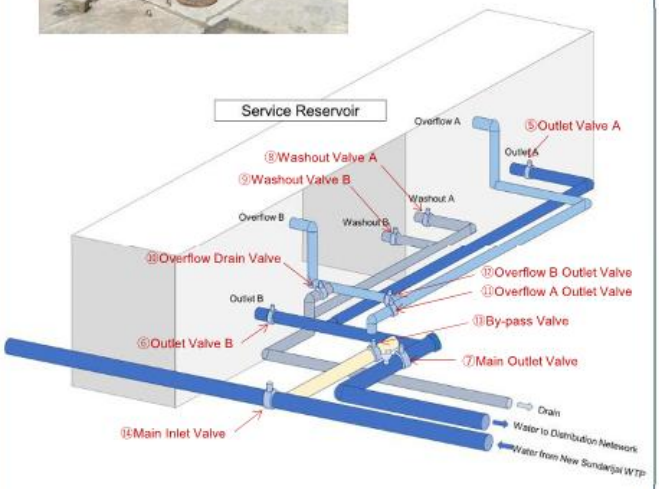
Layout of facilities

Outline of Bansbari SRT

No	Name	Objective	DN	Chamber Drawing No.
1	Flowmeter A	Inflow Measurement Reservoir A	700mm	BDS1-E-C-07
2	Flowmeter B	Inflow Measurement Reservoir A	700mm	BDS1-E-C-09
3	Inlet Valve A	Open/Stop Inflow Reservoir A	700mm	BDS1-E-C-06
4	Inlet Valve B	Open/Stop Inflow Reservoir B	700mm	BDS1-E-C-08
5	Outlet Valve A	Open/Stop Outflow Reservoir A	800mm	BDS1-E-C-10
6	Outlet Valve B	Open/Stop Outflow Reservoir B	800mm	BDS1-E-C-12
7	Main Outlet Valve	Regulate Total Outflow Volume	1200mm	BDS1-E-C-13
8	Washout Valve A	Sand discharge from Reservoir A	500mm	BDS1-E-C-15
9	Washout Valve B	Sand discharge from Reservoir B	500mm	BDS1-E-C-15
10	Overflow Drain	Discharge overflow to washout line	500mm	BDS1-E-C-14
11	Overflow A Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
12	Overflow B Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
13	By-pass Valve	Supply water without passing reservoir	1000mm	BDS1-E-C-13
14	Main Inlet Valve	Regulate Total Inflow Volume	1000mm	BDS1-E-C-05
15	Air Valve	Air release from the main outlet line	200mm	BDS1-E-C-13

Layout of facilities

Isometric Schematic Image of Pipeline Layout (Outlet side)



Operating Procedure

Normal Operation

Operating Procedure

Emergent Operation

If there is an accident or malfunction in both reservoirs A and B and water cannot be stored, the bypass valve on the Inlet Pipe should be opened to continue transmission of water.

[Caution]

When continuing to supply water through the bypass pipe, the following valves of the reservoir should be closed in advance to prevent water from entering the reservoir.
1. Main Inflow Valve
2. Outlet Valves of Reservoirs
3. Overflow Valves of Reservoirs

Cleaning of Reservoir

Direction of Water Flow during Cleaning of Reservoir

Steps for Cleaning of Reservoir

Step 1

Reservoir cleaning should be performed separately for A and B. Close one of the Inlet Valve to shut down entering water into the reservoir.

Step 2

When the water level in the reservoir is low enough, close the Outlet Valve.

Step 3

Open the Washout Valve to drain the water that has accumulated at the bottom of reservoir.

Steps for Cleaning of Reservoir

Step 4

Operators go inside and uses a wiper and nylon brush to scrape sand and mud from the walls and bottom in the direction of the Washout Port.

Step 5

If mud or sand remains in the middle of the interior, open the Inlet Valve of reservoir slightly to draw in water, and then scrape it out again with a scraper.

Step 6

Once the interior has been cleaned, the operator goes outside.
Then close the washout valve.

Steps for Cleaning of Reservoir

Step 7

Then slowly open the Inlet Valve.

Step 8

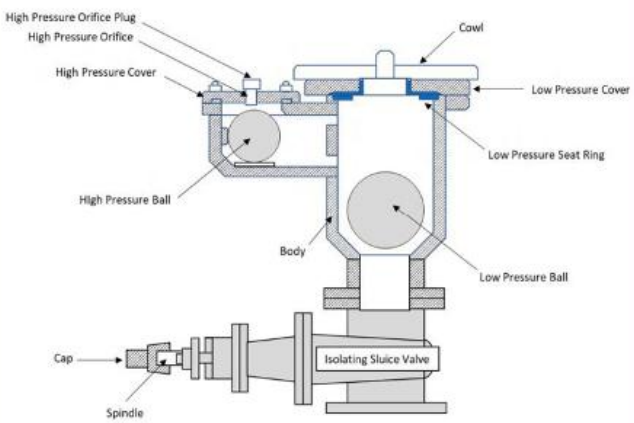
Wait a few hours to fill the reservoir.

Step 9

Once the reservoir has recovered more than half of its water level, slowly open the Outlet Valve.

Cleaning of Air Valve

Structure of Air Valve (Indian Valve International)

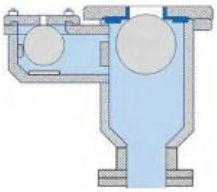


[Caution]

When clean the air valve, make sure that the Isolation Sluice Valve is completely closed. After closed the Isolation Sluice Valve, you can dismantle the cowl and top cover of the air valve.

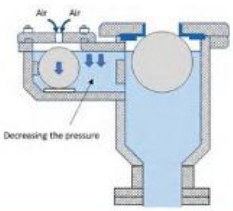
Function of Kinetic Air Valve

Normal Operation under High Pressure



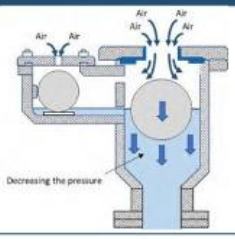
The pipe remains filled with water and the internal float ball plugs the air outlet orifice.

When a small air pocket occurs in the pipe



When a small amount of air accumulates in the air valve, the water level begins to drop, which causes the High Pressure Ball to drop and the small orifice to open. (Small exhaust mode)

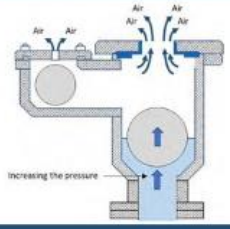
When the water in the reservoir runs out and a large amount of air accumulates



When a large amount of air accumulates, the water level drops below High Pressure Ball, which causes the Low Pressure Ball to drop and the large orifice to open. (Large exhaust mode).

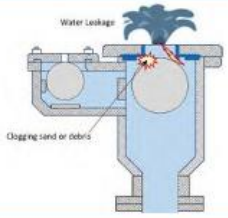
Function of Kinetic Air Valve

When water begins to accumulate in the pipe.



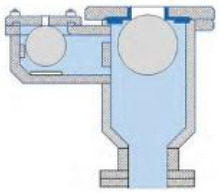
As the water pressure in the pipe increases, the water level rises and the Low Pressure Ball plugs the orifice.

When debris or sand clog the orifice



When debris or sand clog the orifice of air exhaust, the leaks will occur under high pressure.

When the pipe is perfectly filled with water



When water fills the pipe and the water pressure increases, the High Pressure Ball plugs the orifice.

Site Cleaning

Keeping premises clean

- Ensure that there is no debris or hazardous materials in the vicinity of the reservoir.
- The valve chamber should be kept clean and free of cobwebs, debris, and puddles, and no disposed material should be left inside.
- Do not place hazardous or flammable materials near the reservoir.

- Service Reservoir Tank and Water Treatment Plants are places where drinking water is stored, so animals should not be allowed to enter.

Meter Reading

Flowmeter on Inlet Pipe

Flowmeter on Outlet Pipe

In Bansbari SRT, there is no water meter on the outlet pipe.

How to read the flowmeter

Instantaneous Flow (m3/hour)

Accumulated Flow (m3)

The operators should keep record of "Accumulated Water Flow" in daily recording sheet

Recording of water volume

Operator's duty

- Once a day, the operator should check the flowmeter reading and note it on the record form.

Date	Time	Meter Reading		Daily Inflow	Name of Recorder
		Reservoir A	Reservoir B		

Standard Inspection

Daily Inspection

- Operators shall check the condition of facilities and clean the site once per day.

Items	Target	Status	Evaluation
External of tank	Concrete	No Water Leakage	☐Yes/☐No
	Painting	No Crack	☐Yes/☐No
		No Peeling	☐Yes/☐No
	Steps	Firmly Fixed	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No
	Cable	No disconnection	☐Yes/☐No
Valves	Operation Panel	No broken parts	☐Yes/☐No
	Button	No broken button	☐Yes/☐No
	Operation Wheel	Smoothly operating	☐Yes/☐No
	Chamber	No waste/garbage inside	☐Yes/☐No
Pipes	Exposed pipe	No Water Leakage	☐Yes/☐No
	Chamber	No Water Leakage	☐Yes/☐No
Chamber	Cover	Smoothly opening	☐Yes/☐No

Standard Inspection

Annual Inspection

- When cleaning the reservoir tank once per year, conduct an annual inspection of the following items:

Items	Target	Status	Evaluation
Internal of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Level Gauge	Drop of sensor	☐Yes/☐No
		Rust or Corrosion	☐Yes/☐No
External of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
		Water Leakage	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Steps	Corrosion	☐Yes/☐No
	Ventilation	Corrosion	☐Yes/☐No
Facilities	Valves	Greasing on gear	☐Yes/☐No
	Pipes	Water Leakage	☐Yes/☐No
	Chamber	Cleaning of inside	☐Yes/☐No
		Corrosion of Cover	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No

Inspection Schedule

Annual Inspection Plan

Month	Day	What to do
Baisakh		
Jestha		
Asadh		
Shrawan		
Bhadra		
Ashwin		
Kartik		
Mangsir		
Poush		
Magh		
Falgun		
Chaitra		

Water Distribution Management Plan
For
District Metered Area (DMA)
In
Kathmandu Valley

3rd version: 24 February 2026

Kathmandu Upatyaka Khanepani Limited (KUKL)

JICA Expert Team

Kathmandu Upatyaka Khanepani Limited

Japan International Cooperation Agency

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1. Introduction

1.1 Basic Approach to the Water Distribution Management

The maintenance and management of water supply facilities is an indispensable daily task for KUKL and should be carried out from a long-term perspective in order to achieve the following objectives.

Security: To supply safe water with assured quality to water users for drinking in the Kathmandu Valley.

Stability: To provide a stable supply of water necessary for daily life anytime, anywhere.

1.2 Procedure for Development of the Water Distribution Management Plan

Water service is a business that consists of providing drinking water to water users and collecting fees in return. Therefore, in the Water Distribution Management Plan, water utilities themselves need to set more specific management targets based on their Performance Indicators and monitor them in their daily operations.

The workflow of water distribution management in water utility management is as follows

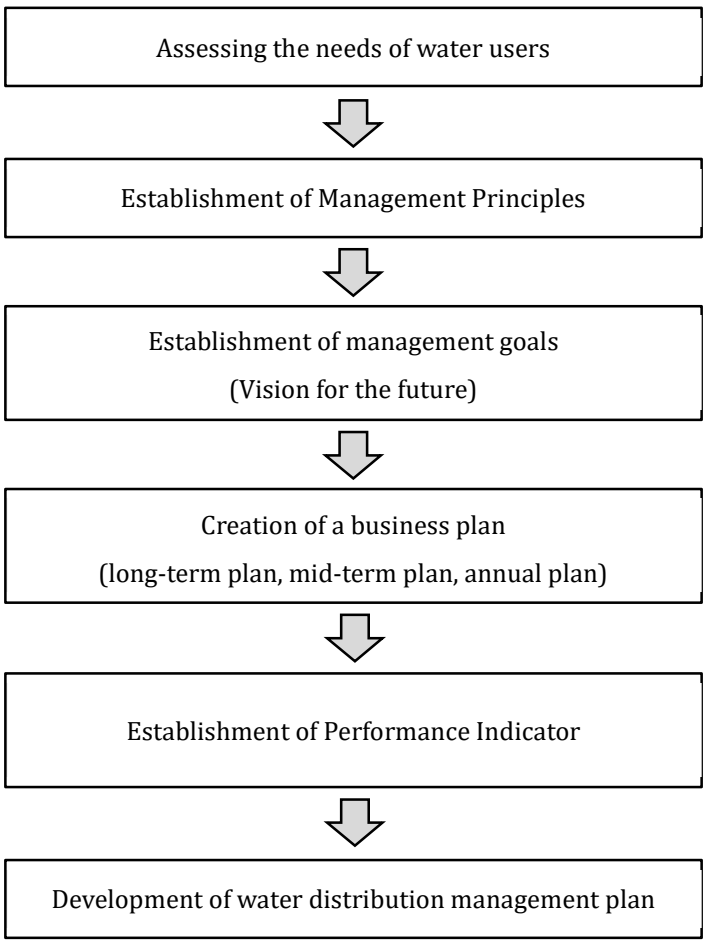


Figure 1.2.1 Relationship between water supply management and maintenance

2. Purpose of the Water Distribution Management Plan

The purpose of the Water Distribution Management Plan is to ensure that KUKL, as the entity responsible for operation and maintenance, properly manages the water supply facilities and provides water to water users in a manner that is equitable in terms of both quantity and time, thereby contributing to the improvement of the living environment.

This Water Distribution Management Plan is the most basic document for KUKL in maintenance and management.

KUKL is required to maintain and repair the water supply facilities to keep them in good condition.

3. Target District Metered Area (DMA)

This Water Distribution Management Plan covers DMAs constructed within the ring road.

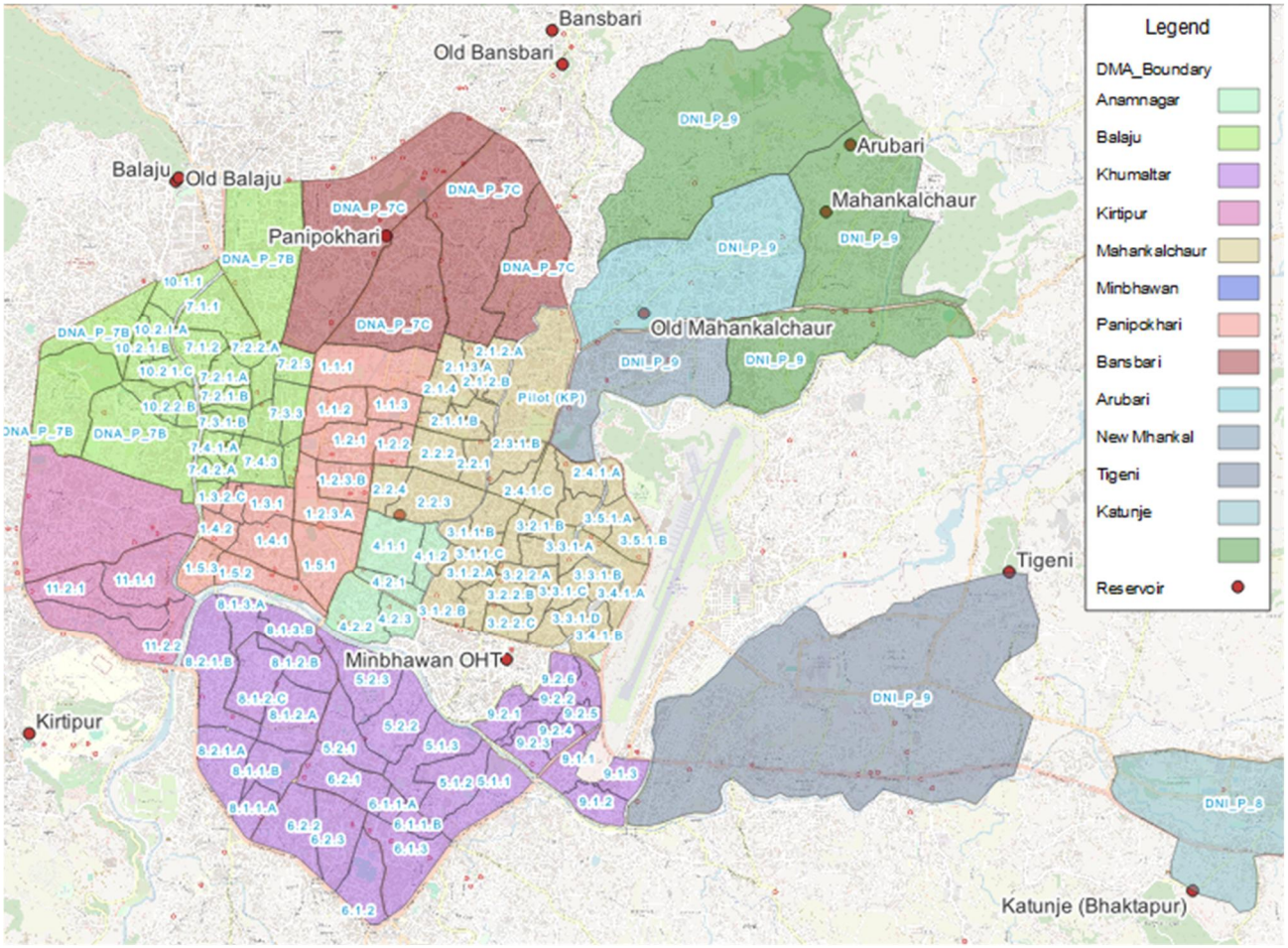


Figure 3.1.1 DMAs constructed in the Ring Road

The following figure is the water supply area covered by each of the service reservoir tanks.

The three water distribution reservoirs located within the ring road are Anamnagar, Minbhawan, and Panipokhari; the other reservoirs may also cover water supply outside the ring road.

In addition, some of the reservoirs supply the old distribution network, but in the future, they will be switched to supply the new distribution network constructed by Melamchi Water Supply Project.

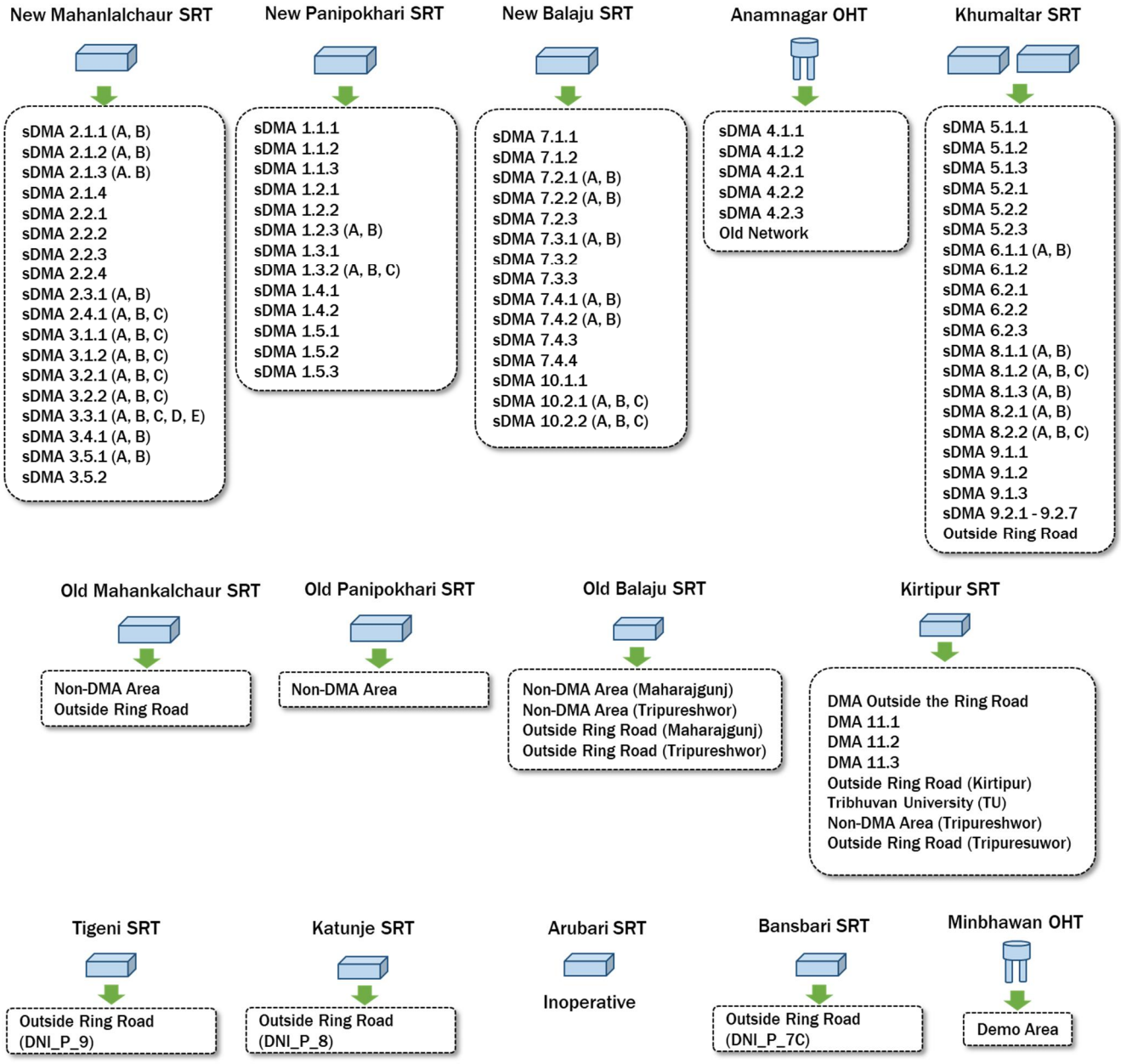


Figure 3.1.2 Sub-DMA covered by each Service Reservoir Tanks (SRTs)

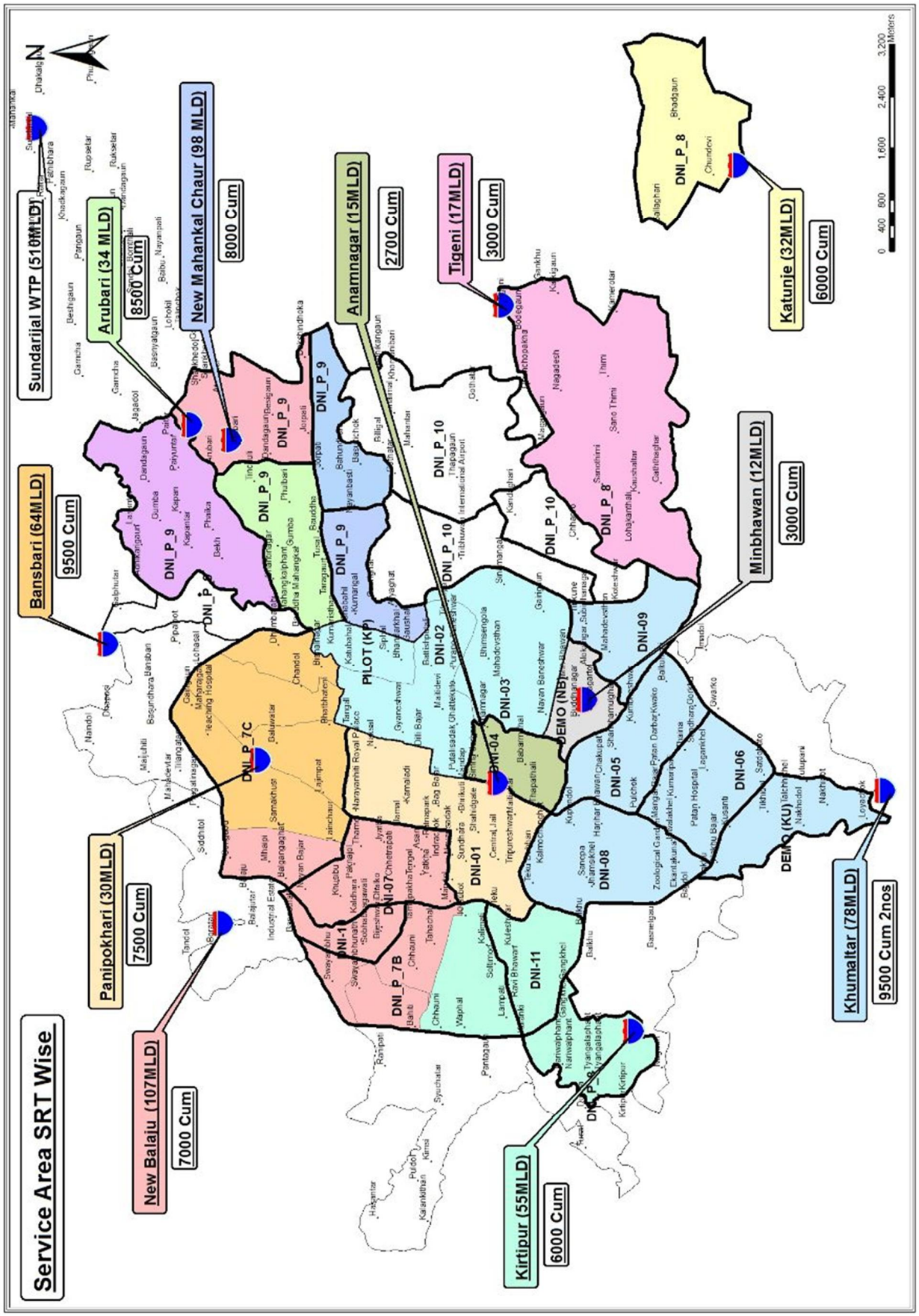


Figure 3.1.3 Water Coverage Area by SRT wise

4. Basic Information on DMAs and Sub-DMAs

The number of customers and estimated demand for each Sub-DMA are shown below.

Table 4.1.1 Estimated Demand in each DMA/Sub-DMA

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
1	1.1	1.1.1	Maharajgunj	Kathmandu				
		1.1.2	Maharajgunj	Kathmandu	12	1,144	135	1,853.3
		1.1.3	Maharajgunj	Kathmandu				
						1,144	Sub total	1,853.3
	1.2	1.2.1	Maharajgunj	Kathmandu				
		1.2.2	Baneshwor	Kathmandu	12	2,259	135	3,659.6
		1.2.3(A)	Maharajgunj	Kathmandu				
		1.2.3(B)	Maharajgunj	Kathmandu				
						2,259	Sub total	3,659.6
	1.3	1.3.1	Tripureshwor	Kathmandu				
		1.3.2(A)	Tripureshwor	Kathmandu	12	3,252	135	5,268.2
		1.3.2(B)	Tripureshwor	Kathmandu				
		1.3.2(C)	Tripureshwor	Kathmandu				
						3,252	Sub total	5,268.2
	1.4	1.4.1	Tripureshwor	Kathmandu	12	2,864	135	4,639.7
		1.4.2	Tripureshwor	Kathmandu				
						2,864	Sub total	4,639.7
	1.5	1.5.1	Tripureshwor	Kathmandu	12	262	135	424.4
		1.5.2	Tripureshwor	Kathmandu	12	365	135	591.3
		1.5.3	Tripureshwor	Kathmandu	12	386	135	625.3
						1,013	Sub total	1,641.1
2	2.1	2.1.1(A)	Mahankalchaur	Kathmandu	12	401	135	649.6
		2.1.1(B)	Maharajgunj & Mahankal	Kathmandu	12	433	135	701.5
		2.1.2(A)	Mahankalchaur	Kathmandu	12	553	135	895.9
		2.1.2(B)	Mahankalchaur	Kathmandu	12	135	135	218.7
		2.1.3(A)	Mahankalchaur	Kathmandu	12	508	135	823.0
		2.1.3(B)	Mahankalchaur	Kathmandu	12	292	135	473.0
		2.1.4	Mahankalchaur	Kathmandu	12	279	135	452.0
						2,601	Sub total	4,213.6
	2.2	2.2.1	Baneshwor	Kathmandu	12	770	135	1,247.4
		2.2.2	Baneshwor	Kathmandu	12	872	135	1,412.6
		2.2.3	Baneshwor	Kathmandu	12	1,989	135	3,222.2
		2.2.4	Baneshwor	Kathmandu	12	614	135	994.7
						4,245	Sub total	6,876.9
	2.3	2.3.1(A)	Baneshwor	Kathmandu	12	510	135	826.2
		2.3.1(B)	Baneshwor	Kathmandu	12	589	135	954.2
						1,099	Sub total	1,780.4
	2.4	2.4.1(A)	Baneshwor & Mahankal	Kathmandu	12	514	135	832.7
		2.4.1(B)	Baneshwor	Kathmandu	12	477	135	772.7
		2.4.1(C)	Baneshwor	Kathmandu	12	735	135	1,190.7
						1,726	Sub total	2,796.1
3	3.1	3.1.1(A)	Baneshwor	Kathmandu	12	415	135	672.3
		3.1.1(B)	Baneshwor	Kathmandu	12	363	135	588.1
		3.1.1(C)	Baneshwor	Kathmandu	12	348	135	563.8
		3.1.2(A)	Baneshwor	Kathmandu	12	503	135	814.9
		3.1.2(B)	Baneshwor	Kathmandu	12	610	135	988.2
		3.1.2(C)	Baneshwor	Kathmandu	12	456	135	738.7
						2,695	Sub total	4,365.9
	3.2	3.2.1(A)	Baneshwor	Kathmandu	12	417	135	675.5
		3.2.1(B)	Baneshwor	Kathmandu	12	287	135	464.9
		3.2.1(C)	Baneshwor	Kathmandu	12	478	135	774.4
		3.2.2(A)	Baneshwor	Kathmandu	12	479	135	776.0
		3.2.2(B)	Baneshwor	Kathmandu	12	484	135	784.1
		3.2.2(C)	Baneshwor	Kathmandu	12	493	135	798.7
						2,638	Sub total	4,273.6
	3.3	3.3.1(A)	Baneshwor	Kathmandu	12	403	135	652.9
		3.3.1(B)	Baneshwor	Kathmandu	12	533	135	863.5
		3.3.1(C)	Baneshwor	Kathmandu	12	503	135	814.9
		3.3.1(D)	Baneshwor	Kathmandu	12	481	135	779.2
		3.3.1(E)	Baneshwor	Kathmandu	12	387	135	626.9
						2,307	Sub total	3,737.3
	3.4	3.4.1(A)	Baneshwor	Kathmandu	12	536	135	868.3
		3.4.1(B)	Baneshwor	Kathmandu	12	364	135	589.7
						900	Sub total	1,458.0
	3.5	3.5.1(A)	Baneshwor & Maharajgunj	Kathmandu	12	551	135	892.6
		3.5.1(B)	Baneshwor	Kathmandu	12	587	135	950.9
		3.5.2	Baneshwor & Maharajgunj	Kathmandu	12	382	135	618.8
						1,520	Sub total	2,462.4
4	4.1	4.1.1	Baneshwor	Kathmandu				
		4.1.2	Baneshwor	Kathmandu	12	569	135	921.8
						569	Sub total	921.8
	4.2	4.2.1	Tripureshwor	Kathmandu	12	256	135	414.7
		4.2.2	Tripureshwor	Kathmandu	12	520	135	842.4
		4.2.3	Tripureshwor	Kathmandu	12	446	135	722.5
						1,222	Sub total	1,979.6

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
5	5.1	5.1.1	Lalitpur	Lalitpur				
		5.1.2	Lalitpur	Lalitpur	12	5,648	135	9,149.8
		5.1.3	Lalitpur	Lalitpur				
						5,648	Sub total	9,149.8
	5.2	5.2.1(A)	Lalitpur	Lalitpur				
		5.2.1(B)	Lalitpur	Lalitpur				
		5.2.1(C)	Lalitpur	Lalitpur				
		5.2.1(D)	Lalitpur	Lalitpur				
		5.2.2(A)	Lalitpur	Lalitpur				
		5.2.2(B)	Lalitpur	Lalitpur	12	3,617	135	5,859.5
		5.2.2(C)	Lalitpur	Lalitpur				
		5.2.2(D)	Lalitpur	Lalitpur				
		5.2.2(E)	Lalitpur	Lalitpur				
		5.2.3(A)	Lalitpur	Lalitpur				
		5.2.3(B)	Lalitpur	Lalitpur				
						3,617	Sub total	5,859.5
6	6.1	6.1.1(A)	Lalitpur	Lalitpur				
		6.1.1(B)	Lalitpur	Lalitpur	12	3,666	135	5,938.9
		6.1.2	Lalitpur	Lalitpur				
		6.1.3	Lalitpur	Lalitpur				
						3,666	Sub total	5,938.9
	6.2	6.2.1	Lalitpur	Lalitpur				
		6.2.2	Lalitpur	Lalitpur	12	4,559	135	7,385.6
		6.2.3	Lalitpur	Lalitpur				
						4,559	Sub total	7,385.6
7	7.1	7.1.1	Maharajgunj	Kathmandu	12	1,549	135	2,509.4
		7.1.2	Tripureshwor	Kathmandu	12	801	135	1,297.6
						2,350	Sub total	3,807.0
	7.2	7.2.1(A)	Tripureshwor	Kathmandu				
		7.2.1(B)	Tripureshwor	Kathmandu				
		7.2.2(A)	Maharajgunj	Kathmandu	12	2,480	135	4,017.6
		7.2.2(B)	Maharajgunj	Kathmandu				
		7.2.3	Maharajgunj	Kathmandu				
						2,480	Sub total	4,017.6
	7.3	7.3.1(A)	Tripureshwor	Kathmandu				
		7.3.1(B)	Tripureshwor	Kathmandu	12	3,100	135	5,022.0
		7.3.2	Tripureshwor	Kathmandu				
		7.3.3	Maharajgunj	Kathmandu				
						3,100	Sub total	5,022.0
	7.4	7.4.1(A)	Tripureshwor	Kathmandu				
		7.4.1(B)	Tripureshwor	Kathmandu				
		7.4.2(A)	Tripureshwor & Lalitpur	Kathmandu	12	4,475	135	7,249.5
		7.4.2(B)	Tripureshwor	Kathmandu				
		7.4.3	Tripureshwor & Maharajgunj	Kathmandu				
		7.4.4	Maharajgunj	Kathmandu				
						4,475	Sub total	7,249.5
8	8.1	8.1.1(A)	Lalitpur	Lalitpur				
		8.1.1(B)	Lalitpur	Lalitpur				
		8.1.2(A)	Lalitpur	Lalitpur				
		8.1.2(B)	Lalitpur	Lalitpur	12	3,893	135	6,306.7
		8.1.2(C)	Lalitpur	Lalitpur				
		8.1.3(A)	Lalitpur	Lalitpur				
		8.1.3(B)	Lalitpur	Lalitpur				
						3,893	Sub total	6,306.7
	8.2	8.2.1(A)	Lalitpur	Lalitpur				
		8.2.1(B)	Lalitpur	Lalitpur				
		8.2.1(C)	Lalitpur	Lalitpur				
		8.2.2(A)	Lalitpur	Lalitpur	12	2,800	135	4,536.0
		8.2.2(B)	Lalitpur	Lalitpur				
		8.2.2(C)	Lalitpur	Lalitpur				
						2,800	Sub total	4,536.0
9	9.1	9.1.1	Baneshwor	Lalitpur	12	799	135	1,294.4
		9.1.2	Baneshwor	Lalitpur	12	1,038	135	1,681.6
		9.1.3	Baneshwor	Lalitpur	12	552	135	894.2
						2,389	Sub total	3,870.2
	9.2	9.2.1	Baneshwor	Lalitpur	12	742	135	1,202.0
		9.2.2	Baneshwor	Lalitpur	12	630	135	1,020.6
		9.2.3	Baneshwor	Lalitpur	12	676	135	1,095.1
		9.2.4	Baneshwor	Lalitpur	12	406	135	657.7
		9.2.5	Baneshwor	Lalitpur	12	447	135	724.1
		9.2.6	Baneshwor	Lalitpur	12	623	135	1,009.3
		9.2.7	Baneshwor	Lalitpur	12	483	135	782.5
						4,007	Sub total	6,491.3
10	10.1	10.1.1	Maharajgunj	Kathmandu	12	480	135	777.6
					12	480	Sub total	777.6
	10.2	10.2.1(A)	Tripureshwor	Kathmandu				
		10.2.1(B)	Tripureshwor	Kathmandu				
		10.2.1(C)	Tripureshwor	Kathmandu				
		10.2.2(A)	Tripureshwor	Kathmandu	12	2,671	135	4,327.0
		10.2.2(B)	Tripureshwor	Kathmandu				
		10.2.2(C)	Tripureshwor	Kathmandu				
						2,671	Sub total	4,327.0
11	11.1	11.1.1	Tripureshwor	Kathmandu	12	2,075	135	3,361.5
						2,075	Sub total	3,361.5
	11.2	11.2.1	Tripureshwor	Kathmandu	12	1,681	135	2,723.2
						1,681	Sub total	2,723.2
	11.3	11.3.1	Tripureshwor	Kathmandu	12	1,239	135	2,007.2
						1,239	Sub total	2,007.2
Demo	Demo	Demo	Baneshwor	Kathmandu	12	5,000	135	8,100.0
						5,000	Sub total	8,100.0
Total	33					88,184		142,858.1

The table above calculates the water demand in DMAs and the existing Demo Area.

However, since the BDS Reservoir supplies water to areas other than the DMAs, it is necessary to estimate the demand for those areas.

Table 4. 1.2 Estimated number of households in the areas except for DMAs and Demo Area

Breakdown of household (connection) for the areas except 32 DMAs

Non DMA Area inside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to DNI 7B (Mhepi, Balaju Area)	2,500	Maharajgunj	Old Balaju
Supply to DNI 7B (Chauni Area)	3,300	Tripureshwor	Old Balaju
Supply to DNI 7B (Tahachal Area)	4,400	Tripureshwor	Kirtipur
Supply to DNI 7B (Kimdol, Dallu, Swoyambhu)	3,300	Tripureshwor (Ex-Chhetrapati)	Old Balaju
Supply to DNI 7C (Lainchaur, Galkopakha, Kapurdhara, Samakhusi, Gongabu)	10,500	Maharajgunj	Old Bansbari
Supply to DNI 7C (Khursanitar Area)	2,000	Maharajgunj	Old Panipokhari
Supply to DNI 7C (Bishalnagar, Chandol)	7,650	Mahankalchaur	Old Mahankal
Supply to Kalopur Pilot Area	2,300	Mahankalchaur	Old Mahankal
Outside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to Tarkeshwor, Banasthali, Dhunge dhara	8,000	Maharajgunj	Old Balaju
Supply to Tokha, Dhapasi, Basundhara (outside ringroad)	7,500	Maharajgunj	Old Bansbari
Supply to Kumari Club, Arcade colony	500	Tripureshwor (Ex-Chhetrapati)	Kirtipur
Supply to Outside the Ringroad by Tripureshwor	2,000	Tripureshwor	Old Balaju
Supply to Kapan, Jorpati	24,701	Mahankalchaur	Old Mahankal
Supply to Kirtipur Customer except for Tribhuvan University	10,054	Kirtipur	Kirtipur
Supply to Kusunti, Bagdol, Nakhu, Nakhipot, Khumaltar, Gwarko, ANFA, Dhapakhel, Dholahiti, Sunakothi	7,395	Lalitpur	Khumaltar
Supply to Kaushaltar, Lokanthali, Gatthaghar, Nagadesh, Sintitar, Dhunchepakha, Saraswatikhel, Thimi Core city, New Thimi, Old Thimi, Bappa, Kamerotar, Madhyapur Hospital	16,596	Madhyapur-Thimi	Thigni
Supply to Kamalbinayak planning, Liwali Planning, Byasi, Bansagopal, Nasamana, Gapali, Tekhacho, Sukuldhoka, Tulachhen, Khiche, Choche, Hanumante Purba, Chundevi, Ghalate, Pandubazar, Shrijananagar, Suryamadhi, Dattatraya, Chyamasingh, Wakupati, Chango road, Mahalaxmi, Bholachhen, Golmadhi, Jagati,	13,560	Bhaktapur	Katunje

Those values should be revised by the respective branch under the supervision by Operation Division.

After filling in the number of households in the areas Non-DMA and outside the Ring Road, the demand to be allocated to each SRT is calculated as follows:

Table 4.1.3 Estimated water demand in the areas except for DMAs and Demo Area

Breakdown of demand for the areas except for 33 DMAs

No of users per connection 12 persons/connection

Demand per capita 135 L/day/person

	Additional Water Demand except for 33 DMAs (m3/day)							
	Balaju	Kirtipur	Bansbari	Panipokhari	Old Mahnkalchaur	Khumaltar	Tigeni	Katunje
Maharajgunj Branch Area								
Non-DMA area inside the Ring Road	4,050		17,010	3,240				
Outside the Ring Road	12,960		12,150					
Tripureshwor Branch Area								
Non-DMA area inside the Ring Road	5,346	7,128						
Outside the Ring Road		810						
Ex-Chhetrapati Branch Area								
Non-DMA area inside the Ring Road	5,346							
Outside the Ring Road	3,240							
Mahankalchaur Branch Area								
Non-DMA area inside the Ring Road					16,119			
Outside the Ring Road					40,016			
Kirtipur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road		16,287						
Madhyapur-Thimi Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road							26,886	
Lalitpur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road						11,980		
Bhaktapur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road								21,967
Total								
Non-DMA area inside the Ring Road	14,742	7,128	17,010	3,240	16,119	0	0	0
Outside the Ring Road	16,200	17,097	12,150	0	40,016	11,980	26,886	21,967

5. Water Receiving Plan from Bulk Distribution System (BDS)

The BDS component will provide water supply to the Kathmandu Metro area using a combination of new water sources developed under Sub-Project 1 of the Melamchi Water Supply Project and other existing water sources.

In order to supply various areas within the Kathmandu Metro area, the new water treatment plant constructed at Sundarijal is the starting point in the water supply network, which will be routed through distribution reservoirs at Mahankalchaur, along the ring road and along the longitudinal route.

The distribution zones, called DMA, are designed to be independent with scattered distribution reservoirs to ensure the stability of water pressure and supply.

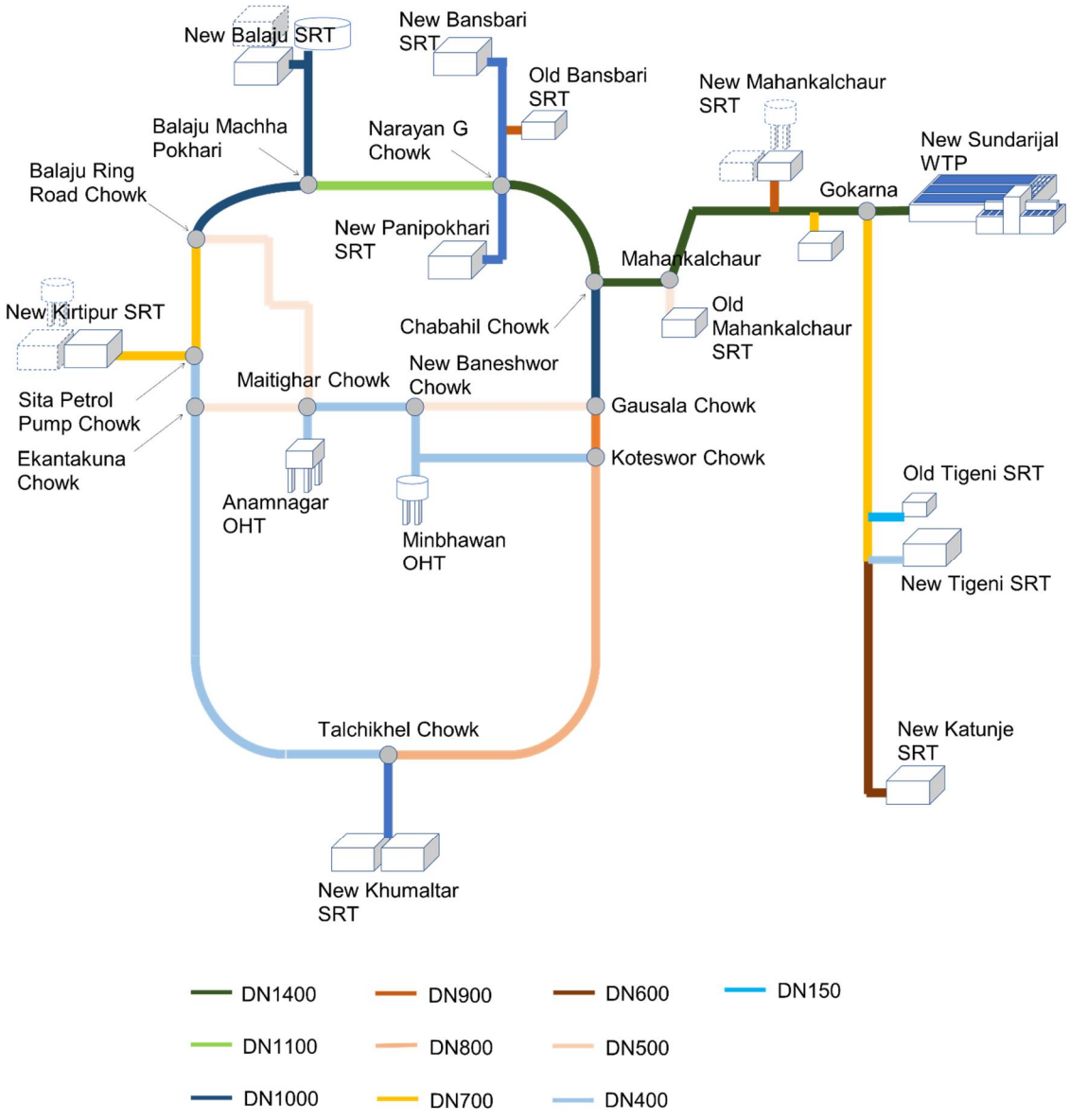


Figure 5.1.1 Schematic Water Supply Network of BDS

The amount of water to be delivered to each Service Reservoir Tank is determined based on the following steps.

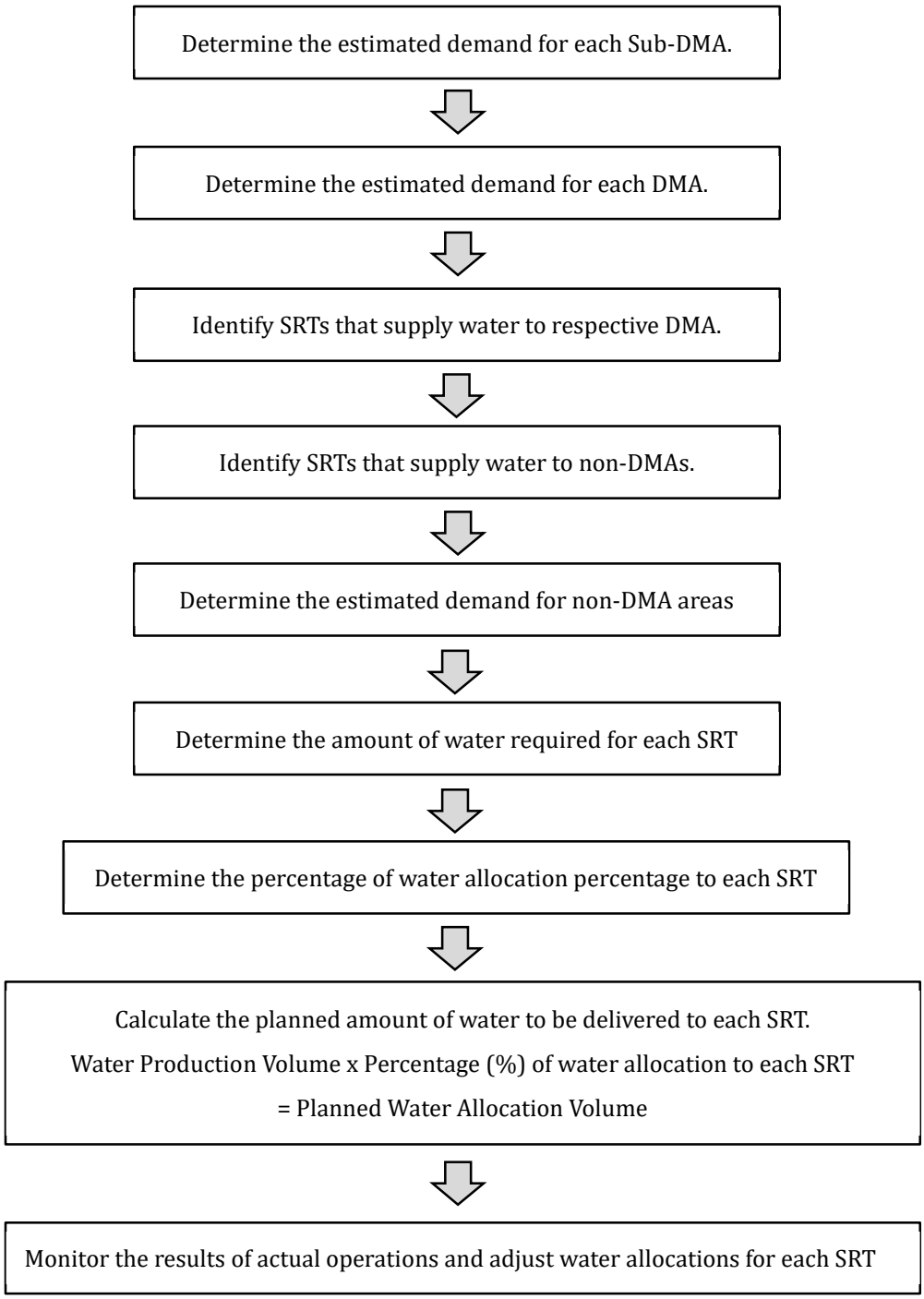


Figure 5.1.2 Steps to determine water allocation for each SRT

Table 5.1.1 Draft of Water Demand and Demand Percentage to each SRT

DMA	Estimated Demand (m3/day)	Demand Percentage (%)	Reservoir
1.1	1,853	0.53	Panipokhari
1.2	3,660	1.05	Panipokhari
1.3	5,268	1.52	Panipokhari
1.4	4,640	1.34	Panipokhari
1.5	1,641	0.47	Panipokhari
2.1	4,214	1.21	New Mahankalchaur
2.2	6,877	1.98	New Mahankalchaur
2.3	1,780	0.51	New Mahankalchaur
2.4	2,796	0.80	New Mahankalchaur
3.1	4,366	1.26	New Mahankalchaur
3.2	4,274	1.23	New Mahankalchaur
3.3	3,737	1.08	New Mahankalchaur
3.4	1,458	0.42	New Mahankalchaur
3.5	2,462	0.71	New Mahankalchaur
4.1	922	0.27	Anamnagar
4.2	1,980	0.57	Anamnagar
5.1	9,150	2.63	Khumaltar
5.2	5,860	1.69	Khumaltar
6.1	5,939	1.71	Khumaltar
6.2	7,386	2.13	Khumaltar
7.1	3,807	1.10	Balaju
7.2	4,018	1.16	Balaju
7.3	5,022	1.45	Balaju
7.4	7,250	2.09	Balaju
8.1	6,307	1.81	Khumaltar
8.2	4,536	1.31	Khumaltar
9.1	3,870	1.11	Khumaltar
9.2	6,491	1.87	Khumaltar
10.1	778	0.22	Balaju
10.2	4,327	1.25	Balaju
11.1	3,362	0.97	Kirtipur
11.2	2,723	0.78	Kirtipur
11.3	2,007	0.58	Kirtipur
Demo Area	8,100	2.33	Minbhawan
Tribhuvan University (TU)	100	0.03	Kirtipur
Non-DMA within the Ring Road	0	0.00	Anamnagar
Non-DMA within the Ring Road	14,742	4.24	Balaju
Non-DMA within the Ring Road	17,010	4.90	Bansbari
Non-DMA within the Ring Road	0	0.00	Khumaltar
Non-DMA within the Ring Road	7,128	2.05	Kirtipur
Non-DMA within the Ring Road	16,119	4.64	Old Mahankalchaur
Non-DMA within the Ring Road	0	0.00	Minbhawan
Non-DMA within the Ring Road	3,240	0.93	Panipokhari
Outside Ring Road	0	0.00	Arubari
Outside Ring Road	12,150	3.50	Bansbari
Outside Ring Road	16,200	4.66	Balaju
Outside Ring Road	11,980	3.45	Khumaltar
Outside Ring Road	17,097	4.92	Kirtipur
Outside Ring Road	40,016	11.52	Old Mahankalchaur
Outside Ring Road	0	0.00	Panipokhari
Outside Ring Road	26,886	7.74	Tigeni
Outside Ring Road	21,967	6.32	Katunje
Total	347,493	100.0	

Currently, water conduction from the Melamchi River is suspended during the rainy season, so the limited amount of water must be equally distributed according to the estimated demand.

Table 5.1.2 Standard Water Production (Main)

	Dry Season with Melamchi water	Monsoon Season without Melamchi water
Supply volume to BDS from New Sundarijal WTP	192 MLD	48 MLD
Production of Mahankalchaur WTP with existing water sources	16.37 MLD	20.67 MLD
Production of Bansbari WTP with existing water sources	10.18 MLD	18.33 MLD
Production of Bode WTP with existing water sources	7.90 MLD	8.08 MLD
Total	226.45 MLD	95.08 MLD

Source: KUKL Annual Report

Table 5.1.3 Water Production Record 2080/2081

		Mahanlakchaur WTP	Bansbari WTP	Bode WTP
Shrawan	July-August	20.15	22.43	8.91
Bhadra	August-September	25.54	30.96	8.08
Ashwin	September-October	17.00	29.32	8.32
Kartik	October-November	20.80	22.83	8.19
Mangsir	November-December	22.86	10.47	8.15
Paush	December-January	22.80	5.83	8.13
Magh	January-February	13.46	5.43	7.64
Falgun	February-March	15.34	19.34	7.50
Chaitra	March-April	9.73	2.7	7.70
Baishakh	April-May	9.66	4.67	8.00
Jestha	May-June	11.26	1.09	7.55
Ashad	June-July	29.22	7.85	7.55
Daily Average (MLD)		18.15	13.58	7.98
Monsoon season average without operation of Melamchi tunnel (MLD)		20.63	18.33	8.08
Dry season average with operation of Melamchi tunnel (MLD)		16.37	10.18	7.90

Source: KUKL Annual Report

Note: The operation of the Melamchi Diversion Tunnel will be suspended from the end-May to the mid-October.

Figure 5.1.4 Water Allocation Plan in Dry Season

Dry Season with Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	1,603				1,603	289	1,892
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	31,020				31,020	5,595	36,615
Bansbari (New & Old)	29,160	8.39	16,112		10,180		5,932	2,906	8,838
Khumaltar	61,518	17.70	33,990				33,990	6,131	40,121
Kirtipur	32,417	9.33	17,911				17,911	3,231	21,142
Mahankalchaur (New)	31,964	9.20	17,661				17,661	3,185	20,847
Mahankalchaur (Old)	56,135	16.15	31,016	16,370			14,646	5,594	20,240
Minbhawan	8,100	2.33	4,475				4,475	807	5,283
Panipokhari (New & Old)	20,302	5.84	11,217				11,217	2,023	13,241
Tigeni	26,886	7.74	14,855			8,080	6,775	2,679	9,455
Katunje	21,967	6.32	12,137				12,137	2,189	14,327
Total	347,493	100.00	192,000				157,370	34,630	192,000
			(F)				(G)		

Figure 5.1.5 Water Allocation Plan in Monsoon Season

Monsoon Season without Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	401				401	129	530
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	7,755				7,755	2,504	10,259
Bansbari (New & Old)	29,160	8.39	4,028		18,330		0	1,300	1,300
Khumaltar	61,518	17.70	8,498				8,498	2,743	11,241
Kirtipur	32,417	9.33	4,478				4,478	1,446	5,923
Mahankalchaur (New)	31,964	9.20	4,415				4,415	1,425	5,841
Mahankalchaur (Old)	56,135	16.15	7,754	20,630			0	2,503	2,503
Minbhawan	8,100	2.33	1,119				1,119	361	1,480
Panipokhari (New & Old)	20,302	5.84	2,804				2,804	905	3,710
Tigeni	26,886	7.74	3,714			7,900	0	1,199	1,199
Katunje	21,967	6.32	3,034				3,034	980	4,014
Total	347,493	100.00	48,000				32,504	15,496	48,000
			(F)				(G)		

6. Target of Water Supply Hour, Frequency of Water Supply and Water Supply Volume

[Supply Hour]

2 hours or more per supply day for all DMAs

[Supply Frequency]

Dry Season with Melamchi water:	At least once every 3 days in all DMAs
Monsoon Season without Melamchi water:	At least once every 5 days in all DMAs

[Supply Volume]

The amount of water allocated to each SRT is compared with the estimated demand of each Sub-DMA and other water supply areas to determine the water supply frequency and hours for each area so that water supply is achieved equally in all areas.

The following page shows the standard water supply schedule created by KUKL's Operation Division. Since available water sources differ between the monsoon and dry seasons, headquarters must review the need for monthly adjustments to the water supply schedule based on local conditions.

Table 6.1.1 Water Supply Plan in Dry Season with Melamchi water (1/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																												
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
Anamnagar	79	1,892	4.1	4.1.1	921.8	14:00	20:00			√			√			√			√			√			√			√			√			√			√
				4.1.2		14:00	22:00			√			√			√			√			√			√			√			√			√			√
			4.2	4.2.1	414.7	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.2	842.4	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.3	722.5	11:00	22:00			√			√			√			√			√			√			√			√			√			√
			Old Network	1st Shift	0.0	4:00	5:00	√			√			√			√			√			√			√			√			√			√		
				2nd Shift		20:00	21:00	√			√			√			√			√			√			√			√			√			√		
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																																
Balaju	1,526	36,615	7.1	7.1.1	2,509.4	4:00	12:00				√				√				√				√				√				√				√		
				7.1.2	1,297.6	4:00	12:00				√				√				√				√				√				√				√		
			7.2	7.2.1(A)	4,017.6	4:00	12:00		√				√				√				√			√			√				√				√
				7.2.1(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(A)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.3		4:00	12:00		√				√				√				√			√			√				√				√
			7.3	7.3.1(A)	5,022.0	7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.1(B)		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.2		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.3		7:00	19:00	√				√				√				√			√			√			√			√			√	
			7.4	7.4.1(A)	7,249.5	7:00	19:00			√				√				√				√			√				√			√				
				7.4.1(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(A)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.3		7:00	19:00			√				√				√				√			√				√			√				
				7.4.4		7:00	19:00			√				√				√				√			√				√			√				
			10.1	10.1.1	777.6	12:00	17:00				√				√				√				√				√				√				√		
			10.2	10.2.1(A)	4,327.0	17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(B)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(C)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.2(A)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(B)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(C)		13:00	20:00				√				√				√				√				√				√				√		
			Old Network	1st Shift	14,742.0	5:30	8:00		√					√					√					√					√					√			
				2nd Shift		8:00	20:00		√					√					√					√					√					√			
			Outside Ring Road		16,200.0	18:15	20:15					√					√				√					√				√						√
Bansbari	368	8,838	Old Network	1st zone, 1st Shift	17,010.0	5:30	8:00	√				√				√				√				√				√				√				√	
				1st zone, 2nd Shift		10:30	13:00	√				√				√				√				√				√				√				√	
				1st zone, 3rd Shift		15:30	18:00	√				√				√				√				√				√				√				√	
				1st zone, 4th Shift		20:30	23:00	√				√				√				√				√				√				√				√	
				2nd Zone, 1st Shift		3:00	5:30		√				√				√				√				√				√				√				√
				2nd Zone 2nd Shift		8:00	10:30		√				√				√				√				√				√				√				√
				2nd Zone 3rd Shift		13:00	15:30		√				√				√				√				√				√				√				√
				2nd Zone 4th Shift		18:00	20:30		√				√				√				√				√				√				√				√
				3rd Zone, 1st Shift		3:00	5:30			√				√				√				√			√				√				√				
				3rd Zone, 2nd Shift		8:00	10:30			√				√				√				√			√				√				√				
				3rd Zone, 3rd Shift		13:00	15:30			√				√				√				√			√				√				√				
				3rd Zone, 4th Shift		18:00	20:30			√				√				√				√			√				√				√				
			Outside Ring Road	1st Shift	12,150.0	3:00	18:00				√				√				√				√				√				√				√		
				2nd Shift		18:00	21:00				√				√				√				√				√				√				√		
				3rd Shift		21:00	0:00				√				√				√				√				√				√				√		
				4th Shift		0:00	3:00				√				√				√				√				√				√				√		
Khumaltar	1,672	40,121	5.1	5.1.1	9,149.8	18:00	6:00			√				√				√				√				√				√				√		
				5.1.2		18:00	6:00			√				√				√				√				√				√				√		
				5.1.3		18:00	6:00			√				√				√				√				√				√				√		
			5.2	5.2.1	5,859.5	6:00	18:00		√				√				√				√			√			√				√				√
				5.2.2		6:00	18:00		√				√				√				√			√			√				√				√
				5.2.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.1	6.1.1(A)	5,938.9	6:00	18:00		√				√				√				√			√			√				√				√
				6.1.1(B)		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.2		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.2	6.2.1	7,385.6	18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.2		18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.3		18:00	18:00	√				√				√				√				√				√				√				√	
			8.1	8.1.1	6,306.7	6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.2		6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.3		6:00	6:00	√				√				√				√				√				√				√				√	
			8.2	8.2.1	4,536.0	6:00	18:00		√				√				√				√			√				√				√				√
				8.2.2		6:00	18:00		√				√				√				√			√				√				√				√
			9.1	9.1.1	1,294.4	19:00	6:00				√				√				√				√				√				√				√		
				9.1.2	1,681.6	19:00	6:00				√				√				√				√				√				√				√		
				9.1.3	894.2	19:00	6:00				√				√				√				√				√				√				√		
			9.2	9.2.1	1,202.0	6:00	19:00				√				√				√				√				√				√				√		
				9.2.2	1,020.6	6:00	19:00				√				√				√				√				√				√				√		
				9.2.3	1,095.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.4	657.7	6:00	19:00				√				√				√				√				√				√				√		
				9.2.5	724.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.6	1,009.3	6:00	19:00				√				√				√				√				√				√				√		
				9.2.7	782.5	6:00	19:00				√				√				√				√				√				√				√		

Table 6.1.2 Water Supply Plan in Dry Season with Melamchi water (2/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			Old Network		0.0																														
			Outside Ring Road	1st Zone I	11,980.0	5:00	21:00		√				√				√				√			√				√				√				√
				1st Zone - II(a)		5:00	14:00				√				√				√				√			√				√				√		
				1st Zone - II(b)		8:00	9:00				√				√				√				√			√				√				√		
				1st Zone - II©		5:00	20:00				√				√				√				√			√				√				√		
				1st Zone - III		5:00	8:00	√				√				√				√				√				√				√				√	
				2nd Zone - I		6:00	18:00			√								√								√								√		
				2nd Zone - II		6:00	18:00							√								√								√						√
				3rd Zone - I		7:00	19:00	√				√				√				√				√				√				√				√	
				3rd Zone - II		7:00	19:00			√				√				√				√				√				√				√		
				4th Zone - I		6:00	20:00			√				√				√				√				√				√				√		
				4th Zone - II		17:00	0:00				√				√				√				√				√				√				√		
				4th Zone - III		17:00	0:00					√				√				√				√			√				√				√		
				4th Zone - IV		17:00	0:00						√				√				√				√			√				√					
Kirtipur	881	21,142	11.1	11.1.1	3,361.5	18:00	6:00	√			√			√			√			√			√			√			√			√			
			11.2	11.2.1	2,723.2	18:00	6:00		√			√			√			√			√			√			√			√			√		
			11.3	11.3.1	2,007.2	18:00	6:00			√			√			√			√			√			√			√			√			√	
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network	Zone 1	7,128.0	6:00	18:00		√							√							√						√							√
				Zone 2		6:00	18:00			√							√							√							√						
				Zone 3		6:00	18:00				√							√							√							√					
				Zone 4		6:00	18:00					√							√							√							√				
				Zone 5		6:00	18:00						√							√							√							√			
				Zone 6		6:00	18:00							√							√							√							√		
				Zone 7		6:00	18:00	√							√							√							√							√	
				Tyanglaphant - I		6:00	16:00		√		√		√			√		√		√			√		√		√			√		√		√			√
				Tyanglaphant - II a		8:00	16:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Tyanglaphant - II b		8:00	17:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III a		7:00	13:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III b		6:00	2:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		9:00	15:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		15:30	18:30			√		√					√		√					√		√					√		√				
				Maitri Chandani		16:00	19:00				√		√					√		√						√		√					√		√		√
				Maitri Chandani		9:00	15:00							√								√							√							√	
				Panga Dokashi -I		12:00	17:00			√							√							√							√						
				Panga Dokashi -II		8:00	13:00					√							√							√							√				
				Panga Dokashi -III		8:00	11:20	√							√							√						√							√		
				Bhatkepati - I		8:00	14:00		√							√							√							√							√
				Bhatkepati - II		10:00	17:00			√							√							√							√						
				Bhatkepati - III		10:00	17:00				√							√							√							√					
				Nagaun - I		9:00	17:00					√							√							√							√				
				Nagaun - II		10:00	17:00						√							√							√							√			
				Nagaun - III		8:00	16:00							√							√							√							√		
				Nagaun - IV		9:00	12:00								√							√							√							√	
				Jakha-Sikhunchhe D		9:00	10:00			√			√				√			√			√			√			√			√				
				Jakha-Sikhunchhe U		8:00	9:00				√				√			√			√			√			√			√			√			√	
				Nagaun & Old		5:00	11:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Nagaun & Old		5:00	11:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		10:00	19:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				KIRTIPUR old		10:00	19:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		4:00	20:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Kwachwo - I		4:00	22:00		√							√							√							√							√
				Kwachwo - II		3:00	8:00			√							√							√							√						
				Kwachwo - III		4:00	7:00				√							√							√							√					
				Kwachwo R - I		5:00	9:00					√							√							√							√				
				Kwachwo R - I		3:00	22:00						√							√							√							√			
				Kwachwo R - I		4:00	8:00							√							√							√							√		
				Kwachwo R - I		4:00	7:00								√							√							√							√	
				Bhajangal - I		4:00	9:00			√		√			√		√		√				√		√		√			√		√		√			√
				Bhajangal - II		6:00	10:00		√			√			√	√			√			√	√			√			√	√			√			√	√
				Bhajangal - III		5:00	10:00			√	√		√				√	√		√				√	√		√				√	√		√			
				Nayabazar Area		10:00	18:10		√						√								√							√							√
				Nayabazar Area - I		8:00	18:00				√			√				√			√				√			√				√			√		
				Nayabazar Area - II		14:00	19:00					√							√							√							√				
				Nayabazar Area - II		11:30	16:30	√							√							√							√							√	
Mahankalchaur	1,712	41,087	2.1	2.1.1(A)	649.6	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.1(B)	701.5	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(A)	895.9	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(B)	218.7	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(A)	823.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(B)	473.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.4	452.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
			2.2	2.2.1	1,247.4	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.2	1,412.6	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.3	3,222.2	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.4	994.7	12:00	22:00	√			√			√			√			√			√			√			√			√			
			2.3	2.3.1(A)	826.2	1:00	8:00		√			√			√			√			√			√			√			√				√	
				2.3.1(B)	954.2	1:00	8:00		√			√			√			√			√			√			√			√				√	

Table 6.1.3 Water Supply Plan in Dry Season with Melamchi water (3/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			2.4	2.4.1(A)	832.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(B)	772.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(C)	1,190.7	7:00	12:00	√			√			√			√			√			√			√			√			√			√		
			3.1	3.1.1(A)	672.3	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(B)	588.1	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(C)	563.8	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(A)	814.9	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(B)	988.2	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(C)	738.7	13:00	17:00			√			√			√			√			√			√			√			√			√		√
			3.2	3.2.1(A)	675.5	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(B)	464.9	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(C)	774.4	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(A)	776.0	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(B)	784.1	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(C)	798.7	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
			3.3	3.3.1(A)	652.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(B)	863.5	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(C)	814.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(D)	779.2	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(E)	626.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
			3.4	3.4.1(A)	868.3	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
				3.4.1(B)	589.7	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
			3.5	3.5.1(A)	892.6	4:00	7:00			√			√			√			√			√			√			√			√			√		√
				3.5.1(B)	950.9	7:00	12:00			√			√			√			√			√			√			√			√			√		√
				3.5.2	618.8	7:00	12:00			√			√			√			√			√			√			√			√			√		√
			Old Network	Zone 1	16,119.0	8:00	7:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	7:00			√			√			√			√			√			√			√			√			√			
				Zone 3		10:00	7:00	√			√			√			√			√			√			√			√			√			√			
			Outside Ring Road	Zone 1	40,016.0	8:00	10:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	8:00			√			√			√			√			√			√			√			√			√			
				Zone 3		20:00	0:00	√			√			√			√			√			√			√			√			√			√		
				Zone 4 i		4:00	3:00		√						√							√								√							
				Zone 4 ii		3:00	3:00			√						√								√							√						
				Zone 5 i		4:00	5:00	√							√							√						√								
				Zone 5 ii		5:00	5:00		√							√							√						√							
				Zone 5 iii		5:00	5:00			√							√							√							√						
				Zone 5 iv		5:00	5:00				√							√							√							√					
				Zone 5 v		5:00	4:00					√							√							√							√				
				Zone 5 vi		4:00	22:00						√							√							√							√			
				Zone 5 vii		4:00	4:00							√							√							√							√		
				Zone 6 i		5:00	22:00				√							√				√							√								
				Zone 6 ii		6:00	19:00					√							√							√							√				
				Zone 6 iii		19:00	5:00						√							√							√							√			
				Zone 6 iv		5:00	17:00							√							√							√							√		
Minbhawan	220	5,283	Demo Area	Zone 1	8,100.0	5:00	11:00		√			√			√			√			√			√			√			√			√		√	
				Zone 1 - II		3:00	8:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		5:00	11:00			√			√			√			√			√			√			√			√			√			√
				Zone 2 - II		3:00	8:00			√			√			√			√			√			√			√			√			√			√
				Zone 3		5:00	10:00	√			√			√			√			√			√			√			√			√			√		
				Zone 3 - II		12:00	18:00	√			√			√			√			√			√			√			√			√			√		
Panipokhari	552	13,241	1.1	1.1.1	1,853.3	12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.2		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.3		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
			1.2	1.2.1	3,659.6	12:00	16:00		√			√			√			√			√			√			√			√			√		√	
				1.2.2		7:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.2.3(A)		16:00	20:00		√				√				√				√				√				√				√			√
				1.2.3(B)		16:00	20:00		√				√				√				√				√				√				√			√
			1.3	1.3.1	5,268.2	6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(A)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(B)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(C)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
			1.4	1.4.1	4,639.7	16:00	18:00			√			√			√			√			√			√			√			√			√		√
				1.4.2		16:00	18:00			√			√			√			√			√			√			√			√			√		√
			1.5	1.5.1	424.4	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.2	591.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.3	625.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
			Old Network	1st Zone, 1st Shift	3,240.0	4:00	7:00				√					√			√				√				√				√				√	
				1st Zone, 2nd Shift		07"00	9:00				√					√			√				√				√				√				√	
				1st Zone, 3rd Shift		9:00	11:00				√					√			√				√				√				√				√	
				1st Zone, 4th Shift		11:00	13:00				√					√			√				√				√				√				√	
				1st Zone, 5th Shift		13:00	16:00				√					√			√				√				√				√				√	
				1st Zone, 6th Shift		16:00	19:00				√					√			√				√				√				√				√	
				1st Zone, 7th Shift		19:00	22:00				√					√			√				√				√				√				√	
				2nd Zone		4:00	7:00	√				√				√				√				√				√				√				√	
			Outside Ring Road		0.0																															
Tigeni	394	9,455	Outside Ring Road	1st zone	26,886.0	5:00	4:00	√				√				√				√				√				√				√				√	
				2nd zone		5:00	4:00		√				√				√				√				√				√				√				√
				3rd zone		5:00	4:00			√			√			√			√			√			√			√			√			√			√
				4th zone		5:00	4:00				√				√				√				√				√				√				√		
Katunje	597	14,327	Outside Ring Road	1st zone - I	21,967.0	4:00	10:00				√				√				√				√				√				√				√	
				1st zone - II		16:00	20:00				√				√				√				√				√				√				√	
				2nd zone - I		4:00	10:00	√				√				√				√				√				√				√				√	
				2nd zone - II		16:00	20:00	√				√				√				√				√				√				√				√	
				3rd zone - I		4:00	10:00		√				√				√				√				√				√				√				√
				3rd zone - II		16:00	20:00		√				√				√				√				√				√				√				√
				4th zone - I		4:00	10:00			√			√			√			√			√			√			√			√			√			√
				4th zone - II		16:00	20:00			√			√			√			√			√			√			√			√			√			√
				5th zone -I		10:00	14:00				√				√				√				√				√				√				√	
				5th zone - II		20:00	0:00				√				√				√				√				√				√				√	
				6th zone - I		10:00	14:00			√			√			√			√			√			√			√			√			√			√
				6th zone - II		20:00	0:00			√			√			√			√			√			√			√			√			√			√
		192,000		Total	347,493.1																															

Table 6.1.4 Water Supply Plan in Monsoon Season without Melamchi water (1/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Anamnagar	22	530	4.1	4.1.1	921.8																															
				4.1.2		14:00	20:00			√						√						√						√						√				
			4.2	4.2.1	414.7	11:00	20:00			√						√						√						√						√				
				4.2.2	842.4	11:00	20:00			√						√						√						√						√				
				4.2.3	722.5	11:00	20:00			√						√						√						√						√				
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																															
Balaju	427	10,259	7.1	7.1.1	2,509.4	17:00	22:00						√						√						√						√					√	
				7.1.2	1,297.6	17:00	22:00						√						√						√						√					√	
			7.2	7.2.1(A)		4:00	11:00						√						√						√						√					√	
				7.2.1(B)		4:00	11:00						√						√						√						√					√	
				7.2.2(A)	4,017.6	4:00	11:00						√						√						√						√					√	
				7.2.2(B)		4:00	11:00						√						√						√						√					√	
				7.2.3		4:00	11:00						√						√						√						√					√	
			7.3	7.3.1(A)		4:00	13:00					√						√					√						√					√		
				7.3.1(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(A)	5,022.0	4:00	13:00					√						√					√						√					√		
				7.3.2(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(C)		4:00	13:00					√						√					√						√					√		
				7.3.3		4:00	13:00					√						√					√						√					√		
			7.4	7.4.1(A)		4:00	13:00				√						√						√	√					√					√		
				7.4.1(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.2(A)	0.0	4:00	13:00				√						√						√	√					√					√		
				7.4.2(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.3		4:00	13:00				√						√						√	√					√					√		
				7.4.4		4:00	13:00				√						√						√	√					√					√		
			10.1	10.1.1	777.6																															
			10.2	10.2.1(A)		15:00	20:00					√						√						√						√					√		
				10.2.1(B)		15:00	20:00					√						√						√						√					√		
				10.2.1(C)	4,327.0	15:00	20:00					√						√						√						√					√		
				10.2.2(A)		15:00	20:00				√						√						√						√					√		
				10.2.2(B)		15:00	20:00				√						√						√						√					√		
				10.2.2(C)		15:00	20:00				√						√						√						√					√		
			Old Network	1st Zone		6:00	8:00				√						√						√						√					√		
				2nd Zone		8:00	18:00				√						√						√						√					√		
				1st zone, 1st Shift		3:30	5:00			√						√						√						√					√				
				1st zone, 2nd Shift		7:00	8:00			√						√						√						√					√				
				1st zone, 3rd Shift		13:00	17:00			√						√						√						√					√				
				2nd Zone, 1st Shift		14:30	15:30						√						√						√						√					√	
				2nd Zone 2nd Shift		15:30	16:30						√						√						√						√					√	
				2nd Zone 3rd Shift	14,742.0	16:30	17:30						√						√						√						√					√	
				3rd Zone, 1st Shift		14:30	15:30				√						√						√						√					√		
				3rd Zone, 2nd Shift		15:30	16:30				√						√						√						√					√		
				3rd Zone, 3rd Shift		16:30	17:30				√						√						√						√					√		
				3rd Zone, 4th Shift		17:30	18:30				√						√						√						√					√		
				3rd Zone, 5th Shift		18:30	19:30				√						√						√						√					√		
				4th Zone, 1st Shift		14:30	17:00			√						√						√						√						√		
				4th Zone, 2nd Shift		15:30	17:00			√						√						√						√						√		
				5th Zone, 1st Shift		15:30	17:00				√						√						√						√					√		
			Outside Ring Road	1st Zone	16,200.0	5:15	8:00						√						√						√						√					√	
				2nd Zone		5:15	8:00			√						√						√						√						√				
Bansbari	54	1,300	Old Network	1st zone, 1st Shift		3:00	5:00				√						√						√						√					√		
				1st zone, 2nd Shift		9:00	11:00				√						√						√						√					√		
				1st zone, 3rd Shift		15:00	17:00				√						√						√						√					√		
				2nd Zone, 1st Shift		3:00	5:00					√						√						√						√					√	
				2nd Zone 2nd Shift		9:00	11:00					√						√						√						√					√	
				2nd Zone 3rd Shift		15:00	17:00					√						√						√						√					√	
				3rd Zone, 1st Shift		3:00	5:00						√						√						√						√					√	
				3rd Zone, 2nd Shift	17,010.0	9:00	11:00						√						√						√						√					√	
				4th Zone, 1st Shift		3:00	5:00	√						√						√						√						√					√
				4th Zone, 2nd Shift		9:00	11:00	√						√						√						√						√					√
				4th Zone, 3rd Shift		15:00	17:00	√						√						√						√						√					√
				5th Zone, 1st Shift		3:00	5:00		√						√						√						√						√				
				5th Zone, 2nd Shift		9:00	11:00		√						√						√						√						√				
				5th Zone, 3rd Shift		15:00	17:00		√						√						√						√						√				
				6th Zone, 1st Shift		18:00	22:00			√						√						√						√					√				
			Outside Ring Road	1st zone, 1st Shift		3:00	5:30		√					√						√					√						√						
				1st zone, 2nd Shift		14:00	15:30		√					√						√					√						√						
				1st zone, 3rd Shift		15:30	16:30		√					√						√					√						√						
				2nd Zone, 1st Shift		3:00	5:00			√					√					√						√						√					
				2nd Zone 2nd Shift	12,150.0	14:00	16:00			√					√					√						√						√					
				3rd Zone, 1st Shift		3:00	5:00				√					√						√						√						√		
				3rd Zone, 2nd Shift		14:00	16:00				√					√						√						√						√		
				4th Zone, 1st Shift		3:00	5:00					√					√					√						√					√			
				4th Zone, 2nd Shift		14:00	16:00					√					√					√						√					√			
				5th Zone, 1st Shift		3:00	5:00	√					√					√					√						√								√

Table 6.1.5 Water Supply Plan in Monsoon Season without Melamchi water (2/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																								
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Khumaltar	468	11,241	5.1	5.1.1	9,149.8	14:00	21:00							7							14							21							28			
				5.1.2		14:00	21:00							7							14							21							28			
				5.1.3		14:00	21:00							7							14							21							28			
			5.2	5.2.1	5,859.5	4:00	11:00						6							13						20							27				
				5.2.2		4:00	11:00						6							13						20							27				
				5.2.3		4:00	11:00						6							13						20							27				
			6.1	6.1(DNI)	5,938.9	19:00	6:00						6							13						20							27				
				6.1(DNI)		19:00	6:00							7							14							21							28			
			6.2	6.2(DNI)	7,385.6	18:00	6:00				4							11						18							25						
				6.2(DNI)		18:00	6:00					5							12							19							26					
			8.1	8.1 (DNI)	6,306.7	8:00	20:00					5							12							19							26					
			8.2	8.2 (DNI)	4,536.0	8:00	20:00					5							12							19							26					
			9.1	9.1.1	1,294.4	20:00	5:00								√							√							√							√		
				9.1.2	1,681.6	20:00	5:00								√							√							√							√		
				9.1.3	894.2	20:00	5:00								√							√							√							√		
			9.2	9.2.1	1,202.0	5:00	19:00							√							√							√							√		
				9.2.2	1,020.6	5:00	19:00							√							√							√							√		
				9.2.3	1,095.1	5:00	19:00							√							√							√							√		
				9.2.4	657.7	5:00	19:00							√							√							√							√		
				9.2.5	724.1	5:00	19:00							√							√							√							√		
				9.2.6	1,009.3	5:00	19:00							√							√							√							√		
				9.2.7	782.5	5:00	19:00							√							√							√							√		
			Old Network		0.0																																	
			Outside Ring Road	8.1 (20" KUKL)	11,980.0	6:00	14:00				4							11						18							25						
				8.1 (20" KUKL)		15:00	17:00				4							11						18							25						
				8.1 (20" KUKL)		7:00	16:00		2							9						16								23							30	
				8.1 (20" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	13:00							7							14							21							28			
Kirtipur	247	5,923	11.1	11.1.1	3,361.5	18:00	6:00	√						√						√					√						v	√						√
			11.2	11.2.1	2,723.2	18:00	6:00						√						√						√					√						v		
			11.3	11.3.1	2,723.2	18:00	6:00					√						√						√					√						v			
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network		7,128.0	7:00	17:00																															
			Siwalaya System	Siwalaya 1		7:00	12:30							√							√							√							√			
				Siwalaya 1		7:00	9:40	√							√							√							√							√			
			Bhajangal System	Bhajangal R1		4:00	8:40	√				√			√				√			√				√			√				√			√			
				Bhajangal R2		5:00	5:40	√		√					√		√					√		√					√		√					√			√
				Bhajangal R3		5:00	8:40	√			√				√			√				√			√					√			√				√		
				Bhajangal R4		5:00	5:40		√					√		√						√		√				√		√					√		√	
						18:30	20:00		√					√		√						√		√				√		√					√		√	
				Bhajangal R5		6:00	8:40		√			√				√			√				√			√				√			√				√	
				Bhajangal D		8:00	14:40			√			√				√			√				√			√				√			√				√
				Bhajangal K		8:00	11:20				√			√				√			√				√			√				√			√			
				Gurung Compound		14:40	18:00				√							√							√							√						
			Chilancho System	Chilancho 1		4:00	7:30	√				√			√				√			√				√			√				√			√		
						21:00	22:00	√				√			√				√			√				√			√				√			√		
				Chilancho 2		6:00	9:00		√				√			√				√			√				√			√				√			√	
						19:30	20:00		√				√			√				√			√				√			√				√			√	
				Chilancho 3		4:00	8:00				√			√				√			√				√			√				√			√		
				Chilancho 4		16:00	19:00	√				√		√	√			√	√		√	√			√	√		√	√			√	√		√	√		
				Chilancho 5		14:30	18:30		√				√	√		√		√		√	√		√		√		√	√		√		√		√		√		
				Chilancho 6		14:15	18:00				√			√				√							√				√			√			√			
			Devdhoka System	Devdhoka 1	17,097.0	6:00	15:00	√							√							√							√							√		
						12:00	15:00	√							√							√							√							√		
				Devdhoka 2		6:00	19:00		√							√							√							√							√	
						15:00	19:00		√							√							√							√							√	
				Devdhoka 3		6:00	11:00			√							√							√							√							√
						13:00	14:00			√							√							√							√							√
				Devdhoka 4		6:00	10:00				√							√							√							√						
				Devdhoka 5		6:00	9:00					√							√							√							√						
						12:00	15:30					√							√														√						
				Devdhoka 6		6:00	9:00						√							√							√							√				
						15:00	18:30						√							√							√							√				
				Devdhoka 7		6:00	21:00							√							√							√							√			
						15:00	18:30							√							√							√							√			
			Kwacho System	Kwacho 1		4:00	6:30	√				√			√				√			√				√			√				√			√		
						18:30	19:30	√				√			√				√			√				√			√				√			√		
				Kwacho 2		3:00	6:30		√				√			√				√			√				√			√				√			√	
				Kwacho 3		4:00	5:30			√				√			√				√			√				√			√				√			√
			Jakha System	Water is used when local																																		
			Nagau System	Nagau 1 (8 area)		5:00	9:00	√		√		√			√		√		√			√		√		√			√		√		√			√			√
				Nagau 2 (8 area)		5:00	9:00		√		√		√			√		√			√		√		√		√			√		√		√			√		
Mahankalchaur	348	8,344	2.1	2.1.1(A)	649.0	11:00	14:00	√						√							√						√					√						
				2.1.1(B)	701.5	11:00	14:00	√						√							√						√					√						
				2.1.2(A)	895.9	11:00	14:00	√						√							√						√					√						
				2.1.2(B)	218.7	11:00	14:00	√						√							√						√					√						
				2.1.3(A)	823.0	11:00	14:00	√						√							√						√					√						
				2.1.3(B)	473.0	11:00	14:00	√						√							√						√					√						
				2.1.4	452.0	11:00	14:00	√						√							√						√					√						
			2.2	2.2.1	1,247.4	13:00	22:00			√						√						√						√						√			
				2.2.2	1,412.6	13:00	22:00			√						√						√						√						√			
				2.2.3	3,222.2	13:00	22:00			√						√						√						√						√			
				2.2.4	994.7	13:00	22:00			√						√						√						√						√			
			2.3	2.3.1(A)	826.2	22:00	1:00		√						√						√						√					√					
				2.3.1(B)	954.2	22:00	1:00		√						√						√						√					√					
			2.4	2.4.1(A)	832.7	14:00	20:00	√						√						√					√						√						
				2.4.1(B)	772.7	14:00	20:00	√						√						√					√						√						
				2.4.1(C)	1,190.7	14:00	20:00	√						√						√					√						√						

Table 6.1.6 Water Supply Plan in Monsoon Season without Melamchi water (3/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																													
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
			3.1	3.1.1(A)	672.3	11:00	17:00		√						√						√						√						√					
				3.1.1(B)	588.1	11:00	17:00		√						√						√						√						√					
				3.1.1(C)	563.8	11:00	17:00		√						√						√						√						√					
				3.1.2(A)	814.9	11:00	17:00		√						√						√						√						√					
				3.1.2(B)	988.2	11:00	17:00		√						√						√						√						√					
				3.1.2(C)	738.7	11:00	17:00		√						√						√						√						√					
			3.2	3.2.1(A)	675.5	6:00	12:00			√						√						√						√						√				
				3.2.1(B)	464.9	6:00	12:00			√						√						√						√						√				
				3.2.1(C)	774.4	6:00	12:00			√						√						√						√						√				
				3.2.2(A)	776.0	6:00	12:00			√						√						√						√						√				
				3.2.2(B)	784.1	6:00	12:00			√						√						√						√						√				
				3.2.2(C)	798.7	6:00	12:00			√						√						√						√						√				
			3.3	3.3.1(A)	652.9	15:00	21:00		√						√						√						√						√					
				3.3.1(B)	863.5	15:00	21:00		√						√						√						√						√					
				3.3.1(C)	814.9	15:00	21:00		√						√						√						√						√					
				3.3.1(D)	779.2	15:00	21:00		√						√						√						√						√					
				3.3.1(E)	626.9	15:00	21:00		√						√						√						√						√					
			3.4	3.4.1(A)	868.3	20:00	23:00	√						√					√					√							√							
				3.4.1(B)	589.7	20:00	23:00	√						√					√					√							√							
			3.5	3.5.1(A)	802.6	4:00	10:00		√						√						√						√						√					
				3.5.1(B)	950.9	4:00	10:00		√						√						√						√						√					
				3.5.2	618.8	4:00	10:00		√						√						√						√						√					
			Old Network	Zone 1 a	16,119.0	8:00	10:00		√			√			√			√			√			√			√			√			√			√		
				Zone 1 b		16:00	19:00		√			√			√			√			√			√			√			√			√			√		
				Zone 2		4:00	8:00			√			√			√			√			√			√			√			√			√			√	
				Zone 3 a		11:00	13:00	√			√			√			√			√			√			√			√			√			√			√
				Zone 3 b		13:00	16:00	√			√			√			√			√			√			√			√			√			√			√
			Outside Ring Road	Zone 1-gravity	19,846.4																																	
				Zone 2-gravity																																		
				Zone 3 a-pumping																																		
				Zone 3 b-pumping																																		
				Zone 3 c-pumping																																		
				Zone 3 d-pumping																																		
				Zone 3 e-pumping																																		
				Zone 3 f-pumping																																		
				Zone 3 g-pumping																																		
Minbhawan	62	1,480	Demo Area	Zone 1	8,100.0	10:00	12:30						√						√						√					√						√	
				Zone 2		18:00	20:30						√						√						√					√						√	
				Zone3		5:00	8:00	√						√						√						√						√						√
				Zone 4		15:00	18:00	√						√						√						√						√						√
				Zone 5		5:00	8:00		√						√						√						√						√					
				Zone 6		12:00	16:00		√						√						√						√						√					
Panipokhari	155	3,710	1.1	1.1.1	1,853.3	4:00	22:00							√						√						√						√					√
				1.1.2										√						√						√						√					√
				1.1.3										√						√						√						√					√
			1.2	1.2.1	3,659.6	4:00	7:00								√						√						√						√				
				1.2.2											√						√						√						√				
				1.2.3(A)											√						√						√						√				
				1.2.3(B)											√						√						√						√				
			1.3	1.3.1	5,268.2	14:00	21:00							√						√						√						√					√
				1.3.2(A)		14:00	21:00							√						√						√						√					√
				1.3.2(B)		14:00	21:00							√						√						√						√					√
				1.3.2(C)		14:00	21:00							√						√						√						√					√
			1.4	1.4.1	4,639.7	13:00	19:00						√						√					√					√						√	
				1.4.2		13:00	19:00						√						√					√					√						√	
			1.5	1.5.1	424.4	5:00	13:00							√						√						√						√					√
				1.5.2	591.3	5:00	13:00							√						√						√						√					√
				1.5.3	625.3	5:00	13:00							√						√						√						√					√
Tigeni	50	1,199	Outside Ring Road	1st zone	26,886.0	4:00	11:00		√							√						√							√						√	
				2nd zone		4:00	11:00			√							√						√							√						√
				3rd zone		4:00	11:00				√							√						√							√						
				4th zone		4:00	11:00					√							√						√							√					
				5th zone		4:00	11:00						√							√						√							√				
				6th zone		4:00	11:00							√							√						√							√			
				7th zone		4:00	11:00	√							√							√						√							√			
Katunje	167	4,014	Outside Ring Road	1st zone	21,967.0	13:00	20:00		√						√						√						√						√				
				2nd zone						√						√						√						√						√				
				3rd zone					√						√						√						√						√				
				4th zone		14:00	17:00		√			√			√			√				√			√			√			√			√			√	
				5th zone		8:00	12:00	√						√						√						√						√						√
				6th zone				√						√						√						√						√						√
				7th zone				√						√						√						√						√						√
				8th zone		6:00	10:00			√			√			√			√			√			√			√			√			√			
				9th zone		8:00	11:00		√							√						√						√						√				
		48,000		Total	317,550.0																																

7. Actions to be taken by KUKL

In the technical cooperation project by JICA, indicators are established to measure the achievement of Output 1 and the project purpose.

Both indicators must be achieved by December 2026, when the technical cooperation project concludes.

[Output 1]

The capacity of water distribution management utilizing GIS is enhanced.

Indicator 1-3: The water distribution plan for maintaining fair supply hour is prepared for the DMAs within the Ring Road.

[Project Purpose]

The KUKL's capacity of operation and maintenance of water supply is improved.

Indicator 1: The water distribution management plan for fair water supply is implemented in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

Indicator 2: Water supply hours are fair in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

To achieve the above-mentioned indicators, KUKL should implement the following actions:

7.1 Actions to be taken by Production Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-1: Monthly water inflow at each SRT from BDS
(Table 7.1.1, Table 7.1.2, Figure 7.1.1, Figure 7.1.2)

PI-2: Monthly water inflow per customer at each SRT from BDS
(Table 7.1.3, Figure 7.1.3)

PI-3: Water losses in BDS between New Sundarijal WTP and each SRT
(Table 7.1.2)

Table 7.1.1 Monitoring Format of Monthly Inflow by SRT wise (1/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Baisakh		Jestha		Asadh		Shrawan		Bhadra		Ashwin	
				14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	15164	3	231591	46	129935	26	114419	23	131183	26	372,456	74
Balaju (New)	15,556	291,578	1,098,464	237048	15	280865	18	184668	12	199020	13	181238	12	230070	15
Balaju (Old)	19,100			298687	16	239059	13	115738	6	0	0	202898	11	351175	18
Bansbari (Old)	18,000	30,605	265,132	291703	16	293788	16	44799	2	0	0	317	0	6784	0
Khumaltar	37,974	319,495	1,203,634	1023350	27	1146020	30	662190	17	734120	19	764932	20	802258	21
Kirtipur	19,949	168,358	634,255	323657	16	329460	17	198622	10	237609	12	216165	11	249046	12
Mahankalchaur (New)	19,731	291,538	1,098,313	467845	24	516628	26	225886	11	287506	15	450396	23	466119	24
Mahankalchaur (Old)	34,651	33,548	134,298	431083	12	442614	13	72781	2	0	0	303	0	162782	5
Minbhawan	5,000	42,067	158,481	236571	47	136076	27	58780	12	108294	22	119345	24	150899	30
Panipokhari (New)	10,532	105,438	397,217	137442	13	133258	13	87793	8	88573	8	95710	9	111872	11
Panipokhari (Old)	2,000			37848	19	21103	11	7043	4	17084	9	11696	6	14515	7
Tigeni	16,596	28,218	283,640	-	-	-	-	-	-	-	-	344	0	483	0
Katunje	13,560	114,086	429,797	0	0	328681	24	180919	13	154526	11	166588	12	208998	15
Average				291,700	17	341,595	21	164,096	10	161,763	11	180,086	12	240,574	18

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

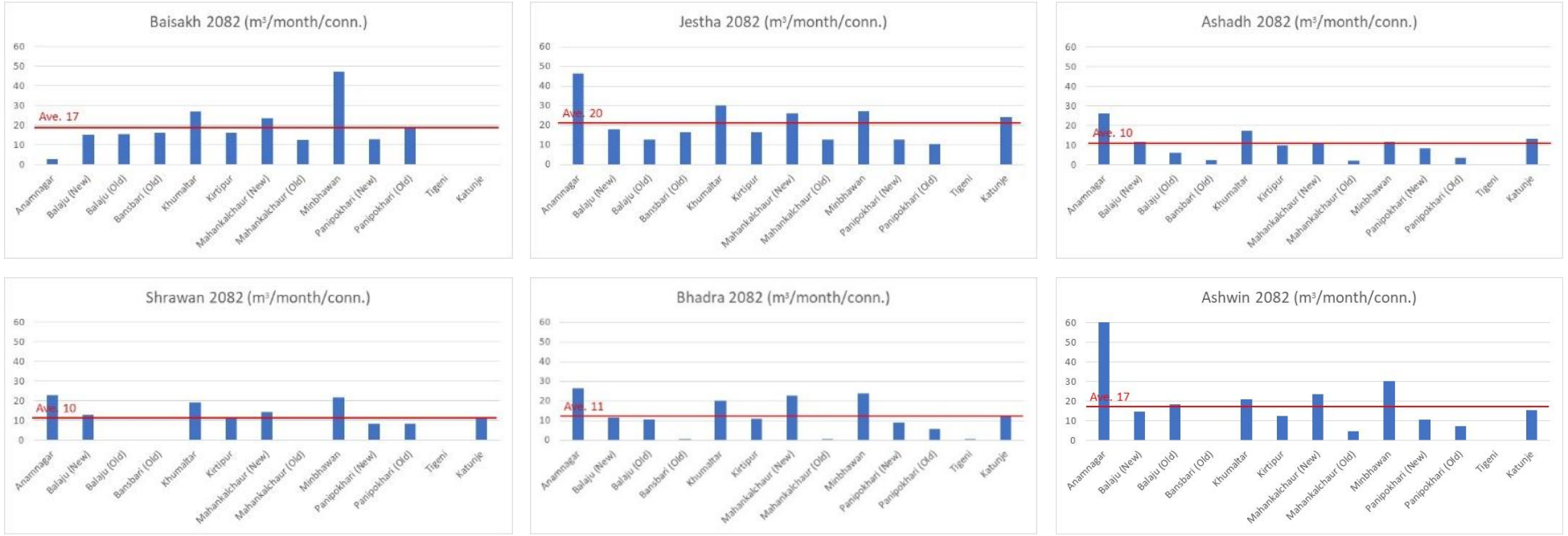


Figure 7.1.1 Change of Monthly Inflow by SRT wise (1/2)

Table 7.1.2 Monitoring Format of Monthly Inflow by SRT wise (2/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Kartik		Mangsir		Poush			Magh		Falgun		Chaitra	
				18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25		14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	14-Mar-26	15-Mar-26	13-Apr-26
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow		Inflow		Inflow			Inflow		Inflow		Inflow	
				(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	Local sources	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	182330	36	143,488	29	220,633		44		0		0		0
Balaju (New)	15,556	291,578	1,098,464	326808	21	363,390	23	414,438		27		0		0		0
Balaju (Old)	19,100			438440	23	460,982	24	585,595		31		0		0		0
Bansbari (Old)	18,000	30,605	265,132	64275	4	102,621	6	292,397	104,400	22		0		0		0
Khumaltar	37,974	319,495	1,203,634	972150	26	1,016,340	27	1,227,320		32		0		0		0
Kirtipur	19,949	168,358	634,255	335258	17	347,178	17	424,761		21		0		0		0
Mahankalchaur (New)	19,731	291,538	1,098,313	477628	24	522,914	27	618,450		31		0		0		0
Mahankalchaur (Old)	34,651	33,548	134,298	411567	12	441,275	13	487,527	681,500	34		0		0		0
Minbhawan	5,000	42,067	158,481	195975	39	140,311	28	234,816		47		0		0		0
Panipokhari (New)	10,532	105,438	397,217	192052	18	213,775	20	227,497		22		0		0		0
Panipokhari (Old)	2,000			24593	12	27277	14	53,189		27		0		0		0
Tigeni	16,596	28,218	283,640	469	0	288,000	17	288,000	161,994	27		0		0		0
Katunje	13,560	114,086	429,797	350301	26	344,498	25	398,271	-76,560	24		0		0		0
Average				305,527	20	339,388	21	420,992		30		0		0		0

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

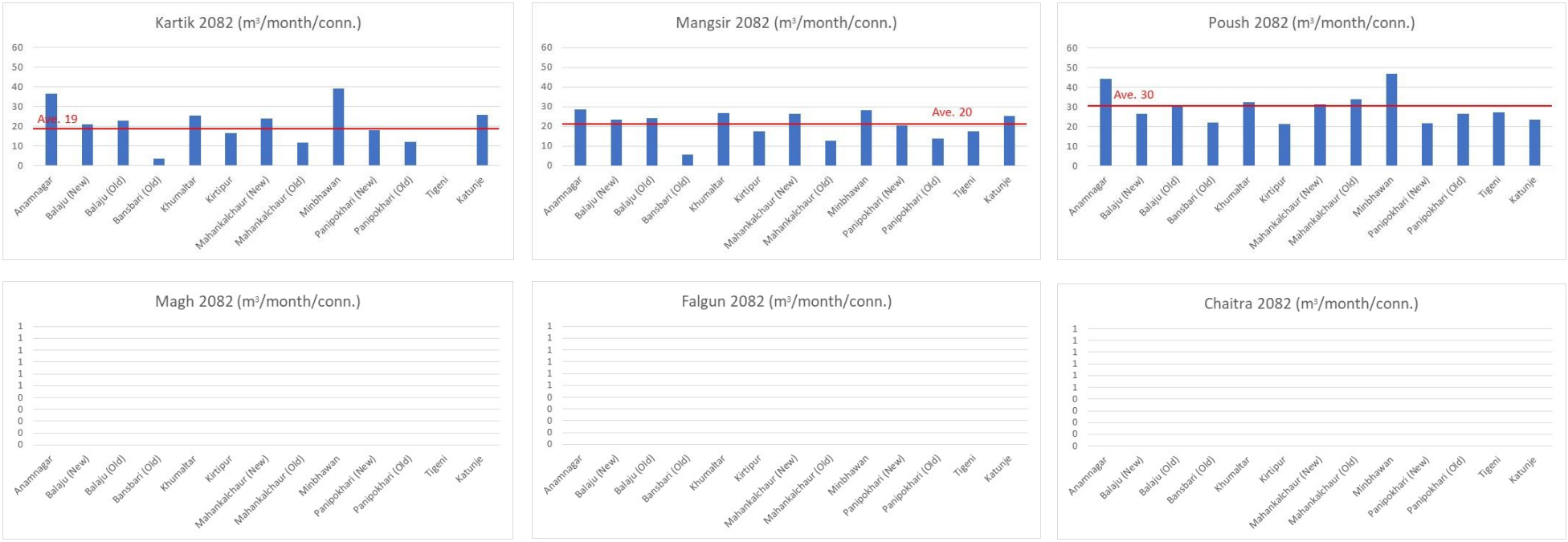


Figure 7.1.2 Change of Monthly Inflow by SRT wise (2/2)

Table 7.1.3 Monitoring Format of Water Loss in BDS

Description	Unit	January/2025	February/2025	March/2025	April/2025	May/2025	June/2025
Total Water transmitted from New Sundarijal WTP	m3						
Total water received by SRTs	m3						
Water losses in BDS	m3						
Wate losses ratio	%						
Description	Unit	July/2025	August/2025	September/2025	October/2025	November/2025	December/2025
Total Water transmitted from New Sundarijal WTP	m3	1,104,558.54	2,541550.32	2,819,664.66	4,337,372.36	4402496.86	5m796,124.00
Total water received by SRTs	m3	2,294,058.00	2,421495.00	2,707,171.00	4,290,970.00	4412049	5,691,271.00
Water losses in BDS	m3	-1,189,499.46	120,055.32	112,493.66	46,402.36	-9,552.14	104,853.00
Wate losses ratio	%	-107.69	4.72	3.99	1.07	-0.22	1.81

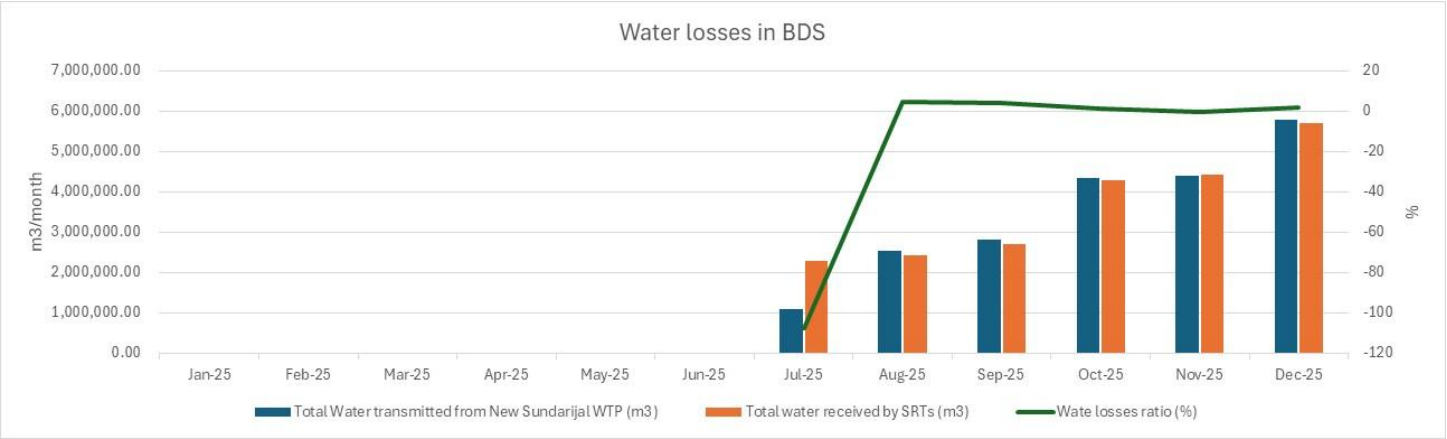


Figure 7.1.3 Change of Water Losses in BDS

7.2 Actions to be taken by Operation Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-4: Daily water supply volume as average at each DMA or sub-DMA and the volume per connection (Table 7.2.1, Figure 7.2.1, Figure 7.2.2)

[Responsibilities of the Operation Division]

- The Operations Division monitors the number of customers and water distribution volumes for each DMA on a monthly basis.
- The Operation Division monitors an indicator (PI-4) calculated by dividing the water distribution volume per DMA by the number of customers on a monthly basis.
- Using the Indicator PI-4. evaluate the feasibility of achieving equitable water distribution. If significant inequities arise or significant fluctuations occur, review the water distribution volume and distribution times for each DMA.

In addition to those main actions, the Operation division shall take responsibility for daily maintenance of SRTs. The operation division is required to take a record of the following monitoring.

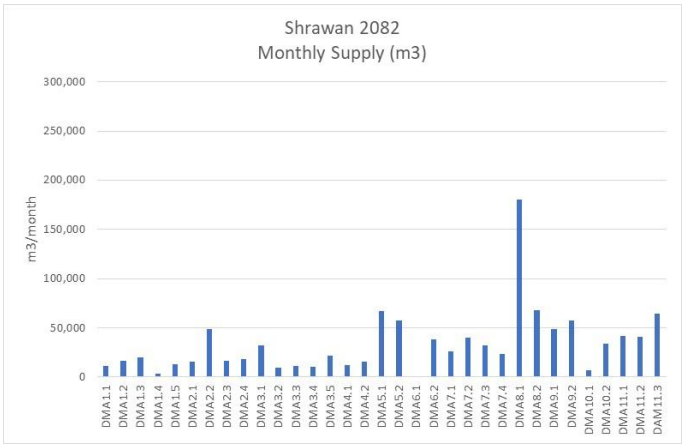
PI-5: Operation and Maintenance Status of each SRT (Table 7.2.2, Table 7.2.3)

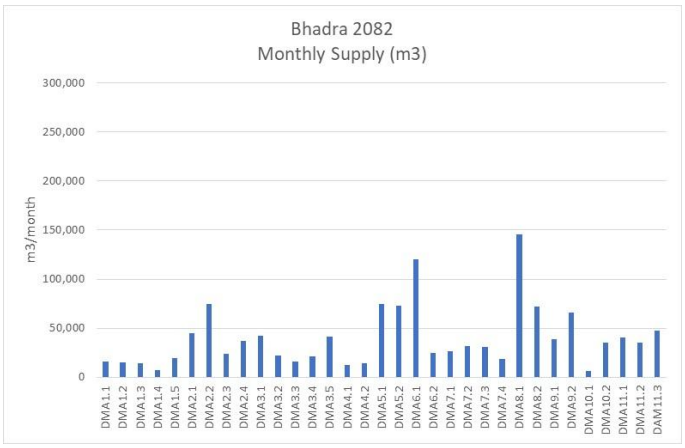
Action-1: Allocate the responsible operator (Everyday)
Action-2: Prepare a Standard Operation Procedure (SOP) for each SRT (Everyday)
Action-3: Cleaning work of the inside of valve chambers (2 times per month)
Action-4: Inspection of air valves at the outlet chamber (2 time per month)
Action-5: Cleaning work of the inside of reservoirs (1 time per year)
Action-6: Inspection of the inside of reservoirs (1 time per year)
Action-7: Water quality test (Everyday)

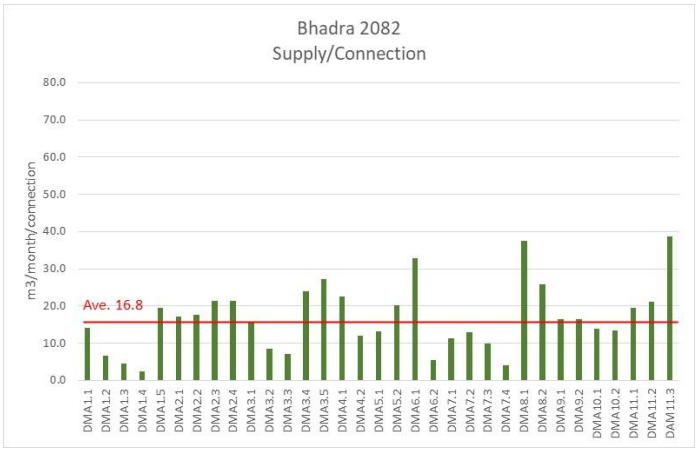
Table 7.2.1 Monitoring Format of Water Supply Volume by DMA wise

Year:2082	1	1		2		3		4		5		6		7		8		9		10		11		12	
	Baisakha	Baisakha		Jestha		Asadh		Shrawan		Bhadra		Ashwin		Kartik		Mangsir		Poush		magh		Falgun		Chaitra	
DMA	No. of Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection
DMA1.1	1,144	21,648	18.9	13,221	11.6	6,092	5.3	11,017	9.6	16,049	14.0	13,973	12.2	27,747	24.3	29,252	25.6	29,370	25.7	0	0.0	0	0.0	0	0.0
DMA1.2	2,259	25,922	11.5	35,173	15.6	19,444	8.6	16,136	7.1	15,011	6.6	18,217	8.1	28,727	12.7	37,082	16.4	41,999	18.6	0	0.0	0	0.0	0	0.0
DMA1.3	3,252	37,697	11.6	24,193	7.4	15,796	4.9	19,892	6.1	14,553	4.5	16,613	5.1	50,400	15.5	62,017	19.1	56,966	17.5	0	0.0	0	0.0	0	0.0
DMA1.4	2,864	5,717	2.0	4,591	1.6	1,946	0.7	3,314	1.2	7,159	2.5	6,845	2.4	5,161	1.8	19,453	6.8	8,288	2.9	0	0.0	0	0.0	0	0.0
DMA1.5	1,013	26,675	26.3	19,455	19.2	15,818	15.6	13,108	12.9	19,660	19.4	18,398	18.2	25,601	25.3	40,877	40.4	32,025	31.6	0	0.0	0	0.0	0	0.0
DMA2.1	2,601	41,335	15.9	48,209	18.5	18,312	7.0	15,388	5.9	44,703	17.2	52,792	20.3	73,993	28.4	99,200	38.1	85,590	32.9	0	0.0	0	0.0	0	0.0
DMA2.2	4,245	97,828	23.0	88,406	20.8	35,715	8.4	48,721	11.5	74,516	17.6	96,162	22.7	96,259	22.7	125,271	29.5	67,604	15.9	0	0.0	0	0.0	0	0.0
DMA2.3	1,099	23,446	21.3	27,561	25.1	7,506	6.8	16,152	14.7	23,541	21.4	16,114	14.7	21,198	19.3	34,262	31.2	32,861	29.9	0	0.0	0	0.0	0	0.0
DMA2.4	1,726	27,410	15.9	31,419	18.2	16,988	9.8	18,450	10.7	36,817	21.3	28,018	16.2	27,321	15.8	35,194	20.4	43,056	24.9	0	0.0	0	0.0	0	0.0
DMA3.1	2,695	59,187	22.0	52,864	19.6	26,607	9.9	32,091	11.9	42,450	15.8	41,410	15.4	45,549	16.9	60,547	22.5	82,687	30.7	0	0.0	0	0.0	0	0.0
DMA3.2	2,638	19,912	7.5	16,719	6.3	7,802	3.0	9,946	3.8	22,357	8.5	21,939	8.3	30,817	11.7	44,383	16.8	1,980	0.8	0	0.0	0	0.0	0	0.0
DMA3.3	2,307	19,119	8.3	12,201	5.3	13,993	6.1	11,359	4.9	16,331	7.1	10,784	4.7	6,494	2.8	13,961	6.1	6,345	2.8	0	0.0	0	0.0	0	0.0
DMA3.4	900	25,964	28.8	22,342	24.8	9,682	10.8	10,516	11.7	21,542	23.9	20,233	22.5	23,032	25.6	33,976	37.8	22,445	24.9	0	0.0	0	0.0	0	0.0
DMA3.5	1,520	30,491	20.1	29,776	19.6	19,133	12.6	21,938	14.4	41,349	27.2	25,625	16.9	51,037	33.6	37,626	24.8	28,972	19.1	0	0.0	0	0.0	0	0.0
DMA4.1	569	20,624	36.2	20,328	35.7	16,961	29.8	12,591	22.1	12,792	22.5	15,569	27.4	19,270	33.9	16,257	28.6	27,560	48.4	0	0.0	0	0.0	0	0.0
DMA4.2	1,222	32,362	26.5	29,019	23.7	19,335	15.8	15,577	12.7	14,663	12.0	19,796	16.2	25,419	20.8	20,552	16.8	23,110	18.9	0	0.0	0	0.0	0	0.0
DMA5.1	5,648	104,751	18.5	113,842	20.2	66,889	11.8	67,444	11.9	74,886	13.3	76,034	13.5	117,202	20.8	160,002	28.3	148,855	26.4	0	0.0	0	0.0	0	0.0
DMA5.2	3,617	73,329	20.3	94,180	26.0	42,194	11.7	57,770	16.0	72,932	20.2	58,361	16.1	75,219	20.8	120,350	33.3	107,295	29.7	0	0.0	0	0.0	0	0.0
DMA6.1	3,666	92,386	25.2	225,885	61.6	45,045	12.3	0	0.0	120,495	32.9	157,296	42.9	144,778	39.5	169,591	46.3	211,028	57.6	0	0.0	0	0.0	0	0.0
DMA6.2	4,559	20,120	4.4	107,860	23.7	51,579	11.3	38,735	8.5	24,491	5.4	53,359	11.7	7,525	1.7	63,393	13.9	23,176	5.1	0	0.0	0	0.0	0	0.0
DMA7.1	2,350	42,330	18.0	34,721	14.8	21,020	8.9	25,749	11.0	26,498	11.3	35,978	15.3	33,058	14.1	44,179	18.8	37,704	16.0	0	0.0	0	0.0	0	0.0
DMA7.2	2,480	44,289	17.9	38,732	15.6	24,663	9.9	39,861	16.1	32,022	12.9	29,824	12.0	42,822	17.3	89,470	36.1	49,134	19.8	0	0.0	0	0.0	0	0.0
DMA7.3	3,100	33,038	10.7	55,121	17.8	27,045	8.7	32,592	10.5	30,638	9.9	29,986	9.7	48,528	15.7	50,049	16.1	52,972	17.1	0	0.0	0	0.0	0	0.0
DMA7.4	4,475	46,350	10.4	34,726	7.8	31,530	7.0	23,479	5.2	18,656	4.2	45,727	10.2	55,808	12.5	91,910	20.5	81,872	18.3	0	0.0	0	0.0	0	0.0
DMA8.1	3,893	243,448	62.5	253,177	65.0	111,160	28.6	180,034	46.2	145,776	37.4	168,523	43.3	211,259	54.3	274,338	70.5	256,717	65.9	0	0.0	0	0.0	0	0.0
DMA8.2	2,800	112,901	40.3	86,608	30.9	70,131	25.0	67,884	24.2	72,491	25.9	81,403	29.1	72,187	25.8	76,861	27.5	72,160	25.8	0	0.0	0	0.0	0	0.0
DMA9.1	2,389	113,632	47.6	108,407	45.4	60,422	25.3	49,032	20.5	39,160	16.4	51,395	21.5	58,327	24.4	81,353	34.1	99,425	41.6	0	0.0	0	0.0	0	0.0
DMA9.2	4,007	95,662	23.9	96,331	24.0	63,773	15.9	57,680	14.4	65,922	16.5	74,004	18.5	70,840	17.7	134,651	33.6	133,988	33.4	0	0.0	0	0.0	0	0.0
DMA10.1	480	9,223	19.2	10,751	22.4	4,883	10.2	7,236	15.1	6,646	13.8	7,211	15.0	28,696	59.8	16,266	33.9	23,945	49.9	0	0.0	0	0.0	0	0.0
DMA10.2	2,671	55,874	20.9	53,489	20.0	33,176	12.4	33,812	12.7	35,507	13.3	44,055	16.5	77,317	28.9	59,582	22.3	85,442	32.0	0	0.0	0	0.0	0	0.0
DMA11.1	2,075	39,163	18.9	34,347	16.6	28,235	13.6	42,134	20.3	40,646	19.6	33,276	16.0	43,180	20.8	60,738	29.3	53,179	25.6	0	0.0	0	0.0	0	0.0
DMA11.2	1,681	48,781	29.0	27,279	16.2	20,924	12.4	41,258	24.5	35,708	21.2	31,406	18.7	30,385	18.1	55,741	33.2	53,264	31.7	0	0.0	0	0.0	0	0.0
DAM11.3	1,239	92,592	74.7	75,878	61.2	49,886	40.3	64,198	51.8	47,964	38.7	62,830	50.7	123,897	100.0	132,456	106.9	176,441	142.4						
Total / Avarage	81,945	1,690,614	23.0	1,850,933	23.1	953,799	12.7	1,040,896	14.3	1,265,967	16.8	1,400,326	17.9	1,675,154	24.3	2,258,383	29.9	2,081,013	29.8	0	0.0	0	0.0	0	0.0
More than 1.5 times of Average			4		4		4		4		4		4		3		2		4		32		32		32
Less than 1/2 of Average			7		5		5		7		6		5		4		3		4		32		32		32

Figure 7.2.1 Monitoring Graph of Water Supply Volume by DMA wise (1/2)







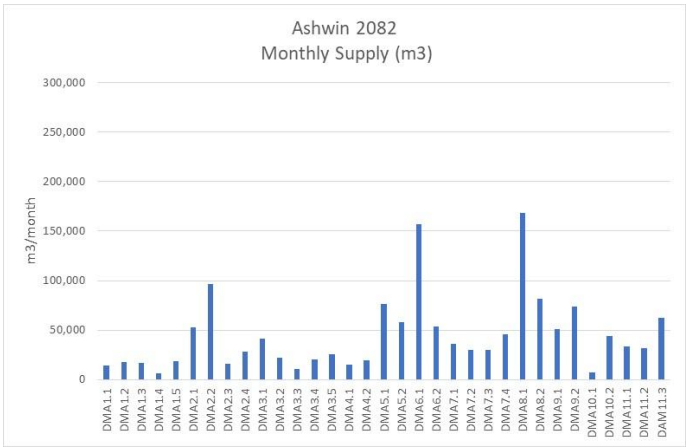


Figure 7.2.2 Monitoring Graph of Water Supply Volume by DMA wise (2/2)

Table 7.2.2 Monitoring Record of Operation & Maintenance of SRTs (1/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Anamnagar (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Arubari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Khumaltar (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Kirtipur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Mahankalchaur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

Table 7.2.3 Monitoring Record of Operation & Maintenance of SRTs (2/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Mahankalchaur (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Minbhawan (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Tigeni																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Katunje																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

7.3 Actions to be taken by each Branch Office

Improvements in water supply services should not be evaluated solely based on water volume. By accurately notifying customers of water delivery schedule and ensuring KUKL operators adhere to these schedules, customer satisfaction can be enhanced.

From this perspective, at the branch office level, efforts must be made to reduce customer complaints by verifying monthly whether any complaints are received regarding the pre-planned water supply schedule.

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicator must be monitored by each branch manager.

PI-6: Number of grievances about water supply hour especially the gap between standard supply hour and real supply hour (Table 7.3.1, Table 7.3.2)

Action-1: The branch manager must accurately track the number of customers within the DMA under their branch's jurisdiction.

Action-2: Report the number of customers per DMA required for the monitoring sheets created by the Operation Division and Production Division to the responsible personnel at headquarters.

Action-3: Valve operators shall be assigned to accurately open and close valves according to the water supply schedule determined in this main water distribution management plan.

Action-4: Analyze customer complaints and requests received by the branch office each month, and tally the number of complaints and requests regarding the accuracy of the water supply schedule.

Action-5: Achieve a 100% water meter installation rate for customers within the DMA.

Action-6: Achieve a 100% water meter reading rate for customers within the DMA.

Action-7: Measure turbidity and residual chlorine at the locations specified by the Central Laboratory at the prescribed frequency and report the results to the Central Laboratory.

Table 7.3.1 Monitoring Record of Grievances about Water Supply Hour (1/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
1.1	1.1.1	Maharajgunj	5:00	14:00																												
1.1	1.1.2	Maharajgunj	5:00	14:00																												
1.1	1.1.3	Maharajgunj	5:00	14:00																												
1.2	1.2.1	Maharajgunj	9:00	16:00																												
1.2	1.2.2	Baneshwor	9:00	16:00																												
1.2	1.2.3(A)	Maharajgunj	9:00	16:00																												
1.2	1.2.3(B)	Maharajgunj	9:00	16:00																												
1.3	1.3.1	Tripureshwor	12:00	21:00																												
1.3	1.3.2(A)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(B)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(C)	Tripureshwor	12:00	21:00																												
1.4	1.4.1	Tripureshwor	15:00	21:00																												
1.4	1.4.2	Tripureshwor	15:00	21:00																												
1.5	1.5.1	Tripureshwor	5:00	15:00																												
1.5	1.5.2	Tripureshwor	5:00	15:00																												
1.5	1.5.3	Tripureshwor	5:00	15:00																												
2.1	2.1.1(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.1(B)	Maharajgunj	6:00	12:00																												
2.1	2.1.1(B)	Mahankal	6:00	12:00																												
2.1	2.1.2(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.2(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.4	Mahankalchaur	6:00	12:00																												
2.2	2.2.1	Baneshwor	14:00	20:00																												
2.2	2.2.2	Baneshwor	14:00	20:00																												
2.2	2.2.3	Baneshwor	14:00	20:00																												
2.2	2.2.4	Baneshwor	14:00	20:00																												
2.3	2.3.1(A)	Baneshwor	5:00	12:00																												
2.3	2.3.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Mahankal	5:00	12:00																												
2.4	2.4.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(C)	Baneshwor	5:00	12:00																												
3.1	3.1.1(A)	Baneshwor	14:00	21:00																												
3.1	3.1.1(B)	Baneshwor	14:00	21:00																												
3.1	3.1.1(C)	Baneshwor	14:00	21:00																												
3.1	3.1.2(A)	Baneshwor	14:00	21:00																												
3.1	3.1.2(B)	Baneshwor	14:00	21:00																												
3.1	3.1.2(C)	Baneshwor	14:00	21:00																												
3.2	3.2.1(A)	Baneshwor	5:00	12:00																												
3.2	3.2.1(B)	Baneshwor	5:00	12:00																												
3.2	3.2.1(C)	Baneshwor	5:00	12:00																												
3.2	3.2.2(A)	Baneshwor	5:00	12:00																												
3.2	3.2.2(B)	Baneshwor	5:00	12:00																												
3.2	3.2.2(C)	Baneshwor	5:00	12:00																												
3.3	3.3.1(A)	Baneshwor	14:00	20:00																												
3.3	3.3.1(B)	Baneshwor	14:00	20:00																												
3.3	3.3.1(C)	Baneshwor	14:00	20:00																												
3.3	3.3.1(D)	Baneshwor	14:00	20:00																												
3.3	3.3.1(E)	Baneshwor	14:00	20:00																												
3.4	3.4.1(A)	Baneshwor	9:00	15:00																												
3.4	3.4.1(B)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Maharajgunj	9:00	15:00																												
3.5	3.5.1(B)	Baneshwor	9:00	15:00																												
3.5	3.5.2	Baneshwor	9:00	15:00																												
3.5	3.5.2	Maharajgunj	9:00	15:00																												
4.1	4.1.1	Baneshwor	12:00	16:00																												
4.1	4.1.2	Baneshwor	12:00	16:00																												
4.2	4.2.1	Tripureshwor	11:00	20:00																												
4.2	4.2.2	Tripureshwor	11:00	20:00																												
4.2	4.2.3	Tripureshwor	11:00	20:00																												
5.1	5.1.1	Lalitpur	20:00	8:00																												
5.1	5.1.2	Lalitpur	20:00	8:00																												
5.1	5.1.3	Lalitpur	20:00	8:00																												
5.2	5.2.1(A)	Lalitpur	20:00	8:00																												
5.2	5.2.1(B)	Lalitpur	20:00	8:00																												
5.2	5.2.1(C)	Lalitpur	20:00	8:00																												
5.2	5.2.1(D)	Lalitpur	20:00	8:00																												
5.2	5.2.2(A)	Lalitpur	20:00	8:00																												
5.2	5.2.2(B)	Lalitpur	20:00	8:00																												
5.2	5.2.2(C)	Lalitpur	20:00	8:00																												
5.2	5.2.2(D)	Lalitpur	20:00	8:00																												
5.2	5.2.2(E)	Lalitpur	20:00	8:00																												
5.2	5.2.3(A)	Lalitpur	20:00	8:00																												
5.2	5.2.3(B)	Lalitpur	20:00	8:00																												
6.1	6.1.1(A)	Lalitpur	6:00	20:00																												
6.1	6.1.1(B)	Lalitpur	6:00	20:00																												
6.1	6.1.2	Lalitpur	6:00	20:00																												
6.1	6.1.3	Lalitpur	6:00	20:00																												
6.2	6.2.1	Lalitpur	17:00	8:00																												
6.2	6.2.2	Lalitpur	17:00	8:00																												
6.2	6.2.3	Lalitpur	17:00	8:00																												
7.1	7.1.1	Maharajgunj	17:00	22:00																												
7.1	7.1.2	Chhetrapati	17:00	22:00																												
7.2	7.2.1(A)	Chhetrapati	7:00	12:00																												
7.2	7.2.1(B)	Chhetrapati	7:00	12:00																												
7.2	7.2.2(A)	Maharajgunj	7:00	12:00																												
7.2	7.2.2(B)	Maharajgunj	7:00	12:00																												
7.2	7.2.3	Maharajgunj	7:00	12:00																												
7.3	7.3.1(A)	Chhetrapati	7:00	12:00																												
7.3	7.3.1(B)	Chhetrapati	7:00	12:00																												
7.3	7.3.2	Chhetrapati	7:00	12:00																												
7.3	7.3.3	Maharajgunj	7:00	12:00																												
7.4	7.4.1(A)	Chhetrapati	7:00	12:00																												
7.4	7.4.1(B)	Chhetrapati	7:00	12:00																												
7.4	7.4.2(A)	Chhetrapati	7:00	12:00																												
7.4	7.4.2(A)	Lalitpur	7:00	12:00																												
7.4	7.4.2(B)	Chhetrapati	7:00	12:00																												
7.4	7.4.3	Chhetrapati	7:00	12:00																												
7.4	7.4.3	Maharajgunj	7:00	12:00																												
7.4	7.4.4	Maharajgunj	7:00	12:00																												

Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

Table 7.3.2 Monitoring Record of Grievances about Water Supply Hour (2/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
8.1	8.1.1	Lalitpur	8:00	20:00																												
8.1	8.1.2	Lalitpur	20:00	8:00																												
8.1	8.1.3	Lalitpur	20:00	8:00																												
8.2	8.2.1(A)	Lalitpur	17:00	8:00																												
8.2	8.2.1(B)	Lalitpur	17:00	8:00																												
8.2	8.2.1(C)	Lalitpur	17:00	8:00																												
8.2	8.2.2(A)	Lalitpur	17:00	8:00																												
8.2	8.2.2(B)	Lalitpur	17:00	8:00																												
8.2	8.2.2(C)	Lalitpur	17:00	8:00																												
9.1	9.1.1	Lalitpur	20:00	6:00																												
9.1	9.1.2	Lalitpur	20:00	6:00																												
9.1	9.1.3	Lalitpur	20:00	6:00																												
9.2	9.2.1	Lalitpur	6:00	20:00																												
9.2	9.2.2	Lalitpur	6:00	20:00																												
9.2	9.2.3	Lalitpur	6:00	20:00																												
9.2	9.2.4	Lalitpur	6:00	20:00																												
9.2	9.2.5	Lalitpur	6:00	20:00																												
9.2	9.2.6	Lalitpur	6:00	20:00																												
9.2	9.2.7	Lalitpur	6:00	20:00																												
10.1	10.1.1	Maharajgunj	12:00	17:00																												
10.2	10.2.1(A)	Chhetrapati	17:00	22:00																												
10.2	10.2.1(B)	Chhetrapati	17:00	22:00																												
10.2	10.2.1(C)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(A)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(B)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(C)	Chhetrapati	17:00	22:00																												
11.1	11.1.1	Tripureshwor	18:00	10:00																												
11.2	11.2.1	Tripureshwor	18:00	10:00																												
11.2	11.2.2	Tripureshwor	18:00	10:00																												
Demo	Demo	Baneshwor	5:00	21:00																												

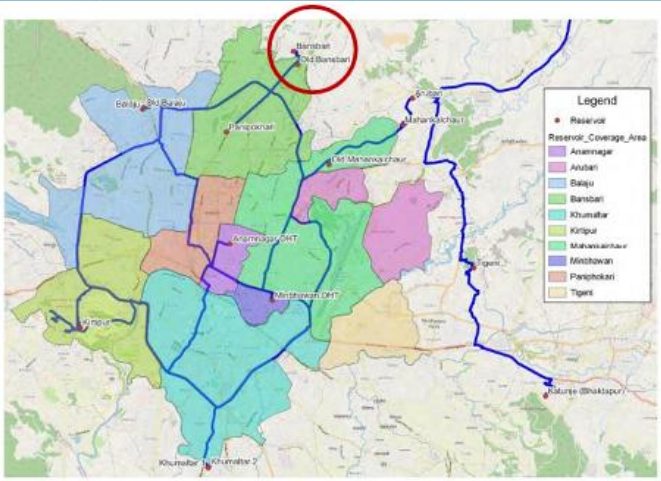
Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

8. Example of SOP for service reservoirs

Standard Operating Procedure
Bansbari SRT (Service Reservoir Tank)

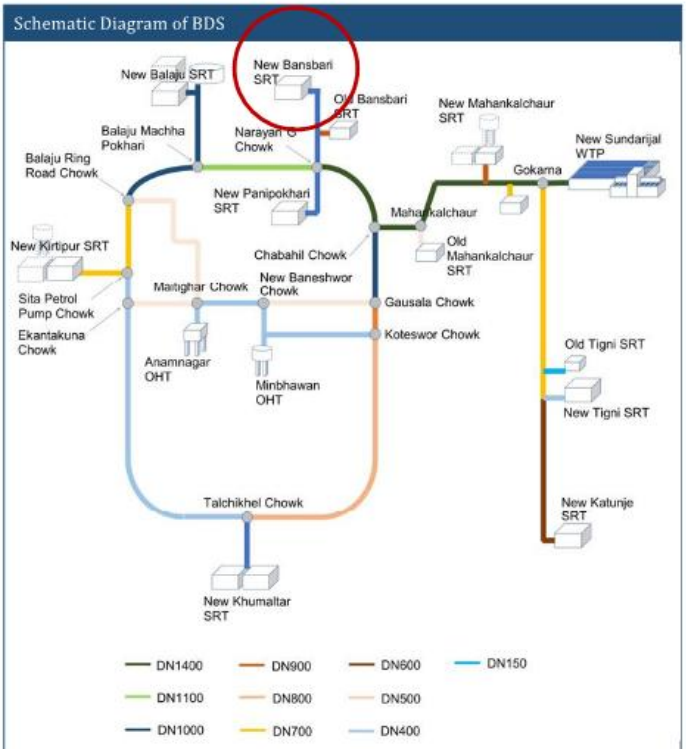
Layout of facilities

General Layout of Bulk Distribution System (BDS)



Layout of facilities

Schematic Diagram of BDS

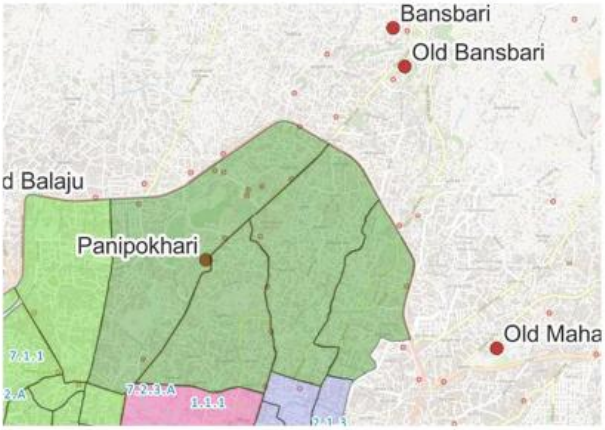


Bulk Distribution System Schematic Diagram

Layout of facilities

District Metered Area (DMA) covered by Bansbari SRT

The coverage area of Bansbari SRT has yet to be divided in DMAs.
This area is called DNI-7c and divided into several DMAs which will be constructed by the Package 6.



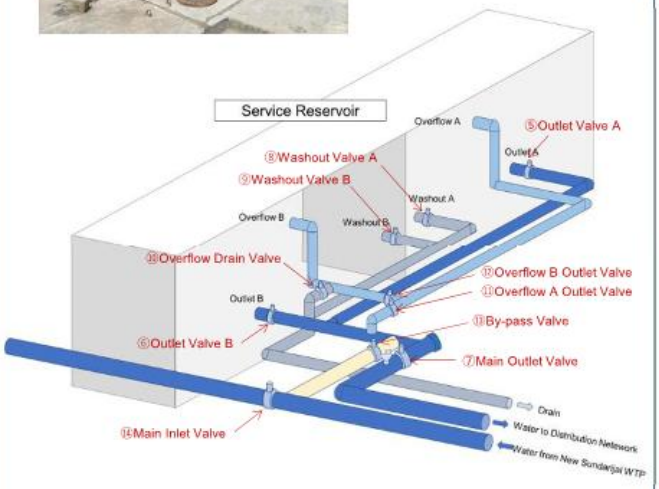
Layout of facilities

Outline of Bansbari SRT

No	Name	Objective	DN	Chamber Drawing No.
1	Flowmeter A	Inflow Measurement Reservoir A	700mm	BDS1-E-C-07
2	Flowmeter B	Inflow Measurement Reservoir A	700mm	BDS1-E-C-09
3	Inlet Valve A	Open/Stop Inflow Reservoir A	700mm	BDS1-E-C-06
4	Inlet Valve B	Open/Stop Inflow Reservoir B	700mm	BDS1-E-C-08
5	Outlet Valve A	Open/Stop Outflow Reservoir A	800mm	BDS1-E-C-10
6	Outlet Valve B	Open/Stop Outflow Reservoir B	800mm	BDS1-E-C-12
7	Main Outlet Valve	Regulate Total Outflow Volume	1200mm	BDS1-E-C-13
8	Washout Valve A	Sand discharge from Reservoir A	500mm	BDS1-E-C-15
9	Washout Valve B	Sand discharge from Reservoir B	500mm	BDS1-E-C-15
10	Overflow Drain	Discharge overflow to washout line	500mm	BDS1-E-C-14
11	Overflow A Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
12	Overflow B Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
13	By-pass Valve	Supply water without passing reservoir	1000mm	BDS1-E-C-13
14	Main Inlet Valve	Regulate Total Inflow Volume	1000mm	BDS1-E-C-05
15	Air Valve	Air release from the main outlet line	200mm	BDS1-E-C-13

Layout of facilities

Isometric Schematic Image of Pipeline Layout (Outlet side)



Operating Procedure

Normal Operation

Operating Procedure

Emergent Operation

If there is an accident or malfunction in both reservoirs A and B and water cannot be stored, the bypass valve on the Inlet Pipe should be opened to continue transmission of water.

[Caution]

When continuing to supply water through the bypass pipe, the following valves of the reservoir should be closed in advance to prevent water from entering the reservoir.
1. Main Inflow Valve
2. Outlet Valves of Reservoirs
3. Overflow Valves of Reservoirs

Cleaning of Reservoir

Direction of Water Flow during Cleaning of Reservoir

Steps for Cleaning of Reservoir

Step 1

Reservoir cleaning should be performed separately for A and B. Close one of the Inlet Valve to shut down entering water into the reservoir.

Step 2

When the water level in the reservoir is low enough, close the Outlet Valve.

Step 3

Open the Washout Valve to drain the water that has accumulated at the bottom of reservoir.

Steps for Cleaning of Reservoir

Step 4

Operators go inside and uses a wiper and nylon brush to scrape sand and mud from the walls and bottom in the direction of the Washout Port.

Step 5

If mud or sand remains in the middle of the interior, open the Inlet Valve of reservoir slightly to draw in water, and then scrape it out again with a scraper.

Step 6

Once the interior has been cleaned, the operator goes outside.
Then close the washout valve.

Steps for Cleaning of Reservoir

Step 7

Then slowly open the Inlet Valve.

Step 8

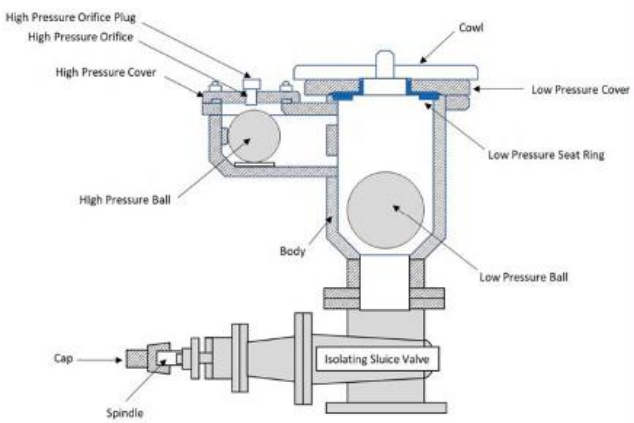
Wait a few hours to fill the reservoir.

Step 9

Once the reservoir has recovered more than half of its water level, slowly open the Outlet Valve.

Cleaning of Air Valve

Structure of Air Valve (Indian Valve International)

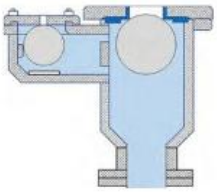


[Caution]

When clean the air valve, make sure that the Isolation Sluice Valve is completely closed. After closed the Isolation Sluice Valve, you can dismantle the cowl and top cover of the air valve.

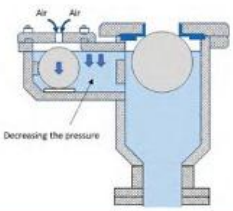
Function of Kinetic Air Valve

Normal Operation under High Pressure



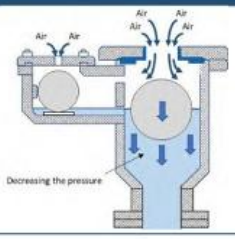
The pipe remains filled with water and the internal float ball plugs the air outlet orifice.

When a small air pocket occurs in the pipe



When a small amount of air accumulates in the air valve, the water level begins to drop, which causes the High Pressure Ball to drop and the small orifice to open. (Small exhaust mode)

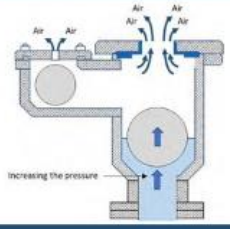
When the water in the reservoir runs out and a large amount of air accumulates



When a large amount of air accumulates, the water level drops below High Pressure Ball, which causes the Low Pressure Ball to drop and the large orifice to open. (Large exhaust mode).

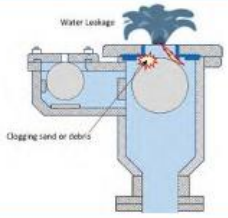
Function of Kinetic Air Valve

When water begins to accumulate in the pipe.



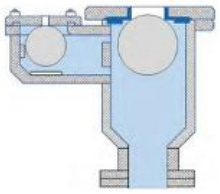
As the water pressure in the pipe increases, the water level rises and the Low Pressure Ball plugs the orifice.

When debris or sand clog the orifice



When debris or sand clog the orifice of air exhaust, the leaks will occur under high pressure.

When the pipe is perfectly filled with water



When water fills the pipe and the water pressure increases, the High Pressure Ball plugs the orifice.

Site Cleaning

Keeping premises clean

- Ensure that there is no debris or hazardous materials in the vicinity of the reservoir.
- The valve chamber should be kept clean and free of cobwebs, debris, and puddles, and no disposed material should be left inside.
- Do not place hazardous or flammable materials near the reservoir.

- Service Reservoir Tank and Water Treatment Plants are places where drinking water is stored, so animals should not be allowed to enter.

Meter Reading

Flowmeter on Inlet Pipe

Flowmeter on Outlet Pipe

In Bansbari SRT, there is no water meter on the outlet pipe.

How to read the flowmeter

Instantaneous Flow (m3/hour)

Accumulated Flow (m3)

The operators should keep record of "Accumulated Water Flow" in daily recording sheet

Recording of water volume

Operator's duty

- Once a day, the operator should check the flowmeter reading and note it on the record form.

Date	Time	Meter Reading		Daily Inflow	Name of Recorder
		Reservoir A	Reservoir B		

Standard Inspection

Daily Inspection

- Operators shall check the condition of facilities and clean the site once per day.

Items	Target	Status	Evaluation
External of tank	Concrete	No Water Leakage	☐Yes/☐No
	Painting	No Crack	☐Yes/☐No
		No Peeling	☐Yes/☐No
	Steps	Firmly Fixed	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No
	Cable	No disconnection	☐Yes/☐No
Valves	Operation Panel	No broken parts	☐Yes/☐No
	Button	No broken button	☐Yes/☐No
	Operation Wheel	Smoothly operating	☐Yes/☐No
	Chamber	No waste/garbage inside	☐Yes/☐No
Pipes	Exposed pipe	No Water Leakage	☐Yes/☐No
	Chamber	No Water Leakage	☐Yes/☐No
Chamber	Cover	Smoothly opening	☐Yes/☐No

Standard Inspection

Annual Inspection

- When cleaning the reservoir tank once per year, conduct an annual inspection of the following items:

Items	Target	Status	Evaluation
Internal of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Level Gauge	Drop of sensor	☐Yes/☐No
		Rust or Corrosion	☐Yes/☐No
External of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
		Water Leakage	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Steps	Corrosion	☐Yes/☐No
	Ventilation	Corrosion	☐Yes/☐No
Facilities	Valves	Greasing on gear	☐Yes/☐No
	Pipes	Water Leakage	☐Yes/☐No
	Chamber	Cleaning of inside	☐Yes/☐No
		Corrosion of Cover	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No

Inspection Schedule

Annual Inspection Plan

Month	Day	What to do
Baisakh		
Jestha		
Asadh		
Shrawan		
Bhadra		
Ashwin		
Kartik		
Mangsir		
Poush		
Magh		
Falgun		
Chaitra		

Water Distribution Management Plan
For
District Metered Area (DMA)
In
Kathmandu Valley

3rd version: 24 February 2026

Kathmandu Upatyaka Khanepani Limited (KUKL)

JICA Expert Team

Kathmandu Upatyaka Khanepani Limited

Japan International Cooperation Agency

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1. Introduction

1.1 Basic Approach to the Water Distribution Management

The maintenance and management of water supply facilities is an indispensable daily task for KUKL and should be carried out from a long-term perspective in order to achieve the following objectives.

Security: To supply safe water with assured quality to water users for drinking in the Kathmandu Valley.

Stability: To provide a stable supply of water necessary for daily life anytime, anywhere.

1.2 Procedure for Development of the Water Distribution Management Plan

Water service is a business that consists of providing drinking water to water users and collecting fees in return. Therefore, in the Water Distribution Management Plan, water utilities themselves need to set more specific management targets based on their Performance Indicators and monitor them in their daily operations.

The workflow of water distribution management in water utility management is as follows

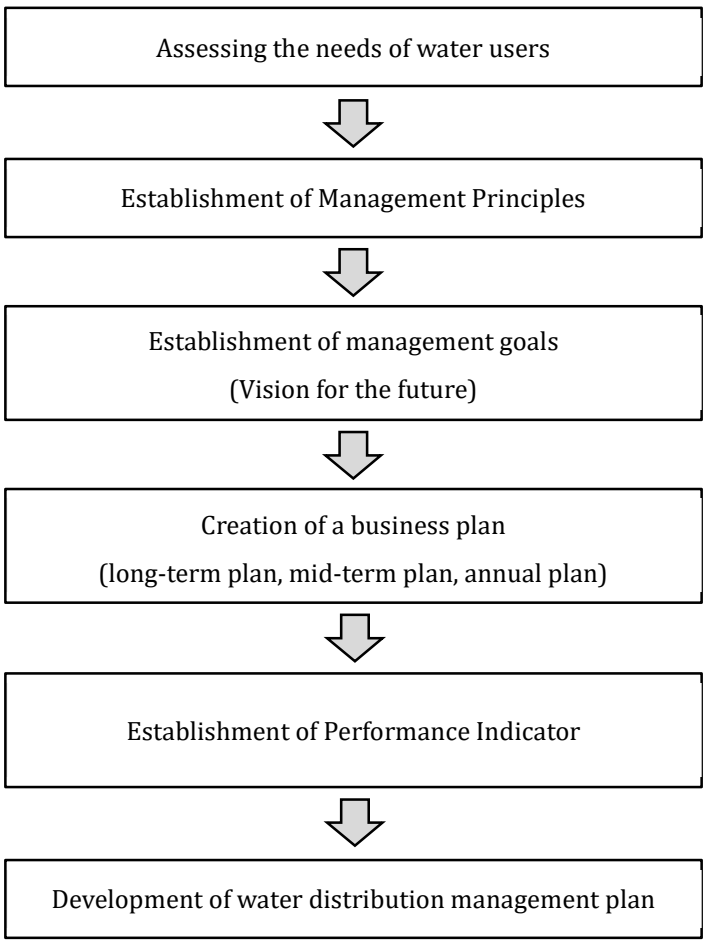


Figure 1.2.1 Relationship between water supply management and maintenance

2. Purpose of the Water Distribution Management Plan

The purpose of the Water Distribution Management Plan is to ensure that KUKL, as the entity responsible for operation and maintenance, properly manages the water supply facilities and provides water to water users in a manner that is equitable in terms of both quantity and time, thereby contributing to the improvement of the living environment.

This Water Distribution Management Plan is the most basic document for KUKL in maintenance and management.

KUKL is required to maintain and repair the water supply facilities to keep them in good condition.

3. Target District Metered Area (DMA)

This Water Distribution Management Plan covers DMAs constructed within the ring road.

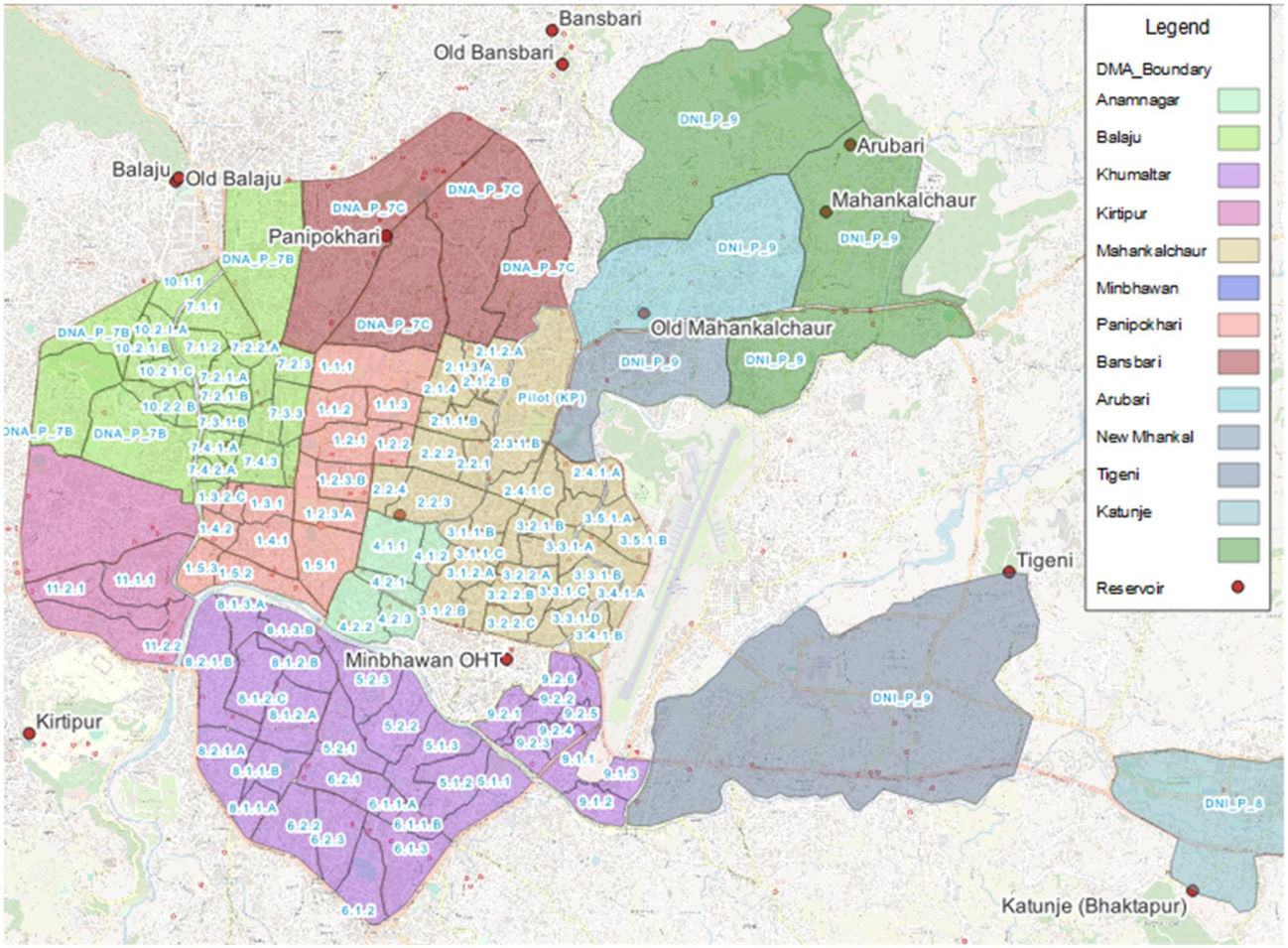


Figure 3.1.1 DMAs constructed in the Ring Road

The following figure is the water supply area covered by each of the service reservoir tanks.

The three water distribution reservoirs located within the ring road are Anamnagar, Minbhawan, and Panipokhari; the other reservoirs may also cover water supply outside the ring road.

In addition, some of the reservoirs supply the old distribution network, but in the future, they will be switched to supply the new distribution network constructed by Melamchi Water Supply Project.

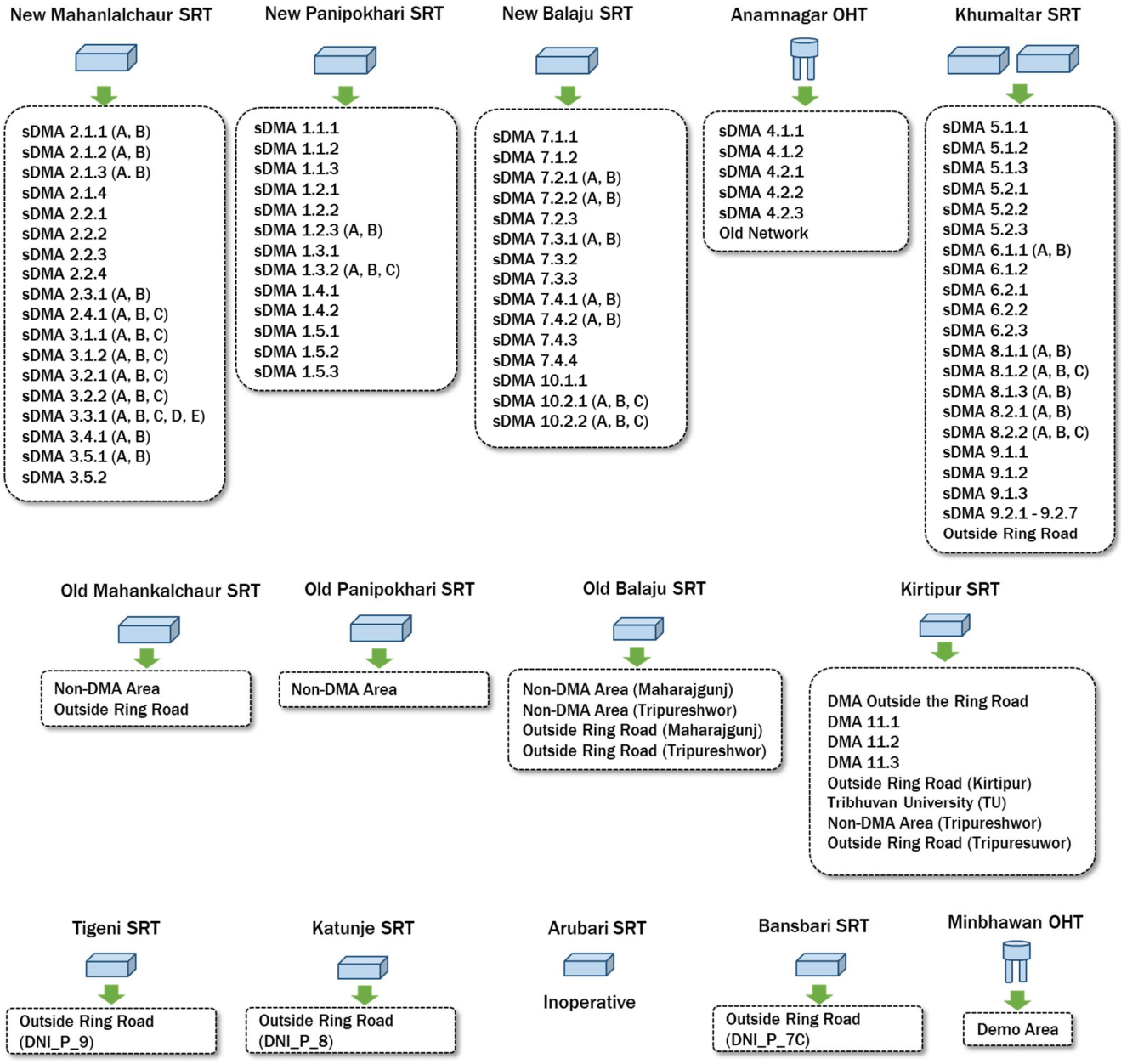


Figure 3.1.2 Sub-DMA covered by each Service Reservoir Tanks (SRTs)

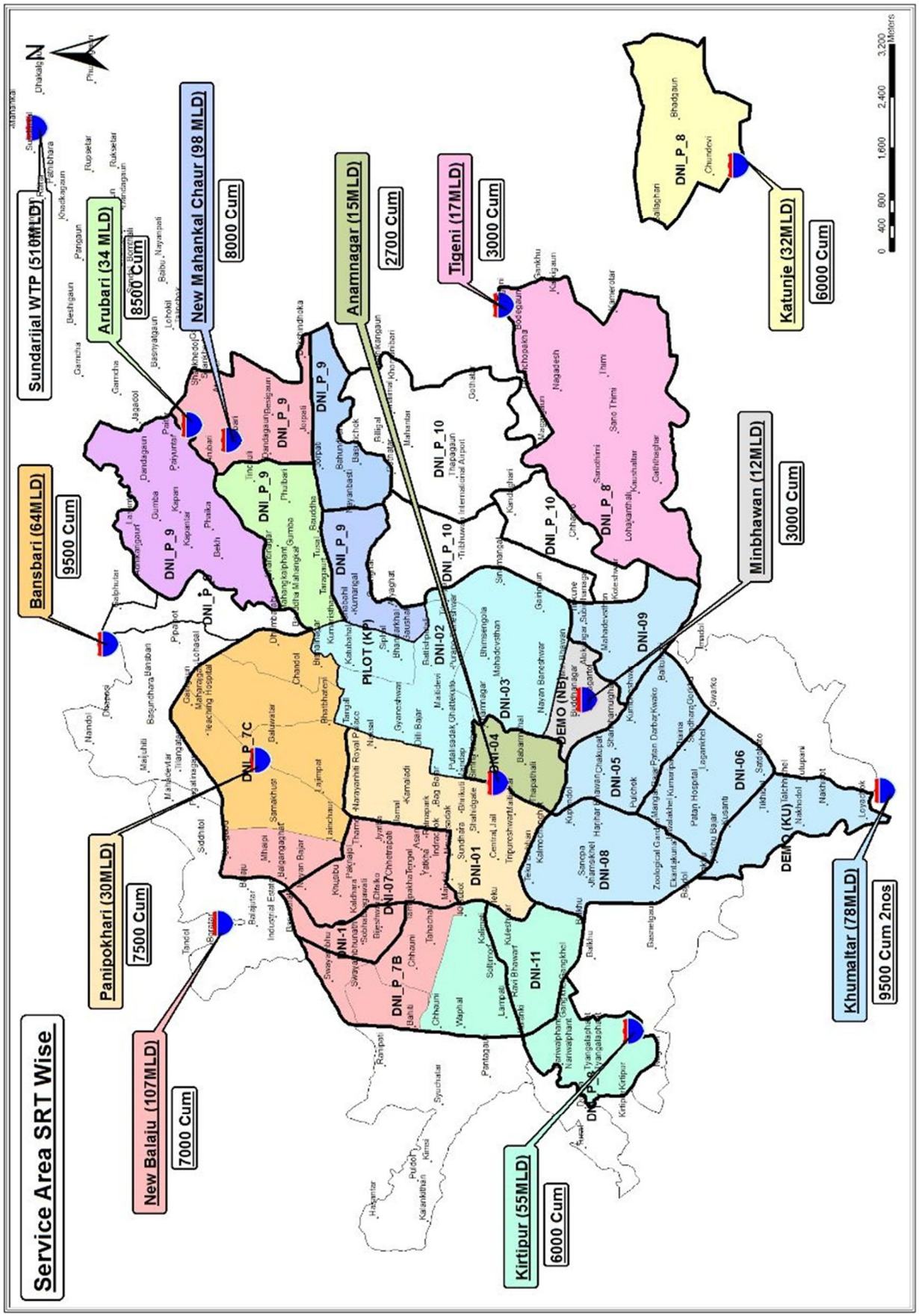


Figure 3.1.3 Water Coverage Area by SRT wise

4. Basic Information on DMAs and Sub-DMAs

The number of customers and estimated demand for each Sub-DMA are shown below.

Table 4.1.1 Estimated Demand in each DMA/Sub-DMA

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
1	1.1	1.1.1	Maharajgunj	Kathmandu				
		1.1.2	Maharajgunj	Kathmandu	12	1,144	135	1,853.3
		1.1.3	Maharajgunj	Kathmandu				
						1,144	Sub total	1,853.3
	1.2	1.2.1	Maharajgunj	Kathmandu				
		1.2.2	Baneshwor	Kathmandu	12	2,259	135	3,659.6
		1.2.3(A)	Maharajgunj	Kathmandu				
		1.2.3(B)	Maharajgunj	Kathmandu				
						2,259	Sub total	3,659.6
	1.3	1.3.1	Tripureshwor	Kathmandu				
		1.3.2(A)	Tripureshwor	Kathmandu	12	3,252	135	5,268.2
		1.3.2(B)	Tripureshwor	Kathmandu				
		1.3.2(C)	Tripureshwor	Kathmandu				
						3,252	Sub total	5,268.2
	1.4	1.4.1	Tripureshwor	Kathmandu	12	2,864	135	4,639.7
		1.4.2	Tripureshwor	Kathmandu				
						2,864	Sub total	4,639.7
	1.5	1.5.1	Tripureshwor	Kathmandu	12	262	135	424.4
		1.5.2	Tripureshwor	Kathmandu	12	365	135	591.3
		1.5.3	Tripureshwor	Kathmandu	12	386	135	625.3
						1,013	Sub total	1,641.1
2	2.1	2.1.1(A)	Mahankalchaur	Kathmandu	12	401	135	649.6
		2.1.1(B)	Maharajgunj & Mahankal	Kathmandu	12	433	135	701.5
		2.1.2(A)	Mahankalchaur	Kathmandu	12	553	135	895.9
		2.1.2(B)	Mahankalchaur	Kathmandu	12	135	135	218.7
		2.1.3(A)	Mahankalchaur	Kathmandu	12	508	135	823.0
		2.1.3(B)	Mahankalchaur	Kathmandu	12	292	135	473.0
		2.1.4	Mahankalchaur	Kathmandu	12	279	135	452.0
						2,601	Sub total	4,213.6
	2.2	2.2.1	Baneshwor	Kathmandu	12	770	135	1,247.4
		2.2.2	Baneshwor	Kathmandu	12	872	135	1,412.6
		2.2.3	Baneshwor	Kathmandu	12	1,989	135	3,222.2
		2.2.4	Baneshwor	Kathmandu	12	614	135	994.7
						4,245	Sub total	6,876.9
	2.3	2.3.1(A)	Baneshwor	Kathmandu	12	510	135	826.2
		2.3.1(B)	Baneshwor	Kathmandu	12	589	135	954.2
						1,099	Sub total	1,780.4
	2.4	2.4.1(A)	Baneshwor & Mahankal	Kathmandu	12	514	135	832.7
		2.4.1(B)	Baneshwor	Kathmandu	12	477	135	772.7
		2.4.1(C)	Baneshwor	Kathmandu	12	735	135	1,190.7
						1,726	Sub total	2,796.1
3	3.1	3.1.1(A)	Baneshwor	Kathmandu	12	415	135	672.3
		3.1.1(B)	Baneshwor	Kathmandu	12	363	135	588.1
		3.1.1(C)	Baneshwor	Kathmandu	12	348	135	563.8
		3.1.2(A)	Baneshwor	Kathmandu	12	503	135	814.9
		3.1.2(B)	Baneshwor	Kathmandu	12	610	135	988.2
		3.1.2(C)	Baneshwor	Kathmandu	12	456	135	738.7
						2,695	Sub total	4,365.9
	3.2	3.2.1(A)	Baneshwor	Kathmandu	12	417	135	675.5
		3.2.1(B)	Baneshwor	Kathmandu	12	287	135	464.9
		3.2.1(C)	Baneshwor	Kathmandu	12	478	135	774.4
		3.2.2(A)	Baneshwor	Kathmandu	12	479	135	776.0
		3.2.2(B)	Baneshwor	Kathmandu	12	484	135	784.1
		3.2.2(C)	Baneshwor	Kathmandu	12	493	135	798.7
						2,638	Sub total	4,273.6
	3.3	3.3.1(A)	Baneshwor	Kathmandu	12	403	135	652.9
		3.3.1(B)	Baneshwor	Kathmandu	12	533	135	863.5
		3.3.1(C)	Baneshwor	Kathmandu	12	503	135	814.9
		3.3.1(D)	Baneshwor	Kathmandu	12	481	135	779.2
		3.3.1(E)	Baneshwor	Kathmandu	12	387	135	626.9
						2,307	Sub total	3,737.3
	3.4	3.4.1(A)	Baneshwor	Kathmandu	12	536	135	868.3
		3.4.1(B)	Baneshwor	Kathmandu	12	364	135	589.7
						900	Sub total	1,458.0
	3.5	3.5.1(A)	Baneshwor & Maharajgunj	Kathmandu	12	551	135	892.6
		3.5.1(B)	Baneshwor	Kathmandu	12	587	135	950.9
		3.5.2	Baneshwor & Maharajgunj	Kathmandu	12	382	135	618.8
						1,520	Sub total	2,462.4
4	4.1	4.1.1	Baneshwor	Kathmandu				
		4.1.2	Baneshwor	Kathmandu	12	569	135	921.8
						569	Sub total	921.8
	4.2	4.2.1	Tripureshwor	Kathmandu	12	256	135	414.7
		4.2.2	Tripureshwor	Kathmandu	12	520	135	842.4
		4.2.3	Tripureshwor	Kathmandu	12	446	135	722.5
						1,222	Sub total	1,979.6

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
5	5.1	5.1.1	Lalitpur	Lalitpur				
		5.1.2	Lalitpur	Lalitpur	12	5,648	135	9,149.8
		5.1.3	Lalitpur	Lalitpur				
						5,648	Sub total	9,149.8
	5.2	5.2.1(A)	Lalitpur	Lalitpur				
		5.2.1(B)	Lalitpur	Lalitpur				
		5.2.1(C)	Lalitpur	Lalitpur				
		5.2.1(D)	Lalitpur	Lalitpur				
		5.2.2(A)	Lalitpur	Lalitpur				
		5.2.2(B)	Lalitpur	Lalitpur	12	3,617	135	5,859.5
		5.2.2(C)	Lalitpur	Lalitpur				
		5.2.2(D)	Lalitpur	Lalitpur				
		5.2.2(E)	Lalitpur	Lalitpur				
		5.2.3(A)	Lalitpur	Lalitpur				
		5.2.3(B)	Lalitpur	Lalitpur				
						3,617	Sub total	5,859.5
6	6.1	6.1.1(A)	Lalitpur	Lalitpur				
		6.1.1(B)	Lalitpur	Lalitpur	12	3,666	135	5,938.9
		6.1.2	Lalitpur	Lalitpur				
		6.1.3	Lalitpur	Lalitpur				
						3,666	Sub total	5,938.9
	6.2	6.2.1	Lalitpur	Lalitpur				
		6.2.2	Lalitpur	Lalitpur	12	4,559	135	7,385.6
		6.2.3	Lalitpur	Lalitpur				
						4,559	Sub total	7,385.6
7	7.1	7.1.1	Maharajgunj	Kathmandu	12	1,549	135	2,509.4
		7.1.2	Tripureshwor	Kathmandu	12	801	135	1,297.6
						2,350	Sub total	3,807.0
	7.2	7.2.1(A)	Tripureshwor	Kathmandu				
		7.2.1(B)	Tripureshwor	Kathmandu				
		7.2.2(A)	Maharajgunj	Kathmandu	12	2,480	135	4,017.6
		7.2.2(B)	Maharajgunj	Kathmandu				
		7.2.3	Maharajgunj	Kathmandu				
						2,480	Sub total	4,017.6
	7.3	7.3.1(A)	Tripureshwor	Kathmandu				
		7.3.1(B)	Tripureshwor	Kathmandu	12	3,100	135	5,022.0
		7.3.2	Tripureshwor	Kathmandu				
		7.3.3	Maharajgunj	Kathmandu				
						3,100	Sub total	5,022.0
	7.4	7.4.1(A)	Tripureshwor	Kathmandu				
		7.4.1(B)	Tripureshwor	Kathmandu				
		7.4.2(A)	Tripureshwor & Lalitpur	Kathmandu	12	4,475	135	7,249.5
		7.4.2(B)	Tripureshwor	Kathmandu				
		7.4.3	Tripureshwor & Maharajgunj	Kathmandu				
		7.4.4	Maharajgunj	Kathmandu				
						4,475	Sub total	7,249.5
8	8.1	8.1.1(A)	Lalitpur	Lalitpur				
		8.1.1(B)	Lalitpur	Lalitpur				
		8.1.2(A)	Lalitpur	Lalitpur				
		8.1.2(B)	Lalitpur	Lalitpur	12	3,893	135	6,306.7
		8.1.2(C)	Lalitpur	Lalitpur				
		8.1.3(A)	Lalitpur	Lalitpur				
		8.1.3(B)	Lalitpur	Lalitpur				
						3,893	Sub total	6,306.7
	8.2	8.2.1(A)	Lalitpur	Lalitpur				
		8.2.1(B)	Lalitpur	Lalitpur				
		8.2.1(C)	Lalitpur	Lalitpur				
		8.2.2(A)	Lalitpur	Lalitpur	12	2,800	135	4,536.0
		8.2.2(B)	Lalitpur	Lalitpur				
		8.2.2(C)	Lalitpur	Lalitpur				
						2,800	Sub total	4,536.0
9	9.1	9.1.1	Baneshwor	Lalitpur	12	799	135	1,294.4
		9.1.2	Baneshwor	Lalitpur	12	1,038	135	1,681.6
		9.1.3	Baneshwor	Lalitpur	12	552	135	894.2
						2,389	Sub total	3,870.2
	9.2	9.2.1	Baneshwor	Lalitpur	12	742	135	1,202.0
		9.2.2	Baneshwor	Lalitpur	12	630	135	1,020.6
		9.2.3	Baneshwor	Lalitpur	12	676	135	1,095.1
		9.2.4	Baneshwor	Lalitpur	12	406	135	657.7
		9.2.5	Baneshwor	Lalitpur	12	447	135	724.1
		9.2.6	Baneshwor	Lalitpur	12	623	135	1,009.3
		9.2.7	Baneshwor	Lalitpur	12	483	135	782.5
						4,007	Sub total	6,491.3
10	10.1	10.1.1	Maharajgunj	Kathmandu	12	480	135	777.6
					12	480	Sub total	777.6
	10.2	10.2.1(A)	Tripureshwor	Kathmandu				
		10.2.1(B)	Tripureshwor	Kathmandu				
		10.2.1(C)	Tripureshwor	Kathmandu				
		10.2.2(A)	Tripureshwor	Kathmandu	12	2,671	135	4,327.0
		10.2.2(B)	Tripureshwor	Kathmandu				
		10.2.2(C)	Tripureshwor	Kathmandu				
						2,671	Sub total	4,327.0
11	11.1	11.1.1	Tripureshwor	Kathmandu	12	2,075	135	3,361.5
						2,075	Sub total	3,361.5
	11.2	11.2.1	Tripureshwor	Kathmandu	12	1,681	135	2,723.2
						1,681	Sub total	2,723.2
	11.3	11.3.1	Tripureshwor	Kathmandu	12	1,239	135	2,007.2
						1,239	Sub total	2,007.2
Demo	Demo	Demo	Baneshwor	Kathmandu	12	5,000	135	8,100.0
						5,000	Sub total	8,100.0
Total	33					88,184		142,858.1

The table above calculates the water demand in DMAs and the existing Demo Area.

However, since the BDS Reservoir supplies water to areas other than the DMAs, it is necessary to estimate the demand for those areas.

Table 4. 1.2 Estimated number of households in the areas except for DMAs and Demo Area

Breakdown of household (connection) for the areas except 32 DMAs

Non DMA Area inside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to DNI 7B (Mhepi, Balaju Area)	2,500	Maharajgunj	Old Balaju
Supply to DNI 7B (Chauni Area)	3,300	Tripureshwor	Old Balaju
Supply to DNI 7B (Tahachal Area)	4,400	Tripureshwor	Kirtipur
Supply to DNI 7B (Kimdol, Dallu, Swoyambhu)	3,300	Tripureshwor (Ex-Chhetrapati)	Old Balaju
Supply to DNI 7C (Lainchaur, Galkopakha, Kapurdhara, Samakhusi, Gongabu)	10,500	Maharajgunj	Old Bansbari
Supply to DNI 7C (Khursanitar Area)	2,000	Maharajgunj	Old Panipokhari
Supply to DNI 7C (Bishalnagar, Chandol)	7,650	Mahankalchaur	Old Mahankal
Supply to Kalopur Pilot Area	2,300	Mahankalchaur	Old Mahankal
Outside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to Tarkeshwor, Banasthali, Dhunge dhara	8,000	Maharajgunj	Old Balaju
Supply to Tokha, Dhapasi, Basundhara (outside ringroad)	7,500	Maharajgunj	Old Bansbari
Supply to Kumari Club, Arcade colony	500	Tripureshwor (Ex-Chhetrapati)	Kirtipur
Supply to Outside the Ringroad by Tripureshwor	2,000	Tripureshwor	Old Balaju
Supply to Kapan, Jorpati	24,701	Mahankalchaur	Old Mahankal
Supply to Kirtipur Customer except for Tribhuvan University	10,054	Kirtipur	Kirtipur
Supply to Kusunti, Bagdol, Nakhu, Nakhipot, Khumaltar, Gwarko, ANFA, Dhapakhel, Dholahiti, Sunakothi	7,395	Lalitpur	Khumaltar
Supply to Kaushaltar, Lokanthali, Gatthaghar, Nagadesh, Sintitar, Dhunchepakha, Saraswatikhel, Thimi Core city, New Thimi, Old Thimi, Bappa, Kamerotar, Madhyapur Hospital	16,596	Madhyapur-Thimi	Thigni
Supply to Kamalbinayak planning, Liwali Planning, Byasi, Bansagopal, Nasamana, Gapali, Tekhacho, Sukuldhoka, Tulachhen, Khiche, Choche, Hanumante Purba, Chundevi, Ghalate, Pandubazar, Shrijananagar, Suryamadhi, Dattatraya, Chyamasingh, Wakupati, Chango road, Mahalaxmi, Bholachhen, Golmadhi, Jagati,	13,560	Bhaktapur	Katunje

Those values should be revised by the respective branch under the supervision by Operation Division.

After filling in the number of households in the areas Non-DMA and outside the Ring Road, the demand to be allocated to each SRT is calculated as follows:

Table 4.1.3 Estimated water demand in the areas except for DMAs and Demo Area

Breakdown of demand for the areas except for 33 DMAs

No of users per connection 12 persons/connection

Demand per capita 135 L/day/person

	Additional Water Demand except for 33 DMAs (m3/day)							
	Balaju	Kirtipur	Bansbari	Panipokhari	Old Mahnkalchaur	Khumaltar	Tigeni	Katunje
Maharajgunj Branch Area								
Non-DMA area inside the Ring Road	4,050		17,010	3,240				
Outside the Ring Road	12,960		12,150					
Tripureshwor Branch Area								
Non-DMA area inside the Ring Road	5,346	7,128						
Outside the Ring Road		810						
Ex-Chhetrapati Branch Area								
Non-DMA area inside the Ring Road	5,346							
Outside the Ring Road	3,240							
Mahankalchaur Branch Area								
Non-DMA area inside the Ring Road					16,119			
Outside the Ring Road					40,016			
Kirtipur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road		16,287						
Madhyapur-Thimi Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road							26,886	
Lalitpur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road						11,980		
Bhaktapur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road								21,967
Total								
Non-DMA area inside the Ring Road	14,742	7,128	17,010	3,240	16,119	0	0	0
Outside the Ring Road	16,200	17,097	12,150	0	40,016	11,980	26,886	21,967

5. Water Receiving Plan from Bulk Distribution System (BDS)

The BDS component will provide water supply to the Kathmandu Metro area using a combination of new water sources developed under Sub-Project 1 of the Melamchi Water Supply Project and other existing water sources.

In order to supply various areas within the Kathmandu Metro area, the new water treatment plant constructed at Sundarijal is the starting point in the water supply network, which will be routed through distribution reservoirs at Mahankalchaur, along the ring road and along the longitudinal route.

The distribution zones, called DMA, are designed to be independent with scattered distribution reservoirs to ensure the stability of water pressure and supply.

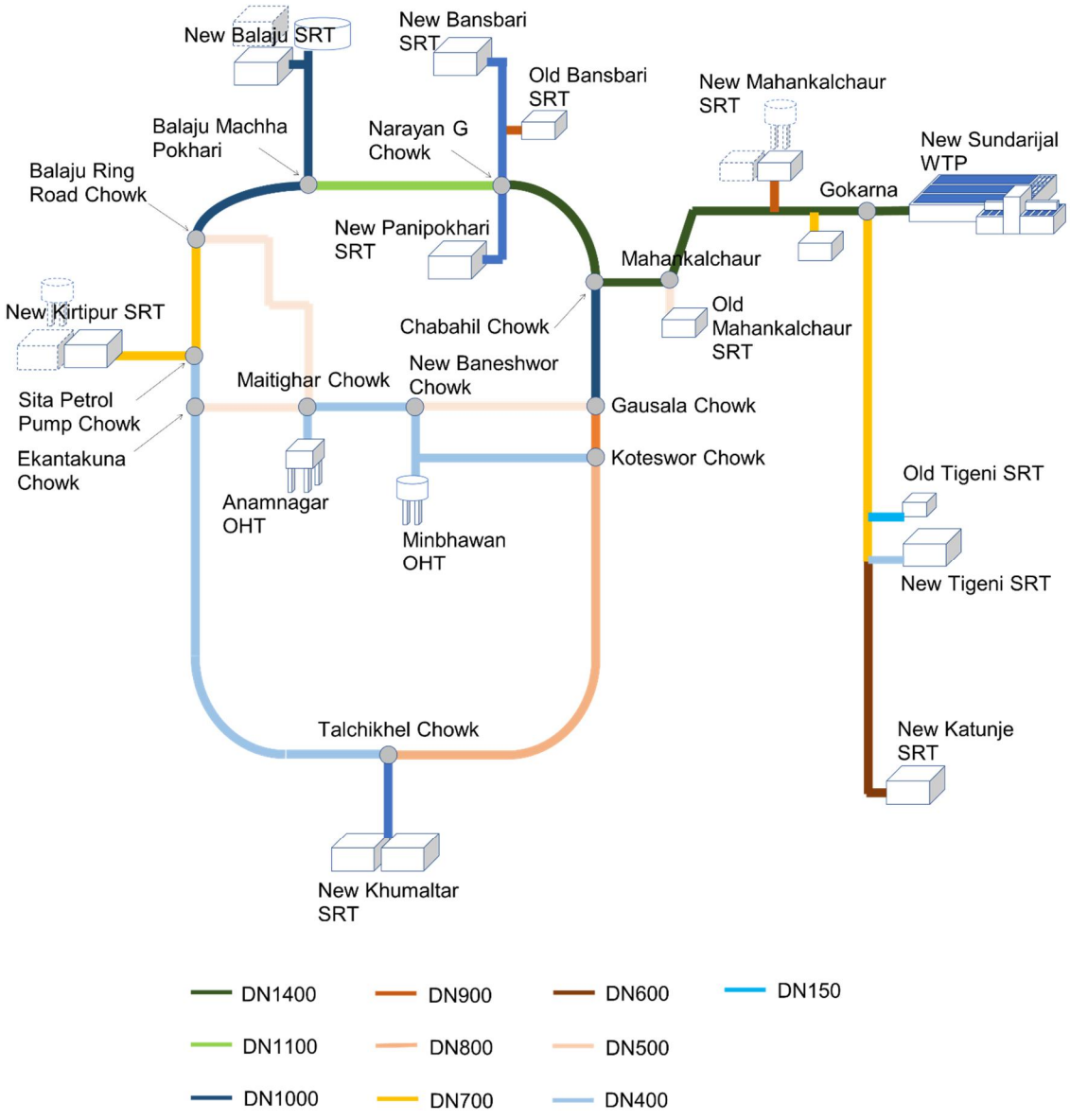


Figure 5.1.1 Schematic Water Supply Network of BDS

The amount of water to be delivered to each Service Reservoir Tank is determined based on the following steps.

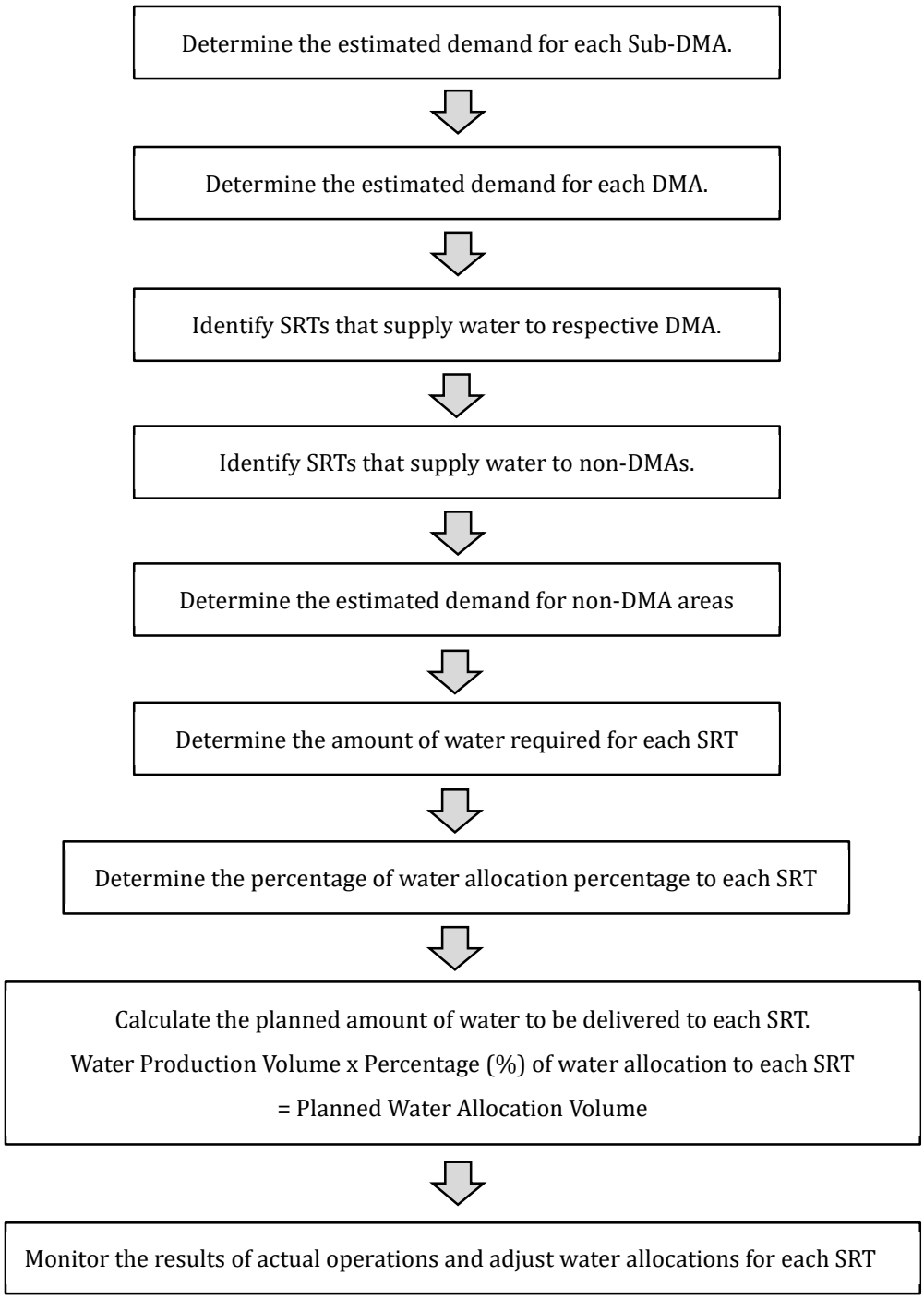


Figure 5.1.2 Steps to determine water allocation for each SRT

Table 5.1.1 Draft of Water Demand and Demand Percentage to each SRT

DMA	Estimated Demand (m3/day)	Demand Percentage (%)	Reservoir
1.1	1,853	0.53	Panipokhari
1.2	3,660	1.05	Panipokhari
1.3	5,268	1.52	Panipokhari
1.4	4,640	1.34	Panipokhari
1.5	1,641	0.47	Panipokhari
2.1	4,214	1.21	New Mahankalchaur
2.2	6,877	1.98	New Mahankalchaur
2.3	1,780	0.51	New Mahankalchaur
2.4	2,796	0.80	New Mahankalchaur
3.1	4,366	1.26	New Mahankalchaur
3.2	4,274	1.23	New Mahankalchaur
3.3	3,737	1.08	New Mahankalchaur
3.4	1,458	0.42	New Mahankalchaur
3.5	2,462	0.71	New Mahankalchaur
4.1	922	0.27	Anamnagar
4.2	1,980	0.57	Anamnagar
5.1	9,150	2.63	Khumaltar
5.2	5,860	1.69	Khumaltar
6.1	5,939	1.71	Khumaltar
6.2	7,386	2.13	Khumaltar
7.1	3,807	1.10	Balaju
7.2	4,018	1.16	Balaju
7.3	5,022	1.45	Balaju
7.4	7,250	2.09	Balaju
8.1	6,307	1.81	Khumaltar
8.2	4,536	1.31	Khumaltar
9.1	3,870	1.11	Khumaltar
9.2	6,491	1.87	Khumaltar
10.1	778	0.22	Balaju
10.2	4,327	1.25	Balaju
11.1	3,362	0.97	Kirtipur
11.2	2,723	0.78	Kirtipur
11.3	2,007	0.58	Kirtipur
Demo Area	8,100	2.33	Minbhawan
Tribhuvan University (TU)	100	0.03	Kirtipur
Non-DMA within the Ring Road	0	0.00	Anamnagar
Non-DMA within the Ring Road	14,742	4.24	Balaju
Non-DMA within the Ring Road	17,010	4.90	Bansbari
Non-DMA within the Ring Road	0	0.00	Khumaltar
Non-DMA within the Ring Road	7,128	2.05	Kirtipur
Non-DMA within the Ring Road	16,119	4.64	Old Mahankalchaur
Non-DMA within the Ring Road	0	0.00	Minbhawan
Non-DMA within the Ring Road	3,240	0.93	Panipokhari
Outside Ring Road	0	0.00	Arubari
Outside Ring Road	12,150	3.50	Bansbari
Outside Ring Road	16,200	4.66	Balaju
Outside Ring Road	11,980	3.45	Khumaltar
Outside Ring Road	17,097	4.92	Kirtipur
Outside Ring Road	40,016	11.52	Old Mahankalchaur
Outside Ring Road	0	0.00	Panipokhari
Outside Ring Road	26,886	7.74	Tigeni
Outside Ring Road	21,967	6.32	Katunje
Total	347,493	100.0	

Currently, water conduction from the Melamchi River is suspended during the rainy season, so the limited amount of water must be equally distributed according to the estimated demand.

Table 5.1.2 Standard Water Production (Main)

	Dry Season with Melamchi water	Monsoon Season without Melamchi water
Supply volume to BDS from New Sundarijal WTP	192 MLD	48 MLD
Production of Mahankalchaur WTP with existing water sources	16.37 MLD	20.67 MLD
Production of Bansbari WTP with existing water sources	10.18 MLD	18.33 MLD
Production of Bode WTP with existing water sources	7.90 MLD	8.08 MLD
Total	226.45 MLD	95.08 MLD

Source: KUKL Annual Report

Table 5.1.3 Water Production Record 2080/2081

		Mahanlakchaur WTP	Bansbari WTP	Bode WTP
Shrawan	July-August	20.15	22.43	8.91
Bhadra	August-September	25.54	30.96	8.08
Ashwin	September-October	17.00	29.32	8.32
Kartik	October-November	20.80	22.83	8.19
Mangsir	November-December	22.86	10.47	8.15
Paush	December-January	22.80	5.83	8.13
Magh	January-February	13.46	5.43	7.64
Falgun	February-March	15.34	19.34	7.50
Chaitra	March-April	9.73	2.7	7.70
Baishakh	April-May	9.66	4.67	8.00
Jestha	May-June	11.26	1.09	7.55
Ashad	June-July	29.22	7.85	7.55
Daily Average (MLD)		18.15	13.58	7.98
Monsoon season average without operation of Melamchi tunnel (MLD)		20.63	18.33	8.08
Dry season average with operation of Melamchi tunnel (MLD)		16.37	10.18	7.90

Source: KUKL Annual Report

Note: The operation of the Melamchi Diversion Tunnel will be suspended from the end-May to the mid-October.

Figure 5.1.4 Water Allocation Plan in Dry Season

Dry Season with Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	1,603				1,603	289	1,892
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	31,020				31,020	5,595	36,615
Bansbari (New & Old)	29,160	8.39	16,112		10,180		5,932	2,906	8,838
Khumaltar	61,518	17.70	33,990				33,990	6,131	40,121
Kirtipur	32,417	9.33	17,911				17,911	3,231	21,142
Mahankalchaur (New)	31,964	9.20	17,661				17,661	3,185	20,847
Mahankalchaur (Old)	56,135	16.15	31,016	16,370			14,646	5,594	20,240
Minbhawan	8,100	2.33	4,475				4,475	807	5,283
Panipokhari (New & Old)	20,302	5.84	11,217				11,217	2,023	13,241
Tigeni	26,886	7.74	14,855			8,080	6,775	2,679	9,455
Katunje	21,967	6.32	12,137				12,137	2,189	14,327
Total	347,493	100.00	192,000				157,370	34,630	192,000
			(F)				(G)		

Figure 5.1.5 Water Allocation Plan in Monsoon Season

Monsoon Season without Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	401				401	129	530
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	7,755				7,755	2,504	10,259
Bansbari (New & Old)	29,160	8.39	4,028		18,330		0	1,300	1,300
Khumaltar	61,518	17.70	8,498				8,498	2,743	11,241
Kirtipur	32,417	9.33	4,478				4,478	1,446	5,923
Mahankalchaur (New)	31,964	9.20	4,415				4,415	1,425	5,841
Mahankalchaur (Old)	56,135	16.15	7,754	20,630			0	2,503	2,503
Minbhawan	8,100	2.33	1,119				1,119	361	1,480
Panipokhari (New & Old)	20,302	5.84	2,804				2,804	905	3,710
Tigeni	26,886	7.74	3,714			7,900	0	1,199	1,199
Katunje	21,967	6.32	3,034				3,034	980	4,014
Total	347,493	100.00	48,000				32,504	15,496	48,000
			(F)				(G)		

6. Target of Water Supply Hour, Frequency of Water Supply and Water Supply Volume

[Supply Hour]

2 hours or more per supply day for all DMAs

[Supply Frequency]

Dry Season with Melamchi water:	At least once every 3 days in all DMAs
Monsoon Season without Melamchi water:	At least once every 5 days in all DMAs

[Supply Volume]

The amount of water allocated to each SRT is compared with the estimated demand of each Sub-DMA and other water supply areas to determine the water supply frequency and hours for each area so that water supply is achieved equally in all areas.

The following page shows the standard water supply schedule created by KUKL's Operation Division. Since available water sources differ between the monsoon and dry seasons, headquarters must review the need for monthly adjustments to the water supply schedule based on local conditions.

Table 6.1.1 Water Supply Plan in Dry Season with Melamchi water (1/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																												
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
Anamnagar	79	1,892	4.1	4.1.1	921.8	14:00	20:00			√			√			√			√			√			√			√			√			√			√
				4.1.2		14:00	22:00			√			√			√			√			√			√			√			√			√			√
			4.2	4.2.1	414.7	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.2	842.4	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.3	722.5	11:00	22:00			√			√			√			√			√			√			√			√			√			√
			Old Network	1st Shift	0.0	4:00	5:00	√			√			√			√			√			√			√			√			√			√		
				2nd Shift		20:00	21:00	√			√			√			√			√			√			√			√			√			√		
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																																
Balaju	1,526	36,615	7.1	7.1.1	2,509.4	4:00	12:00				√				√				√				√				√				√				√		
				7.1.2	1,297.6	4:00	12:00				√				√				√				√				√				√				√		
			7.2	7.2.1(A)	4,017.6	4:00	12:00		√				√				√				√			√			√				√				√
				7.2.1(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(A)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.3		4:00	12:00		√				√				√				√			√			√				√				√
			7.3	7.3.1(A)	5,022.0	7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.1(B)		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.2		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.3		7:00	19:00	√				√				√				√			√			√			√			√			√	
			7.4	7.4.1(A)	7,249.5	7:00	19:00			√				√				√				√			√				√			√				
				7.4.1(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(A)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.3		7:00	19:00			√				√				√				√			√				√			√				
				7.4.4		7:00	19:00			√				√				√				√			√				√			√				
			10.1	10.1.1	777.6	12:00	17:00				√				√				√				√				√				√				√		
			10.2	10.2.1(A)	4,327.0	17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(B)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(C)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.2(A)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(B)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(C)		13:00	20:00				√				√				√				√				√				√				√		
			Old Network	1st Shift	14,742.0	5:30	8:00		√					√					√					√					√					√			
				2nd Shift		8:00	20:00		√					√					√					√					√					√			
			Outside Ring Road		16,200.0	18:15	20:15					√					√				√					√				√						√
Bansbari	368	8,838	Old Network	1st zone, 1st Shift	17,010.0	5:30	8:00	√				√				√				√				√				√				√				√	
				1st zone, 2nd Shift		10:30	13:00	√				√				√				√				√				√				√				√	
				1st zone, 3rd Shift		15:30	18:00	√				√				√				√				√				√				√				√	
				1st zone, 4th Shift		20:30	23:00	√				√				√				√				√				√				√				√	
				2nd Zone, 1st Shift		3:00	5:30		√				√				√				√				√				√				√				√
				2nd Zone 2nd Shift		8:00	10:30		√				√				√				√				√				√				√				√
				2nd Zone 3rd Shift		13:00	15:30		√				√				√				√				√				√				√				√
				2nd Zone 4th Shift		18:00	20:30		√				√				√				√				√				√				√				√
				3rd Zone, 1st Shift		3:00	5:30			√				√				√				√			√				√				√				
				3rd Zone, 2nd Shift		8:00	10:30			√				√				√				√			√				√				√				
				3rd Zone, 3rd Shift		13:00	15:30			√				√				√				√			√				√				√				
				3rd Zone, 4th Shift		18:00	20:30			√				√				√				√			√				√				√				
			Outside Ring Road	1st Shift	12,150.0	3:00	18:00				√				√				√				√				√				√				√		
				2nd Shift		18:00	21:00				√				√				√				√				√				√				√		
				3rd Shift		21:00	0:00				√				√				√				√				√				√				√		
				4th Shift		0:00	3:00				√				√				√				√				√				√				√		
Khumaltar	1,672	40,121	5.1	5.1.1	9,149.8	18:00	6:00			√				√				√				√				√				√				√		
				5.1.2		18:00	6:00			√				√				√				√				√				√				√		
				5.1.3		18:00	6:00			√				√				√				√				√				√				√		
			5.2	5.2.1	5,859.5	6:00	18:00		√				√				√				√			√			√				√				√
				5.2.2		6:00	18:00		√				√				√				√			√			√				√				√
				5.2.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.1	6.1.1(A)	5,938.9	6:00	18:00		√				√				√				√			√			√				√				√
				6.1.1(B)		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.2		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.2	6.2.1	7,385.6	18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.2		18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.3		18:00	18:00	√				√				√				√				√				√				√				√	
			8.1	8.1.1	6,306.7	6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.2		6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.3		6:00	6:00	√				√				√				√				√				√				√				√	
			8.2	8.2.1	4,536.0	6:00	18:00		√				√				√				√			√				√				√				√
				8.2.2		6:00	18:00		√				√				√				√			√				√				√				√
			9.1	9.1.1	1,294.4	19:00	6:00				√				√				√				√				√				√				√		
				9.1.2	1,681.6	19:00	6:00				√				√				√				√				√				√				√		
				9.1.3	894.2	19:00	6:00				√				√				√				√				√				√				√		
			9.2	9.2.1	1,202.0	6:00	19:00				√				√				√				√				√				√				√		
				9.2.2	1,020.6	6:00	19:00				√				√				√				√				√				√				√		
				9.2.3	1,095.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.4	657.7	6:00	19:00				√				√				√				√				√				√				√		
				9.2.5	724.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.6	1,009.3	6:00	19:00				√				√				√				√				√				√				√		
				9.2.7	782.5	6:00	19:00				√				√				√				√				√				√				√		

Table 6.1.2 Water Supply Plan in Dry Season with Melamchi water (2/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			Old Network		0.0																														
			Outside Ring Road	1st Zone I	11,980.0	5:00	21:00		√				√				√				√			√				√				√				√
				1st Zone - II(a)		5:00	14:00				√				√				√				√			√				√				√		
				1st Zone - II(b)		8:00	9:00				√				√				√				√			√				√				√		
				1st Zone - II©		5:00	20:00				√				√				√				√			√				√				√		
				1st Zone - III		5:00	8:00	√				√				√				√				√				√				√				√	
				2nd Zone - I		6:00	18:00			√								√								√								√		
				2nd Zone - II		6:00	18:00							√								√								√						√
				3rd Zone - I		7:00	19:00	√				√				√				√				√				√				√				√	
				3rd Zone - II		7:00	19:00			√				√				√				√				√				√				√		
				4th Zone - I		6:00	20:00			√				√				√				√				√				√				√		
				4th Zone - II		17:00	0:00				√				√				√				√				√				√				√		
				4th Zone - III		17:00	0:00					√				√				√				√			√				√				√		
				4th Zone - IV		17:00	0:00						√				√				√				√			√				√					
Kirtipur	881	21,142	11.1	11.1.1	3,361.5	18:00	6:00	√			√			√			√			√			√			√			√			√			
			11.2	11.2.1	2,723.2	18:00	6:00		√			√			√			√			√			√			√			√			√		
			11.3	11.3.1	2,007.2	18:00	6:00			√			√			√			√			√			√			√			√			√	
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network	Zone 1	7,128.0	6:00	18:00		√							√							√						√							√
				Zone 2		6:00	18:00			√							√							√							√						
				Zone 3		6:00	18:00				√							√							√							√					
				Zone 4		6:00	18:00					√							√							√							√				
				Zone 5		6:00	18:00						√							√							√							√			
				Zone 6		6:00	18:00							√							√							√							√		
				Zone 7		6:00	18:00	√							√							√							√							√	
				Tyanglaphant - I		6:00	16:00		√		√		√			√		√		√			√		√		√			√		√		√			√
				Tyanglaphant - II a		8:00	16:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Tyanglaphant - II b		8:00	17:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III a		7:00	13:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III b		6:00	2:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		9:00	15:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		15:30	18:30			√		√					√		√					√		√					√		√				
				Maitri Chandani		16:00	19:00				√		√					√		√						√		√					√		√		√
				Maitri Chandani		9:00	15:00							√								√							√							√	
				Panga Dokashi -I		12:00	17:00			√							√							√							√						
				Panga Dokashi -II		8:00	13:00					√							√							√							√				
				Panga Dokashi -III		8:00	11:20	√							√							√						√							√		
				Bhatkepati - I		8:00	14:00		√							√							√							√							√
				Bhatkepati - II		10:00	17:00			√							√							√							√						
				Bhatkepati - III		10:00	17:00				√							√							√							√					
				Nagaun - I		9:00	17:00					√							√							√							√				
				Nagaun - II		10:00	17:00						√							√							√							√			
				Nagaun - III		8:00	16:00							√							√							√							√		
				Nagaun - IV		9:00	12:00								√							√							√							√	
				Jakha-Sikhunchhe D		9:00	10:00			√			√				√			√			√			√			√			√				
				Jakha-Sikhunchhe U		8:00	9:00				√				√			√			√			√			√			√			√			√	
				Nagaun & Old		5:00	11:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Nagaun & Old		5:00	11:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		10:00	19:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				KIRTIPUR old		10:00	19:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		4:00	20:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Kwachwo - I		4:00	22:00		√							√							√							√							√
				Kwachwo - II		3:00	8:00			√							√							√							√						
				Kwachwo - III		4:00	7:00				√							√							√							√					
				Kwachwo R - I		5:00	9:00					√							√							√							√				
				Kwachwo R - I		3:00	22:00						√							√							√							√			
				Kwachwo R - I		4:00	8:00							√							√							√							√		
				Kwachwo R - I		4:00	7:00								√							√							√							√	
				Bhajangal - I		4:00	9:00			√		√			√		√		√				√		√		√			√		√		√			√
				Bhajangal - II		6:00	10:00		√			√			√	√			√			√	√			√			√	√			√			√	√
				Bhajangal - III		5:00	10:00			√	√		√				√	√		√				√	√		√				√	√		√			
				Nayabazar Area		10:00	18:10		√						√								√							√							√
				Nayabazar Area - I		8:00	18:00				√			√				√			√				√			√				√			√		
				Nayabazar Area - II		14:00	19:00					√							√							√							√				
				Nayabazar Area - II		11:30	16:30	√							√							√							√							√	
Mahankalchaur	1,712	41,087	2.1	2.1.1(A)	649.6	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.1(B)	701.5	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(A)	895.9	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(B)	218.7	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(A)	823.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(B)	473.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.4	452.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
			2.2	2.2.1	1,247.4	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.2	1,412.6	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.3	3,222.2	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.4	994.7	12:00	22:00	√			√			√			√			√			√			√			√			√			
			2.3	2.3.1(A)	826.2	1:00	8:00		√			√			√			√			√			√			√			√				√	
				2.3.1(B)	954.2	1:00	8:00		√			√			√			√			√			√			√			√				√	

Table 6.1.3 Water Supply Plan in Dry Season with Melamchi water (3/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			2.4	2.4.1(A)	832.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(B)	772.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(C)	1,190.7	7:00	12:00	√			√			√			√			√			√			√			√			√			√		
			3.1	3.1.1(A)	672.3	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(B)	588.1	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(C)	563.8	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(A)	814.9	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(B)	988.2	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(C)	738.7	13:00	17:00			√			√			√			√			√			√			√			√			√		√
			3.2	3.2.1(A)	675.5	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(B)	464.9	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(C)	774.4	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(A)	776.0	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(B)	784.1	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(C)	798.7	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
			3.3	3.3.1(A)	652.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(B)	863.5	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(C)	814.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(D)	779.2	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(E)	626.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
			3.4	3.4.1(A)	868.3	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
				3.4.1(B)	589.7	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
			3.5	3.5.1(A)	892.6	4:00	7:00			√			√			√			√			√			√			√			√			√		√
				3.5.1(B)	950.9	7:00	12:00			√			√			√			√			√			√			√			√			√		√
				3.5.2	618.8	7:00	12:00			√			√			√			√			√			√			√			√			√		√
			Old Network	Zone 1	16,119.0	8:00	7:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	7:00			√			√			√			√			√			√			√			√			√			
				Zone 3		10:00	7:00	√			√			√			√			√			√			√			√			√			√			
			Outside Ring Road	Zone 1	40,016.0	8:00	10:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	8:00			√			√			√			√			√			√			√			√			√			
				Zone 3		20:00	0:00	√			√			√			√			√			√			√			√			√			√		
				Zone 4 i		4:00	3:00		√						√							√								√							
				Zone 4 ii		3:00	3:00			√						√								√							√						
				Zone 5 i		4:00	5:00	√							√							√						√								
				Zone 5 ii		5:00	5:00		√							√							√						√							
				Zone 5 iii		5:00	5:00			√							√							√							√						
				Zone 5 iv		5:00	5:00				√							√							√							√					
				Zone 5 v		5:00	4:00					√							√							√							√				
				Zone 5 vi		4:00	22:00						√							√							√							√			
				Zone 5 vii		4:00	4:00							√							√							√							√		
				Zone 6 i		5:00	22:00				√							√				√							√								
				Zone 6 ii		6:00	19:00					√							√							√							√				
				Zone 6 iii		19:00	5:00						√							√							√							√			
				Zone 6 iv		5:00	17:00							√							√							√							√		
Minbhawan	220	5,283	Demo Area	Zone 1	8,100.0	5:00	11:00		√			√			√			√			√			√			√			√			√		√	
				Zone 1 - II		3:00	8:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		5:00	11:00			√			√			√			√			√			√			√			√			√			√
				Zone 2 - II		3:00	8:00			√			√			√			√			√			√			√			√			√			√
				Zone 3		5:00	10:00	√			√			√			√			√			√			√			√			√			√		
				Zone 3 - II		12:00	18:00	√			√			√			√			√			√			√			√			√			√		
Panipokhari	552	13,241	1.1	1.1.1	1,853.3	12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.2		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.3		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
			1.2	1.2.1	3,659.6	12:00	16:00		√			√			√			√			√			√			√			√			√		√	
				1.2.2		7:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.2.3(A)		16:00	20:00		√				√				√				√				√				√				√			√
				1.2.3(B)		16:00	20:00		√				√				√				√				√				√				√			√
			1.3	1.3.1	5,268.2	6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(A)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(B)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(C)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
			1.4	1.4.1	4,639.7	16:00	18:00			√			√			√			√			√			√			√			√			√		√
				1.4.2		16:00	18:00			√			√			√			√			√			√			√			√			√		√
			1.5	1.5.1	424.4	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.2	591.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.3	625.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
			Old Network	1st Zone, 1st Shift	3,240.0	4:00	7:00				√					√			√				√				√				√				√	
				1st Zone, 2nd Shift		07"00	9:00				√					√			√				√				√				√				√	
				1st Zone, 3rd Shift		9:00	11:00				√					√			√				√				√				√				√	
				1st Zone, 4th Shift		11:00	13:00				√					√			√				√				√				√				√	
				1st Zone, 5th Shift		13:00	16:00				√					√			√				√				√				√				√	
				1st Zone, 6th Shift		16:00	19:00				√					√			√				√				√				√				√	
				1st Zone, 7th Shift		19:00	22:00				√					√			√				√				√				√				√	
				2nd Zone		4:00	7:00	√				√				√				√				√				√				√				√	
			Outside Ring Road		0.0																															
Tigeni	394	9,455	Outside Ring Road	1st zone	26,886.0	5:00	4:00	√				√				√				√				√				√				√				√	
				2nd zone		5:00	4:00		√				√				√				√				√				√				√				√
				3rd zone		5:00	4:00			√			√			√			√			√			√			√			√			√			√
				4th zone		5:00	4:00				√				√				√				√				√				√				√		
Katunje	597	14,327	Outside Ring Road	1st zone - I	21,967.0	4:00	10:00				√				√				√				√				√				√				√	
				1st zone - II		16:00	20:00				√				√				√				√				√				√				√	
				2nd zone - I		4:00	10:00	√				√				√				√				√				√				√				√	
				2nd zone - II		16:00	20:00	√				√				√				√				√				√				√				√	
				3rd zone - I		4:00	10:00		√				√				√				√				√				√				√				√
				3rd zone - II		16:00	20:00		√				√				√				√				√				√				√				√
				4th zone - I		4:00	10:00			√			√			√			√			√			√			√			√			√			√
				4th zone - II		16:00	20:00			√			√			√			√			√			√			√			√			√			√
				5th zone -I		10:00	14:00				√				√				√				√				√				√				√	
				5th zone - II		20:00	0:00				√				√				√				√				√				√				√	
				6th zone - I		10:00	14:00			√			√			√			√			√			√			√			√			√			√
				6th zone - II		20:00	0:00			√			√			√			√			√			√			√			√			√			√
		192,000		Total	347,493.1																															

Table 6.1.4 Water Supply Plan in Monsoon Season without Melamchi water (1/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Anamnagar	22	530	4.1	4.1.1	921.8																															
				4.1.2		14:00	20:00			√						√						√						√						√				
			4.2	4.2.1	414.7	11:00	20:00			√						√						√						√						√				
				4.2.2	842.4	11:00	20:00			√						√						√						√						√				
				4.2.3	722.5	11:00	20:00			√						√						√						√						√				
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																															
Balaju	427	10,259	7.1	7.1.1	2,509.4	17:00	22:00						√						√						√						√					√	
				7.1.2	1,297.6	17:00	22:00						√						√						√						√					√	
			7.2	7.2.1(A)		4:00	11:00						√						√						√						√					√	
				7.2.1(B)		4:00	11:00						√						√						√						√					√	
				7.2.2(A)	4,017.6	4:00	11:00						√						√						√						√					√	
				7.2.2(B)		4:00	11:00						√						√						√						√					√	
				7.2.3		4:00	11:00						√						√						√						√					√	
			7.3	7.3.1(A)		4:00	13:00					√						√					√						√					√		
				7.3.1(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(A)	5,022.0	4:00	13:00					√						√					√						√					√		
				7.3.2(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(C)		4:00	13:00					√						√					√						√					√		
				7.3.3		4:00	13:00					√						√					√						√					√		
			7.4	7.4.1(A)		4:00	13:00				√						√						√	√					√					√		
				7.4.1(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.2(A)	0.0	4:00	13:00				√						√						√	√					√					√		
				7.4.2(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.3		4:00	13:00				√						√						√	√					√					√		
				7.4.4		4:00	13:00				√						√						√	√					√					√		
			10.1	10.1.1	777.6																															
			10.2	10.2.1(A)		15:00	20:00					√						√						√						√					√		
				10.2.1(B)		15:00	20:00					√						√						√						√					√		
				10.2.1(C)	4,327.0	15:00	20:00					√						√						√						√					√		
				10.2.2(A)		15:00	20:00				√						√						√						√					√		
				10.2.2(B)		15:00	20:00				√						√						√						√					√		
				10.2.2(C)		15:00	20:00				√						√						√						√					√		
			Old Network	1st Zone		6:00	8:00				√						√						√						√					√		
				2nd Zone		8:00	18:00				√						√						√						√					√		
				1st zone, 1st Shift		3:30	5:00			√						√						√						√					√				
				1st zone, 2nd Shift		7:00	8:00			√						√						√						√					√				
				1st zone, 3rd Shift		13:00	17:00			√						√						√						√					√				
				2nd Zone, 1st Shift		14:30	15:30						√						√						√						√					√	
				2nd Zone 2nd Shift		15:30	16:30						√						√						√						√					√	
				2nd Zone 3rd Shift	14,742.0	16:30	17:30						√						√						√						√					√	
				3rd Zone, 1st Shift		14:30	15:30				√						√						√						√					√		
				3rd Zone, 2nd Shift		15:30	16:30				√						√						√						√					√		
				3rd Zone, 3rd Shift		16:30	17:30				√						√						√						√					√		
				3rd Zone, 4th Shift		17:30	18:30				√						√						√						√					√		
				3rd Zone, 5th Shift		18:30	19:30				√						√						√						√					√		
				4th Zone, 1st Shift		14:30	17:00			√						√						√						√						√		
				4th Zone, 2nd Shift		15:30	17:00			√						√						√						√						√		
				5th Zone, 1st Shift		15:30	17:00				√						√						√						√					√		
			Outside Ring Road	1st Zone	16,200.0	5:15	8:00						√						√						√						√					√	
				2nd Zone		5:15	8:00			√						√						√						√						√				
Bansbari	54	1,300	Old Network	1st zone, 1st Shift		3:00	5:00				√						√						√						√					√		
				1st zone, 2nd Shift		9:00	11:00				√						√						√						√					√		
				1st zone, 3rd Shift		15:00	17:00				√						√						√						√					√		
				2nd Zone, 1st Shift		3:00	5:00					√						√						√						√					√	
				2nd Zone 2nd Shift		9:00	11:00					√						√						√						√					√	
				2nd Zone 3rd Shift		15:00	17:00					√						√						√						√					√	
				3rd Zone, 1st Shift		3:00	5:00						√						√						√						√					√	
				3rd Zone, 2nd Shift	17,010.0	9:00	11:00						√						√						√						√					√	
				4th Zone, 1st Shift		3:00	5:00	√						√						√						√						√					√
				4th Zone, 2nd Shift		9:00	11:00	√						√						√						√						√					√
				4th Zone, 3rd Shift		15:00	17:00	√						√						√						√						√					√
				5th Zone, 1st Shift		3:00	5:00		√						√						√						√						√				
				5th Zone, 2nd Shift		9:00	11:00		√						√						√						√						√				
				5th Zone, 3rd Shift		15:00	17:00		√						√						√						√						√				
				6th Zone, 1st Shift		18:00	22:00			√						√						√						√					√				
			Outside Ring Road	1st zone, 1st Shift		3:00	5:30		√					√						√					√						√						
				1st zone, 2nd Shift		14:00	15:30		√					√						√					√						√						
				1st zone, 3rd Shift		15:30	16:30		√					√						√					√						√						
				2nd Zone, 1st Shift		3:00	5:00			√					√					√						√						√					
				2nd Zone 2nd Shift	12,150.0	14:00	16:00			√					√					√						√						√					
				3rd Zone, 1st Shift		3:00	5:00				√					√						√						√						√		
				3rd Zone, 2nd Shift		14:00	16:00				√					√						√						√						√		
				4th Zone, 1st Shift		3:00	5:00					√					√					√						√					√			
				4th Zone, 2nd Shift		14:00	16:00					√					√					√						√					√			
				5th Zone, 1st Shift		3:00	5:00	√					√					√					√						√								√

Table 6.1.5 Water Supply Plan in Monsoon Season without Melamchi water (2/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																								
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Khumaltar	468	11,241	5.1	5.1.1	9,149.8	14:00	21:00							7							14							21							28			
				5.1.2		14:00	21:00							7							14							21							28			
				5.1.3		14:00	21:00							7							14							21							28			
			5.2	5.2.1	5,859.5	4:00	11:00						6							13						20							27				
				5.2.2		4:00	11:00						6							13						20							27				
				5.2.3		4:00	11:00						6							13						20							27				
			6.1	6.1(DNI)	5,938.9	19:00	6:00						6							13						20							27				
				6.1(DNI)		19:00	6:00							7							14							21							28			
			6.2	6.2(DNI)	7,385.6	18:00	6:00				4							11						18							25						
				6.2(DNI)		18:00	6:00					5							12							19							26					
			8.1	8.1 (DNI)	6,306.7	8:00	20:00					5							12							19							26					
			8.2	8.2 (DNI)	4,536.0	8:00	20:00					5							12							19							26					
			9.1	9.1.1	1,294.4	20:00	5:00								√							√							√							√		
				9.1.2	1,681.6	20:00	5:00								√							√							√							√		
				9.1.3	894.2	20:00	5:00								√							√							√							√		
			9.2	9.2.1	1,202.0	5:00	19:00							√							√							√							√		
				9.2.2	1,020.6	5:00	19:00							√							√							√							√		
				9.2.3	1,095.1	5:00	19:00							√							√							√							√		
				9.2.4	657.7	5:00	19:00							√							√							√							√		
				9.2.5	724.1	5:00	19:00							√							√							√							√		
				9.2.6	1,009.3	5:00	19:00							√							√							√							√		
				9.2.7	782.5	5:00	19:00							√							√							√							√		
			Old Network		0.0																																	
			Outside Ring Road	8.1 (20" KUKL)	11,980.0	6:00	14:00				4							11						18							25						
				8.1 (20" KUKL)		15:00	17:00				4							11						18							25						
				8.1 (20" KUKL)		7:00	16:00		2							9						16								23							30	
				8.1 (20" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	13:00							7							14							21							28			
Kirtipur	247	5,923	11.1	11.1.1	3,361.5	18:00	6:00	√						√						√					√						v	√						√
			11.2	11.2.1	2,723.2	18:00	6:00						√						√						√					√						v		
			11.3	11.3.1	2,723.2	18:00	6:00					√						√						√					√						v			
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network		7,128.0	7:00	17:00																															
			Siwalaya System	Siwalaya 1		7:00	12:30							√							√							√							√			
				Siwalaya 1		7:00	9:40	√							√							√							√							√			
			Bhajangal System	Bhajangal R1		4:00	8:40	√				√			√				√			√				√			√				√			√			
				Bhajangal R2		5:00	5:40	√		√					√		√					√		√					√		√					√			√
				Bhajangal R3		5:00	8:40	√			√				√			√				√			√					√			√				√		
				Bhajangal R4		5:00	5:40		√					√		√						√		√				√		√					√		√	
						18:30	20:00		√					√		√						√		√				√		√					√		√	
				Bhajangal R5		6:00	8:40		√			√				√			√				√			√				√			√				√	
				Bhajangal D		8:00	14:40			√			√				√			√				√			√				√			√				√
				Bhajangal K		8:00	11:20				√			√				√			√				√			√				√			√			
				Gurung Compound		14:40	18:00				√							√							√							√						
			Chilancho System	Chilancho 1		4:00	7:30	√				√			√				√			√				√			√				√			√		
						21:00	22:00	√				√			√				√			√				√			√				√			√		
				Chilancho 2		6:00	9:00		√				√			√				√			√				√			√				√			√	
						19:30	20:00		√				√			√				√			√				√			√				√			√	
				Chilancho 3		4:00	8:00				√			√				√			√				√			√				√			√		
				Chilancho 4		16:00	19:00	√				√		√	√			√	√		√	√			√	√		√	√			√	√		√	√		
				Chilancho 5		14:30	18:30		√				√	√		√		√		√	√		√		√		√	√		√		√		√		√		
				Chilancho 6		14:15	18:00				√			√				√							√				√			√			√			
			Devdhoka System	Devdhoka 1	17,097.0	6:00	15:00	√							√							√							√							√		
						12:00	15:00	√							√							√							√							√		
				Devdhoka 2		6:00	19:00		√							√							√							√							√	
						15:00	19:00		√							√							√							√							√	
				Devdhoka 3		6:00	11:00			√							√							√							√							√
						13:00	14:00			√							√							√							√							√
				Devdhoka 4		6:00	10:00				√							√							√							√						
				Devdhoka 5		6:00	9:00					√							√							√							√						
						12:00	15:30					√							√														√						
				Devdhoka 6		6:00	9:00						√							√							√							√				
						15:00	18:30						√							√							√							√				
				Devdhoka 7		6:00	21:00							√							√							√							√			
						15:00	18:30							√							√							√							√			
			Kwacho System	Kwacho 1		4:00	6:30	√				√			√				√			√				√			√				√			√		
						18:30	19:30	√				√			√				√			√				√			√				√			√		
				Kwacho 2		3:00	6:30		√				√			√				√			√				√			√				√			√	
				Kwacho 3		4:00	5:30			√				√			√				√			√				√			√				√			√
			Jakha System	Water is used when local																																		
			Nagau System	Nagau 1 (8 area)		5:00	9:00	√		√		√			√		√		√			√		√		√			√		√		√			√			√
				Nagau 2 (8 area)		5:00	9:00		√		√		√			√		√			√		√		√		√			√		√		√			√		
Mahankalchaur	348	8,344	2.1	2.1.1(A)	649.0	11:00	14:00	√						√							√						√					√						
				2.1.1(B)	701.5	11:00	14:00	√						√							√						√					√						
				2.1.2(A)	895.9	11:00	14:00	√						√							√						√					√						
				2.1.2(B)	218.7	11:00	14:00	√						√							√						√					√						
				2.1.3(A)	823.0	11:00	14:00	√						√							√						√					√						
				2.1.3(B)	473.0	11:00	14:00	√						√							√						√					√						
				2.1.4	452.0	11:00	14:00	√						√							√						√					√						
			2.2	2.2.1	1,247.4	13:00	22:00			√						√						√						√						√			
				2.2.2	1,412.6	13:00	22:00			√						√						√						√						√			
				2.2.3	3,222.2	13:00	22:00			√						√						√						√						√			
				2.2.4	994.7	13:00	22:00			√						√						√						√						√			
			2.3	2.3.1(A)	826.2	22:00	1:00		√						√						√						√					√					
				2.3.1(B)	954.2	22:00	1:00		√						√						√						√					√					
			2.4	2.4.1(A)	832.7	14:00	20:00	√						√						√					√						√						
				2.4.1(B)	772.7	14:00	20:00	√						√						√					√						√						
				2.4.1(C)	1,190.7	14:00	20:00	√						√						√					√						√						

Table 6.1.6 Water Supply Plan in Monsoon Season without Melamchi water (3/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																													
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
			3.1	3.1.1(A)	672.3	11:00	17:00		√						√						√						√						√					
				3.1.1(B)	588.1	11:00	17:00		√						√						√						√						√					
				3.1.1(C)	563.8	11:00	17:00		√						√						√						√						√					
				3.1.2(A)	814.9	11:00	17:00		√						√						√						√						√					
				3.1.2(B)	988.2	11:00	17:00		√						√						√						√						√					
				3.1.2(C)	738.7	11:00	17:00		√						√						√						√						√					
			3.2	3.2.1(A)	675.5	6:00	12:00			√						√						√						√						√				
				3.2.1(B)	464.9	6:00	12:00			√						√						√						√						√				
				3.2.1(C)	774.4	6:00	12:00			√						√						√						√						√				
				3.2.2(A)	776.0	6:00	12:00			√						√						√						√						√				
				3.2.2(B)	784.1	6:00	12:00			√						√						√						√						√				
				3.2.2(C)	798.7	6:00	12:00			√						√						√						√						√				
			3.3	3.3.1(A)	652.9	15:00	21:00		√						√						√						√						√					
				3.3.1(B)	863.5	15:00	21:00		√						√						√						√						√					
				3.3.1(C)	814.9	15:00	21:00		√						√						√						√						√					
				3.3.1(D)	779.2	15:00	21:00		√						√						√						√						√					
				3.3.1(E)	626.9	15:00	21:00		√						√						√						√						√					
			3.4	3.4.1(A)	868.3	20:00	23:00	√						√					√					√							√							
				3.4.1(B)	589.7	20:00	23:00	√						√					√					√							√							
			3.5	3.5.1(A)	802.6	4:00	10:00		√						√						√						√						√					
				3.5.1(B)	950.9	4:00	10:00		√						√						√						√						√					
				3.5.2	618.8	4:00	10:00		√						√						√						√						√					
			Old Network	Zone 1 a	16,119.0	8:00	10:00		√			√			√			√			√			√			√			√			√			√		
				Zone 1 b		16:00	19:00		√			√			√			√			√			√			√			√			√			√		
				Zone 2		4:00	8:00			√			√			√			√			√			√			√			√			√			√	
				Zone 3 a		11:00	13:00	√			√			√			√			√			√			√			√			√			√			√
				Zone 3 b		13:00	16:00	√			√			√			√			√			√			√			√			√			√			√
			Outside Ring Road	Zone 1-gravity	19,846.4																																	
				Zone 2-gravity																																		
				Zone 3 a-pumping																																		
				Zone 3 b-pumping																																		
				Zone 3 c-pumping																																		
				Zone 3 d-pumping																																		
				Zone 3 e-pumping																																		
				Zone 3 f-pumping																																		
				Zone 3 g-pumping																																		
Minbhawan	62	1,480	Demo Area	Zone 1	8,100.0	10:00	12:30						√						√						√					√						√	
				Zone 2		18:00	20:30						√						√						√					√						√	
				Zone3		5:00	8:00	√						√						√						√						√						√
				Zone 4		15:00	18:00	√						√						√						√						√						√
				Zone 5		5:00	8:00		√						√						√						√						√					
				Zone 6		12:00	16:00		√						√						√						√						√					
Panipokhari	155	3,710	1.1	1.1.1	1,853.3	4:00	22:00							√						√						√						√					√
				1.1.2										√						√						√						√					√
				1.1.3										√						√						√						√					√
			1.2	1.2.1	3,659.6	4:00	7:00								√						√						√						√				
				1.2.2											√						√						√						√				
				1.2.3(A)											√						√						√						√				
				1.2.3(B)											√						√						√						√				
			1.3	1.3.1	5,268.2	14:00	21:00							√						√						√						√					√
				1.3.2(A)		14:00	21:00							√						√						√						√					√
				1.3.2(B)		14:00	21:00							√						√						√						√					√
				1.3.2(C)		14:00	21:00							√						√						√						√					√
			1.4	1.4.1	4,639.7	13:00	19:00						√						√					√					√						√	
				1.4.2		13:00	19:00						√						√					√					√						√	
			1.5	1.5.1	424.4	5:00	13:00							√						√						√						√					√
				1.5.2	591.3	5:00	13:00							√						√						√						√					√
				1.5.3	625.3	5:00	13:00							√						√						√						√					√
Tigeni	50	1,199	Outside Ring Road	1st zone	26,886.0	4:00	11:00		√							√						√							√						√	
				2nd zone		4:00	11:00			√							√						√							√						√
				3rd zone		4:00	11:00				√							√						√							√						
				4th zone		4:00	11:00					√							√						√							√					
				5th zone		4:00	11:00						√							√						√							√				
				6th zone		4:00	11:00							√							√						√							√			
				7th zone		4:00	11:00	√							√							√						√							√			
Katunje	167	4,014	Outside Ring Road	1st zone	21,967.0	13:00	20:00		√						√						√						√						√				
				2nd zone						√						√						√						√						√				
				3rd zone					√						√						√						√						√				
				4th zone		14:00	17:00		√			√			√			√				√			√			√			√			√			√	
				5th zone		8:00	12:00	√						√						√						√						√						√
				6th zone				√						√						√						√						√						√
				7th zone				√						√						√						√						√						√
				8th zone		6:00	10:00			√			√			√			√			√			√			√			√			√			
				9th zone		8:00	11:00		√							√						√						√						√				
		48,000		Total	317,550.0																																

7. Actions to be taken by KUKL

In the technical cooperation project by JICA, indicators are established to measure the achievement of Output 1 and the project purpose.

Both indicators must be achieved by December 2026, when the technical cooperation project concludes.

[Output 1]

The capacity of water distribution management utilizing GIS is enhanced.

Indicator 1-3: The water distribution plan for maintaining fair supply hour is prepared for the DMAs within the Ring Road.

[Project Purpose]

The KUKL's capacity of operation and maintenance of water supply is improved.

Indicator 1: The water distribution management plan for fair water supply is implemented in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

Indicator 2: Water supply hours are fair in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

To achieve the above-mentioned indicators, KUKL should implement the following actions:

7.1 Actions to be taken by Production Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-1: Monthly water inflow at each SRT from BDS
(Table 7.1.1, Table 7.1.2, Figure 7.1.1, Figure 7.1.2)

PI-2: Monthly water inflow per customer at each SRT from BDS
(Table 7.1.3, Figure 7.1.3)

PI-3: Water losses in BDS between New Sundarijal WTP and each SRT
(Table 7.1.2)

Table 7.1.1 Monitoring Format of Monthly Inflow by SRT wise (1/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Baisakh		Jestha		Asadh		Shrawan		Bhadra		Ashwin	
				14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	15164	3	231591	46	129935	26	114419	23	131183	26	372,456	74
Balaju (New)	15,556	291,578	1,098,464	237048	15	280865	18	184668	12	199020	13	181238	12	230070	15
Balaju (Old)	19,100			298687	16	239059	13	115738	6	0	0	202898	11	351175	18
Bansbari (Old)	18,000	30,605	265,132	291703	16	293788	16	44799	2	0	0	317	0	6784	0
Khumaltar	37,974	319,495	1,203,634	1023350	27	1146020	30	662190	17	734120	19	764932	20	802258	21
Kirtipur	19,949	168,358	634,255	323657	16	329460	17	198622	10	237609	12	216165	11	249046	12
Mahankalchaur (New)	19,731	291,538	1,098,313	467845	24	516628	26	225886	11	287506	15	450396	23	466119	24
Mahankalchaur (Old)	34,651	33,548	134,298	431083	12	442614	13	72781	2	0	0	303	0	162782	5
Minbhawan	5,000	42,067	158,481	236571	47	136076	27	58780	12	108294	22	119345	24	150899	30
Panipokhari (New)	10,532	105,438	397,217	137442	13	133258	13	87793	8	88573	8	95710	9	111872	11
Panipokhari (Old)	2,000			37848	19	21103	11	7043	4	17084	9	11696	6	14515	7
Tigeni	16,596	28,218	283,640	-	-	-	-	-	-	-	-	344	0	483	0
Katunje	13,560	114,086	429,797	0	0	328681	24	180919	13	154526	11	166588	12	208998	15
Average				291,700	17	341,595	21	164,096	10	161,763	11	180,086	12	240,574	18

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

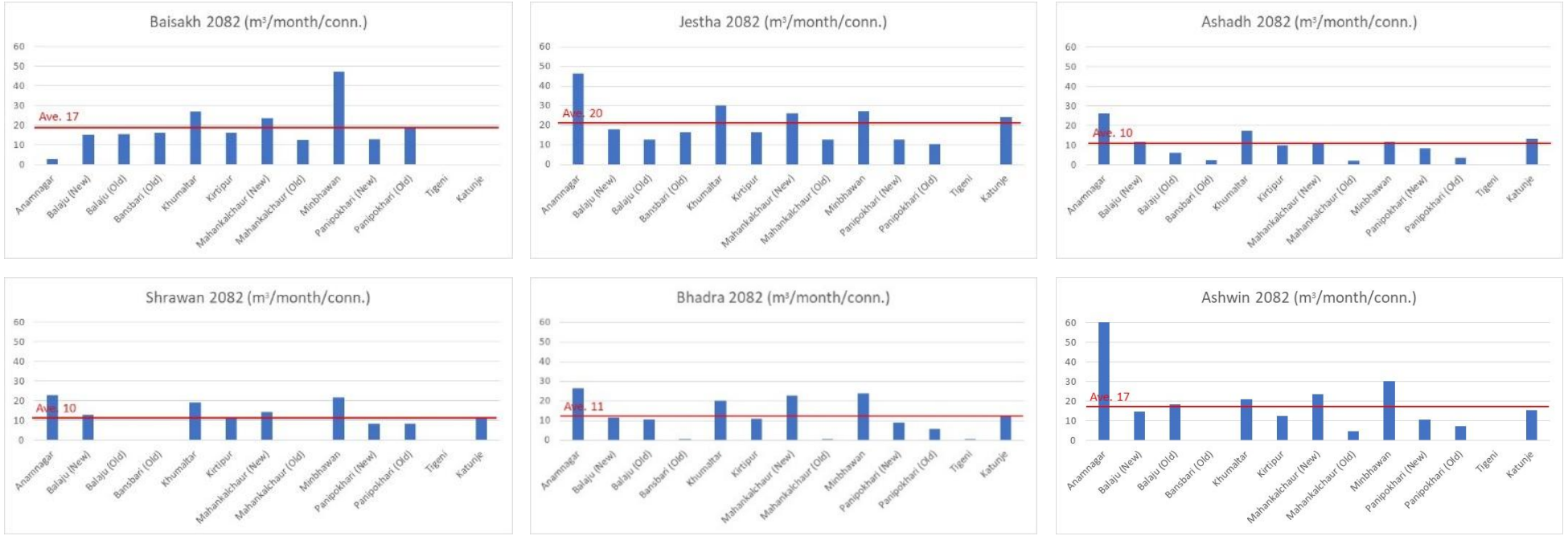


Figure 7.1.1 Change of Monthly Inflow by SRT wise (1/2)

Table 7.1.2 Monitoring Format of Monthly Inflow by SRT wise (2/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Kartik		Mangsir		Poush			Magh		Falgun		Chaitra	
				18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25		14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	14-Mar-26	15-Mar-26	13-Apr-26
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow		Inflow		Inflow			Inflow		Inflow		Inflow	
				(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	Local sources	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	182330	36	143,488	29	220,633		44		0		0		0
Balaju (New)	15,556	291,578	1,098,464	326808	21	363,390	23	414,438		27		0		0		0
Balaju (Old)	19,100			438440	23	460,982	24	585,595		31		0		0		0
Bansbari (Old)	18,000	30,605	265,132	64275	4	102,621	6	292,397	104,400	22		0		0		0
Khumaltar	37,974	319,495	1,203,634	972150	26	1,016,340	27	1,227,320		32		0		0		0
Kirtipur	19,949	168,358	634,255	335258	17	347,178	17	424,761		21		0		0		0
Mahankalchaur (New)	19,731	291,538	1,098,313	477628	24	522,914	27	618,450		31		0		0		0
Mahankalchaur (Old)	34,651	33,548	134,298	411567	12	441,275	13	487,527	681,500	34		0		0		0
Minbhawan	5,000	42,067	158,481	195975	39	140,311	28	234,816		47		0		0		0
Panipokhari (New)	10,532	105,438	397,217	192052	18	213,775	20	227,497		22		0		0		0
Panipokhari (Old)	2,000			24593	12	27277	14	53,189		27		0		0		0
Tigeni	16,596	28,218	283,640	469	0	288,000	17	288,000	161,994	27		0		0		0
Katunje	13,560	114,086	429,797	350301	26	344,498	25	398,271	-76,560	24		0		0		0
Average				305,527	20	339,388	21	420,992		30		0		0		0

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

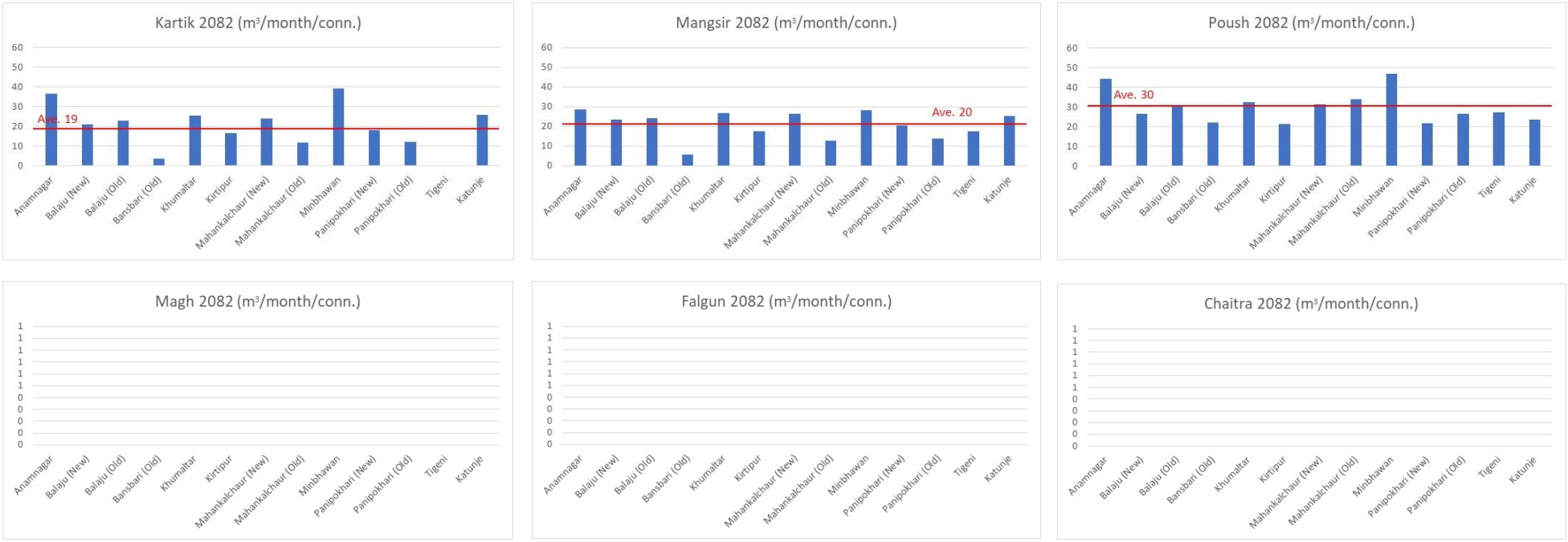


Figure 7.1.2 Change of Monthly Inflow by SRT wise (2/2)

Table 7.1.3 Monitoring Format of Water Loss in BDS

Description	Unit	January/2025	February/2025	March/2025	April/2025	May/2025	June/2025
Total Water transmitted from New Sundarijal WTP	m3						
Total water received by SRTs	m3						
Water losses in BDS	m3						
Wate losses ratio	%						
Description	Unit	July/2025	August/2025	September/2025	October/2025	November/2025	December/2025
Total Water transmitted from New Sundarijal WTP	m3	1,104,558.54	2,541550.32	2,819,664.66	4,337,372.36	4402496.86	5m796,124.00
Total water received by SRTs	m3	2,294,058.00	2,421495.00	2,707,171.00	4,290,970.00	4412049	5,691,271.00
Water losses in BDS	m3	-1,189,499.46	120,055.32	112,493.66	46,402.36	-9,552.14	104,853.00
Wate losses ratio	%	-107.69	4.72	3.99	1.07	-0.22	1.81

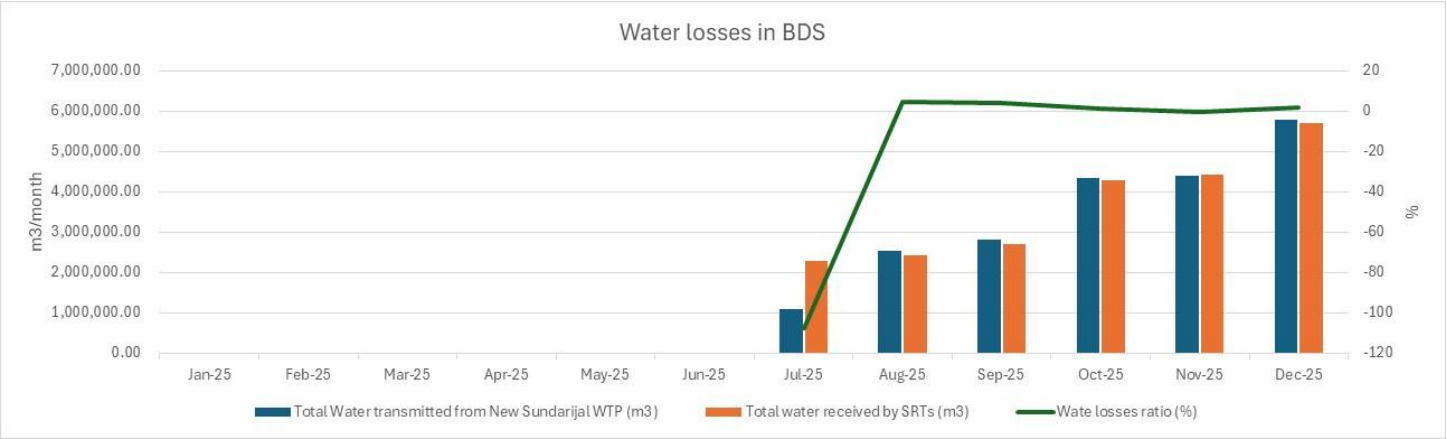


Figure 7.1.3 Change of Water Losses in BDS

7.2 Actions to be taken by Operation Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-4: Daily water supply volume as average at each DMA or sub-DMA and the volume per connection (Table 7.2.1, Figure 7.2.1, Figure 7.2.2)

[Responsibilities of the Operation Division]

- The Operations Division monitors the number of customers and water distribution volumes for each DMA on a monthly basis.
- The Operation Division monitors an indicator (PI-4) calculated by dividing the water distribution volume per DMA by the number of customers on a monthly basis.
- Using the Indicator PI-4. evaluate the feasibility of achieving equitable water distribution. If significant inequities arise or significant fluctuations occur, review the water distribution volume and distribution times for each DMA.

In addition to those main actions, the Operation division shall take responsibility for daily maintenance of SRTs. The operation division is required to take a record of the following monitoring.

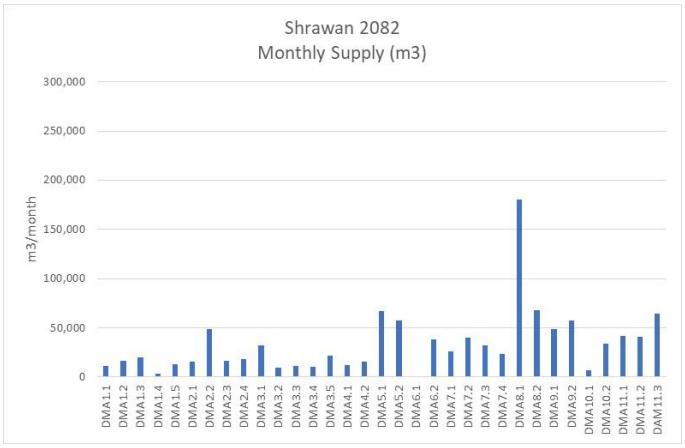
PI-5: Operation and Maintenance Status of each SRT (Table 7.2.2, Table 7.2.3)

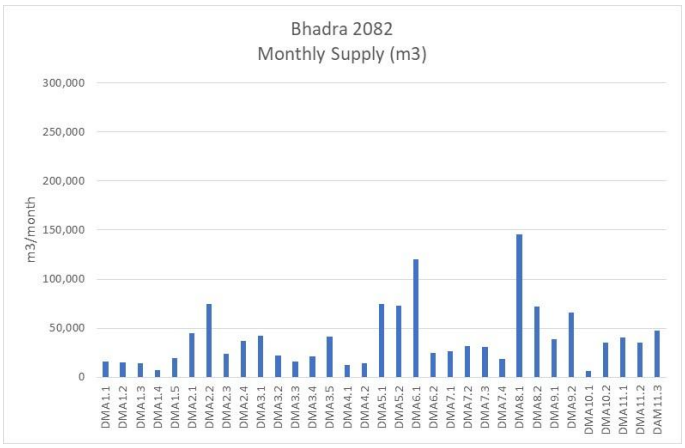
Action-1: Allocate the responsible operator (Everyday)
Action-2: Prepare a Standard Operation Procedure (SOP) for each SRT (Everyday)
Action-3: Cleaning work of the inside of valve chambers (2 times per month)
Action-4: Inspection of air valves at the outlet chamber (2 time per month)
Action-5: Cleaning work of the inside of reservoirs (1 time per year)
Action-6: Inspection of the inside of reservoirs (1 time per year)
Action-7: Water quality test (Everyday)

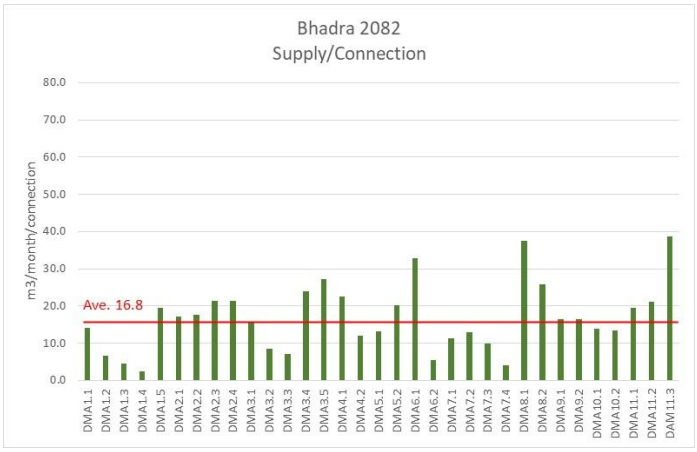
Table 7.2.1 Monitoring Format of Water Supply Volume by DMA wise

Year:2082	1	1		2		3		4		5		6		7		8		9		10		11		12	
	Baisakha	Baisakha		Jestha		Asadh		Shrawan		Bhadra		Ashwin		Kartik		Mangsir		Poush		magh		Falgun		Chaitra	
DMA	No. of Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection
DMA1.1	1,144	21,648	18.9	13,221	11.6	6,092	5.3	11,017	9.6	16,049	14.0	13,973	12.2	27,747	24.3	29,252	25.6	29,370	25.7	0	0.0	0	0.0	0	0.0
DMA1.2	2,259	25,922	11.5	35,173	15.6	19,444	8.6	16,136	7.1	15,011	6.6	18,217	8.1	28,727	12.7	37,082	16.4	41,999	18.6	0	0.0	0	0.0	0	0.0
DMA1.3	3,252	37,697	11.6	24,193	7.4	15,796	4.9	19,892	6.1	14,553	4.5	16,613	5.1	50,400	15.5	62,017	19.1	56,966	17.5	0	0.0	0	0.0	0	0.0
DMA1.4	2,864	5,717	2.0	4,591	1.6	1,946	0.7	3,314	1.2	7,159	2.5	6,845	2.4	5,161	1.8	19,453	6.8	8,288	2.9	0	0.0	0	0.0	0	0.0
DMA1.5	1,013	26,675	26.3	19,455	19.2	15,818	15.6	13,108	12.9	19,660	19.4	18,398	18.2	25,601	25.3	40,877	40.4	32,025	31.6	0	0.0	0	0.0	0	0.0
DMA2.1	2,601	41,335	15.9	48,209	18.5	18,312	7.0	15,388	5.9	44,703	17.2	52,792	20.3	73,993	28.4	99,200	38.1	85,590	32.9	0	0.0	0	0.0	0	0.0
DMA2.2	4,245	97,828	23.0	88,406	20.8	35,715	8.4	48,721	11.5	74,516	17.6	96,162	22.7	96,259	22.7	125,271	29.5	67,604	15.9	0	0.0	0	0.0	0	0.0
DMA2.3	1,099	23,446	21.3	27,561	25.1	7,506	6.8	16,152	14.7	23,541	21.4	16,114	14.7	21,198	19.3	34,262	31.2	32,861	29.9	0	0.0	0	0.0	0	0.0
DMA2.4	1,726	27,410	15.9	31,419	18.2	16,988	9.8	18,450	10.7	36,817	21.3	28,018	16.2	27,321	15.8	35,194	20.4	43,056	24.9	0	0.0	0	0.0	0	0.0
DMA3.1	2,695	59,187	22.0	52,864	19.6	26,607	9.9	32,091	11.9	42,450	15.8	41,410	15.4	45,549	16.9	60,547	22.5	82,687	30.7	0	0.0	0	0.0	0	0.0
DMA3.2	2,638	19,912	7.5	16,719	6.3	7,802	3.0	9,946	3.8	22,357	8.5	21,939	8.3	30,817	11.7	44,383	16.8	1,980	0.8	0	0.0	0	0.0	0	0.0
DMA3.3	2,307	19,119	8.3	12,201	5.3	13,993	6.1	11,359	4.9	16,331	7.1	10,784	4.7	6,494	2.8	13,961	6.1	6,345	2.8	0	0.0	0	0.0	0	0.0
DMA3.4	900	25,964	28.8	22,342	24.8	9,682	10.8	10,516	11.7	21,542	23.9	20,233	22.5	23,032	25.6	33,976	37.8	22,445	24.9	0	0.0	0	0.0	0	0.0
DMA3.5	1,520	30,491	20.1	29,776	19.6	19,133	12.6	21,938	14.4	41,349	27.2	25,625	16.9	51,037	33.6	37,626	24.8	28,972	19.1	0	0.0	0	0.0	0	0.0
DMA4.1	569	20,624	36.2	20,328	35.7	16,961	29.8	12,591	22.1	12,792	22.5	15,569	27.4	19,270	33.9	16,257	28.6	27,560	48.4	0	0.0	0	0.0	0	0.0
DMA4.2	1,222	32,362	26.5	29,019	23.7	19,335	15.8	15,577	12.7	14,663	12.0	19,796	16.2	25,419	20.8	20,552	16.8	23,110	18.9	0	0.0	0	0.0	0	0.0
DMA5.1	5,648	104,751	18.5	113,842	20.2	66,889	11.8	67,444	11.9	74,886	13.3	76,034	13.5	117,202	20.8	160,002	28.3	148,855	26.4	0	0.0	0	0.0	0	0.0
DMA5.2	3,617	73,329	20.3	94,180	26.0	42,194	11.7	57,770	16.0	72,932	20.2	58,361	16.1	75,219	20.8	120,350	33.3	107,295	29.7	0	0.0	0	0.0	0	0.0
DMA6.1	3,666	92,386	25.2	225,885	61.6	45,045	12.3	0	0.0	120,495	32.9	157,296	42.9	144,778	39.5	169,591	46.3	211,028	57.6	0	0.0	0	0.0	0	0.0
DMA6.2	4,559	20,120	4.4	107,860	23.7	51,579	11.3	38,735	8.5	24,491	5.4	53,359	11.7	7,525	1.7	63,393	13.9	23,176	5.1	0	0.0	0	0.0	0	0.0
DMA7.1	2,350	42,330	18.0	34,721	14.8	21,020	8.9	25,749	11.0	26,498	11.3	35,978	15.3	33,058	14.1	44,179	18.8	37,704	16.0	0	0.0	0	0.0	0	0.0
DMA7.2	2,480	44,289	17.9	38,732	15.6	24,663	9.9	39,861	16.1	32,022	12.9	29,824	12.0	42,822	17.3	89,470	36.1	49,134	19.8	0	0.0	0	0.0	0	0.0
DMA7.3	3,100	33,038	10.7	55,121	17.8	27,045	8.7	32,592	10.5	30,638	9.9	29,986	9.7	48,528	15.7	50,049	16.1	52,972	17.1	0	0.0	0	0.0	0	0.0
DMA7.4	4,475	46,350	10.4	34,726	7.8	31,530	7.0	23,479	5.2	18,656	4.2	45,727	10.2	55,808	12.5	91,910	20.5	81,872	18.3	0	0.0	0	0.0	0	0.0
DMA8.1	3,893	243,448	62.5	253,177	65.0	111,160	28.6	180,034	46.2	145,776	37.4	168,523	43.3	211,259	54.3	274,338	70.5	256,717	65.9	0	0.0	0	0.0	0	0.0
DMA8.2	2,800	112,901	40.3	86,608	30.9	70,131	25.0	67,884	24.2	72,491	25.9	81,403	29.1	72,187	25.8	76,861	27.5	72,160	25.8	0	0.0	0	0.0	0	0.0
DMA9.1	2,389	113,632	47.6	108,407	45.4	60,422	25.3	49,032	20.5	39,160	16.4	51,395	21.5	58,327	24.4	81,353	34.1	99,425	41.6	0	0.0	0	0.0	0	0.0
DMA9.2	4,007	95,662	23.9	96,331	24.0	63,773	15.9	57,680	14.4	65,922	16.5	74,004	18.5	70,840	17.7	134,651	33.6	133,988	33.4	0	0.0	0	0.0	0	0.0
DMA10.1	480	9,223	19.2	10,751	22.4	4,883	10.2	7,236	15.1	6,646	13.8	7,211	15.0	28,696	59.8	16,266	33.9	23,945	49.9	0	0.0	0	0.0	0	0.0
DMA10.2	2,671	55,874	20.9	53,489	20.0	33,176	12.4	33,812	12.7	35,507	13.3	44,055	16.5	77,317	28.9	59,582	22.3	85,442	32.0	0	0.0	0	0.0	0	0.0
DMA11.1	2,075	39,163	18.9	34,347	16.6	28,235	13.6	42,134	20.3	40,646	19.6	33,276	16.0	43,180	20.8	60,738	29.3	53,179	25.6	0	0.0	0	0.0	0	0.0
DMA11.2	1,681	48,781	29.0	27,279	16.2	20,924	12.4	41,258	24.5	35,708	21.2	31,406	18.7	30,385	18.1	55,741	33.2	53,264	31.7	0	0.0	0	0.0	0	0.0
DAM11.3	1,239	92,592	74.7	75,878	61.2	49,886	40.3	64,198	51.8	47,964	38.7	62,830	50.7	123,897	100.0	132,456	106.9	176,441	142.4						
Total / Avarage	81,945	1,690,614	23.0	1,850,933	23.1	953,799	12.7	1,040,896	14.3	1,265,967	16.8	1,400,326	17.9	1,675,154	24.3	2,258,383	29.9	2,081,013	29.8	0	0.0	0	0.0	0	0.0
More than 1.5 times of Average			4		4		4		4		4		4		3		2		4		32		32		32
Less than 1/2 of Average			7		5		5		7		6		5		4		3		4		32		32		32

Figure 7.2.1 Monitoring Graph of Water Supply Volume by DMA wise (1/2)







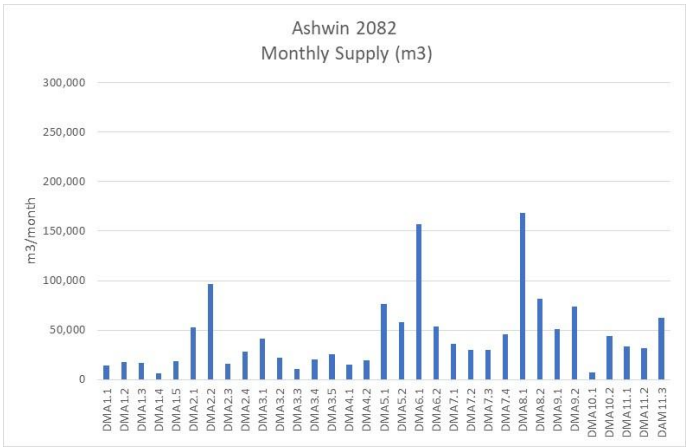


Figure 7.2.2 Monitoring Graph of Water Supply Volume by DMA wise (2/2)

Table 7.2.2 Monitoring Record of Operation & Maintenance of SRTs (1/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Anamnagar (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Arubari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Khumaltar (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Kirtipur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Mahankalchaur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

Table 7.2.3 Monitoring Record of Operation & Maintenance of SRTs (2/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Mahankalchaur (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Minbhawan (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Tigeni																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Katunje																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

7.3 Actions to be taken by each Branch Office

Improvements in water supply services should not be evaluated solely based on water volume. By accurately notifying customers of water delivery schedule and ensuring KUKL operators adhere to these schedules, customer satisfaction can be enhanced.

From this perspective, at the branch office level, efforts must be made to reduce customer complaints by verifying monthly whether any complaints are received regarding the pre-planned water supply schedule.

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicator must be monitored by each branch manager.

PI-6: Number of grievances about water supply hour especially the gap between standard supply hour and real supply hour (Table 7.3.1, Table 7.3.2)

Action-1: The branch manager must accurately track the number of customers within the DMA under their branch's jurisdiction.

Action-2: Report the number of customers per DMA required for the monitoring sheets created by the Operation Division and Production Division to the responsible personnel at headquarters.

Action-3: Valve operators shall be assigned to accurately open and close valves according to the water supply schedule determined in this main water distribution management plan.

Action-4: Analyze customer complaints and requests received by the branch office each month, and tally the number of complaints and requests regarding the accuracy of the water supply schedule.

Action-5: Achieve a 100% water meter installation rate for customers within the DMA.

Action-6: Achieve a 100% water meter reading rate for customers within the DMA.

Action-7: Measure turbidity and residual chlorine at the locations specified by the Central Laboratory at the prescribed frequency and report the results to the Central Laboratory.

Table 7.3.1 Monitoring Record of Grievances about Water Supply Hour (1/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
1.1	1.1.1	Maharajgunj	5:00	14:00																												
1.1	1.1.2	Maharajgunj	5:00	14:00																												
1.1	1.1.3	Maharajgunj	5:00	14:00																												
1.2	1.2.1	Maharajgunj	9:00	16:00																												
1.2	1.2.2	Baneshwor	9:00	16:00																												
1.2	1.2.3(A)	Maharajgunj	9:00	16:00																												
1.2	1.2.3(B)	Maharajgunj	9:00	16:00																												
1.3	1.3.1	Tripureshwor	12:00	21:00																												
1.3	1.3.2(A)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(B)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(C)	Tripureshwor	12:00	21:00																												
1.4	1.4.1	Tripureshwor	15:00	21:00																												
1.4	1.4.2	Tripureshwor	15:00	21:00																												
1.5	1.5.1	Tripureshwor	5:00	15:00																												
1.5	1.5.2	Tripureshwor	5:00	15:00																												
1.5	1.5.3	Tripureshwor	5:00	15:00																												
2.1	2.1.1(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.1(B)	Maharajgunj	6:00	12:00																												
2.1	2.1.1(B)	Mahankal	6:00	12:00																												
2.1	2.1.2(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.2(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.4	Mahankalchaur	6:00	12:00																												
2.2	2.2.1	Baneshwor	14:00	20:00																												
2.2	2.2.2	Baneshwor	14:00	20:00																												
2.2	2.2.3	Baneshwor	14:00	20:00																												
2.2	2.2.4	Baneshwor	14:00	20:00																												
2.3	2.3.1(A)	Baneshwor	5:00	12:00																												
2.3	2.3.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Mahankal	5:00	12:00																												
2.4	2.4.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(C)	Baneshwor	5:00	12:00																												
3.1	3.1.1(A)	Baneshwor	14:00	21:00																												
3.1	3.1.1(B)	Baneshwor	14:00	21:00																												
3.1	3.1.1(C)	Baneshwor	14:00	21:00																												
3.1	3.1.2(A)	Baneshwor	14:00	21:00																												
3.1	3.1.2(B)	Baneshwor	14:00	21:00																												
3.1	3.1.2(C)	Baneshwor	14:00	21:00																												
3.2	3.2.1(A)	Baneshwor	5:00	12:00																												
3.2	3.2.1(B)	Baneshwor	5:00	12:00																												
3.2	3.2.1(C)	Baneshwor	5:00	12:00																												
3.2	3.2.2(A)	Baneshwor	5:00	12:00																												
3.2	3.2.2(B)	Baneshwor	5:00	12:00																												
3.2	3.2.2(C)	Baneshwor	5:00	12:00																												
3.3	3.3.1(A)	Baneshwor	14:00	20:00																												
3.3	3.3.1(B)	Baneshwor	14:00	20:00																												
3.3	3.3.1(C)	Baneshwor	14:00	20:00																												
3.3	3.3.1(D)	Baneshwor	14:00	20:00																												
3.3	3.3.1(E)	Baneshwor	14:00	20:00																												
3.4	3.4.1(A)	Baneshwor	9:00	15:00																												
3.4	3.4.1(B)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Maharajgunj	9:00	15:00																												
3.5	3.5.1(B)	Baneshwor	9:00	15:00																												
3.5	3.5.2	Baneshwor	9:00	15:00																												
3.5	3.5.2	Maharajgunj	9:00	15:00																												
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4.1	4.1.2	Baneshwor	12:00	16:00																												
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4.2	4.2.2	Tripureshwor	11:00	20:00																												
4.2	4.2.3	Tripureshwor	11:00	20:00																												
5.1	5.1.1	Lalitpur	20:00	8:00																												
5.1	5.1.2	Lalitpur	20:00	8:00																												
5.1	5.1.3	Lalitpur	20:00	8:00																												
5.2	5.2.1(A)	Lalitpur	20:00	8:00																												
5.2	5.2.1(B)	Lalitpur	20:00	8:00																												
5.2	5.2.1(C)	Lalitpur	20:00	8:00																												
5.2	5.2.1(D)	Lalitpur	20:00	8:00																												
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5.2	5.2.2(B)	Lalitpur	20:00	8:00																												
5.2	5.2.2(C)	Lalitpur	20:00	8:00																												
5.2	5.2.2(D)	Lalitpur	20:00	8:00																												
5.2	5.2.2(E)	Lalitpur	20:00	8:00																												
5.2	5.2.3(A)	Lalitpur	20:00	8:00																												
5.2	5.2.3(B)	Lalitpur	20:00	8:00																												
6.1	6.1.1(A)	Lalitpur	6:00	20:00																												
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6.1	6.1.3	Lalitpur	6:00	20:00																												
6.2	6.2.1	Lalitpur	17:00	8:00																												
6.2	6.2.2	Lalitpur	17:00	8:00																												
6.2	6.2.3	Lalitpur	17:00	8:00																												
7.1	7.1.1	Maharajgunj	17:00	22:00																												
7.1	7.1.2	Chhetrapati	17:00	22:00																												
7.2	7.2.1(A)	Chhetrapati	7:00	12:00																												
7.2	7.2.1(B)	Chhetrapati	7:00	12:00																												
7.2	7.2.2(A)	Maharajgunj	7:00	12:00																												
7.2	7.2.2(B)	Maharajgunj	7:00	12:00																												
7.2	7.2.3	Maharajgunj	7:00	12:00																												
7.3	7.3.1(A)	Chhetrapati	7:00	12:00																												
7.3	7.3.1(B)	Chhetrapati	7:00	12:00																												
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7.3	7.3.3	Maharajgunj	7:00	12:00																												
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7.4	7.4.3	Chhetrapati	7:00	12:00																												
7.4	7.4.3	Maharajgunj	7:00	12:00																												
7.4	7.4.4	Maharajgunj	7:00	12:00																												

Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

Table 7.3.2 Monitoring Record of Grievances about Water Supply Hour (2/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
8.1	8.1.1	Lalitpur	8:00	20:00																												
8.1	8.1.2	Lalitpur	20:00	8:00																												
8.1	8.1.3	Lalitpur	20:00	8:00																												
8.2	8.2.1(A)	Lalitpur	17:00	8:00																												
8.2	8.2.1(B)	Lalitpur	17:00	8:00																												
8.2	8.2.1(C)	Lalitpur	17:00	8:00																												
8.2	8.2.2(A)	Lalitpur	17:00	8:00																												
8.2	8.2.2(B)	Lalitpur	17:00	8:00																												
8.2	8.2.2(C)	Lalitpur	17:00	8:00																												
9.1	9.1.1	Lalitpur	20:00	6:00																												
9.1	9.1.2	Lalitpur	20:00	6:00																												
9.1	9.1.3	Lalitpur	20:00	6:00																												
9.2	9.2.1	Lalitpur	6:00	20:00																												
9.2	9.2.2	Lalitpur	6:00	20:00																												
9.2	9.2.3	Lalitpur	6:00	20:00																												
9.2	9.2.4	Lalitpur	6:00	20:00																												
9.2	9.2.5	Lalitpur	6:00	20:00																												
9.2	9.2.6	Lalitpur	6:00	20:00																												
9.2	9.2.7	Lalitpur	6:00	20:00																												
10.1	10.1.1	Maharajgunj	12:00	17:00																												
10.2	10.2.1(A)	Chhetrapati	17:00	22:00																												
10.2	10.2.1(B)	Chhetrapati	17:00	22:00																												
10.2	10.2.1(C)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(A)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(B)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(C)	Chhetrapati	17:00	22:00																												
11.1	11.1.1	Tripureshwor	18:00	10:00																												
11.2	11.2.1	Tripureshwor	18:00	10:00																												
11.2	11.2.2	Tripureshwor	18:00	10:00																												
Demo	Demo	Baneshwor	5:00	21:00																												

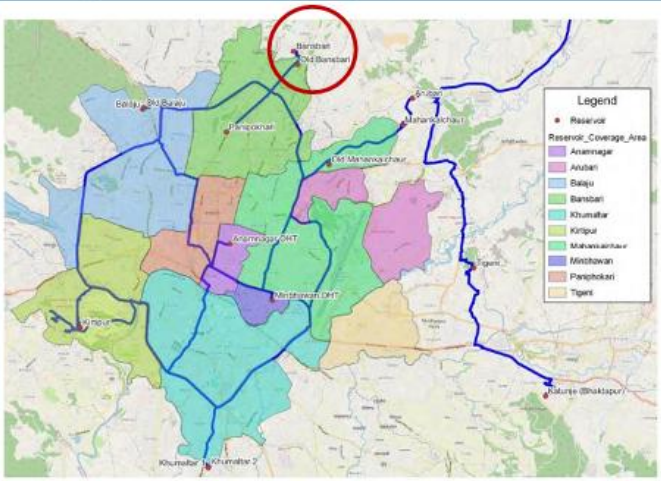
Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

8. Example of SOP for service reservoirs

Standard Operating Procedure
Bansbari SRT (Service Reservoir Tank)

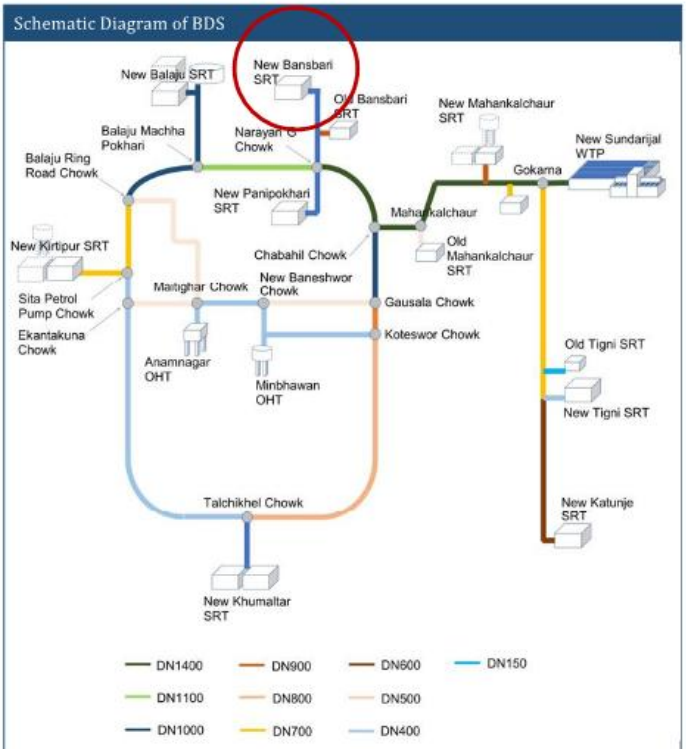
Layout of facilities

General Layout of Bulk Distribution System (BDS)



Layout of facilities

Schematic Diagram of BDS

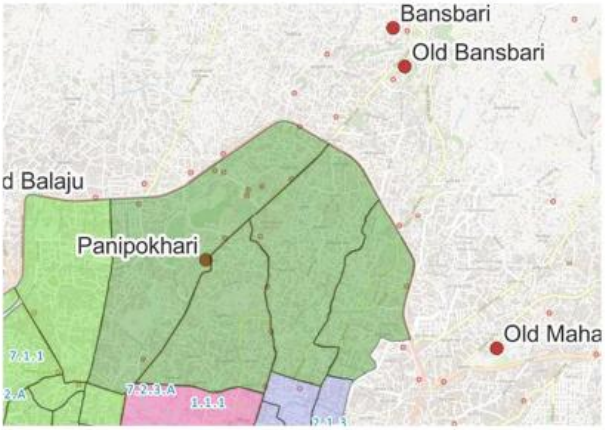


Bulk Distribution System Schematic Diagram

Layout of facilities

District Metered Area (DMA) covered by Bansbari SRT

The coverage area of Bansbari SRT has yet to be divided in DMAs.
This area is called DNI-7c and divided into several DMAs which will be constructed by the Package 6.



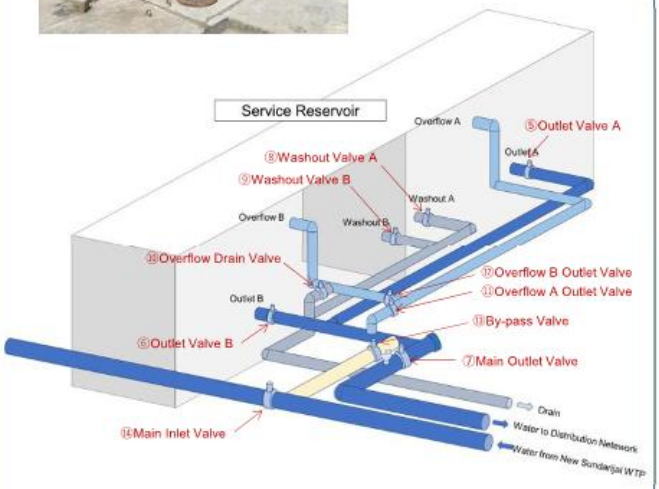
Layout of facilities

Outline of Bansbari SRT

No	Name	Objective	DN	Chamber Drawing No.
1	Flowmeter A	Inflow Measurement Reservoir A	700mm	BDS1-E-C-07
2	Flowmeter B	Inflow Measurement Reservoir A	700mm	BDS1-E-C-09
3	Inlet Valve A	Open/Stop Inflow Reservoir A	700mm	BDS1-E-C-06
4	Inlet Valve B	Open/Stop Inflow Reservoir B	700mm	BDS1-E-C-08
5	Outlet Valve A	Open/Stop Outflow Reservoir A	800mm	BDS1-E-C-10
6	Outlet Valve B	Open/Stop Outflow Reservoir B	800mm	BDS1-E-C-12
7	Main Outlet Valve	Regulate Total Outflow Volume	1200mm	BDS1-E-C-13
8	Washout Valve A	Sand discharge from Reservoir A	500mm	BDS1-E-C-15
9	Washout Valve B	Sand discharge from Reservoir B	500mm	BDS1-E-C-15
10	Overflow Drain	Discharge overflow to washout line	500mm	BDS1-E-C-14
11	Overflow A Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
12	Overflow B Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
13	By-pass Valve	Supply water without passing reservoir	1000mm	BDS1-E-C-13
14	Main Inlet Valve	Regulate Total Inflow Volume	1000mm	BDS1-E-C-05
15	Air Valve	Air release from the main outlet line	200mm	BDS1-E-C-13

Layout of facilities

Isometric Schematic Image of Pipeline Layout (Outlet side)



Operating Procedure

Normal Operation

Operating Procedure

Emergent Operation

If there is an accident or malfunction in both reservoirs A and B and water cannot be stored, the bypass valve on the Inlet Pipe should be opened to continue transmission of water.

[Caution]

When continuing to supply water through the bypass pipe, the following valves of the reservoir should be closed in advance to prevent water from entering the reservoir.
1. Main Inflow Valve
2. Outlet Valves of Reservoirs
3. Overflow Valves of Reservoirs

Cleaning of Reservoir

Direction of Water Flow during Cleaning of Reservoir

Steps for Cleaning of Reservoir

Step 1

Reservoir cleaning should be performed separately for A and B. Close one of the Inlet Valve to shut down entering water into the reservoir.

Step 2

When the water level in the reservoir is low enough, close the Outlet Valve.

Step 3

Open the Washout Valve to drain the water that has accumulated at the bottom of reservoir.

Steps for Cleaning of Reservoir

Step 4

Operators go inside and uses a wiper and nylon brush to scrape sand and mud from the walls and bottom in the direction of the Washout Port.

Step 5

If mud or sand remains in the middle of the interior, open the Inlet Valve of reservoir slightly to draw in water, and then scrape it out again with a scraper.

Step 6

Once the interior has been cleaned, the operator goes outside.
Then close the washout valve.

Steps for Cleaning of Reservoir

Step 7

Then slowly open the Inlet Valve.

Step 8

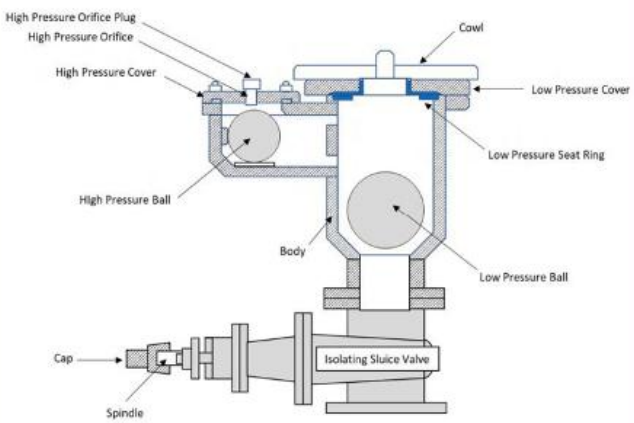
Wait a few hours to fill the reservoir.

Step 9

Once the reservoir has recovered more than half of its water level, slowly open the Outlet Valve.

Cleaning of Air Valve

Structure of Air Valve (Indian Valve International)

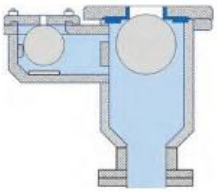


[Caution]

When clean the air valve, make sure that the Isolation Sluice Valve is completely closed. After closed the Isolation Sluice Valve, you can dismantle the cowl and top cover of the air valve.

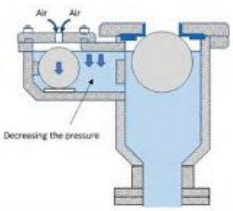
Function of Kinetic Air Valve

Normal Operation under High Pressure



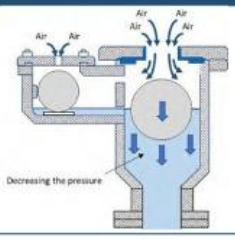
The pipe remains filled with water and the internal float ball plugs the air outlet orifice.

When a small air pocket occurs in the pipe



When a small amount of air accumulates in the air valve, the water level begins to drop, which causes the High Pressure Ball to drop and the small orifice to open. (Small exhaust mode)

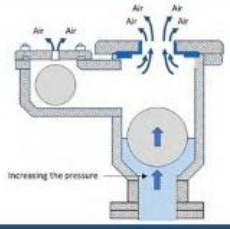
When the water in the reservoir runs out and a large amount of air accumulates



When a large amount of air accumulates, the water level drops below High Pressure Ball, which causes the Low Pressure Ball to drop and the large orifice to open. (Large exhaust mode).

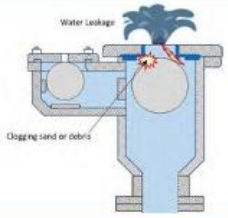
Function of Kinetic Air Valve

When water begins to accumulate in the pipe.



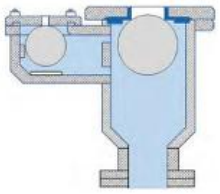
As the water pressure in the pipe increases, the water level rises and the Low Pressure Ball plugs the orifice.

When debris or sand clog the orifice



When debris or sand clog the orifice of air exhaust, the leaks will occur under high pressure.

When the pipe is perfectly filled with water



When water fills the pipe and the water pressure increases, the High Pressure Ball plugs the orifice.

Site Cleaning

Keeping premises clean

- Ensure that there is no debris or hazardous materials in the vicinity of the reservoir.
- The valve chamber should be kept clean and free of cobwebs, debris, and puddles, and no disposed material should be left inside.
- Do not place hazardous or flammable materials near the reservoir.

- Service Reservoir Tank and Water Treatment Plants are places where drinking water is stored, so animals should not be allowed to enter.

Meter Reading

Flowmeter on Inlet Pipe

Flowmeter on Outlet Pipe

In Bansbari SRT, there is no water meter on the outlet pipe.

How to read the flowmeter

Instantaneous Flow (m3/hour)

Accumulated Flow (m3)

The operators should keep record of "Accumulated Water Flow" in daily recording sheet

Recording of water volume

Operator's duty

- Once a day, the operator should check the flowmeter reading and note it on the record form.

Date	Time	Meter Reading		Daily Inflow	Name of Recorder
		Reservoir A	Reservoir B		

Standard Inspection

Daily Inspection

- Operators shall check the condition of facilities and clean the site once per day.

Items	Target	Status	Evaluation
External of tank	Concrete	No Water Leakage	☐Yes/☐No
	Painting	No Crack	☐Yes/☐No
		No Peeling	☐Yes/☐No
	Steps	Firmly Fixed	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No
	Cable	No disconnection	☐Yes/☐No
Valves	Operation Panel	No broken parts	☐Yes/☐No
	Button	No broken button	☐Yes/☐No
	Operation Wheel	Smoothly operating	☐Yes/☐No
	Chamber	No waste/garbage inside	☐Yes/☐No
Pipes	Exposed pipe	No Water Leakage	☐Yes/☐No
	Chamber	No Water Leakage	☐Yes/☐No
Chamber	Cover	Smoothly opening	☐Yes/☐No

Standard Inspection

Annual Inspection

- When cleaning the reservoir tank once per year, conduct an annual inspection of the following items:

Items	Target	Status	Evaluation
Internal of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Level Gauge	Drop of sensor	☐Yes/☐No
		Rust or Corrosion	☐Yes/☐No
External of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
		Water Leakage	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Steps	Corrosion	☐Yes/☐No
	Ventilation	Corrosion	☐Yes/☐No
Facilities	Valves	Greasing on gear	☐Yes/☐No
	Pipes	Water Leakage	☐Yes/☐No
	Chamber	Cleaning of inside	☐Yes/☐No
		Corrosion of Cover	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No

Inspection Schedule

Annual Inspection Plan

Month	Day	What to do
Baisakh		
Jestha		
Asadh		
Shrawan		
Bhadra		
Ashwin		
Kartik		
Mangsir		
Poush		
Magh		
Falgun		
Chaitra		

Water Distribution Management Plan
For
District Metered Area (DMA)
In
Kathmandu Valley

3rd version: 24 February 2026

Kathmandu Upatyaka Khanepani Limited (KUKL)

JICA Expert Team

Kathmandu Upatyaka Khanepani Limited

Japan International Cooperation Agency

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1. Introduction

1.1 Basic Approach to the Water Distribution Management

The maintenance and management of water supply facilities is an indispensable daily task for KUKL and should be carried out from a long-term perspective in order to achieve the following objectives.

Security: To supply safe water with assured quality to water users for drinking in the Kathmandu Valley.

Stability: To provide a stable supply of water necessary for daily life anytime, anywhere.

1.2 Procedure for Development of the Water Distribution Management Plan

Water service is a business that consists of providing drinking water to water users and collecting fees in return. Therefore, in the Water Distribution Management Plan, water utilities themselves need to set more specific management targets based on their Performance Indicators and monitor them in their daily operations.

The workflow of water distribution management in water utility management is as follows

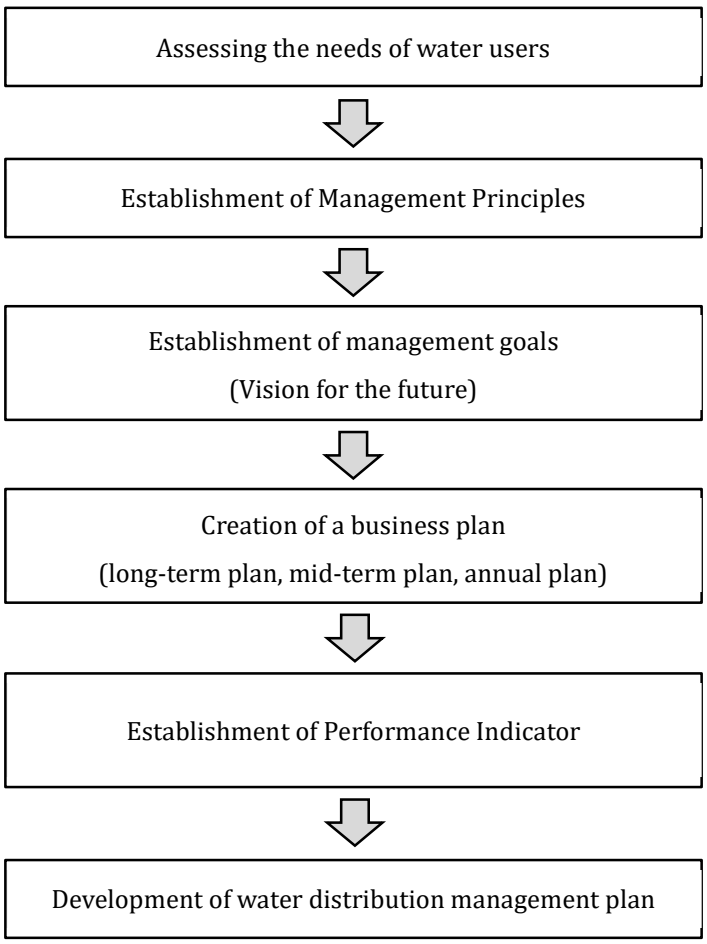


Figure 1.2.1 Relationship between water supply management and maintenance

2. Purpose of the Water Distribution Management Plan

The purpose of the Water Distribution Management Plan is to ensure that KUKL, as the entity responsible for operation and maintenance, properly manages the water supply facilities and provides water to water users in a manner that is equitable in terms of both quantity and time, thereby contributing to the improvement of the living environment.

This Water Distribution Management Plan is the most basic document for KUKL in maintenance and management.

KUKL is required to maintain and repair the water supply facilities to keep them in good condition.

3. Target District Metered Area (DMA)

This Water Distribution Management Plan covers DMAs constructed within the ring road.

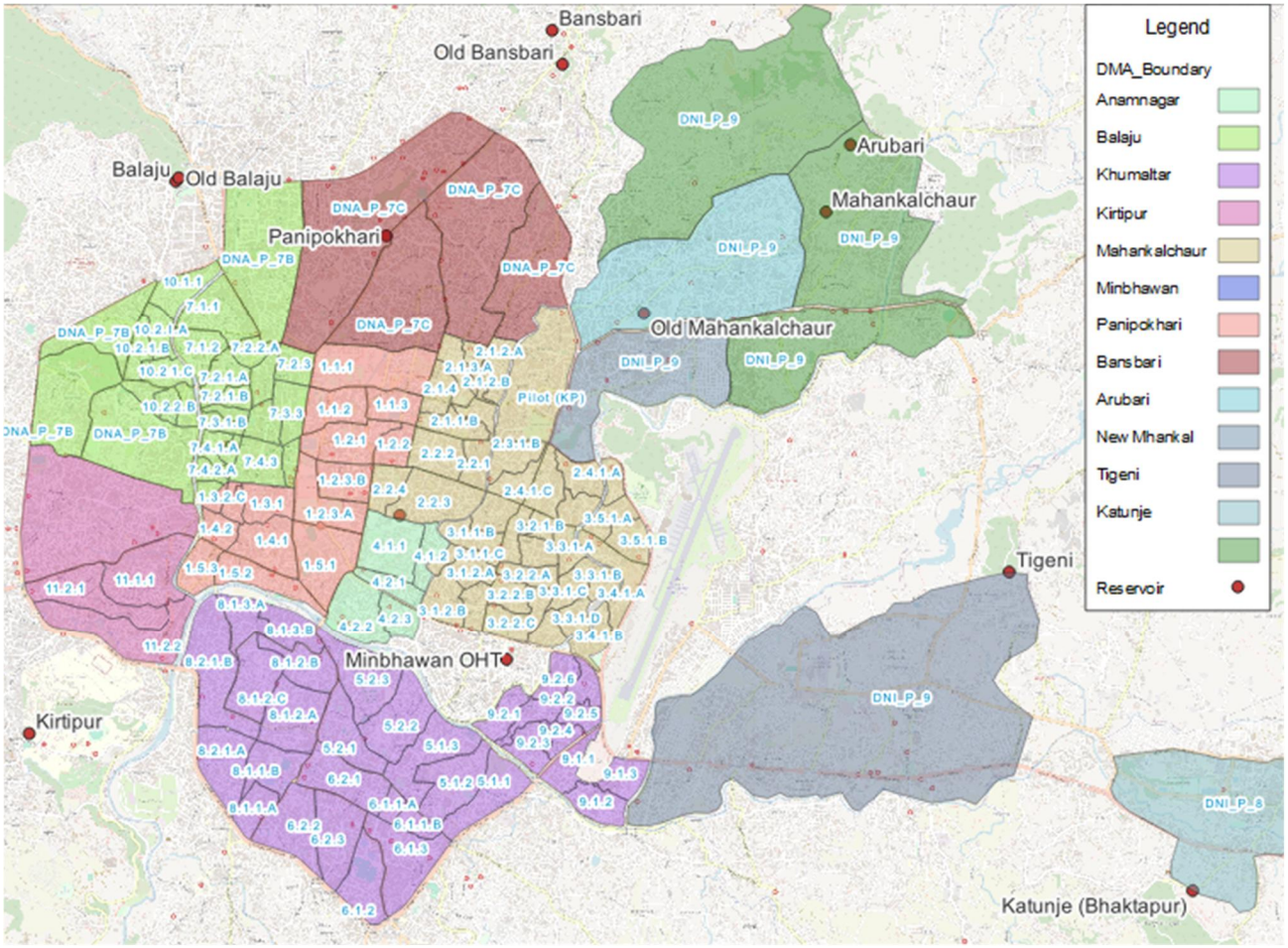


Figure 3.1.1 DMAs constructed in the Ring Road

The following figure is the water supply area covered by each of the service reservoir tanks.

The three water distribution reservoirs located within the ring road are Anamnagar, Minbhawan, and Panipokhari; the other reservoirs may also cover water supply outside the ring road.

In addition, some of the reservoirs supply the old distribution network, but in the future, they will be switched to supply the new distribution network constructed by Melamchi Water Supply Project.

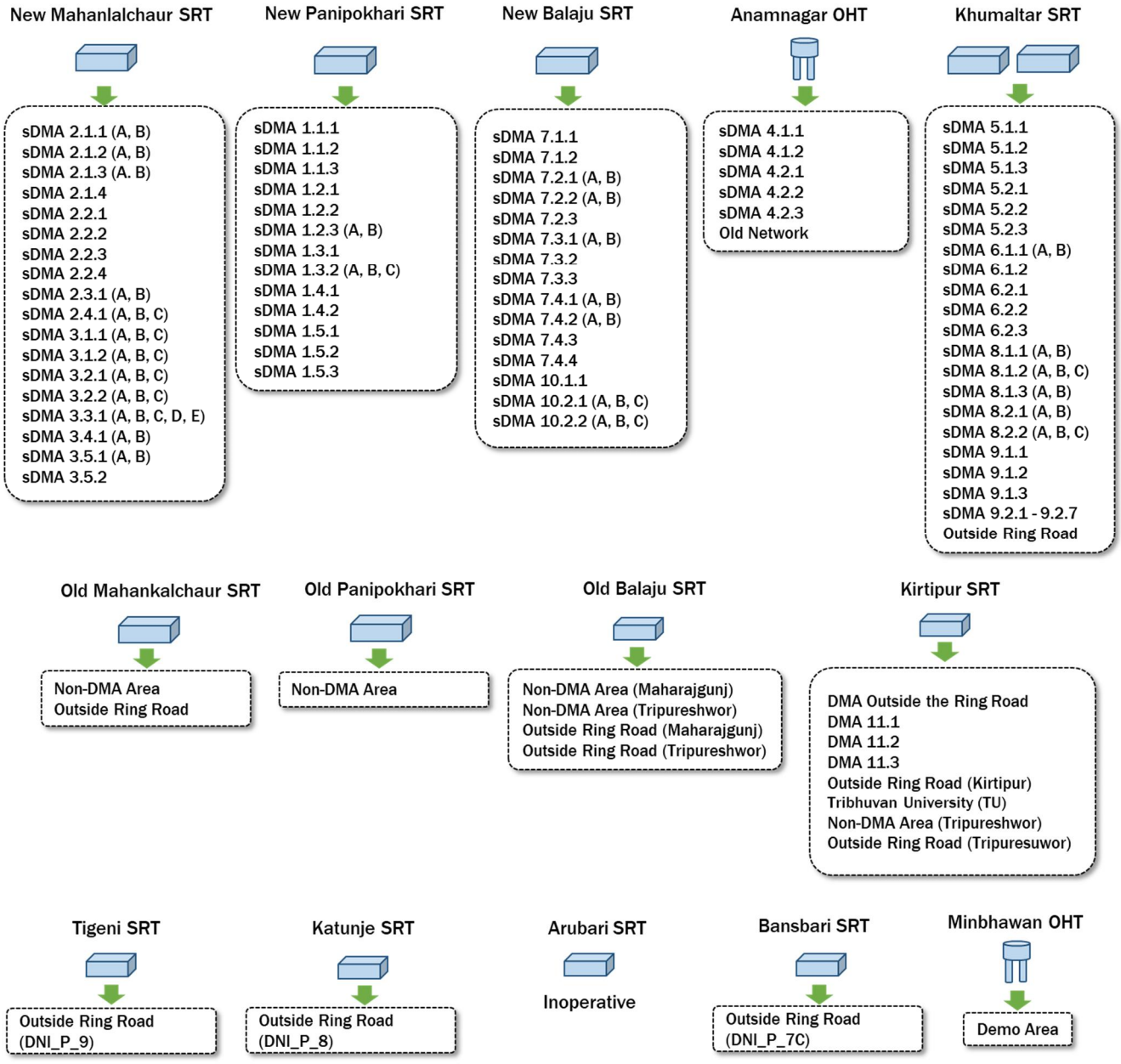


Figure 3.1.2 Sub-DMA covered by each Service Reservoir Tanks (SRTs)

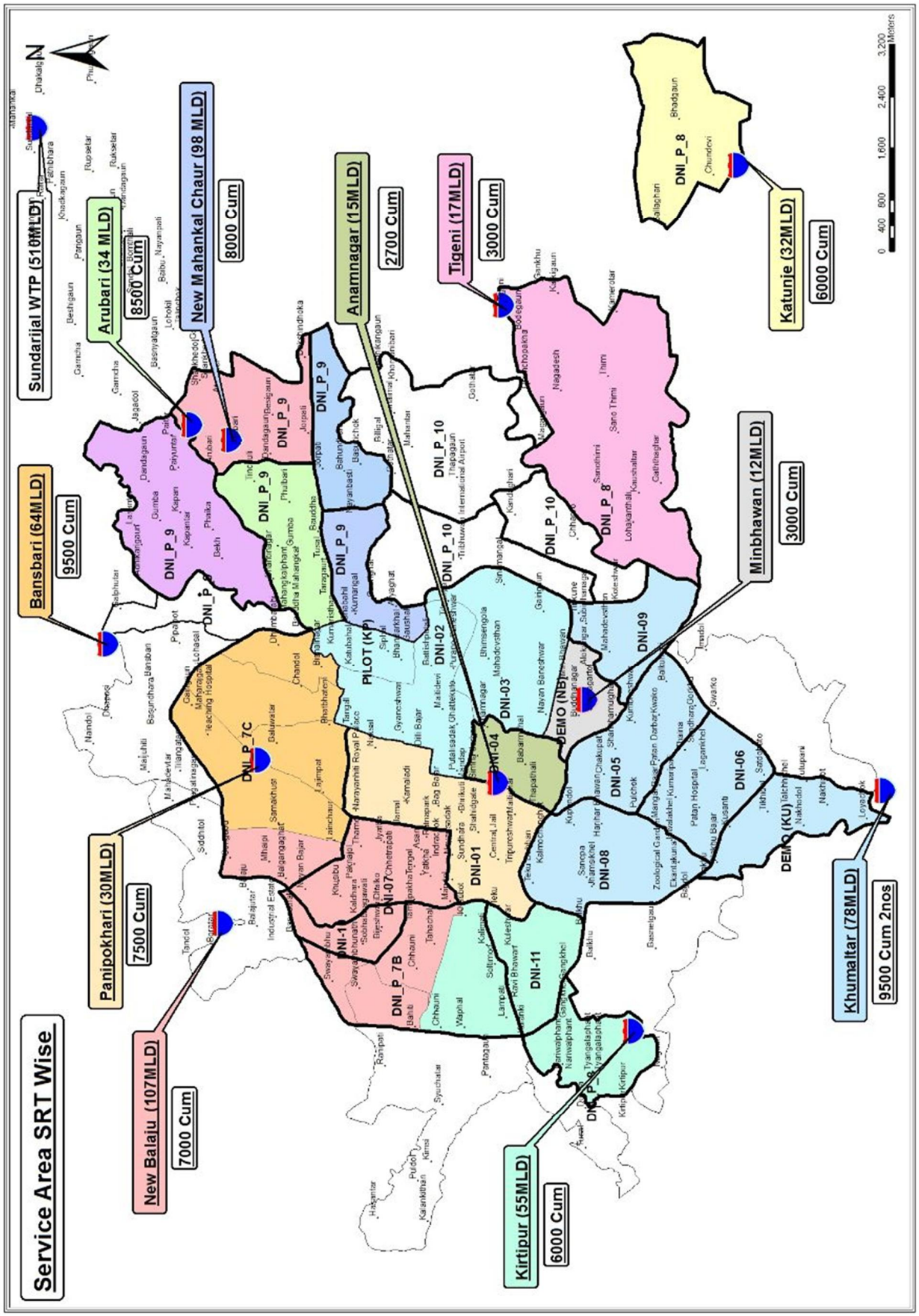


Figure 3.1.3 Water Coverage Area by SRT wise

4. Basic Information on DMAs and Sub-DMAs

The number of customers and estimated demand for each Sub-DMA are shown below.

Table 4.1.1 Estimated Demand in each DMA/Sub-DMA

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
1	1.1	1.1.1	Maharajgunj	Kathmandu				
		1.1.2	Maharajgunj	Kathmandu	12	1,144	135	1,853.3
		1.1.3	Maharajgunj	Kathmandu				
						1,144	Sub total	1,853.3
	1.2	1.2.1	Maharajgunj	Kathmandu				
		1.2.2	Baneshwor	Kathmandu	12	2,259	135	3,659.6
		1.2.3(A)	Maharajgunj	Kathmandu				
		1.2.3(B)	Maharajgunj	Kathmandu				
						2,259	Sub total	3,659.6
	1.3	1.3.1	Tripureshwor	Kathmandu				
		1.3.2(A)	Tripureshwor	Kathmandu	12	3,252	135	5,268.2
		1.3.2(B)	Tripureshwor	Kathmandu				
		1.3.2(C)	Tripureshwor	Kathmandu				
						3,252	Sub total	5,268.2
	1.4	1.4.1	Tripureshwor	Kathmandu	12	2,864	135	4,639.7
		1.4.2	Tripureshwor	Kathmandu				
						2,864	Sub total	4,639.7
	1.5	1.5.1	Tripureshwor	Kathmandu	12	262	135	424.4
		1.5.2	Tripureshwor	Kathmandu	12	365	135	591.3
		1.5.3	Tripureshwor	Kathmandu	12	386	135	625.3
						1,013	Sub total	1,641.1
2	2.1	2.1.1(A)	Mahankalchaur	Kathmandu	12	401	135	649.6
		2.1.1(B)	Maharajgunj & Mahankal	Kathmandu	12	433	135	701.5
		2.1.2(A)	Mahankalchaur	Kathmandu	12	553	135	895.9
		2.1.2(B)	Mahankalchaur	Kathmandu	12	135	135	218.7
		2.1.3(A)	Mahankalchaur	Kathmandu	12	508	135	823.0
		2.1.3(B)	Mahankalchaur	Kathmandu	12	292	135	473.0
		2.1.4	Mahankalchaur	Kathmandu	12	279	135	452.0
						2,601	Sub total	4,213.6
	2.2	2.2.1	Baneshwor	Kathmandu	12	770	135	1,247.4
		2.2.2	Baneshwor	Kathmandu	12	872	135	1,412.6
		2.2.3	Baneshwor	Kathmandu	12	1,989	135	3,222.2
		2.2.4	Baneshwor	Kathmandu	12	614	135	994.7
						4,245	Sub total	6,876.9
	2.3	2.3.1(A)	Baneshwor	Kathmandu	12	510	135	826.2
		2.3.1(B)	Baneshwor	Kathmandu	12	589	135	954.2
						1,099	Sub total	1,780.4
	2.4	2.4.1(A)	Baneshwor & Mahankal	Kathmandu	12	514	135	832.7
		2.4.1(B)	Baneshwor	Kathmandu	12	477	135	772.7
		2.4.1(C)	Baneshwor	Kathmandu	12	735	135	1,190.7
						1,726	Sub total	2,796.1
3	3.1	3.1.1(A)	Baneshwor	Kathmandu	12	415	135	672.3
		3.1.1(B)	Baneshwor	Kathmandu	12	363	135	588.1
		3.1.1(C)	Baneshwor	Kathmandu	12	348	135	563.8
		3.1.2(A)	Baneshwor	Kathmandu	12	503	135	814.9
		3.1.2(B)	Baneshwor	Kathmandu	12	610	135	988.2
		3.1.2(C)	Baneshwor	Kathmandu	12	456	135	738.7
						2,695	Sub total	4,365.9
	3.2	3.2.1(A)	Baneshwor	Kathmandu	12	417	135	675.5
		3.2.1(B)	Baneshwor	Kathmandu	12	287	135	464.9
		3.2.1(C)	Baneshwor	Kathmandu	12	478	135	774.4
		3.2.2(A)	Baneshwor	Kathmandu	12	479	135	776.0
		3.2.2(B)	Baneshwor	Kathmandu	12	484	135	784.1
		3.2.2(C)	Baneshwor	Kathmandu	12	493	135	798.7
						2,638	Sub total	4,273.6
	3.3	3.3.1(A)	Baneshwor	Kathmandu	12	403	135	652.9
		3.3.1(B)	Baneshwor	Kathmandu	12	533	135	863.5
		3.3.1(C)	Baneshwor	Kathmandu	12	503	135	814.9
		3.3.1(D)	Baneshwor	Kathmandu	12	481	135	779.2
		3.3.1(E)	Baneshwor	Kathmandu	12	387	135	626.9
						2,307	Sub total	3,737.3
	3.4	3.4.1(A)	Baneshwor	Kathmandu	12	536	135	868.3
		3.4.1(B)	Baneshwor	Kathmandu	12	364	135	589.7
						900	Sub total	1,458.0
	3.5	3.5.1(A)	Baneshwor & Maharajgunj	Kathmandu	12	551	135	892.6
		3.5.1(B)	Baneshwor	Kathmandu	12	587	135	950.9
		3.5.2	Baneshwor & Maharajgunj	Kathmandu	12	382	135	618.8
						1,520	Sub total	2,462.4
4	4.1	4.1.1	Baneshwor	Kathmandu				
		4.1.2	Baneshwor	Kathmandu	12	569	135	921.8
						569	Sub total	921.8
	4.2	4.2.1	Tripureshwor	Kathmandu	12	256	135	414.7
		4.2.2	Tripureshwor	Kathmandu	12	520	135	842.4
		4.2.3	Tripureshwor	Kathmandu	12	446	135	722.5
						1,222	Sub total	1,979.6

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
5	5.1	5.1.1	Lalitpur	Lalitpur				
		5.1.2	Lalitpur	Lalitpur	12	5,648	135	9,149.8
		5.1.3	Lalitpur	Lalitpur				
						5,648	Sub total	9,149.8
	5.2	5.2.1(A)	Lalitpur	Lalitpur				
		5.2.1(B)	Lalitpur	Lalitpur				
		5.2.1(C)	Lalitpur	Lalitpur				
		5.2.1(D)	Lalitpur	Lalitpur				
		5.2.2(A)	Lalitpur	Lalitpur				
		5.2.2(B)	Lalitpur	Lalitpur	12	3,617	135	5,859.5
		5.2.2(C)	Lalitpur	Lalitpur				
		5.2.2(D)	Lalitpur	Lalitpur				
		5.2.2(E)	Lalitpur	Lalitpur				
		5.2.3(A)	Lalitpur	Lalitpur				
		5.2.3(B)	Lalitpur	Lalitpur				
						3,617	Sub total	5,859.5
6	6.1	6.1.1(A)	Lalitpur	Lalitpur				
		6.1.1(B)	Lalitpur	Lalitpur	12	3,666	135	5,938.9
		6.1.2	Lalitpur	Lalitpur				
		6.1.3	Lalitpur	Lalitpur				
						3,666	Sub total	5,938.9
	6.2	6.2.1	Lalitpur	Lalitpur				
		6.2.2	Lalitpur	Lalitpur	12	4,559	135	7,385.6
		6.2.3	Lalitpur	Lalitpur				
						4,559	Sub total	7,385.6
7	7.1	7.1.1	Maharajgunj	Kathmandu	12	1,549	135	2,509.4
		7.1.2	Tripureshwor	Kathmandu	12	801	135	1,297.6
						2,350	Sub total	3,807.0
	7.2	7.2.1(A)	Tripureshwor	Kathmandu				
		7.2.1(B)	Tripureshwor	Kathmandu				
		7.2.2(A)	Maharajgunj	Kathmandu	12	2,480	135	4,017.6
		7.2.2(B)	Maharajgunj	Kathmandu				
		7.2.3	Maharajgunj	Kathmandu				
						2,480	Sub total	4,017.6
	7.3	7.3.1(A)	Tripureshwor	Kathmandu				
		7.3.1(B)	Tripureshwor	Kathmandu	12	3,100	135	5,022.0
		7.3.2	Tripureshwor	Kathmandu				
		7.3.3	Maharajgunj	Kathmandu				
						3,100	Sub total	5,022.0
	7.4	7.4.1(A)	Tripureshwor	Kathmandu				
		7.4.1(B)	Tripureshwor	Kathmandu				
		7.4.2(A)	Tripureshwor & Lalitpur	Kathmandu	12	4,475	135	7,249.5
		7.4.2(B)	Tripureshwor	Kathmandu				
		7.4.3	Tripureshwor & Maharajgunj	Kathmandu				
		7.4.4	Maharajgunj	Kathmandu				
						4,475	Sub total	7,249.5
8	8.1	8.1.1(A)	Lalitpur	Lalitpur				
		8.1.1(B)	Lalitpur	Lalitpur				
		8.1.2(A)	Lalitpur	Lalitpur				
		8.1.2(B)	Lalitpur	Lalitpur	12	3,893	135	6,306.7
		8.1.2(C)	Lalitpur	Lalitpur				
		8.1.3(A)	Lalitpur	Lalitpur				
		8.1.3(B)	Lalitpur	Lalitpur				
						3,893	Sub total	6,306.7
	8.2	8.2.1(A)	Lalitpur	Lalitpur				
		8.2.1(B)	Lalitpur	Lalitpur				
		8.2.1(C)	Lalitpur	Lalitpur				
		8.2.2(A)	Lalitpur	Lalitpur	12	2,800	135	4,536.0
		8.2.2(B)	Lalitpur	Lalitpur				
		8.2.2(C)	Lalitpur	Lalitpur				
						2,800	Sub total	4,536.0
9	9.1	9.1.1	Baneshwor	Lalitpur	12	799	135	1,294.4
		9.1.2	Baneshwor	Lalitpur	12	1,038	135	1,681.6
		9.1.3	Baneshwor	Lalitpur	12	552	135	894.2
						2,389	Sub total	3,870.2
	9.2	9.2.1	Baneshwor	Lalitpur	12	742	135	1,202.0
		9.2.2	Baneshwor	Lalitpur	12	630	135	1,020.6
		9.2.3	Baneshwor	Lalitpur	12	676	135	1,095.1
		9.2.4	Baneshwor	Lalitpur	12	406	135	657.7
		9.2.5	Baneshwor	Lalitpur	12	447	135	724.1
		9.2.6	Baneshwor	Lalitpur	12	623	135	1,009.3
		9.2.7	Baneshwor	Lalitpur	12	483	135	782.5
						4,007	Sub total	6,491.3
10	10.1	10.1.1	Maharajgunj	Kathmandu	12	480	135	777.6
					12	480	Sub total	777.6
	10.2	10.2.1(A)	Tripureshwor	Kathmandu				
		10.2.1(B)	Tripureshwor	Kathmandu				
		10.2.1(C)	Tripureshwor	Kathmandu				
		10.2.2(A)	Tripureshwor	Kathmandu	12	2,671	135	4,327.0
		10.2.2(B)	Tripureshwor	Kathmandu				
		10.2.2(C)	Tripureshwor	Kathmandu				
						2,671	Sub total	4,327.0
11	11.1	11.1.1	Tripureshwor	Kathmandu	12	2,075	135	3,361.5
						2,075	Sub total	3,361.5
	11.2	11.2.1	Tripureshwor	Kathmandu	12	1,681	135	2,723.2
						1,681	Sub total	2,723.2
	11.3	11.3.1	Tripureshwor	Kathmandu	12	1,239	135	2,007.2
						1,239	Sub total	2,007.2
Demo	Demo	Demo	Baneshwor	Kathmandu	12	5,000	135	8,100.0
						5,000	Sub total	8,100.0
Total	33					88,184		142,858.1

The table above calculates the water demand in DMAs and the existing Demo Area.

However, since the BDS Reservoir supplies water to areas other than the DMAs, it is necessary to estimate the demand for those areas.

Table 4. 1.2 Estimated number of households in the areas except for DMAs and Demo Area

Breakdown of household (connection) for the areas except 32 DMAs

Non DMA Area inside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to DNI 7B (Mhepi, Balaju Area)	2,500	Maharajgunj	Old Balaju
Supply to DNI 7B (Chauni Area)	3,300	Tripureshwor	Old Balaju
Supply to DNI 7B (Tahachal Area)	4,400	Tripureshwor	Kirtipur
Supply to DNI 7B (Kimdol, Dallu, Swoyambhu)	3,300	Tripureshwor (Ex-Chhetrapati)	Old Balaju
Supply to DNI 7C (Lainchaur, Galkopakha, Kapurdhara, Samakhusi, Gongabu)	10,500	Maharajgunj	Old Bansbari
Supply to DNI 7C (Khursanitar Area)	2,000	Maharajgunj	Old Panipokhari
Supply to DNI 7C (Bishalnagar, Chandol)	7,650	Mahankalchaur	Old Mahankal
Supply to Kalopur Pilot Area	2,300	Mahankalchaur	Old Mahankal
Outside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to Tarkeshwor, Banasthali, Dhunge dhara	8,000	Maharajgunj	Old Balaju
Supply to Tokha, Dhapasi, Basundhara (outside ringroad)	7,500	Maharajgunj	Old Bansbari
Supply to Kumari Club, Arcade colony	500	Tripureshwor (Ex-Chhetrapati)	Kirtipur
Supply to Outside the Ringroad by Tripureshwor	2,000	Tripureshwor	Old Balaju
Supply to Kapan, Jorpati	24,701	Mahankalchaur	Old Mahankal
Supply to Kirtipur Customer except for Tribhuvan University	10,054	Kirtipur	Kirtipur
Supply to Kusunti, Bagdol, Nakhu, Nakhipot, Khumaltar, Gwarko, ANFA, Dhapakhel, Dholahiti, Sunakothi	7,395	Lalitpur	Khumaltar
Supply to Kaushaltar, Lokanthali, Gatthaghar, Nagadesh, Sintitar, Dhunchepakha, Saraswatikhel, Thimi Core city, New Thimi, Old Thimi, Bappa, Kamerotar, Madhyapur Hospital	16,596	Madhyapur-Thimi	Thigni
Supply to Kamalbinayak planning, Liwali Planning, Byasi, Bansagopal, Nasamana, Gapali, Tekhacho, Sukuldhoka, Tulachhen, Khiche, Choche, Hanumante Purba, Chundevi, Ghalate, Pandubazar, Shrijananagar, Suryamadhi, Dattatraya, Chyamasingh, Wakupati, Chango road, Mahalaxmi, Bholachhen, Golmadhi, Jagati,	13,560	Bhaktapur	Katunje

Those values should be revised by the respective branch under the supervision by Operation Division.

After filling in the number of households in the areas Non-DMA and outside the Ring Road, the demand to be allocated to each SRT is calculated as follows:

Table 4.1.3 Estimated water demand in the areas except for DMAs and Demo Area

Breakdown of demand for the areas except for 33 DMAs

No of users per connection 12 persons/connection

Demand per capita 135 L/day/person

	Additional Water Demand except for 33 DMAs (m3/day)							
	Balaju	Kirtipur	Bansbari	Panipokhari	Old Mahnkalchaur	Khumaltar	Tigeni	Katunje
Maharajgunj Branch Area								
Non-DMA area inside the Ring Road	4,050		17,010	3,240				
Outside the Ring Road	12,960		12,150					
Tripureshwor Branch Area								
Non-DMA area inside the Ring Road	5,346	7,128						
Outside the Ring Road		810						
Ex-Chhetrapati Branch Area								
Non-DMA area inside the Ring Road	5,346							
Outside the Ring Road	3,240							
Mahankalchaur Branch Area								
Non-DMA area inside the Ring Road					16,119			
Outside the Ring Road					40,016			
Kirtipur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road		16,287						
Madhyapur-Thimi Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road							26,886	
Lalitpur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road						11,980		
Bhaktapur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road								21,967
Total								
Non-DMA area inside the Ring Road	14,742	7,128	17,010	3,240	16,119	0	0	0
Outside the Ring Road	16,200	17,097	12,150	0	40,016	11,980	26,886	21,967

5. Water Receiving Plan from Bulk Distribution System (BDS)

The BDS component will provide water supply to the Kathmandu Metro area using a combination of new water sources developed under Sub-Project 1 of the Melamchi Water Supply Project and other existing water sources.

In order to supply various areas within the Kathmandu Metro area, the new water treatment plant constructed at Sundarijal is the starting point in the water supply network, which will be routed through distribution reservoirs at Mahankalchaur, along the ring road and along the longitudinal route.

The distribution zones, called DMA, are designed to be independent with scattered distribution reservoirs to ensure the stability of water pressure and supply.

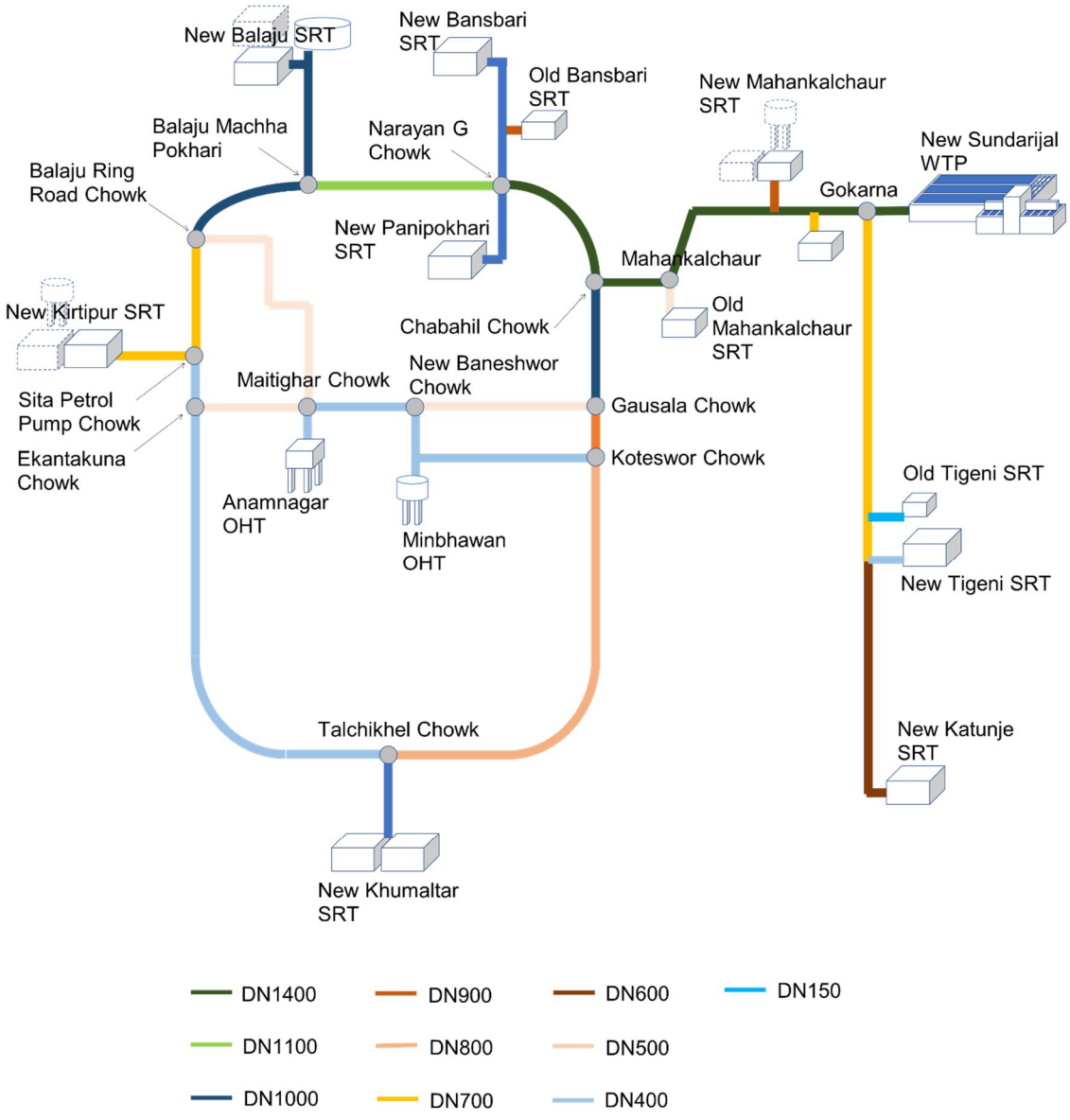


Figure 5.1.1 Schematic Water Supply Network of BDS

The amount of water to be delivered to each Service Reservoir Tank is determined based on the following steps.

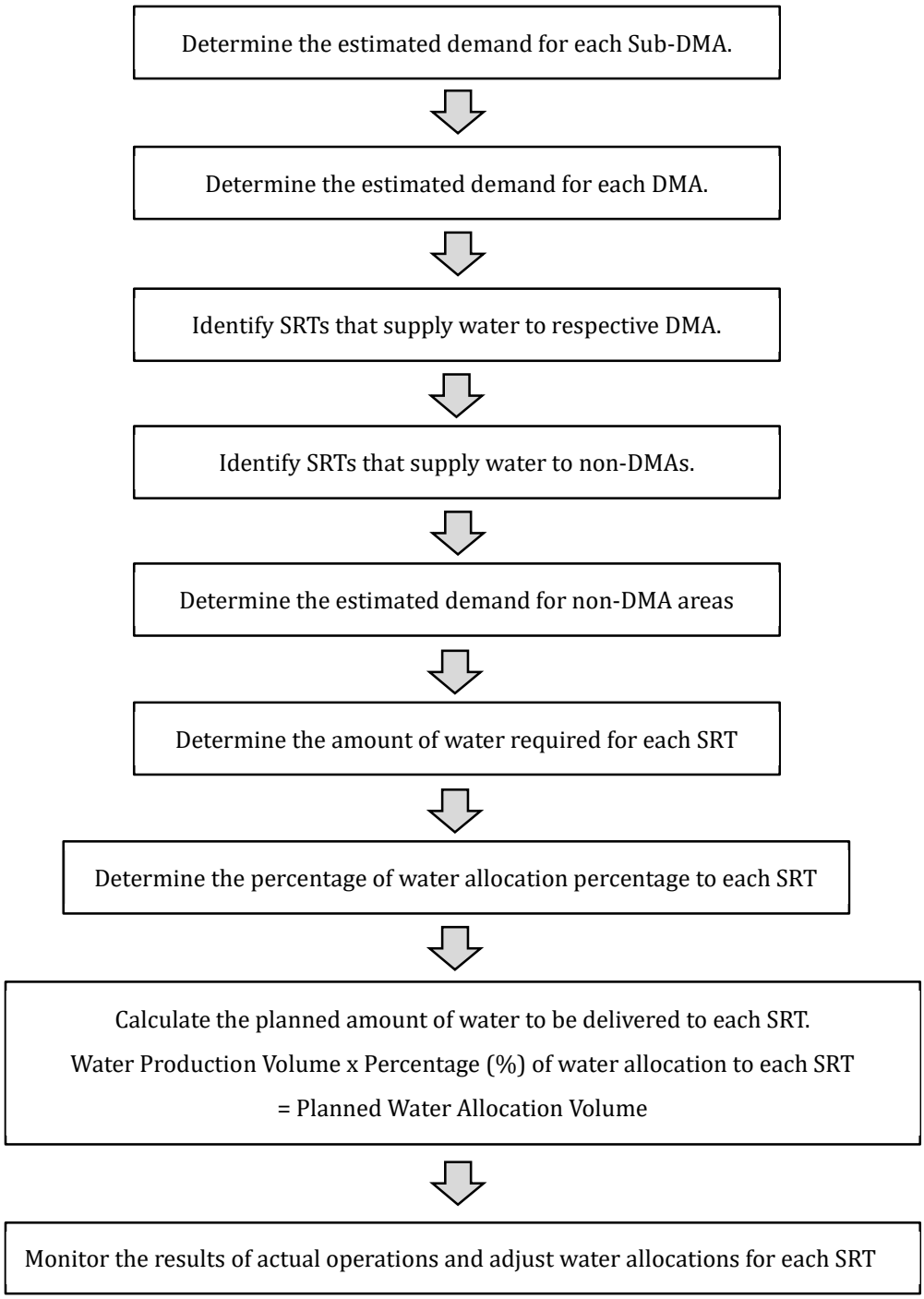


Figure 5.1.2 Steps to determine water allocation for each SRT

Table 5.1.1 Draft of Water Demand and Demand Percentage to each SRT

DMA	Estimated Demand (m3/day)	Demand Percentage (%)	Reservoir
1.1	1,853	0.53	Panipokhari
1.2	3,660	1.05	Panipokhari
1.3	5,268	1.52	Panipokhari
1.4	4,640	1.34	Panipokhari
1.5	1,641	0.47	Panipokhari
2.1	4,214	1.21	New Mahankalchaur
2.2	6,877	1.98	New Mahankalchaur
2.3	1,780	0.51	New Mahankalchaur
2.4	2,796	0.80	New Mahankalchaur
3.1	4,366	1.26	New Mahankalchaur
3.2	4,274	1.23	New Mahankalchaur
3.3	3,737	1.08	New Mahankalchaur
3.4	1,458	0.42	New Mahankalchaur
3.5	2,462	0.71	New Mahankalchaur
4.1	922	0.27	Anamnagar
4.2	1,980	0.57	Anamnagar
5.1	9,150	2.63	Khumaltar
5.2	5,860	1.69	Khumaltar
6.1	5,939	1.71	Khumaltar
6.2	7,386	2.13	Khumaltar
7.1	3,807	1.10	Balaju
7.2	4,018	1.16	Balaju
7.3	5,022	1.45	Balaju
7.4	7,250	2.09	Balaju
8.1	6,307	1.81	Khumaltar
8.2	4,536	1.31	Khumaltar
9.1	3,870	1.11	Khumaltar
9.2	6,491	1.87	Khumaltar
10.1	778	0.22	Balaju
10.2	4,327	1.25	Balaju
11.1	3,362	0.97	Kirtipur
11.2	2,723	0.78	Kirtipur
11.3	2,007	0.58	Kirtipur
Demo Area	8,100	2.33	Minbhawan
Tribhuvan University (TU)	100	0.03	Kirtipur
Non-DMA within the Ring Road	0	0.00	Anamnagar
Non-DMA within the Ring Road	14,742	4.24	Balaju
Non-DMA within the Ring Road	17,010	4.90	Bansbari
Non-DMA within the Ring Road	0	0.00	Khumaltar
Non-DMA within the Ring Road	7,128	2.05	Kirtipur
Non-DMA within the Ring Road	16,119	4.64	Old Mahankalchaur
Non-DMA within the Ring Road	0	0.00	Minbhawan
Non-DMA within the Ring Road	3,240	0.93	Panipokhari
Outside Ring Road	0	0.00	Arubari
Outside Ring Road	12,150	3.50	Bansbari
Outside Ring Road	16,200	4.66	Balaju
Outside Ring Road	11,980	3.45	Khumaltar
Outside Ring Road	17,097	4.92	Kirtipur
Outside Ring Road	40,016	11.52	Old Mahankalchaur
Outside Ring Road	0	0.00	Panipokhari
Outside Ring Road	26,886	7.74	Tigeni
Outside Ring Road	21,967	6.32	Katunje
Total	347,493	100.0	

Currently, water conduction from the Melamchi River is suspended during the rainy season, so the limited amount of water must be equally distributed according to the estimated demand.

Table 5.1.2 Standard Water Production (Main)

	Dry Season with Melamchi water	Monsoon Season without Melamchi water
Supply volume to BDS from New Sundarijal WTP	192 MLD	48 MLD
Production of Mahankalchaur WTP with existing water sources	16.37 MLD	20.67 MLD
Production of Bansbari WTP with existing water sources	10.18 MLD	18.33 MLD
Production of Bode WTP with existing water sources	7.90 MLD	8.08 MLD
Total	226.45 MLD	95.08 MLD

Source: KUKL Annual Report

Table 5.1.3 Water Production Record 2080/2081

		Mahanlakchaur WTP	Bansbari WTP	Bode WTP
Shrawan	July-August	20.15	22.43	8.91
Bhadra	August-September	25.54	30.96	8.08
Ashwin	September-October	17.00	29.32	8.32
Kartik	October-November	20.80	22.83	8.19
Mangsir	November-December	22.86	10.47	8.15
Paush	December-January	22.80	5.83	8.13
Magh	January-February	13.46	5.43	7.64
Falgun	February-March	15.34	19.34	7.50
Chaitra	March-April	9.73	2.7	7.70
Baishakh	April-May	9.66	4.67	8.00
Jestha	May-June	11.26	1.09	7.55
Ashad	June-July	29.22	7.85	7.55
Daily Average (MLD)		18.15	13.58	7.98
Monsoon season average without operation of Melamchi tunnel (MLD)		20.63	18.33	8.08
Dry season average with operation of Melamchi tunnel (MLD)		16.37	10.18	7.90

Source: KUKL Annual Report

Note: The operation of the Melamchi Diversion Tunnel will be suspended from the end-May to the mid-October.

Figure 5.1.4 Water Allocation Plan in Dry Season

Dry Season with Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	1,603				1,603	289	1,892
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	31,020				31,020	5,595	36,615
Bansbari (New & Old)	29,160	8.39	16,112		10,180		5,932	2,906	8,838
Khumaltar	61,518	17.70	33,990				33,990	6,131	40,121
Kirtipur	32,417	9.33	17,911				17,911	3,231	21,142
Mahankalchaur (New)	31,964	9.20	17,661				17,661	3,185	20,847
Mahankalchaur (Old)	56,135	16.15	31,016	16,370			14,646	5,594	20,240
Minbhawan	8,100	2.33	4,475				4,475	807	5,283
Panipokhari (New & Old)	20,302	5.84	11,217				11,217	2,023	13,241
Tigeni	26,886	7.74	14,855			8,080	6,775	2,679	9,455
Katunje	21,967	6.32	12,137				12,137	2,189	14,327
Total	347,493	100.00	192,000				157,370	34,630	192,000
			(F)				(G)		

Figure 5.1.5 Water Allocation Plan in Monsoon Season

Monsoon Season without Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	401				401	129	530
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	7,755				7,755	2,504	10,259
Bansbari (New & Old)	29,160	8.39	4,028		18,330		0	1,300	1,300
Khumaltar	61,518	17.70	8,498				8,498	2,743	11,241
Kirtipur	32,417	9.33	4,478				4,478	1,446	5,923
Mahankalchaur (New)	31,964	9.20	4,415				4,415	1,425	5,841
Mahankalchaur (Old)	56,135	16.15	7,754	20,630			0	2,503	2,503
Minbhawan	8,100	2.33	1,119				1,119	361	1,480
Panipokhari (New & Old)	20,302	5.84	2,804				2,804	905	3,710
Tigeni	26,886	7.74	3,714			7,900	0	1,199	1,199
Katunje	21,967	6.32	3,034				3,034	980	4,014
Total	347,493	100.00	48,000				32,504	15,496	48,000
			(F)				(G)		

6. Target of Water Supply Hour, Frequency of Water Supply and Water Supply Volume

[Supply Hour]

2 hours or more per supply day for all DMAs

[Supply Frequency]

Dry Season with Melamchi water:	At least once every 3 days in all DMAs
Monsoon Season without Melamchi water:	At least once every 5 days in all DMAs

[Supply Volume]

The amount of water allocated to each SRT is compared with the estimated demand of each Sub-DMA and other water supply areas to determine the water supply frequency and hours for each area so that water supply is achieved equally in all areas.

The following page shows the standard water supply schedule created by KUKL's Operation Division. Since available water sources differ between the monsoon and dry seasons, headquarters must review the need for monthly adjustments to the water supply schedule based on local conditions.

Table 6.1.1 Water Supply Plan in Dry Season with Melamchi water (1/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																												
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
Anamnagar	79	1,892	4.1	4.1.1	921.8	14:00	20:00			√			√			√			√			√			√			√			√			√			√
				4.1.2		14:00	22:00			√			√			√			√			√			√			√			√			√			√
			4.2	4.2.1	414.7	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.2	842.4	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.3	722.5	11:00	22:00			√			√			√			√			√			√			√			√			√			√
			Old Network	1st Shift	0.0	4:00	5:00	√			√			√			√			√			√			√			√			√			√		
				2nd Shift		20:00	21:00	√			√			√			√			√			√			√			√			√			√		
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																																
Balaju	1,526	36,615	7.1	7.1.1	2,509.4	4:00	12:00				√				√				√				√				√				√				√		
				7.1.2	1,297.6	4:00	12:00				√				√				√				√				√				√				√		
			7.2	7.2.1(A)	4,017.6	4:00	12:00		√				√				√				√			√			√				√				√
				7.2.1(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(A)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.3		4:00	12:00		√				√				√				√			√			√				√				√
			7.3	7.3.1(A)	5,022.0	7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.1(B)		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.2		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.3		7:00	19:00	√				√				√				√			√			√			√			√			√	
			7.4	7.4.1(A)	7,249.5	7:00	19:00			√				√				√				√			√				√			√				
				7.4.1(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(A)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.3		7:00	19:00			√				√				√				√			√				√			√				
				7.4.4		7:00	19:00			√				√				√				√			√				√			√				
			10.1	10.1.1	777.6	12:00	17:00				√				√				√				√				√				√				√		
			10.2	10.2.1(A)	4,327.0	17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(B)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(C)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.2(A)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(B)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(C)		13:00	20:00				√				√				√				√				√				√				√		
			Old Network	1st Shift	14,742.0	5:30	8:00		√					√					√					√					√					√			
				2nd Shift		8:00	20:00		√					√					√					√					√					√			
			Outside Ring Road		16,200.0	18:15	20:15					√					√				√					√				√						√
Bansbari	368	8,838	Old Network	1st zone, 1st Shift	17,010.0	5:30	8:00	√				√				√				√				√				√				√				√	
				1st zone, 2nd Shift		10:30	13:00	√				√				√				√				√				√				√				√	
				1st zone, 3rd Shift		15:30	18:00	√				√				√				√				√				√				√				√	
				1st zone, 4th Shift		20:30	23:00	√				√				√				√				√				√				√				√	
				2nd Zone, 1st Shift		3:00	5:30		√				√				√				√				√				√				√				√
				2nd Zone 2nd Shift		8:00	10:30		√				√				√				√				√				√				√				√
				2nd Zone 3rd Shift		13:00	15:30		√				√				√				√				√				√				√				√
				2nd Zone 4th Shift		18:00	20:30		√				√				√				√				√				√				√				√
				3rd Zone, 1st Shift		3:00	5:30			√				√				√				√			√				√				√				
				3rd Zone, 2nd Shift		8:00	10:30			√				√				√				√			√				√				√				
				3rd Zone, 3rd Shift		13:00	15:30			√				√				√				√			√				√				√				
				3rd Zone, 4th Shift		18:00	20:30			√				√				√				√			√				√				√				
			Outside Ring Road	1st Shift	12,150.0	3:00	18:00				√				√				√				√				√				√				√		
				2nd Shift		18:00	21:00				√				√				√				√				√				√				√		
				3rd Shift		21:00	0:00				√				√				√				√				√				√				√		
				4th Shift		0:00	3:00				√				√				√				√				√				√				√		
Khumaltar	1,672	40,121	5.1	5.1.1	9,149.8	18:00	6:00			√				√				√				√				√				√				√		
				5.1.2		18:00	6:00			√				√				√				√				√				√				√		
				5.1.3		18:00	6:00			√				√				√				√				√				√				√		
			5.2	5.2.1	5,859.5	6:00	18:00		√				√				√				√			√			√				√				√
				5.2.2		6:00	18:00		√				√				√				√			√			√				√				√
				5.2.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.1	6.1.1(A)	5,938.9	6:00	18:00		√				√				√				√			√			√				√				√
				6.1.1(B)		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.2		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.2	6.2.1	7,385.6	18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.2		18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.3		18:00	18:00	√				√				√				√				√				√				√				√	
			8.1	8.1.1	6,306.7	6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.2		6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.3		6:00	6:00	√				√				√				√				√				√				√				√	
			8.2	8.2.1	4,536.0	6:00	18:00		√				√				√				√			√				√				√				√
				8.2.2		6:00	18:00		√				√				√				√			√				√				√				√
			9.1	9.1.1	1,294.4	19:00	6:00				√				√				√				√				√				√				√		
				9.1.2	1,681.6	19:00	6:00				√				√				√				√				√				√				√		
				9.1.3	894.2	19:00	6:00				√				√				√				√				√				√				√		
			9.2	9.2.1	1,202.0	6:00	19:00				√				√				√				√				√				√				√		
				9.2.2	1,020.6	6:00	19:00				√				√				√				√				√				√				√		
				9.2.3	1,095.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.4	657.7	6:00	19:00				√				√				√				√				√				√				√		
				9.2.5	724.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.6	1,009.3	6:00	19:00				√				√				√				√				√				√				√		
				9.2.7	782.5	6:00	19:00				√				√				√				√				√				√				√		

Table 6.1.2 Water Supply Plan in Dry Season with Melamchi water (2/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			Old Network		0.0																														
			Outside Ring Road	1st Zone I	11,980.0	5:00	21:00		√				√				√				√			√				√				√				√
				1st Zone - II(a)		5:00	14:00				√				√				√				√			√				√				√		
				1st Zone - II(b)		8:00	9:00				√				√				√				√			√				√				√		
				1st Zone - II©		5:00	20:00				√				√				√				√			√				√				√		
				1st Zone - III		5:00	8:00	√				√				√				√				√				√				√				√	
				2nd Zone - I		6:00	18:00			√								√								√								√		
				2nd Zone - II		6:00	18:00							√								√								√						√
				3rd Zone - I		7:00	19:00	√				√				√				√				√				√				√				√	
				3rd Zone - II		7:00	19:00			√				√				√				√				√				√				√		
				4th Zone - I		6:00	20:00			√				√				√				√				√				√				√		
				4th Zone - II		17:00	0:00				√				√				√				√				√				√				√		
				4th Zone - III		17:00	0:00					√				√				√				√			√				√				√		
				4th Zone - IV		17:00	0:00						√				√				√				√			√				√					
Kirtipur	881	21,142	11.1	11.1.1	3,361.5	18:00	6:00	√			√			√			√			√			√			√			√			√			
			11.2	11.2.1	2,723.2	18:00	6:00		√			√			√			√			√			√			√			√			√		
			11.3	11.3.1	2,007.2	18:00	6:00			√			√			√			√			√			√			√			√			√	
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network	Zone 1	7,128.0	6:00	18:00		√							√							√						√							√
				Zone 2		6:00	18:00			√							√							√							√						
				Zone 3		6:00	18:00				√							√							√							√					
				Zone 4		6:00	18:00					√							√							√							√				
				Zone 5		6:00	18:00						√							√							√							√			
				Zone 6		6:00	18:00							√							√							√							√		
				Zone 7		6:00	18:00	√							√							√							√							√	
				Tyanglaphant - I		6:00	16:00		√		√		√			√		√		√			√		√		√			√		√		√			√
				Tyanglaphant - II a		8:00	16:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Tyanglaphant - II b		8:00	17:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III a		7:00	13:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III b		6:00	2:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		9:00	15:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		15:30	18:30			√		√					√		√					√		√					√		√				
				Maitri Chandani		16:00	19:00				√		√					√		√						√		√					√		√		√
				Maitri Chandani		9:00	15:00							√								√							√							√	
				Panga Dokashi -I		12:00	17:00			√							√							√							√						
				Panga Dokashi -II		8:00	13:00					√							√							√							√				
				Panga Dokashi -III		8:00	11:20	√							√							√						√							√		
				Bhatkepati - I		8:00	14:00		√							√							√							√							√
				Bhatkepati - II		10:00	17:00			√							√							√							√						
				Bhatkepati - III		10:00	17:00				√							√							√							√					
				Nagaun - I		9:00	17:00					√							√							√							√				
				Nagaun - II		10:00	17:00						√							√							√							√			
				Nagaun - III		8:00	16:00							√							√							√							√		
				Nagaun - IV		9:00	12:00								√							√							√							√	
				Jakha-Sikhunchhe D		9:00	10:00			√			√				√			√			√			√			√			√				
				Jakha-Sikhunchhe U		8:00	9:00				√				√			√			√			√			√			√			√			√	
				Nagaun & Old		5:00	11:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Nagaun & Old		5:00	11:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		10:00	19:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				KIRTIPUR old		10:00	19:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		4:00	20:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Kwachwo - I		4:00	22:00		√							√							√							√							√
				Kwachwo - II		3:00	8:00			√							√							√							√						
				Kwachwo - III		4:00	7:00				√							√							√							√					
				Kwachwo R - I		5:00	9:00					√							√							√							√				
				Kwachwo R - I		3:00	22:00						√							√							√							√			
				Kwachwo R - I		4:00	8:00							√							√							√							√		
				Kwachwo R - I		4:00	7:00								√							√							√							√	
				Bhajangal - I		4:00	9:00			√		√			√		√		√				√		√		√			√		√		√			√
				Bhajangal - II		6:00	10:00		√			√			√	√			√			√	√			√			√	√			√			√	√
				Bhajangal - III		5:00	10:00			√	√		√				√	√		√				√	√		√				√	√		√			
				Nayabazar Area		10:00	18:10		√						√								√							√							√
				Nayabazar Area - I		8:00	18:00				√			√				√			√				√			√				√			√		
				Nayabazar Area - II		14:00	19:00					√							√							√							√				
				Nayabazar Area - II		11:30	16:30	√							√							√							√							√	
Mahankalchaur	1,712	41,087	2.1	2.1.1(A)	649.6	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.1(B)	701.5	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(A)	895.9	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(B)	218.7	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(A)	823.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(B)	473.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.4	452.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
			2.2	2.2.1	1,247.4	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.2	1,412.6	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.3	3,222.2	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.4	994.7	12:00	22:00	√			√			√			√			√			√			√			√			√			
			2.3	2.3.1(A)	826.2	1:00	8:00		√			√			√			√			√			√			√			√				√	
				2.3.1(B)	954.2	1:00	8:00		√			√			√			√			√			√			√			√				√	

Table 6.1.3 Water Supply Plan in Dry Season with Melamchi water (3/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			2.4	2.4.1(A)	832.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(B)	772.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(C)	1,190.7	7:00	12:00	√			√			√			√			√			√			√			√			√			√		
			3.1	3.1.1(A)	672.3	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(B)	588.1	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(C)	563.8	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(A)	814.9	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(B)	988.2	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(C)	738.7	13:00	17:00			√			√			√			√			√			√			√			√			√		√
			3.2	3.2.1(A)	675.5	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(B)	464.9	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(C)	774.4	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(A)	776.0	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(B)	784.1	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(C)	798.7	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
			3.3	3.3.1(A)	652.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(B)	863.5	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(C)	814.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(D)	779.2	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(E)	626.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
			3.4	3.4.1(A)	868.3	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
				3.4.1(B)	589.7	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
			3.5	3.5.1(A)	892.6	4:00	7:00			√			√			√			√			√			√			√			√			√		√
				3.5.1(B)	950.9	7:00	12:00			√			√			√			√			√			√			√			√			√		√
				3.5.2	618.8	7:00	12:00			√			√			√			√			√			√			√			√			√		√
			Old Network	Zone 1	16,119.0	8:00	7:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	7:00			√			√			√			√			√			√			√			√			√			
				Zone 3		10:00	7:00	√			√			√			√			√			√			√			√			√			√			
			Outside Ring Road	Zone 1	40,016.0	8:00	10:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	8:00			√			√			√			√			√			√			√			√			√			
				Zone 3		20:00	0:00	√			√			√			√			√			√			√			√			√			√		
				Zone 4 i		4:00	3:00		√						√							√								√							
				Zone 4 ii		3:00	3:00			√						√								√							√						
				Zone 5 i		4:00	5:00	√							√							√						√								
				Zone 5 ii		5:00	5:00		√							√							√						√							
				Zone 5 iii		5:00	5:00			√							√							√							√						
				Zone 5 iv		5:00	5:00				√							√							√							√					
				Zone 5 v		5:00	4:00					√							√							√							√				
				Zone 5 vi		4:00	22:00						√							√							√							√			
				Zone 5 vii		4:00	4:00							√							√							√							√		
				Zone 6 i		5:00	22:00				√							√				√							√								
				Zone 6 ii		6:00	19:00					√							√							√							√				
				Zone 6 iii		19:00	5:00						√							√							√							√			
				Zone 6 iv		5:00	17:00							√							√							√							√		
Minbhawan	220	5,283	Demo Area	Zone 1	8,100.0	5:00	11:00		√			√			√			√			√			√			√			√			√		√	
				Zone 1 - II		3:00	8:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		5:00	11:00			√			√			√			√			√			√			√			√			√			√
				Zone 2 - II		3:00	8:00			√			√			√			√			√			√			√			√			√			√
				Zone 3		5:00	10:00	√			√			√			√			√			√			√			√			√			√		
				Zone 3 - II		12:00	18:00	√			√			√			√			√			√			√			√			√			√		
Panipokhari	552	13,241	1.1	1.1.1	1,853.3	12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.2		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.3		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
			1.2	1.2.1	3,659.6	12:00	16:00		√			√			√			√			√			√			√			√			√		√	
				1.2.2		7:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.2.3(A)		16:00	20:00		√				√				√				√				√				√				√			√
				1.2.3(B)		16:00	20:00		√				√				√				√				√				√				√			√
			1.3	1.3.1	5,268.2	6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(A)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(B)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(C)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
			1.4	1.4.1	4,639.7	16:00	18:00			√			√			√			√			√			√			√			√			√		√
				1.4.2		16:00	18:00			√			√			√			√			√			√			√			√			√		√
			1.5	1.5.1	424.4	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.2	591.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.3	625.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
			Old Network	1st Zone, 1st Shift	3,240.0	4:00	7:00				√					√			√				√				√				√				√	
				1st Zone, 2nd Shift		07"00	9:00				√					√			√				√				√				√				√	
				1st Zone, 3rd Shift		9:00	11:00				√					√			√				√				√				√				√	
				1st Zone, 4th Shift		11:00	13:00				√					√			√				√				√				√				√	
				1st Zone, 5th Shift		13:00	16:00				√					√			√				√				√				√				√	
				1st Zone, 6th Shift		16:00	19:00				√					√			√				√				√				√				√	
				1st Zone, 7th Shift		19:00	22:00				√					√			√				√				√				√				√	
				2nd Zone		4:00	7:00	√				√				√				√				√				√				√				√	
			Outside Ring Road		0.0																															
Tigeni	394	9,455	Outside Ring Road	1st zone	26,886.0	5:00	4:00	√				√				√				√				√				√				√				√	
				2nd zone		5:00	4:00		√				√				√				√				√				√				√				√
				3rd zone		5:00	4:00			√			√			√			√			√			√			√			√			√			√
				4th zone		5:00	4:00				√				√				√				√				√				√				√		
Katunje	597	14,327	Outside Ring Road	1st zone - I	21,967.0	4:00	10:00				√				√				√				√				√				√				√	
				1st zone - II		16:00	20:00				√				√				√				√				√				√				√	
				2nd zone - I		4:00	10:00	√				√				√				√				√				√				√				√	
				2nd zone - II		16:00	20:00	√				√				√				√				√				√				√				√	
				3rd zone - I		4:00	10:00		√				√				√				√				√				√				√				√
				3rd zone - II		16:00	20:00		√				√				√				√				√				√				√				√
				4th zone - I		4:00	10:00			√			√			√			√			√			√			√			√			√			√
				4th zone - II		16:00	20:00			√			√			√			√			√			√			√			√			√			√
				5th zone -I		10:00	14:00				√				√				√				√				√				√				√	
				5th zone - II		20:00	0:00				√				√				√				√				√				√				√	
				6th zone - I		10:00	14:00			√			√			√			√			√			√			√			√			√			√
				6th zone - II		20:00	0:00			√			√			√			√			√			√			√			√			√			√
		192,000		Total	347,493.1																															

Table 6.1.4 Water Supply Plan in Monsoon Season without Melamchi water (1/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Anamnagar	22	530	4.1	4.1.1	921.8																															
				4.1.2		14:00	20:00			√						√						√						√						√				
			4.2	4.2.1	414.7	11:00	20:00			√						√						√						√						√				
				4.2.2	842.4	11:00	20:00			√						√						√						√						√				
				4.2.3	722.5	11:00	20:00			√						√						√						√						√				
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																															
Balaju	427	10,259	7.1	7.1.1	2,509.4	17:00	22:00						√						√						√						√					√	
				7.1.2	1,297.6	17:00	22:00						√						√						√						√					√	
			7.2	7.2.1(A)		4:00	11:00						√						√						√						√					√	
				7.2.1(B)		4:00	11:00						√						√						√						√					√	
				7.2.2(A)	4,017.6	4:00	11:00						√						√						√						√					√	
				7.2.2(B)		4:00	11:00						√						√						√						√					√	
				7.2.3		4:00	11:00						√						√						√						√					√	
			7.3	7.3.1(A)		4:00	13:00					√						√					√						√					√		
				7.3.1(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(A)	5,022.0	4:00	13:00					√						√					√						√					√		
				7.3.2(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(C)		4:00	13:00					√						√					√						√					√		
				7.3.3		4:00	13:00					√						√					√						√					√		
			7.4	7.4.1(A)		4:00	13:00				√						√						√	√					√					√		
				7.4.1(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.2(A)	0.0	4:00	13:00				√						√						√	√					√					√		
				7.4.2(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.3		4:00	13:00				√						√						√	√					√					√		
				7.4.4		4:00	13:00				√						√						√	√					√					√		
			10.1	10.1.1	777.6																															
			10.2	10.2.1(A)		15:00	20:00					√						√						√						√					√		
				10.2.1(B)		15:00	20:00					√						√						√						√					√		
				10.2.1(C)	4,327.0	15:00	20:00					√						√						√						√					√		
				10.2.2(A)		15:00	20:00				√						√						√						√					√		
				10.2.2(B)		15:00	20:00				√						√						√						√					√		
				10.2.2(C)		15:00	20:00				√						√						√						√					√		
			Old Network	1st Zone		6:00	8:00				√						√						√						√					√		
				2nd Zone		8:00	18:00				√						√						√						√					√		
				1st zone, 1st Shift		3:30	5:00			√						√						√						√					√				
				1st zone, 2nd Shift		7:00	8:00			√						√						√						√					√				
				1st zone, 3rd Shift		13:00	17:00			√						√						√						√					√				
				2nd Zone, 1st Shift		14:30	15:30						√						√						√						√					√	
				2nd Zone 2nd Shift		15:30	16:30						√						√						√						√					√	
				2nd Zone 3rd Shift	14,742.0	16:30	17:30						√						√						√						√					√	
				3rd Zone, 1st Shift		14:30	15:30				√						√						√						√					√		
				3rd Zone, 2nd Shift		15:30	16:30				√						√						√						√					√		
				3rd Zone, 3rd Shift		16:30	17:30				√						√						√						√					√		
				3rd Zone, 4th Shift		17:30	18:30				√						√						√						√					√		
				3rd Zone, 5th Shift		18:30	19:30				√						√						√						√					√		
				4th Zone, 1st Shift		14:30	17:00			√						√						√						√						√		
				4th Zone, 2nd Shift		15:30	17:00			√						√						√						√						√		
				5th Zone, 1st Shift		15:30	17:00				√						√						√						√					√		
			Outside Ring Road	1st Zone	16,200.0	5:15	8:00						√						√						√						√					√	
				2nd Zone		5:15	8:00			√						√						√						√						√				
Bansbari	54	1,300	Old Network	1st zone, 1st Shift		3:00	5:00				√						√						√						√					√		
				1st zone, 2nd Shift		9:00	11:00				√						√						√						√					√		
				1st zone, 3rd Shift		15:00	17:00				√						√						√						√					√		
				2nd Zone, 1st Shift		3:00	5:00					√						√						√						√					√	
				2nd Zone 2nd Shift		9:00	11:00					√						√						√						√					√	
				2nd Zone 3rd Shift		15:00	17:00					√						√						√						√					√	
				3rd Zone, 1st Shift		3:00	5:00						√						√						√						√					√	
				3rd Zone, 2nd Shift	17,010.0	9:00	11:00						√						√						√						√					√	
				4th Zone, 1st Shift		3:00	5:00	√						√						√						√						√					√
				4th Zone, 2nd Shift		9:00	11:00	√						√						√						√						√					√
				4th Zone, 3rd Shift		15:00	17:00	√						√						√						√						√					√
				5th Zone, 1st Shift		3:00	5:00		√						√						√						√						√				
				5th Zone, 2nd Shift		9:00	11:00		√						√						√						√						√				
				5th Zone, 3rd Shift		15:00	17:00		√						√						√						√						√				
				6th Zone, 1st Shift		18:00	22:00			√						√						√						√					√				
			Outside Ring Road	1st zone, 1st Shift		3:00	5:30		√					√						√					√						√						
				1st zone, 2nd Shift		14:00	15:30		√					√						√					√						√						
				1st zone, 3rd Shift		15:30	16:30		√					√						√					√						√						
				2nd Zone, 1st Shift		3:00	5:00			√					√					√						√						√					
				2nd Zone 2nd Shift	12,150.0	14:00	16:00			√					√					√						√						√					
				3rd Zone, 1st Shift		3:00	5:00				√					√						√						√						√		
				3rd Zone, 2nd Shift		14:00	16:00				√					√						√						√						√		
				4th Zone, 1st Shift		3:00	5:00					√					√					√						√					√			
				4th Zone, 2nd Shift		14:00	16:00					√					√					√						√					√			
				5th Zone, 1st Shift		3:00	5:00	√					√					√					√						√								√

Table 6.1.5 Water Supply Plan in Monsoon Season without Melamchi water (2/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																								
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Khumaltar	468	11,241	5.1	5.1.1	9,149.8	14:00	21:00							7							14							21							28			
				5.1.2		14:00	21:00							7							14							21							28			
				5.1.3		14:00	21:00							7							14							21							28			
			5.2	5.2.1	5,859.5	4:00	11:00						6							13						20							27				
				5.2.2		4:00	11:00						6							13						20							27				
				5.2.3		4:00	11:00						6							13						20							27				
			6.1	6.1(DNI)	5,938.9	19:00	6:00						6							13						20							27				
				6.1(DNI)		19:00	6:00							7							14							21							28			
			6.2	6.2(DNI)	7,385.6	18:00	6:00				4							11						18							25						
				6.2(DNI)		18:00	6:00					5							12							19							26					
			8.1	8.1 (DNI)	6,306.7	8:00	20:00					5							12							19							26					
			8.2	8.2 (DNI)	4,536.0	8:00	20:00					5							12							19							26					
			9.1	9.1.1	1,294.4	20:00	5:00								√							√							√							√		
				9.1.2	1,681.6	20:00	5:00								√							√							√							√		
				9.1.3	894.2	20:00	5:00								√							√							√							√		
			9.2	9.2.1	1,202.0	5:00	19:00							√							√							√							√		
				9.2.2	1,020.6	5:00	19:00							√							√							√							√		
				9.2.3	1,095.1	5:00	19:00							√							√							√							√		
				9.2.4	657.7	5:00	19:00							√							√							√							√		
				9.2.5	724.1	5:00	19:00							√							√							√							√		
				9.2.6	1,009.3	5:00	19:00							√							√							√							√		
				9.2.7	782.5	5:00	19:00							√							√							√							√		
			Old Network		0.0																																	
			Outside Ring Road	8.1 (20" KUKL)	11,980.0	6:00	14:00				4							11						18							25						
				8.1 (20" KUKL)		15:00	17:00				4							11						18							25						
				8.1 (20" KUKL)		7:00	16:00		2							9						16								23							30	
				8.1 (20" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	13:00							7							14							21							28			
Kirtipur	247	5,923	11.1	11.1.1	3,361.5	18:00	6:00	√						√						√					√						v	√						√
			11.2	11.2.1	2,723.2	18:00	6:00						√						√						√					√						v		
			11.3	11.3.1	2,723.2	18:00	6:00					√						√						√					√						v			
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network		7,128.0	7:00	17:00																															
			Siwalaya System	Siwalaya 1		7:00	12:30							√							√							√							√			
				Siwalaya 1		7:00	9:40	√							√							√							√							√			
			Bhajangal System	Bhajangal R1		4:00	8:40	√				√			√				√			√				√			√				√			√			
				Bhajangal R2		5:00	5:40	√		√					√		√					√		√					√		√					√			√
				Bhajangal R3		5:00	8:40	√			√				√			√				√			√					√			√				√		
				Bhajangal R4		5:00	5:40		√					√		√						√		√				√		√					√		√	
						18:30	20:00		√					√		√						√		√				√		√					√		√	
				Bhajangal R5		6:00	8:40		√			√				√			√				√			√				√			√				√	
				Bhajangal D		8:00	14:40			√			√				√			√				√			√				√			√				√
				Bhajangal K		8:00	11:20				√			√				√			√				√			√				√			√			
				Gurung Compound		14:40	18:00				√							√							√							√						
			Chilancho System	Chilancho 1		4:00	7:30	√				√			√				√			√				√			√				√			√		
						21:00	22:00	√				√			√				√			√				√			√				√			√		
				Chilancho 2		6:00	9:00		√				√			√				√			√				√			√				√			√	
						19:30	20:00		√				√			√				√			√				√			√				√			√	
				Chilancho 3		4:00	8:00				√			√				√			√				√			√				√			√		
				Chilancho 4		16:00	19:00	√				√		√	√			√	√		√	√			√	√		√	√			√	√		√	√		
				Chilancho 5		14:30	18:30		√				√	√		√		√		√	√		√		√		√	√		√		√		√		√		
				Chilancho 6		14:15	18:00				√			√				√							√				√			√			√			
			Devdhoka System	Devdhoka 1	17,097.0	6:00	15:00	√							√							√							√							√		
						12:00	15:00	√							√							√							√							√		
				Devdhoka 2		6:00	19:00		√							√							√							√							√	
						15:00	19:00		√							√							√							√							√	
				Devdhoka 3		6:00	11:00			√							√							√							√							√
						13:00	14:00			√							√							√							√							√
				Devdhoka 4		6:00	10:00				√							√							√							√						
				Devdhoka 5		6:00	9:00					√							√							√							√						
						12:00	15:30					√							√														√						
				Devdhoka 6		6:00	9:00						√							√							√							√				
						15:00	18:30						√							√							√							√				
				Devdhoka 7		6:00	21:00							√							√							√							√			
						15:00	18:30							√							√							√							√			
			Kwacho System	Kwacho 1		4:00	6:30	√				√			√				√			√				√			√				√			√		
						18:30	19:30	√				√			√				√			√				√			√				√			√		
				Kwacho 2		3:00	6:30		√				√			√				√			√				√			√				√			√	
				Kwacho 3		4:00	5:30			√				√			√				√			√				√			√				√			√
			Jakha System	Water is used when local																																		
			Nagau System	Nagau 1 (8 area)		5:00	9:00	√		√		√			√		√		√			√		√		√			√		√		√			√			√
				Nagau 2 (8 area)		5:00	9:00		√		√		√			√		√			√		√		√		√			√		√		√			√		
Mahankalchaur	348	8,344	2.1	2.1.1(A)	649.0	11:00	14:00	√						√							√						√					√						
				2.1.1(B)	701.5	11:00	14:00	√						√							√						√					√						
				2.1.2(A)	895.9	11:00	14:00	√						√							√						√					√						
				2.1.2(B)	218.7	11:00	14:00	√						√							√						√					√						
				2.1.3(A)	823.0	11:00	14:00	√						√							√						√					√						
				2.1.3(B)	473.0	11:00	14:00	√						√							√						√					√						
				2.1.4	452.0	11:00	14:00	√						√							√						√					√						
			2.2	2.2.1	1,247.4	13:00	22:00			√						√						√						√						√			
				2.2.2	1,412.6	13:00	22:00			√						√						√						√						√			
				2.2.3	3,222.2	13:00	22:00			√						√						√						√						√			
				2.2.4	994.7	13:00	22:00			√						√						√						√						√			
			2.3	2.3.1(A)	826.2	22:00	1:00		√						√						√						√					√					
				2.3.1(B)	954.2	22:00	1:00		√						√						√						√					√					
			2.4	2.4.1(A)	832.7	14:00	20:00	√						√						√					√						√						
				2.4.1(B)	772.7	14:00	20:00	√						√						√					√						√						
				2.4.1(C)	1,190.7	14:00	20:00	√						√						√					√						√						

Table 6.1.6 Water Supply Plan in Monsoon Season without Melamchi water (3/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																													
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
			3.1	3.1.1(A)	672.3	11:00	17:00		√						√						√						√						√					
				3.1.1(B)	588.1	11:00	17:00		√						√						√						√						√					
				3.1.1(C)	563.8	11:00	17:00		√						√						√						√						√					
				3.1.2(A)	814.9	11:00	17:00		√						√						√						√						√					
				3.1.2(B)	988.2	11:00	17:00		√						√						√						√						√					
				3.1.2(C)	738.7	11:00	17:00		√						√						√						√						√					
			3.2	3.2.1(A)	675.5	6:00	12:00			√						√						√						√						√				
				3.2.1(B)	464.9	6:00	12:00			√						√						√						√						√				
				3.2.1(C)	774.4	6:00	12:00			√						√						√						√						√				
				3.2.2(A)	776.0	6:00	12:00			√						√						√						√						√				
				3.2.2(B)	784.1	6:00	12:00			√						√						√						√						√				
				3.2.2(C)	798.7	6:00	12:00			√						√						√						√						√				
			3.3	3.3.1(A)	652.9	15:00	21:00		√						√						√						√						√					
				3.3.1(B)	863.5	15:00	21:00		√						√						√						√						√					
				3.3.1(C)	814.9	15:00	21:00		√						√						√						√						√					
				3.3.1(D)	779.2	15:00	21:00		√						√						√						√						√					
				3.3.1(E)	626.9	15:00	21:00		√						√						√						√						√					
			3.4	3.4.1(A)	868.3	20:00	23:00	√						√					√					√							√							
				3.4.1(B)	589.7	20:00	23:00	√						√					√					√							√							
			3.5	3.5.1(A)	802.6	4:00	10:00		√						√						√						√						√					
				3.5.1(B)	950.9	4:00	10:00		√						√						√						√						√					
				3.5.2	618.8	4:00	10:00		√						√						√						√						√					
			Old Network	Zone 1 a	16,119.0	8:00	10:00		√			√			√			√			√			√			√			√			√			√		
				Zone 1 b		16:00	19:00		√			√			√			√			√			√			√			√			√			√		
				Zone 2		4:00	8:00			√			√			√			√			√			√			√			√			√			√	
				Zone 3 a		11:00	13:00	√			√			√			√			√			√			√			√			√			√			√
				Zone 3 b		13:00	16:00	√			√			√			√			√			√			√			√			√			√			√
			Outside Ring Road	Zone 1-gravity	19,846.4																																	
				Zone 2-gravity																																		
				Zone 3 a-pumping																																		
				Zone 3 b-pumping																																		
				Zone 3 c-pumping																																		
				Zone 3 d-pumping																																		
				Zone 3 e-pumping																																		
				Zone 3 f-pumping																																		
				Zone 3 g-pumping																																		
Minbhawan	62	1,480	Demo Area	Zone 1	8,100.0	10:00	12:30						√						√						√					√						√	
				Zone 2		18:00	20:30						√						√						√					√						√	
				Zone3		5:00	8:00	√						√						√						√						√						√
				Zone 4		15:00	18:00	√						√						√						√						√						√
				Zone 5		5:00	8:00		√						√						√						√						√					
				Zone 6		12:00	16:00		√						√						√						√						√					
Panipokhari	155	3,710	1.1	1.1.1	1,853.3	4:00	22:00							√						√						√						√					√
				1.1.2										√						√						√						√					√
				1.1.3										√						√						√						√					√
			1.2	1.2.1	3,659.6	4:00	7:00								√						√						√						√				
				1.2.2											√						√						√						√				
				1.2.3(A)											√						√						√						√				
				1.2.3(B)											√						√						√						√				
			1.3	1.3.1	5,268.2	14:00	21:00							√						√						√						√					√
				1.3.2(A)		14:00	21:00							√						√						√						√					√
				1.3.2(B)		14:00	21:00							√						√						√						√					√
				1.3.2(C)		14:00	21:00							√						√						√						√					√
			1.4	1.4.1	4,639.7	13:00	19:00						√						√					√					√						√	
				1.4.2		13:00	19:00						√						√					√					√						√	
			1.5	1.5.1	424.4	5:00	13:00							√						√						√						√					√
				1.5.2	591.3	5:00	13:00							√						√						√						√					√
				1.5.3	625.3	5:00	13:00							√						√						√						√					√
Tigeni	50	1,199	Outside Ring Road	1st zone	26,886.0	4:00	11:00		√							√						√							√						√	
				2nd zone		4:00	11:00			√							√						√							√						√
				3rd zone		4:00	11:00				√							√						√							√						
				4th zone		4:00	11:00					√							√						√							√					
				5th zone		4:00	11:00						√							√						√							√				
				6th zone		4:00	11:00							√							√						√							√			
				7th zone		4:00	11:00	√							√							√						√							√			
Katunje	167	4,014	Outside Ring Road	1st zone	21,967.0	13:00	20:00		√						√						√						√						√				
				2nd zone						√						√						√						√						√				
				3rd zone					√						√						√						√						√				
				4th zone		14:00	17:00		√			√			√			√				√			√			√			√			√			√	
				5th zone		8:00	12:00	√						√						√						√						√						√
				6th zone				√						√						√						√						√						√
				7th zone				√						√						√						√						√						√
				8th zone		6:00	10:00			√			√			√			√			√			√			√			√			√			
				9th zone		8:00	11:00		√							√						√						√						√				
		48,000		Total	317,550.0																																

7. Actions to be taken by KUKL

In the technical cooperation project by JICA, indicators are established to measure the achievement of Output 1 and the project purpose.

Both indicators must be achieved by December 2026, when the technical cooperation project concludes.

[Output 1]

The capacity of water distribution management utilizing GIS is enhanced.

Indicator 1-3: The water distribution plan for maintaining fair supply hour is prepared for the DMAs within the Ring Road.

[Project Purpose]

The KUKL's capacity of operation and maintenance of water supply is improved.

Indicator 1: The water distribution management plan for fair water supply is implemented in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

Indicator 2: Water supply hours are fair in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

To achieve the above-mentioned indicators, KUKL should implement the following actions:

7.1 Actions to be taken by Production Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-1: Monthly water inflow at each SRT from BDS
(Table 7.1.1, Table 7.1.2, Figure 7.1.1, Figure 7.1.2)

PI-2: Monthly water inflow per customer at each SRT from BDS
(Table 7.1.3, Figure 7.1.3)

PI-3: Water losses in BDS between New Sundarijal WTP and each SRT
(Table 7.1.2)

Table 7.1.1 Monitoring Format of Monthly Inflow by SRT wise (1/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Baisakh		Jestha		Asadh		Shrawan		Bhadra		Ashwin	
				14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	15164	3	231591	46	129935	26	114419	23	131183	26	372,456	74
Balaju (New)	15,556	291,578	1,098,464	237048	15	280865	18	184668	12	199020	13	181238	12	230070	15
Balaju (Old)	19,100			298687	16	239059	13	115738	6	0	0	202898	11	351175	18
Bansbari (Old)	18,000	30,605	265,132	291703	16	293788	16	44799	2	0	0	317	0	6784	0
Khumaltar	37,974	319,495	1,203,634	1023350	27	1146020	30	662190	17	734120	19	764932	20	802258	21
Kirtipur	19,949	168,358	634,255	323657	16	329460	17	198622	10	237609	12	216165	11	249046	12
Mahankalchaur (New)	19,731	291,538	1,098,313	467845	24	516628	26	225886	11	287506	15	450396	23	466119	24
Mahankalchaur (Old)	34,651	33,548	134,298	431083	12	442614	13	72781	2	0	0	303	0	162782	5
Minbhawan	5,000	42,067	158,481	236571	47	136076	27	58780	12	108294	22	119345	24	150899	30
Panipokhari (New)	10,532	105,438	397,217	137442	13	133258	13	87793	8	88573	8	95710	9	111872	11
Panipokhari (Old)	2,000			37848	19	21103	11	7043	4	17084	9	11696	6	14515	7
Tigeni	16,596	28,218	283,640	-	-	-	-	-	-	-	-	344	0	483	0
Katunje	13,560	114,086	429,797	0	0	328681	24	180919	13	154526	11	166588	12	208998	15
Average				291,700	17	341,595	21	164,096	10	161,763	11	180,086	12	240,574	18

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

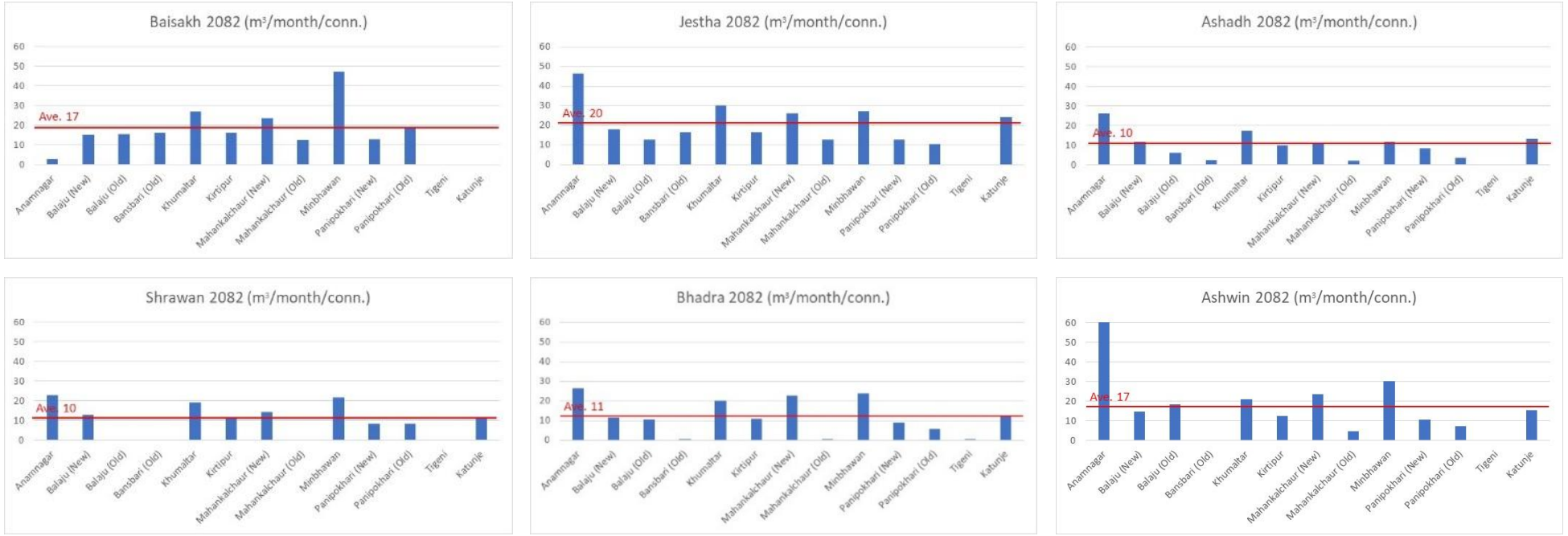


Figure 7.1.1 Change of Monthly Inflow by SRT wise (1/2)

Table 7.1.2 Monitoring Format of Monthly Inflow by SRT wise (2/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Kartik		Mangsir		Poush			Magh		Falgun		Chaitra	
				18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25		14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	14-Mar-26	15-Mar-26	13-Apr-26
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow		Inflow		Inflow			Inflow		Inflow		Inflow	
				(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	Local sources	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	182330	36	143,488	29	220,633		44		0		0		0
Balaju (New)	15,556	291,578	1,098,464	326808	21	363,390	23	414,438		27		0		0		0
Balaju (Old)	19,100			438440	23	460,982	24	585,595		31		0		0		0
Bansbari (Old)	18,000	30,605	265,132	64275	4	102,621	6	292,397	104,400	22		0		0		0
Khumaltar	37,974	319,495	1,203,634	972150	26	1,016,340	27	1,227,320		32		0		0		0
Kirtipur	19,949	168,358	634,255	335258	17	347,178	17	424,761		21		0		0		0
Mahankalchaur (New)	19,731	291,538	1,098,313	477628	24	522,914	27	618,450		31		0		0		0
Mahankalchaur (Old)	34,651	33,548	134,298	411567	12	441,275	13	487,527	681,500	34		0		0		0
Minbhawan	5,000	42,067	158,481	195975	39	140,311	28	234,816		47		0		0		0
Panipokhari (New)	10,532	105,438	397,217	192052	18	213,775	20	227,497		22		0		0		0
Panipokhari (Old)	2,000			24593	12	27277	14	53,189		27		0		0		0
Tigeni	16,596	28,218	283,640	469	0	288,000	17	288,000	161,994	27		0		0		0
Katunje	13,560	114,086	429,797	350301	26	344,498	25	398,271	-76,560	24		0		0		0
Average				305,527	20	339,388	21	420,992		30		0		0		0

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

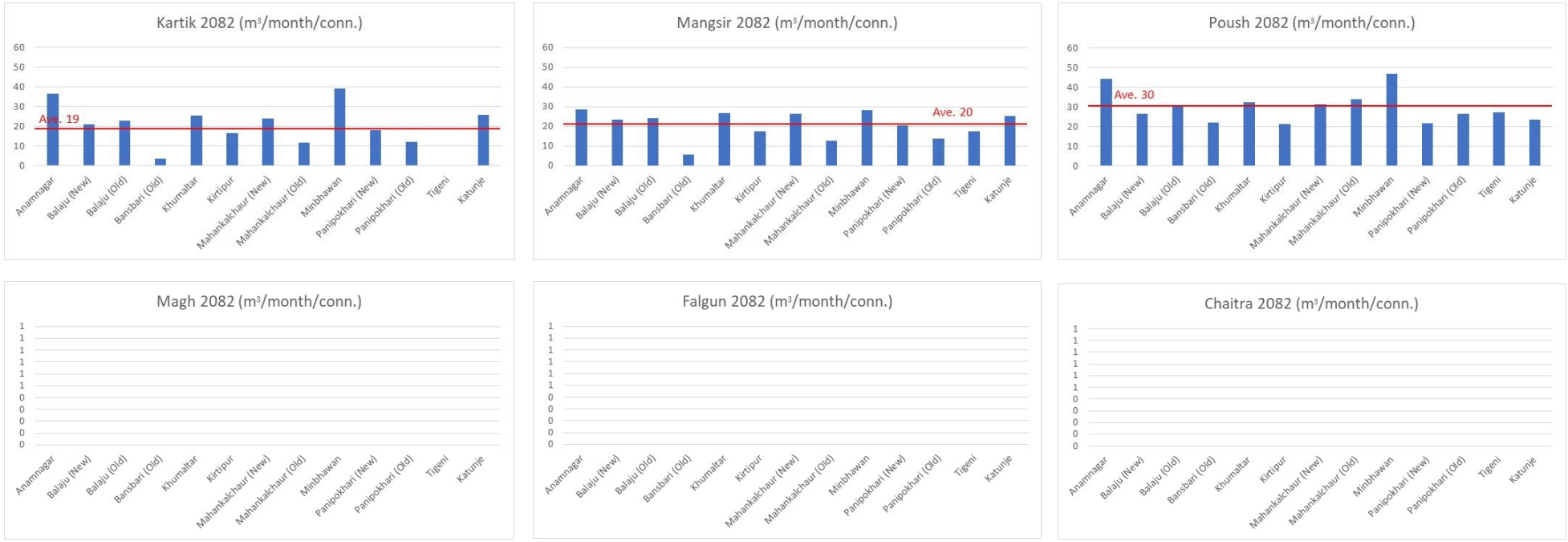


Figure 7.1.2 Change of Monthly Inflow by SRT wise (2/2)

Table 7.1.3 Monitoring Format of Water Loss in BDS

Description	Unit	January/2025	February/2025	March/2025	April/2025	May/2025	June/2025
Total Water transmitted from New Sundarijal WTP	m3						
Total water received by SRTs	m3						
Water losses in BDS	m3						
Wate losses ratio	%						
Description	Unit	July/2025	August/2025	September/2025	October/2025	November/2025	December/2025
Total Water transmitted from New Sundarijal WTP	m3	1,104,558.54	2,541550.32	2,819,664.66	4,337,372.36	4402496.86	5m796,124.00
Total water received by SRTs	m3	2,294,058.00	2,421495.00	2,707,171.00	4,290,970.00	4412049	5,691,271.00
Water losses in BDS	m3	-1,189,499.46	120,055.32	112,493.66	46,402.36	-9,552.14	104,853.00
Wate losses ratio	%	-107.69	4.72	3.99	1.07	-0.22	1.81

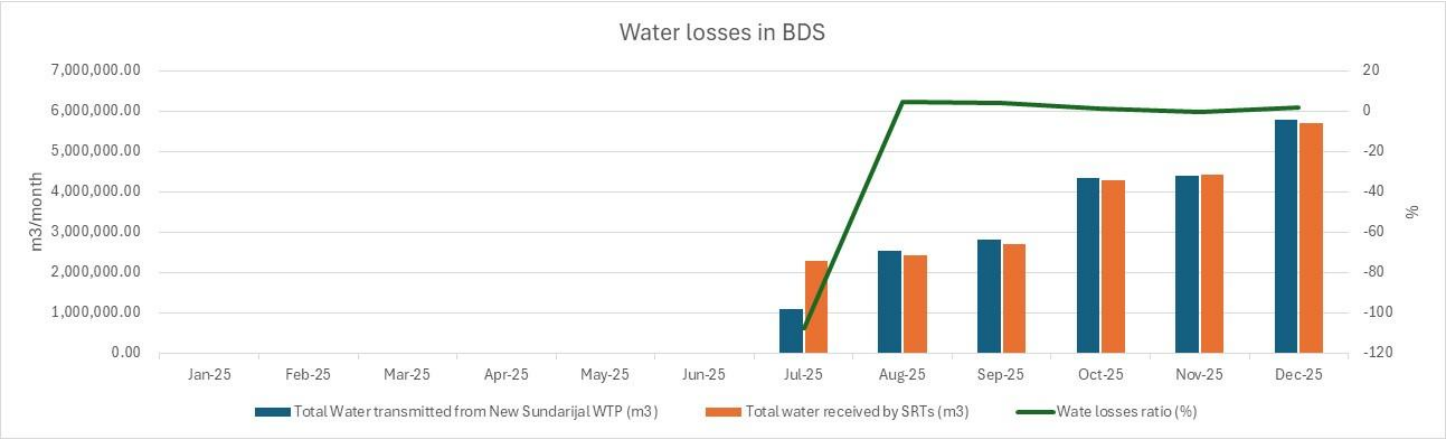


Figure 7.1.3 Change of Water Losses in BDS

7.2 Actions to be taken by Operation Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-4: Daily water supply volume as average at each DMA or sub-DMA and the volume per connection (Table 7.2.1, Figure 7.2.1, Figure 7.2.2)

[Responsibilities of the Operation Division]

- The Operations Division monitors the number of customers and water distribution volumes for each DMA on a monthly basis.
- The Operation Division monitors an indicator (PI-4) calculated by dividing the water distribution volume per DMA by the number of customers on a monthly basis.
- Using the Indicator PI-4. evaluate the feasibility of achieving equitable water distribution. If significant inequities arise or significant fluctuations occur, review the water distribution volume and distribution times for each DMA.

In addition to those main actions, the Operation division shall take responsibility for daily maintenance of SRTs. The operation division is required to take a record of the following monitoring.

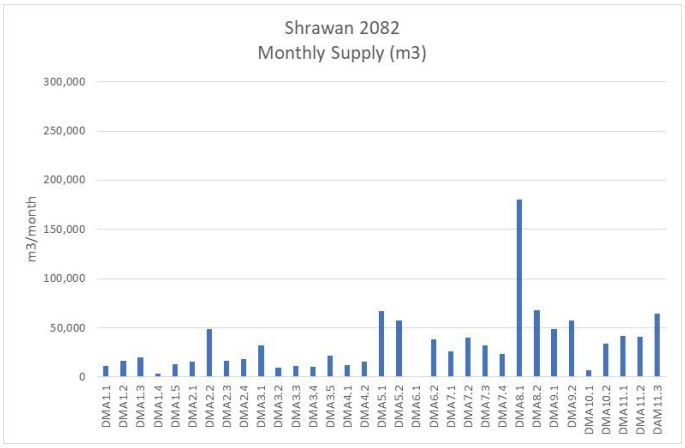
PI-5: Operation and Maintenance Status of each SRT (Table 7.2.2, Table 7.2.3)

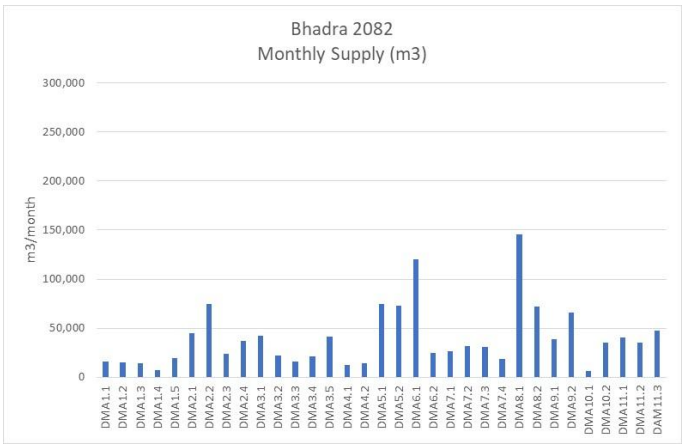
Action-1: Allocate the responsible operator (Everyday)
Action-2: Prepare a Standard Operation Procedure (SOP) for each SRT (Everyday)
Action-3: Cleaning work of the inside of valve chambers (2 times per month)
Action-4: Inspection of air valves at the outlet chamber (2 time per month)
Action-5: Cleaning work of the inside of reservoirs (1 time per year)
Action-6: Inspection of the inside of reservoirs (1 time per year)
Action-7: Water quality test (Everyday)

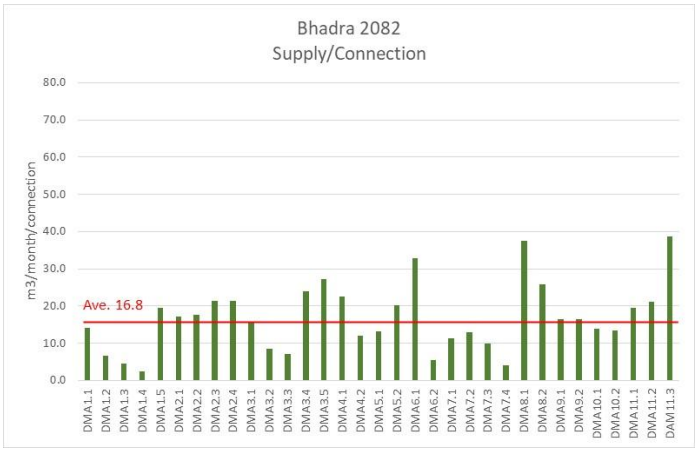
Table 7.2.1 Monitoring Format of Water Supply Volume by DMA wise

Year:2082	1	1		2		3		4		5		6		7		8		9		10		11		12	
	Baisakha	Baisakha		Jestha		Asadh		Shrawan		Bhadra		Ashwin		Kartik		Mangsir		Poush		magh		Falgun		Chaitra	
DMA	No. of Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection
DMA1.1	1,144	21,648	18.9	13,221	11.6	6,092	5.3	11,017	9.6	16,049	14.0	13,973	12.2	27,747	24.3	29,252	25.6	29,370	25.7	0	0.0	0	0.0	0	0.0
DMA1.2	2,259	25,922	11.5	35,173	15.6	19,444	8.6	16,136	7.1	15,011	6.6	18,217	8.1	28,727	12.7	37,082	16.4	41,999	18.6	0	0.0	0	0.0	0	0.0
DMA1.3	3,252	37,697	11.6	24,193	7.4	15,796	4.9	19,892	6.1	14,553	4.5	16,613	5.1	50,400	15.5	62,017	19.1	56,966	17.5	0	0.0	0	0.0	0	0.0
DMA1.4	2,864	5,717	2.0	4,591	1.6	1,946	0.7	3,314	1.2	7,159	2.5	6,845	2.4	5,161	1.8	19,453	6.8	8,288	2.9	0	0.0	0	0.0	0	0.0
DMA1.5	1,013	26,675	26.3	19,455	19.2	15,818	15.6	13,108	12.9	19,660	19.4	18,398	18.2	25,601	25.3	40,877	40.4	32,025	31.6	0	0.0	0	0.0	0	0.0
DMA2.1	2,601	41,335	15.9	48,209	18.5	18,312	7.0	15,388	5.9	44,703	17.2	52,792	20.3	73,993	28.4	99,200	38.1	85,590	32.9	0	0.0	0	0.0	0	0.0
DMA2.2	4,245	97,828	23.0	88,406	20.8	35,715	8.4	48,721	11.5	74,516	17.6	96,162	22.7	96,259	22.7	125,271	29.5	67,604	15.9	0	0.0	0	0.0	0	0.0
DMA2.3	1,099	23,446	21.3	27,561	25.1	7,506	6.8	16,152	14.7	23,541	21.4	16,114	14.7	21,198	19.3	34,262	31.2	32,861	29.9	0	0.0	0	0.0	0	0.0
DMA2.4	1,726	27,410	15.9	31,419	18.2	16,988	9.8	18,450	10.7	36,817	21.3	28,018	16.2	27,321	15.8	35,194	20.4	43,056	24.9	0	0.0	0	0.0	0	0.0
DMA3.1	2,695	59,187	22.0	52,864	19.6	26,607	9.9	32,091	11.9	42,450	15.8	41,410	15.4	45,549	16.9	60,547	22.5	82,687	30.7	0	0.0	0	0.0	0	0.0
DMA3.2	2,638	19,912	7.5	16,719	6.3	7,802	3.0	9,946	3.8	22,357	8.5	21,939	8.3	30,817	11.7	44,383	16.8	1,980	0.8	0	0.0	0	0.0	0	0.0
DMA3.3	2,307	19,119	8.3	12,201	5.3	13,993	6.1	11,359	4.9	16,331	7.1	10,784	4.7	6,494	2.8	13,961	6.1	6,345	2.8	0	0.0	0	0.0	0	0.0
DMA3.4	900	25,964	28.8	22,342	24.8	9,682	10.8	10,516	11.7	21,542	23.9	20,233	22.5	23,032	25.6	33,976	37.8	22,445	24.9	0	0.0	0	0.0	0	0.0
DMA3.5	1,520	30,491	20.1	29,776	19.6	19,133	12.6	21,938	14.4	41,349	27.2	25,625	16.9	51,037	33.6	37,626	24.8	28,972	19.1	0	0.0	0	0.0	0	0.0
DMA4.1	569	20,624	36.2	20,328	35.7	16,961	29.8	12,591	22.1	12,792	22.5	15,569	27.4	19,270	33.9	16,257	28.6	27,560	48.4	0	0.0	0	0.0	0	0.0
DMA4.2	1,222	32,362	26.5	29,019	23.7	19,335	15.8	15,577	12.7	14,663	12.0	19,796	16.2	25,419	20.8	20,552	16.8	23,110	18.9	0	0.0	0	0.0	0	0.0
DMA5.1	5,648	104,751	18.5	113,842	20.2	66,889	11.8	67,444	11.9	74,886	13.3	76,034	13.5	117,202	20.8	160,002	28.3	148,855	26.4	0	0.0	0	0.0	0	0.0
DMA5.2	3,617	73,329	20.3	94,180	26.0	42,194	11.7	57,770	16.0	72,932	20.2	58,361	16.1	75,219	20.8	120,350	33.3	107,295	29.7	0	0.0	0	0.0	0	0.0
DMA6.1	3,666	92,386	25.2	225,885	61.6	45,045	12.3	0	0.0	120,495	32.9	157,296	42.9	144,778	39.5	169,591	46.3	211,028	57.6	0	0.0	0	0.0	0	0.0
DMA6.2	4,559	20,120	4.4	107,860	23.7	51,579	11.3	38,735	8.5	24,491	5.4	53,359	11.7	7,525	1.7	63,393	13.9	23,176	5.1	0	0.0	0	0.0	0	0.0
DMA7.1	2,350	42,330	18.0	34,721	14.8	21,020	8.9	25,749	11.0	26,498	11.3	35,978	15.3	33,058	14.1	44,179	18.8	37,704	16.0	0	0.0	0	0.0	0	0.0
DMA7.2	2,480	44,289	17.9	38,732	15.6	24,663	9.9	39,861	16.1	32,022	12.9	29,824	12.0	42,822	17.3	89,470	36.1	49,134	19.8	0	0.0	0	0.0	0	0.0
DMA7.3	3,100	33,038	10.7	55,121	17.8	27,045	8.7	32,592	10.5	30,638	9.9	29,986	9.7	48,528	15.7	50,049	16.1	52,972	17.1	0	0.0	0	0.0	0	0.0
DMA7.4	4,475	46,350	10.4	34,726	7.8	31,530	7.0	23,479	5.2	18,656	4.2	45,727	10.2	55,808	12.5	91,910	20.5	81,872	18.3	0	0.0	0	0.0	0	0.0
DMA8.1	3,893	243,448	62.5	253,177	65.0	111,160	28.6	180,034	46.2	145,776	37.4	168,523	43.3	211,259	54.3	274,338	70.5	256,717	65.9	0	0.0	0	0.0	0	0.0
DMA8.2	2,800	112,901	40.3	86,608	30.9	70,131	25.0	67,884	24.2	72,491	25.9	81,403	29.1	72,187	25.8	76,861	27.5	72,160	25.8	0	0.0	0	0.0	0	0.0
DMA9.1	2,389	113,632	47.6	108,407	45.4	60,422	25.3	49,032	20.5	39,160	16.4	51,395	21.5	58,327	24.4	81,353	34.1	99,425	41.6	0	0.0	0	0.0	0	0.0
DMA9.2	4,007	95,662	23.9	96,331	24.0	63,773	15.9	57,680	14.4	65,922	16.5	74,004	18.5	70,840	17.7	134,651	33.6	133,988	33.4	0	0.0	0	0.0	0	0.0
DMA10.1	480	9,223	19.2	10,751	22.4	4,883	10.2	7,236	15.1	6,646	13.8	7,211	15.0	28,696	59.8	16,266	33.9	23,945	49.9	0	0.0	0	0.0	0	0.0
DMA10.2	2,671	55,874	20.9	53,489	20.0	33,176	12.4	33,812	12.7	35,507	13.3	44,055	16.5	77,317	28.9	59,582	22.3	85,442	32.0	0	0.0	0	0.0	0	0.0
DMA11.1	2,075	39,163	18.9	34,347	16.6	28,235	13.6	42,134	20.3	40,646	19.6	33,276	16.0	43,180	20.8	60,738	29.3	53,179	25.6	0	0.0	0	0.0	0	0.0
DMA11.2	1,681	48,781	29.0	27,279	16.2	20,924	12.4	41,258	24.5	35,708	21.2	31,406	18.7	30,385	18.1	55,741	33.2	53,264	31.7	0	0.0	0	0.0	0	0.0
DAM11.3	1,239	92,592	74.7	75,878	61.2	49,886	40.3	64,198	51.8	47,964	38.7	62,830	50.7	123,897	100.0	132,456	106.9	176,441	142.4						
Total / Avarage	81,945	1,690,614	23.0	1,850,933	23.1	953,799	12.7	1,040,896	14.3	1,265,967	16.8	1,400,326	17.9	1,675,154	24.3	2,258,383	29.9	2,081,013	29.8	0	0.0	0	0.0	0	0.0
More than 1.5 times of Average			4		4		4		4		4		4		3		2		4		32		32		32
Less than 1/2 of Average			7		5		5		7		6		5		4		3		4		32		32		32

Figure 7.2.1 Monitoring Graph of Water Supply Volume by DMA wise (1/2)







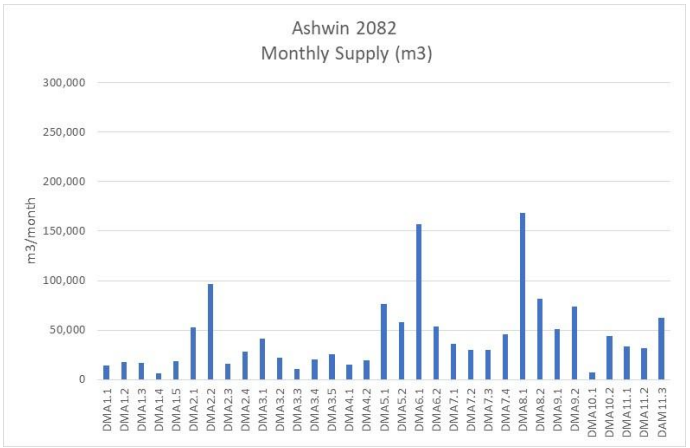


Figure 7.2.2 Monitoring Graph of Water Supply Volume by DMA wise (2/2)

Table 7.2.2 Monitoring Record of Operation & Maintenance of SRTs (1/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Anamnagar (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Arubari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Khumaltar (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Kirtipur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Mahankalchaur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

Table 7.2.3 Monitoring Record of Operation & Maintenance of SRTs (2/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Mahankalchaur (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Minbhawan (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Tigeni																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Katunje																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

7.3 Actions to be taken by each Branch Office

Improvements in water supply services should not be evaluated solely based on water volume. By accurately notifying customers of water delivery schedule and ensuring KUKL operators adhere to these schedules, customer satisfaction can be enhanced.

From this perspective, at the branch office level, efforts must be made to reduce customer complaints by verifying monthly whether any complaints are received regarding the pre-planned water supply schedule.

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicator must be monitored by each branch manager.

PI-6: Number of grievances about water supply hour especially the gap between standard supply hour and real supply hour (Table 7.3.1, Table 7.3.2)

Action-1: The branch manager must accurately track the number of customers within the DMA under their branch's jurisdiction.

Action-2: Report the number of customers per DMA required for the monitoring sheets created by the Operation Division and Production Division to the responsible personnel at headquarters.

Action-3: Valve operators shall be assigned to accurately open and close valves according to the water supply schedule determined in this main water distribution management plan.

Action-4: Analyze customer complaints and requests received by the branch office each month, and tally the number of complaints and requests regarding the accuracy of the water supply schedule.

Action-5: Achieve a 100% water meter installation rate for customers within the DMA.

Action-6: Achieve a 100% water meter reading rate for customers within the DMA.

Action-7: Measure turbidity and residual chlorine at the locations specified by the Central Laboratory at the prescribed frequency and report the results to the Central Laboratory.

Table 7.3.1 Monitoring Record of Grievances about Water Supply Hour (1/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
1.1	1.1.1	Maharajgunj	5:00	14:00																												
1.1	1.1.2	Maharajgunj	5:00	14:00																												
1.1	1.1.3	Maharajgunj	5:00	14:00																												
1.2	1.2.1	Maharajgunj	9:00	16:00																												
1.2	1.2.2	Baneshwor	9:00	16:00																												
1.2	1.2.3(A)	Maharajgunj	9:00	16:00																												
1.2	1.2.3(B)	Maharajgunj	9:00	16:00																												
1.3	1.3.1	Tripureshwor	12:00	21:00																												
1.3	1.3.2(A)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(B)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(C)	Tripureshwor	12:00	21:00																												
1.4	1.4.1	Tripureshwor	15:00	21:00																												
1.4	1.4.2	Tripureshwor	15:00	21:00																												
1.5	1.5.1	Tripureshwor	5:00	15:00																												
1.5	1.5.2	Tripureshwor	5:00	15:00																												
1.5	1.5.3	Tripureshwor	5:00	15:00																												
2.1	2.1.1(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.1(B)	Maharajgunj	6:00	12:00																												
2.1	2.1.1(B)	Mahankal	6:00	12:00																												
2.1	2.1.2(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.2(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.4	Mahankalchaur	6:00	12:00																												
2.2	2.2.1	Baneshwor	14:00	20:00																												
2.2	2.2.2	Baneshwor	14:00	20:00																												
2.2	2.2.3	Baneshwor	14:00	20:00																												
2.2	2.2.4	Baneshwor	14:00	20:00																												
2.3	2.3.1(A)	Baneshwor	5:00	12:00																												
2.3	2.3.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Mahankal	5:00	12:00																												
2.4	2.4.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(C)	Baneshwor	5:00	12:00																												
3.1	3.1.1(A)	Baneshwor	14:00	21:00																												
3.1	3.1.1(B)	Baneshwor	14:00	21:00																												
3.1	3.1.1(C)	Baneshwor	14:00	21:00																												
3.1	3.1.2(A)	Baneshwor	14:00	21:00																												
3.1	3.1.2(B)	Baneshwor	14:00	21:00																												
3.1	3.1.2(C)	Baneshwor	14:00	21:00																												
3.2	3.2.1(A)	Baneshwor	5:00	12:00																												
3.2	3.2.1(B)	Baneshwor	5:00	12:00																												
3.2	3.2.1(C)	Baneshwor	5:00	12:00																												
3.2	3.2.2(A)	Baneshwor	5:00	12:00																												
3.2	3.2.2(B)	Baneshwor	5:00	12:00																												
3.2	3.2.2(C)	Baneshwor	5:00	12:00																												
3.3	3.3.1(A)	Baneshwor	14:00	20:00																												
3.3	3.3.1(B)	Baneshwor	14:00	20:00																												
3.3	3.3.1(C)	Baneshwor	14:00	20:00																												
3.3	3.3.1(D)	Baneshwor	14:00	20:00																												
3.3	3.3.1(E)	Baneshwor	14:00	20:00																												
3.4	3.4.1(A)	Baneshwor	9:00	15:00																												
3.4	3.4.1(B)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Maharajgunj	9:00	15:00																												
3.5	3.5.1(B)	Baneshwor	9:00	15:00																												
3.5	3.5.2	Baneshwor	9:00	15:00																												
3.5	3.5.2	Maharajgunj	9:00	15:00																												
4.1	4.1.1	Baneshwor	12:00	16:00																												
4.1	4.1.2	Baneshwor	12:00	16:00																												
4.2	4.2.1	Tripureshwor	11:00	20:00																												
4.2	4.2.2	Tripureshwor	11:00	20:00																												
4.2	4.2.3	Tripureshwor	11:00	20:00																												
5.1	5.1.1	Lalitpur	20:00	8:00																												
5.1	5.1.2	Lalitpur	20:00	8:00																												
5.1	5.1.3	Lalitpur	20:00	8:00																												
5.2	5.2.1(A)	Lalitpur	20:00	8:00																												
5.2	5.2.1(B)	Lalitpur	20:00	8:00																												
5.2	5.2.1(C)	Lalitpur	20:00	8:00																												
5.2	5.2.1(D)	Lalitpur	20:00	8:00																												
5.2	5.2.2(A)	Lalitpur	20:00	8:00																												
5.2	5.2.2(B)	Lalitpur	20:00	8:00																												
5.2	5.2.2(C)	Lalitpur	20:00	8:00																												
5.2	5.2.2(D)	Lalitpur	20:00	8:00																												
5.2	5.2.2(E)	Lalitpur	20:00	8:00																												
5.2	5.2.3(A)	Lalitpur	20:00	8:00																												
5.2	5.2.3(B)	Lalitpur	20:00	8:00																												
6.1	6.1.1(A)	Lalitpur	6:00	20:00																												
6.1	6.1.1(B)	Lalitpur	6:00	20:00																												
6.1	6.1.2	Lalitpur	6:00	20:00																												
6.1	6.1.3	Lalitpur	6:00	20:00																												
6.2	6.2.1	Lalitpur	17:00	8:00																												
6.2	6.2.2	Lalitpur	17:00	8:00																												
6.2	6.2.3	Lalitpur	17:00	8:00																												
7.1	7.1.1	Maharajgunj	17:00	22:00																												
7.1	7.1.2	Chhetrapati	17:00	22:00																												
7.2	7.2.1(A)	Chhetrapati	7:00	12:00																												
7.2	7.2.1(B)	Chhetrapati	7:00	12:00																												
7.2	7.2.2(A)	Maharajgunj	7:00	12:00																												
7.2	7.2.2(B)	Maharajgunj	7:00	12:00																												
7.2	7.2.3	Maharajgunj	7:00	12:00																												
7.3	7.3.1(A)	Chhetrapati	7:00	12:00																												
7.3	7.3.1(B)	Chhetrapati	7:00	12:00																												
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7.3	7.3.3	Maharajgunj	7:00	12:00																												
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7.4	7.4.1(B)	Chhetrapati	7:00	12:00																												
7.4	7.4.2(A)	Chhetrapati	7:00	12:00																												
7.4	7.4.2(A)	Lalitpur	7:00	12:00																												
7.4	7.4.2(B)	Chhetrapati	7:00	12:00																												
7.4	7.4.3	Chhetrapati	7:00	12:00																												
7.4	7.4.3	Maharajgunj	7:00	12:00																												
7.4	7.4.4	Maharajgunj	7:00	12:00																												

Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

Table 7.3.2 Monitoring Record of Grievances about Water Supply Hour (2/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
8.1	8.1.1	Lalitpur	8:00	20:00																												
8.1	8.1.2	Lalitpur	20:00	8:00																												
8.1	8.1.3	Lalitpur	20:00	8:00																												
8.2	8.2.1(A)	Lalitpur	17:00	8:00																												
8.2	8.2.1(B)	Lalitpur	17:00	8:00																												
8.2	8.2.1(C)	Lalitpur	17:00	8:00																												
8.2	8.2.2(A)	Lalitpur	17:00	8:00																												
8.2	8.2.2(B)	Lalitpur	17:00	8:00																												
8.2	8.2.2(C)	Lalitpur	17:00	8:00																												
9.1	9.1.1	Lalitpur	20:00	6:00																												
9.1	9.1.2	Lalitpur	20:00	6:00																												
9.1	9.1.3	Lalitpur	20:00	6:00																												
9.2	9.2.1	Lalitpur	6:00	20:00																												
9.2	9.2.2	Lalitpur	6:00	20:00																												
9.2	9.2.3	Lalitpur	6:00	20:00																												
9.2	9.2.4	Lalitpur	6:00	20:00																												
9.2	9.2.5	Lalitpur	6:00	20:00																												
9.2	9.2.6	Lalitpur	6:00	20:00																												
9.2	9.2.7	Lalitpur	6:00	20:00																												
10.1	10.1.1	Maharajgunj	12:00	17:00																												
10.2	10.2.1(A)	Chhetrapati	17:00	22:00																												
10.2	10.2.1(B)	Chhetrapati	17:00	22:00																												
10.2	10.2.1(C)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(A)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(B)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(C)	Chhetrapati	17:00	22:00																												
11.1	11.1.1	Tripureshwor	18:00	10:00																												
11.2	11.2.1	Tripureshwor	18:00	10:00																												
11.2	11.2.2	Tripureshwor	18:00	10:00																												
Demo	Demo	Baneshwor	5:00	21:00																												

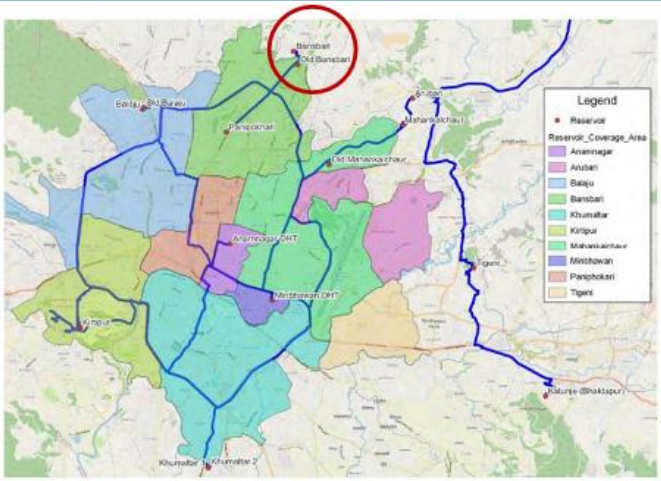
Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

8. Example of SOP for service reservoirs

Standard Operating Procedure
Bansbari SRT (Service Reservoir Tank)

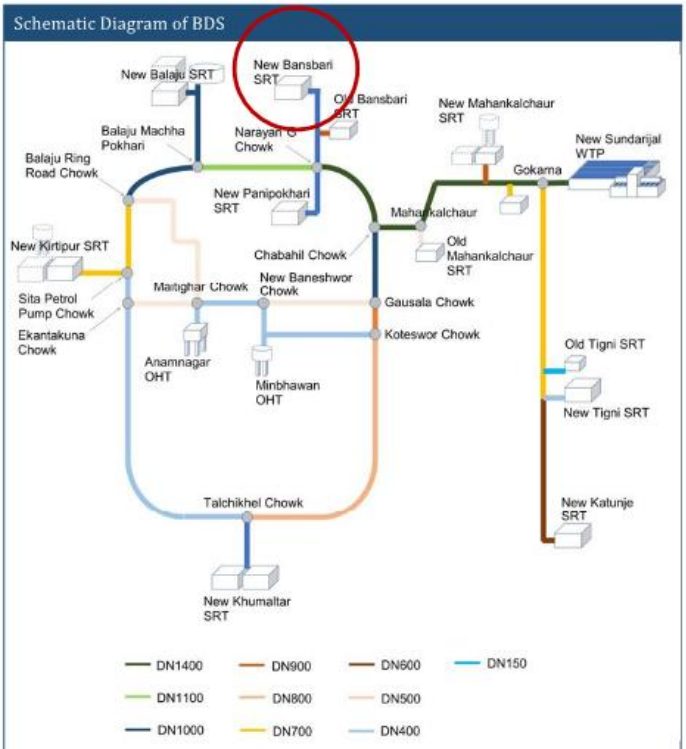
Layout of facilities

General Layout of Bulk Distribution System (BDS)



Layout of facilities

Schematic Diagram of BDS

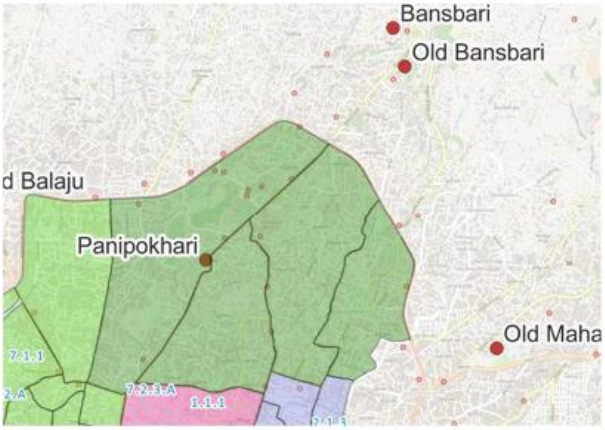


Bulk Distribution System Schematic Diagram

Layout of facilities

District Metered Area (DMA) covered by Bansbari SRT

The coverage area of Bansbari SRT has yet to be divided in DMAs.
This area is called DNI-7c and divided into several DMAs which will be constructed by the Package 6.



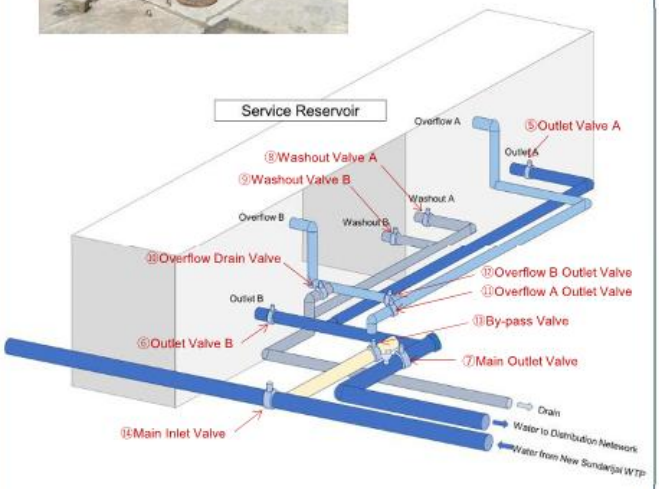
Layout of facilities

Outline of Bansbari SRT

No	Name	Objective	DN	Chamber Drawing No.
1	Flowmeter A	Inflow Measurement Reservoir A	700mm	BDS1-E-C-07
2	Flowmeter B	Inflow Measurement Reservoir A	700mm	BDS1-E-C-09
3	Inlet Valve A	Open/Stop Inflow Reservoir A	700mm	BDS1-E-C-06
4	Inlet Valve B	Open/Stop Inflow Reservoir B	700mm	BDS1-E-C-08
5	Outlet Valve A	Open/Stop Outflow Reservoir A	800mm	BDS1-E-C-10
6	Outlet Valve B	Open/Stop Outflow Reservoir B	800mm	BDS1-E-C-12
7	Main Outlet Valve	Regulate Total Outflow Volume	1200mm	BDS1-E-C-13
8	Washout Valve A	Sand discharge from Reservoir A	500mm	BDS1-E-C-15
9	Washout Valve B	Sand discharge from Reservoir B	500mm	BDS1-E-C-15
10	Overflow Drain	Discharge overflow to washout line	500mm	BDS1-E-C-14
11	Overflow A Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
12	Overflow B Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
13	By-pass Valve	Supply water without passing reservoir	1000mm	BDS1-E-C-13
14	Main Inlet Valve	Regulate Total Inflow Volume	1000mm	BDS1-E-C-05
15	Air Valve	Air release from the main outlet line	200mm	BDS1-E-C-13

Layout of facilities

Isometric Schematic Image of Pipeline Layout (Outlet side)



Operating Procedure

Normal Operation

Operating Procedure

Emergent Operation

If there is an accident or malfunction in both reservoirs A and B and water cannot be stored, the bypass valve on the Inlet Pipe should be opened to continue transmission of water.

[Caution]

When continuing to supply water through the bypass pipe, the following valves of the reservoir should be closed in advance to prevent water from entering the reservoir.
1. Main Inflow Valve
2. Outlet Valves of Reservoirs
3. Overflow Valves of Reservoirs

Cleaning of Reservoir

Direction of Water Flow during Cleaning of Reservoir

Steps for Cleaning of Reservoir

Step 1

Reservoir cleaning should be performed separately for A and B. Close one of the Inlet Valve to shut down entering water into the reservoir.

Step 2

When the water level in the reservoir is low enough, close the Outlet Valve.

Step 3

Open the Washout Valve to drain the water that has accumulated at the bottom of reservoir.

Steps for Cleaning of Reservoir

Step 4

Operators go inside and uses a wiper and nylon brush to scrape sand and mud from the walls and bottom in the direction of the Washout Port.

Step 5

If mud or sand remains in the middle of the interior, open the Inlet Valve of reservoir slightly to draw in water, and then scrape it out again with a scraper.

Step 6

Once the interior has been cleaned, the operator goes outside.
Then close the washout valve.

Steps for Cleaning of Reservoir

Step 7

Then slowly open the Inlet Valve.

Step 8

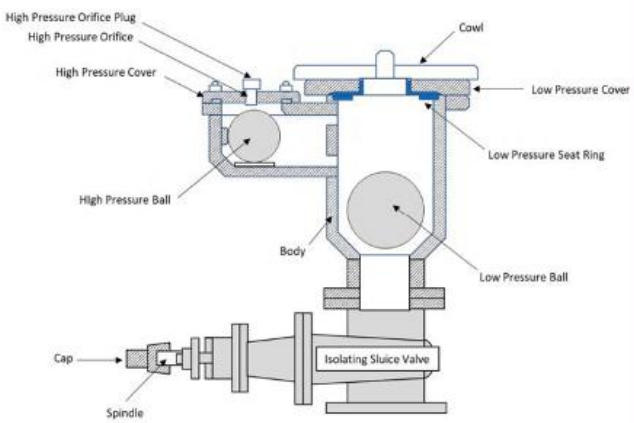
Wait a few hours to fill the reservoir.

Step 9

Once the reservoir has recovered more than half of its water level, slowly open the Outlet Valve.

Cleaning of Air Valve

Structure of Air Valve (Indian Valve International)

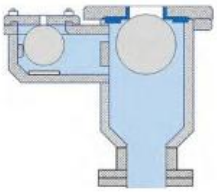


[Caution]

When clean the air valve, make sure that the Isolation Sluice Valve is completely closed. After closed the Isolation Sluice Valve, you can dismantle the cowl and top cover of the air valve.

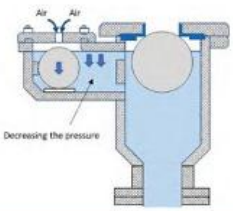
Function of Kinetic Air Valve

Normal Operation under High Pressure



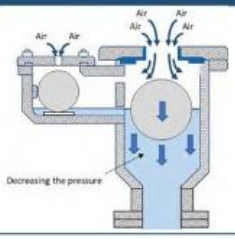
The pipe remains filled with water and the internal float ball plugs the air outlet orifice.

When a small air pocket occurs in the pipe



When a small amount of air accumulates in the air valve, the water level begins to drop, which causes the High Pressure Ball to drop and the small orifice to open. (Small exhaust mode)

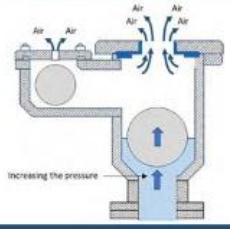
When the water in the reservoir runs out and a large amount of air accumulates



When a large amount of air accumulates, the water level drops below High Pressure Ball, which causes the Low Pressure Ball to drop and the large orifice to open. (Large exhaust mode).

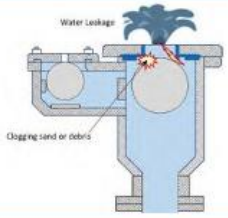
Function of Kinetic Air Valve

When water begins to accumulate in the pipe.



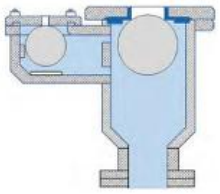
As the water pressure in the pipe increases, the water level rises and the Low Pressure Ball plugs the orifice.

When debris or sand clog the orifice



When debris or sand clog the orifice of air exhaust, the leaks will occur under high pressure.

When the pipe is perfectly filled with water



When water fills the pipe and the water pressure increases, the High Pressure Ball plugs the orifice.

Site Cleaning

Keeping premises clean

- Ensure that there is no debris or hazardous materials in the vicinity of the reservoir.
- The valve chamber should be kept clean and free of cobwebs, debris, and puddles, and no disposed material should be left inside.
- Do not place hazardous or flammable materials near the reservoir.

- Service Reservoir Tank and Water Treatment Plants are places where drinking water is stored, so animals should not be allowed to enter.

Meter Reading

Flowmeter on Inlet Pipe

Flowmeter on Outlet Pipe

In Bansbari SRT, there is no water meter on the outlet pipe.

How to read the flowmeter

Instantaneous Flow (m3/hour)

Accumulated Flow (m3)

The operators should keep record of "Accumulated Water Flow" in daily recording sheet

Recording of water volume

Operator's duty

- Once a day, the operator should check the flowmeter reading and note it on the record form.

Date	Time	Meter Reading		Daily Inflow	Name of Recorder
		Reservoir A	Reservoir B		

Standard Inspection

Daily Inspection

- Operators shall check the condition of facilities and clean the site once per day.

Items	Target	Status	Evaluation
External of tank	Concrete	No Water Leakage	☐Yes/☐No
	Painting	No Crack	☐Yes/☐No
		No Peeling	☐Yes/☐No
	Steps	Firmly Fixed	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No
	Cable	No disconnection	☐Yes/☐No
Valves	Operation Panel	No broken parts	☐Yes/☐No
	Button	No broken button	☐Yes/☐No
	Operation Wheel	Smoothly operating	☐Yes/☐No
	Chamber	No waste/garbage inside	☐Yes/☐No
Pipes	Exposed pipe	No Water Leakage	☐Yes/☐No
	Chamber	No Water Leakage	☐Yes/☐No
Chamber	Cover	Smoothly opening	☐Yes/☐No

Standard Inspection

Annual Inspection

- When cleaning the reservoir tank once per year, conduct an annual inspection of the following items:

Items	Target	Status	Evaluation
Internal of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Level Gauge	Drop of sensor	☐Yes/☐No
		Rust or Corrosion	☐Yes/☐No
External of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
		Water Leakage	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Steps	Corrosion	☐Yes/☐No
	Ventilation	Corrosion	☐Yes/☐No
Facilities	Valves	Greasing on gear	☐Yes/☐No
	Pipes	Water Leakage	☐Yes/☐No
	Chamber	Cleaning of inside	☐Yes/☐No
		Corrosion of Cover	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No

Inspection Schedule

Annual Inspection Plan

Month	Day	What to do
Baisakh		
Jestha		
Asadh		
Shrawan		
Bhadra		
Ashwin		
Kartik		
Mangsir		
Poush		
Magh		
Falgun		
Chaitra		

Water Distribution Management Plan
For
District Metered Area (DMA)
In
Kathmandu Valley

3rd version: 24 February 2026

Kathmandu Upatyaka Khanepani Limited (KUKL)

JICA Expert Team

Kathmandu Upatyaka Khanepani Limited

Japan International Cooperation Agency

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1. Introduction

1.1 Basic Approach to the Water Distribution Management

The maintenance and management of water supply facilities is an indispensable daily task for KUKL and should be carried out from a long-term perspective in order to achieve the following objectives.

Security: To supply safe water with assured quality to water users for drinking in the Kathmandu Valley.

Stability: To provide a stable supply of water necessary for daily life anytime, anywhere.

1.2 Procedure for Development of the Water Distribution Management Plan

Water service is a business that consists of providing drinking water to water users and collecting fees in return. Therefore, in the Water Distribution Management Plan, water utilities themselves need to set more specific management targets based on their Performance Indicators and monitor them in their daily operations.

The workflow of water distribution management in water utility management is as follows

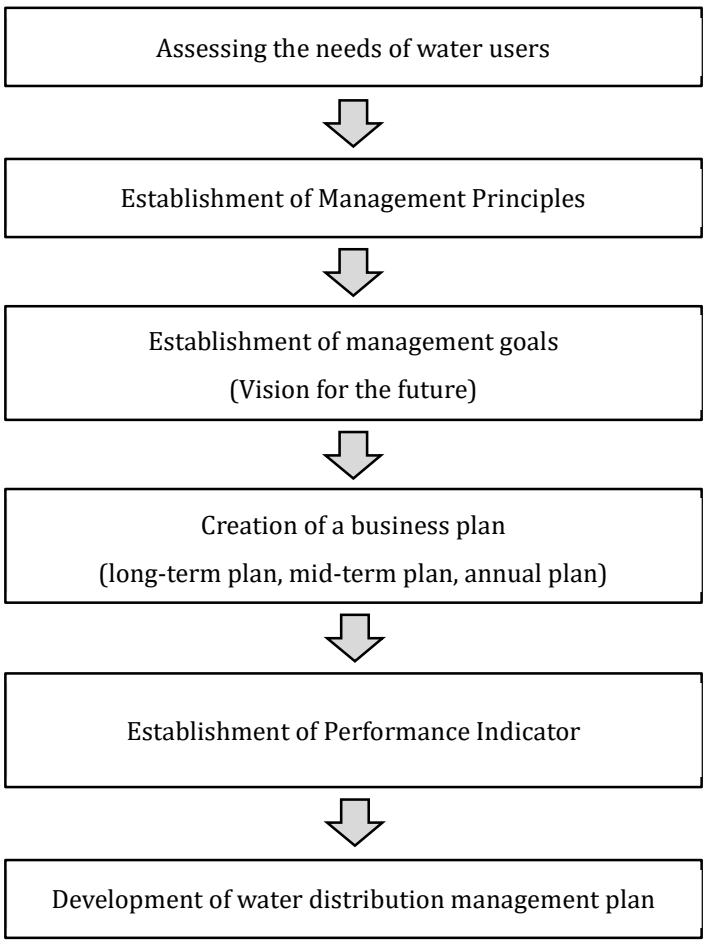


Figure 1.2.1 Relationship between water supply management and maintenance

2. Purpose of the Water Distribution Management Plan

The purpose of the Water Distribution Management Plan is to ensure that KUKL, as the entity responsible for operation and maintenance, properly manages the water supply facilities and provides water to water users in a manner that is equitable in terms of both quantity and time, thereby contributing to the improvement of the living environment.

This Water Distribution Management Plan is the most basic document for KUKL in maintenance and management.

KUKL is required to maintain and repair the water supply facilities to keep them in good condition.

3. Target District Metered Area (DMA)

This Water Distribution Management Plan covers DMAs constructed within the ring road.

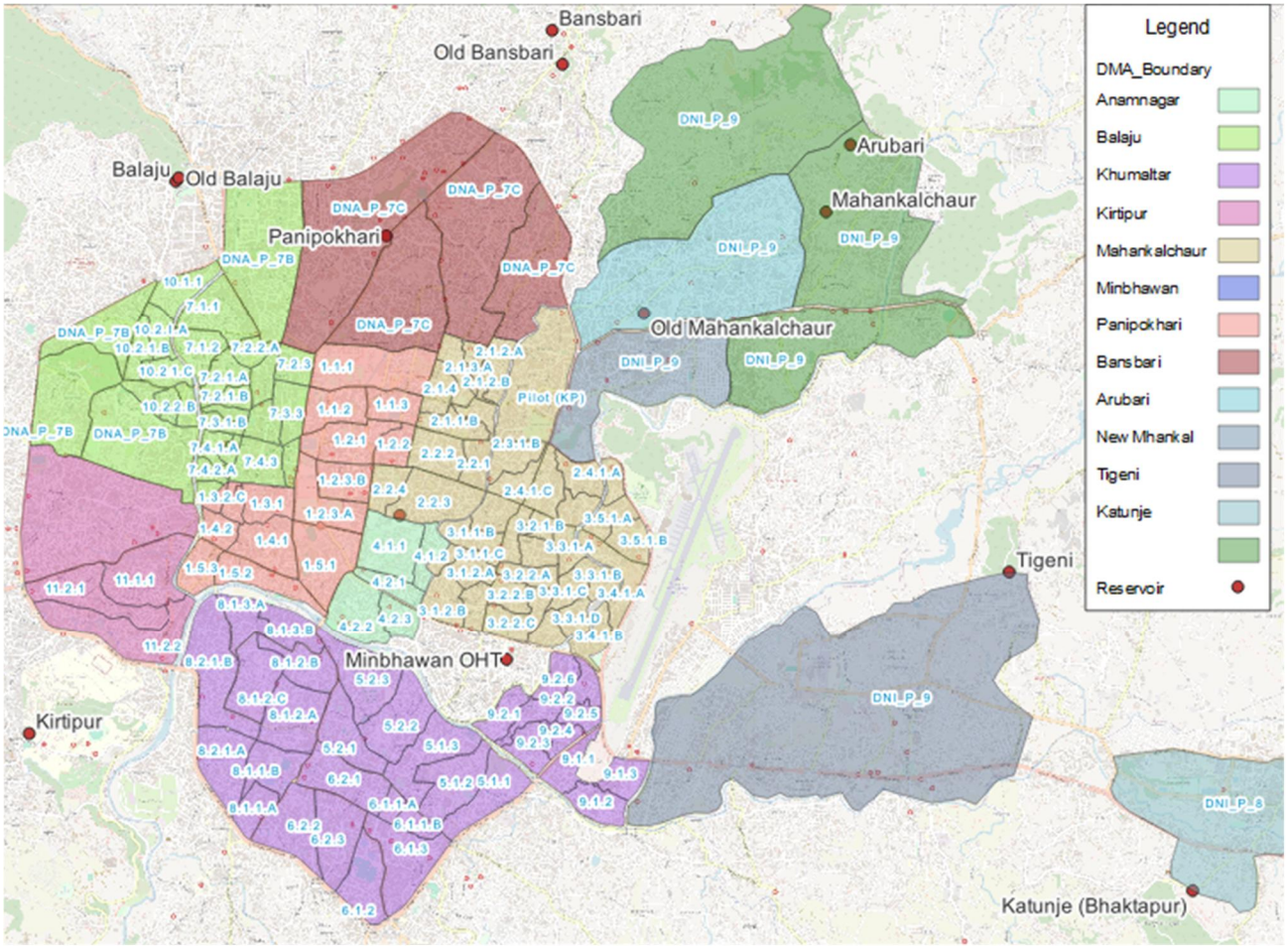


Figure 3.1.1 DMAs constructed in the Ring Road

The following figure is the water supply area covered by each of the service reservoir tanks.

The three water distribution reservoirs located within the ring road are Anamnagar, Minbhawan, and Panipokhari; the other reservoirs may also cover water supply outside the ring road.

In addition, some of the reservoirs supply the old distribution network, but in the future, they will be switched to supply the new distribution network constructed by Melamchi Water Supply Project.

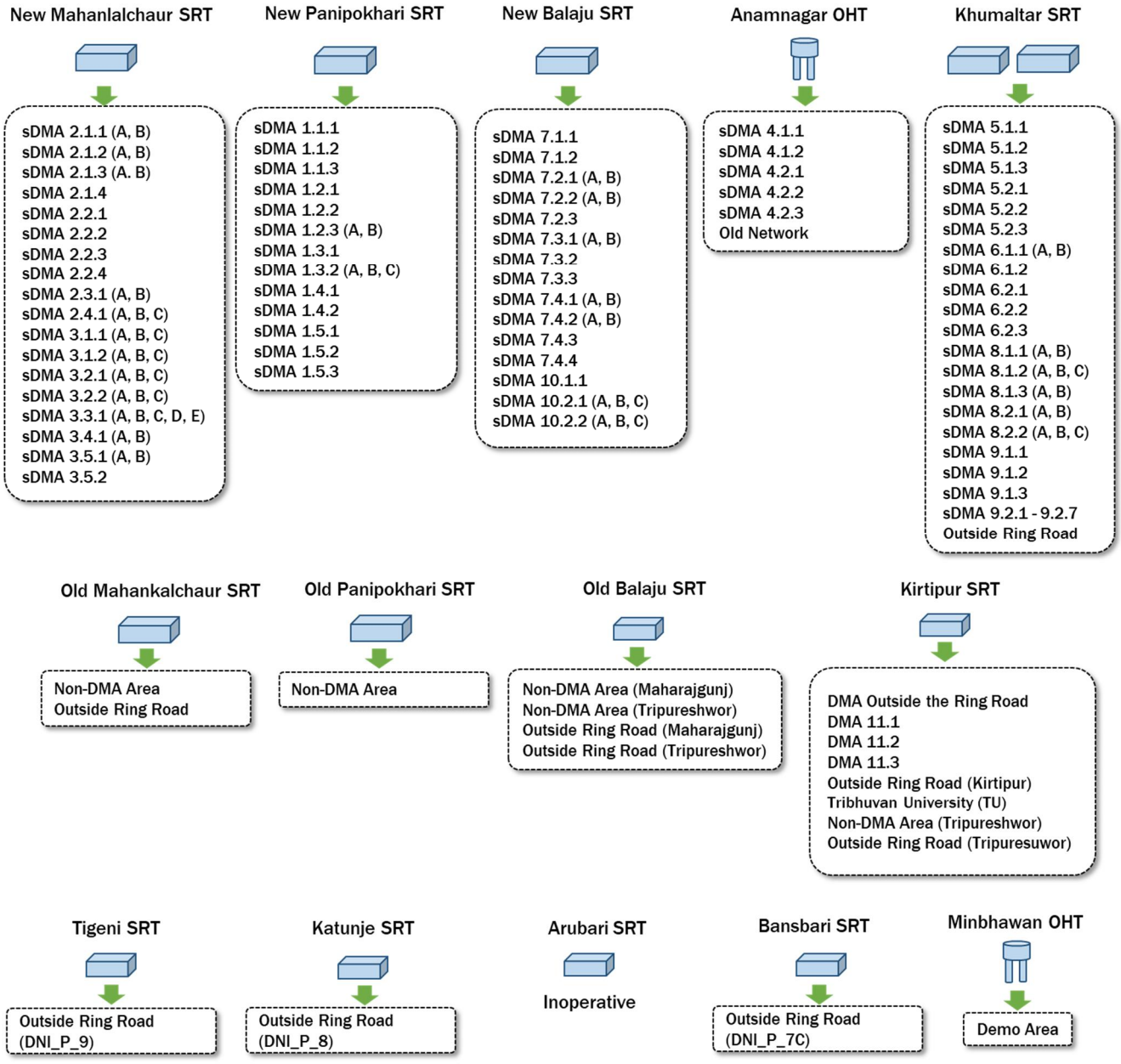


Figure 3.1.2 Sub-DMA covered by each Service Reservoir Tanks (SRTs)

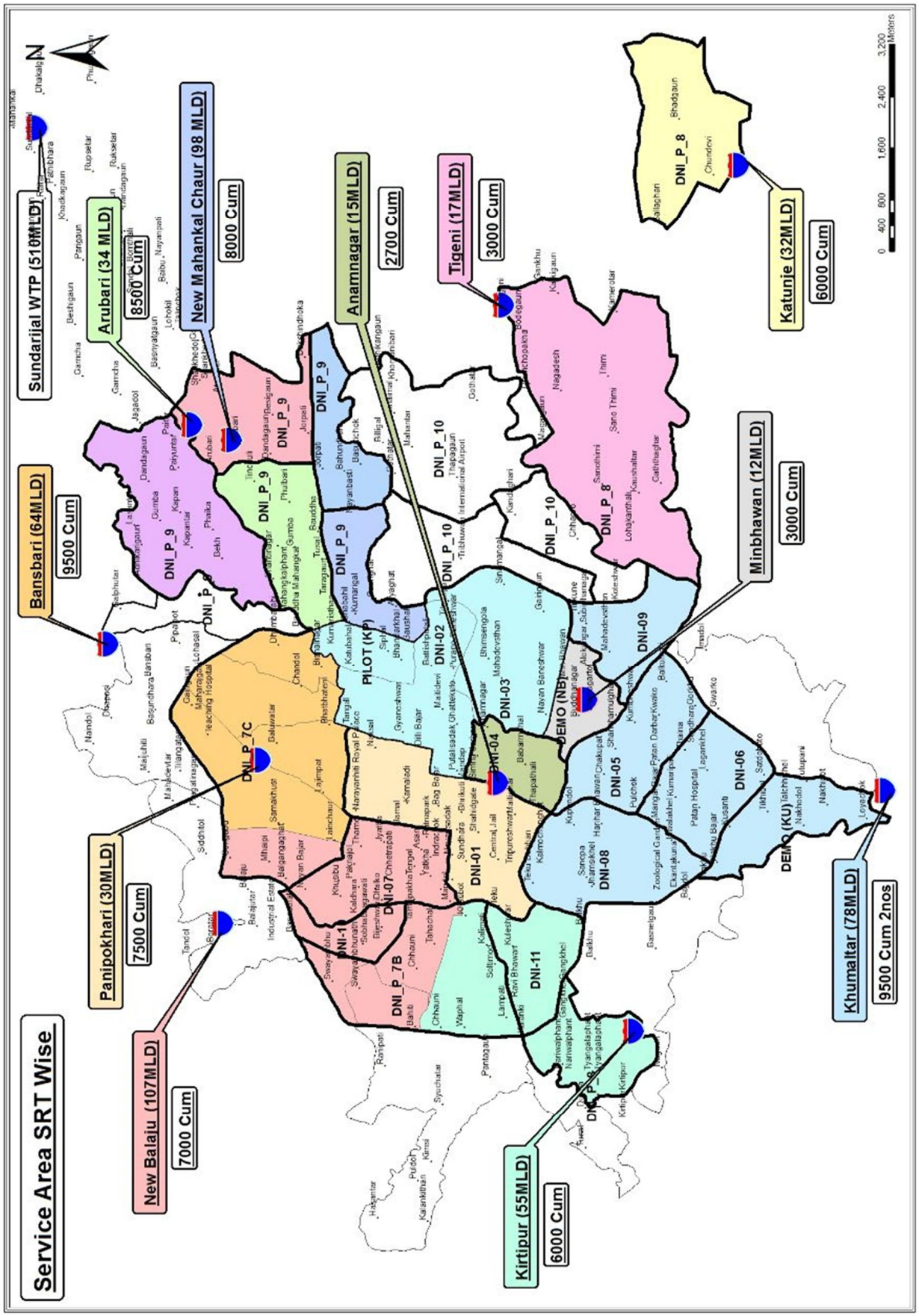


Figure 3.1.3 Water Coverage Area by SRT wise

4. Basic Information on DMAs and Sub-DMAs

The number of customers and estimated demand for each Sub-DMA are shown below.

Table 4.1.1 Estimated Demand in each DMA/Sub-DMA

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
1	1.1	1.1.1	Maharajgunj	Kathmandu				
		1.1.2	Maharajgunj	Kathmandu	12	1,144	135	1,853.3
		1.1.3	Maharajgunj	Kathmandu				
						1,144	Sub total	1,853.3
	1.2	1.2.1	Maharajgunj	Kathmandu				
		1.2.2	Baneshwor	Kathmandu	12	2,259	135	3,659.6
		1.2.3(A)	Maharajgunj	Kathmandu				
		1.2.3(B)	Maharajgunj	Kathmandu				
						2,259	Sub total	3,659.6
	1.3	1.3.1	Tripureshwor	Kathmandu				
		1.3.2(A)	Tripureshwor	Kathmandu	12	3,252	135	5,268.2
		1.3.2(B)	Tripureshwor	Kathmandu				
		1.3.2(C)	Tripureshwor	Kathmandu				
						3,252	Sub total	5,268.2
	1.4	1.4.1	Tripureshwor	Kathmandu	12	2,864	135	4,639.7
		1.4.2	Tripureshwor	Kathmandu				
						2,864	Sub total	4,639.7
	1.5	1.5.1	Tripureshwor	Kathmandu	12	262	135	424.4
		1.5.2	Tripureshwor	Kathmandu	12	365	135	591.3
		1.5.3	Tripureshwor	Kathmandu	12	386	135	625.3
						1,013	Sub total	1,641.1
2	2.1	2.1.1(A)	Mahankalchaur	Kathmandu	12	401	135	649.6
		2.1.1(B)	Maharajgunj & Mahankal	Kathmandu	12	433	135	701.5
		2.1.2(A)	Mahankalchaur	Kathmandu	12	553	135	895.9
		2.1.2(B)	Mahankalchaur	Kathmandu	12	135	135	218.7
		2.1.3(A)	Mahankalchaur	Kathmandu	12	508	135	823.0
		2.1.3(B)	Mahankalchaur	Kathmandu	12	292	135	473.0
		2.1.4	Mahankalchaur	Kathmandu	12	279	135	452.0
						2,601	Sub total	4,213.6
	2.2	2.2.1	Baneshwor	Kathmandu	12	770	135	1,247.4
		2.2.2	Baneshwor	Kathmandu	12	872	135	1,412.6
		2.2.3	Baneshwor	Kathmandu	12	1,989	135	3,222.2
		2.2.4	Baneshwor	Kathmandu	12	614	135	994.7
						4,245	Sub total	6,876.9
	2.3	2.3.1(A)	Baneshwor	Kathmandu	12	510	135	826.2
		2.3.1(B)	Baneshwor	Kathmandu	12	589	135	954.2
						1,099	Sub total	1,780.4
	2.4	2.4.1(A)	Baneshwor & Mahankal	Kathmandu	12	514	135	832.7
		2.4.1(B)	Baneshwor	Kathmandu	12	477	135	772.7
		2.4.1(C)	Baneshwor	Kathmandu	12	735	135	1,190.7
						1,726	Sub total	2,796.1
3	3.1	3.1.1(A)	Baneshwor	Kathmandu	12	415	135	672.3
		3.1.1(B)	Baneshwor	Kathmandu	12	363	135	588.1
		3.1.1(C)	Baneshwor	Kathmandu	12	348	135	563.8
		3.1.2(A)	Baneshwor	Kathmandu	12	503	135	814.9
		3.1.2(B)	Baneshwor	Kathmandu	12	610	135	988.2
		3.1.2(C)	Baneshwor	Kathmandu	12	456	135	738.7
						2,695	Sub total	4,365.9
	3.2	3.2.1(A)	Baneshwor	Kathmandu	12	417	135	675.5
		3.2.1(B)	Baneshwor	Kathmandu	12	287	135	464.9
		3.2.1(C)	Baneshwor	Kathmandu	12	478	135	774.4
		3.2.2(A)	Baneshwor	Kathmandu	12	479	135	776.0
		3.2.2(B)	Baneshwor	Kathmandu	12	484	135	784.1
		3.2.2(C)	Baneshwor	Kathmandu	12	493	135	798.7
						2,638	Sub total	4,273.6
	3.3	3.3.1(A)	Baneshwor	Kathmandu	12	403	135	652.9
		3.3.1(B)	Baneshwor	Kathmandu	12	533	135	863.5
		3.3.1(C)	Baneshwor	Kathmandu	12	503	135	814.9
		3.3.1(D)	Baneshwor	Kathmandu	12	481	135	779.2
		3.3.1(E)	Baneshwor	Kathmandu	12	387	135	626.9
						2,307	Sub total	3,737.3
	3.4	3.4.1(A)	Baneshwor	Kathmandu	12	536	135	868.3
		3.4.1(B)	Baneshwor	Kathmandu	12	364	135	589.7
						900	Sub total	1,458.0
	3.5	3.5.1(A)	Baneshwor & Maharajgunj	Kathmandu	12	551	135	892.6
		3.5.1(B)	Baneshwor	Kathmandu	12	587	135	950.9
		3.5.2	Baneshwor & Maharajgunj	Kathmandu	12	382	135	618.8
						1,520	Sub total	2,462.4
4	4.1	4.1.1	Baneshwor	Kathmandu				
		4.1.2	Baneshwor	Kathmandu	12	569	135	921.8
						569	Sub total	921.8
	4.2	4.2.1	Tripureshwor	Kathmandu	12	256	135	414.7
		4.2.2	Tripureshwor	Kathmandu	12	520	135	842.4
		4.2.3	Tripureshwor	Kathmandu	12	446	135	722.5
						1,222	Sub total	1,979.6

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
5	5.1	5.1.1	Lalitpur	Lalitpur				
		5.1.2	Lalitpur	Lalitpur	12	5,648	135	9,149.8
		5.1.3	Lalitpur	Lalitpur				
						5,648	Sub total	9,149.8
	5.2	5.2.1(A)	Lalitpur	Lalitpur				
		5.2.1(B)	Lalitpur	Lalitpur				
		5.2.1(C)	Lalitpur	Lalitpur				
		5.2.1(D)	Lalitpur	Lalitpur				
		5.2.2(A)	Lalitpur	Lalitpur				
		5.2.2(B)	Lalitpur	Lalitpur	12	3,617	135	5,859.5
		5.2.2(C)	Lalitpur	Lalitpur				
		5.2.2(D)	Lalitpur	Lalitpur				
		5.2.2(E)	Lalitpur	Lalitpur				
		5.2.3(A)	Lalitpur	Lalitpur				
		5.2.3(B)	Lalitpur	Lalitpur				
						3,617	Sub total	5,859.5
6	6.1	6.1.1(A)	Lalitpur	Lalitpur				
		6.1.1(B)	Lalitpur	Lalitpur	12	3,666	135	5,938.9
		6.1.2	Lalitpur	Lalitpur				
		6.1.3	Lalitpur	Lalitpur				
						3,666	Sub total	5,938.9
	6.2	6.2.1	Lalitpur	Lalitpur				
		6.2.2	Lalitpur	Lalitpur	12	4,559	135	7,385.6
		6.2.3	Lalitpur	Lalitpur				
						4,559	Sub total	7,385.6
7	7.1	7.1.1	Maharajgunj	Kathmandu	12	1,549	135	2,509.4
		7.1.2	Tripureshwor	Kathmandu	12	801	135	1,297.6
						2,350	Sub total	3,807.0
	7.2	7.2.1(A)	Tripureshwor	Kathmandu				
		7.2.1(B)	Tripureshwor	Kathmandu				
		7.2.2(A)	Maharajgunj	Kathmandu	12	2,480	135	4,017.6
		7.2.2(B)	Maharajgunj	Kathmandu				
		7.2.3	Maharajgunj	Kathmandu				
						2,480	Sub total	4,017.6
	7.3	7.3.1(A)	Tripureshwor	Kathmandu				
		7.3.1(B)	Tripureshwor	Kathmandu	12	3,100	135	5,022.0
		7.3.2	Tripureshwor	Kathmandu				
		7.3.3	Maharajgunj	Kathmandu				
						3,100	Sub total	5,022.0
	7.4	7.4.1(A)	Tripureshwor	Kathmandu				
		7.4.1(B)	Tripureshwor	Kathmandu				
		7.4.2(A)	Tripureshwor & Lalitpur	Kathmandu	12	4,475	135	7,249.5
		7.4.2(B)	Tripureshwor	Kathmandu				
		7.4.3	Tripureshwor & Maharajgunj	Kathmandu				
		7.4.4	Maharajgunj	Kathmandu				
						4,475	Sub total	7,249.5
8	8.1	8.1.1(A)	Lalitpur	Lalitpur				
		8.1.1(B)	Lalitpur	Lalitpur				
		8.1.2(A)	Lalitpur	Lalitpur				
		8.1.2(B)	Lalitpur	Lalitpur	12	3,893	135	6,306.7
		8.1.2(C)	Lalitpur	Lalitpur				
		8.1.3(A)	Lalitpur	Lalitpur				
		8.1.3(B)	Lalitpur	Lalitpur				
						3,893	Sub total	6,306.7
	8.2	8.2.1(A)	Lalitpur	Lalitpur				
		8.2.1(B)	Lalitpur	Lalitpur				
		8.2.1(C)	Lalitpur	Lalitpur				
		8.2.2(A)	Lalitpur	Lalitpur	12	2,800	135	4,536.0
		8.2.2(B)	Lalitpur	Lalitpur				
		8.2.2(C)	Lalitpur	Lalitpur				
						2,800	Sub total	4,536.0
9	9.1	9.1.1	Baneshwor	Lalitpur	12	799	135	1,294.4
		9.1.2	Baneshwor	Lalitpur	12	1,038	135	1,681.6
		9.1.3	Baneshwor	Lalitpur	12	552	135	894.2
						2,389	Sub total	3,870.2
	9.2	9.2.1	Baneshwor	Lalitpur	12	742	135	1,202.0
		9.2.2	Baneshwor	Lalitpur	12	630	135	1,020.6
		9.2.3	Baneshwor	Lalitpur	12	676	135	1,095.1
		9.2.4	Baneshwor	Lalitpur	12	406	135	657.7
		9.2.5	Baneshwor	Lalitpur	12	447	135	724.1
		9.2.6	Baneshwor	Lalitpur	12	623	135	1,009.3
		9.2.7	Baneshwor	Lalitpur	12	483	135	782.5
						4,007	Sub total	6,491.3
10	10.1	10.1.1	Maharajgunj	Kathmandu	12	480	135	777.6
					12	480	Sub total	777.6
	10.2	10.2.1(A)	Tripureshwor	Kathmandu				
		10.2.1(B)	Tripureshwor	Kathmandu				
		10.2.1(C)	Tripureshwor	Kathmandu				
		10.2.2(A)	Tripureshwor	Kathmandu	12	2,671	135	4,327.0
		10.2.2(B)	Tripureshwor	Kathmandu				
		10.2.2(C)	Tripureshwor	Kathmandu				
						2,671	Sub total	4,327.0
11	11.1	11.1.1	Tripureshwor	Kathmandu	12	2,075	135	3,361.5
						2,075	Sub total	3,361.5
	11.2	11.2.1	Tripureshwor	Kathmandu	12	1,681	135	2,723.2
						1,681	Sub total	2,723.2
	11.3	11.3.1	Tripureshwor	Kathmandu	12	1,239	135	2,007.2
						1,239	Sub total	2,007.2
Demo	Demo	Demo	Baneshwor	Kathmandu	12	5,000	135	8,100.0
						5,000	Sub total	8,100.0
Total	33					88,184		142,858.1

The table above calculates the water demand in DMAs and the existing Demo Area.

However, since the BDS Reservoir supplies water to areas other than the DMAs, it is necessary to estimate the demand for those areas.

Table 4. 1.2 Estimated number of households in the areas except for DMAs and Demo Area

Breakdown of household (connection) for the areas except 32 DMAs

Non DMA Area inside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to DNI 7B (Mhepi, Balaju Area)	2,500	Maharajgunj	Old Balaju
Supply to DNI 7B (Chauni Area)	3,300	Tripureshwor	Old Balaju
Supply to DNI 7B (Tahachal Area)	4,400	Tripureshwor	Kirtipur
Supply to DNI 7B (Kimdol, Dallu, Swoyambhu)	3,300	Tripureshwor (Ex-Chhetrapati)	Old Balaju
Supply to DNI 7C (Lainchaur, Galkopakha, Kapurdhara, Samakhusi, Gongabu)	10,500	Maharajgunj	Old Bansbari
Supply to DNI 7C (Khursanitar Area)	2,000	Maharajgunj	Old Panipokhari
Supply to DNI 7C (Bishalnagar, Chandol)	7,650	Mahankalchaur	Old Mahankal
Supply to Kalopur Pilot Area	2,300	Mahankalchaur	Old Mahankal
Outside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to Tarkeshwor, Banasthali, Dhunge dhara	8,000	Maharajgunj	Old Balaju
Supply to Tokha, Dhapasi, Basundhara (outside ringroad)	7,500	Maharajgunj	Old Bansbari
Supply to Kumari Club, Arcade colony	500	Tripureshwor (Ex-Chhetrapati)	Kirtipur
Supply to Outside the Ringroad by Tripureshwor	2,000	Tripureshwor	Old Balaju
Supply to Kapan, Jorpati	24,701	Mahankalchaur	Old Mahankal
Supply to Kirtipur Customer except for Tribhuvan University	10,054	Kirtipur	Kirtipur
Supply to Kusunti, Bagdol, Nakhu, Nakhipot, Khumaltar, Gwarko, ANFA, Dhapakhel, Dholahiti, Sunakothi	7,395	Lalitpur	Khumaltar
Supply to Kaushaltar, Lokanthali, Gatthaghar, Nagadesh, Sintitar, Dhunchepakha, Saraswatikhel, Thimi Core city, New Thimi, Old Thimi, Bappa, Kamerotar, Madhyapur Hospital	16,596	Madhyapur-Thimi	Thigni
Supply to Kamalbinayak planning, Liwali Planning, Byasi, Bansagopal, Nasamana, Gapali, Tekhacho, Sukuldhoka, Tulachhen, Khiche, Choche, Hanumante Purba, Chundevi, Ghalate, Pandubazar, Shrijananagar, Suryamadhi, Dattatraya, Chyamasingh, Wakupati, Chango road, Mahalaxmi, Bholachhen, Golmadhi, Jagati,	13,560	Bhaktapur	Katunje

Those values should be revised by the respective branch under the supervision by Operation Division.

After filling in the number of households in the areas Non-DMA and outside the Ring Road, the demand to be allocated to each SRT is calculated as follows:

Table 4.1.3 Estimated water demand in the areas except for DMAs and Demo Area

Breakdown of demand for the areas except for 33 DMAs

No of users per connection 12 persons/connection

Demand per capita 135 L/day/person

	Additional Water Demand except for 33 DMAs (m3/day)							
	Balaju	Kirtipur	Bansbari	Panipokhari	Old Mahnkalchaur	Khumaltar	Tigeni	Katunje
Maharajgunj Branch Area								
Non-DMA area inside the Ring Road	4,050		17,010	3,240				
Outside the Ring Road	12,960		12,150					
Tripureshwor Branch Area								
Non-DMA area inside the Ring Road	5,346	7,128						
Outside the Ring Road		810						
Ex-Chhetrapati Branch Area								
Non-DMA area inside the Ring Road	5,346							
Outside the Ring Road	3,240							
Mahankalchaur Branch Area								
Non-DMA area inside the Ring Road					16,119			
Outside the Ring Road					40,016			
Kirtipur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road		16,287						
Madhyapur-Thimi Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road							26,886	
Lalitpur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road						11,980		
Bhaktapur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road								21,967
Total								
Non-DMA area inside the Ring Road	14,742	7,128	17,010	3,240	16,119	0	0	0
Outside the Ring Road	16,200	17,097	12,150	0	40,016	11,980	26,886	21,967

5. Water Receiving Plan from Bulk Distribution System (BDS)

The BDS component will provide water supply to the Kathmandu Metro area using a combination of new water sources developed under Sub-Project 1 of the Melamchi Water Supply Project and other existing water sources.

In order to supply various areas within the Kathmandu Metro area, the new water treatment plant constructed at Sundarijal is the starting point in the water supply network, which will be routed through distribution reservoirs at Mahankalchaur, along the ring road and along the longitudinal route.

The distribution zones, called DMA, are designed to be independent with scattered distribution reservoirs to ensure the stability of water pressure and supply.

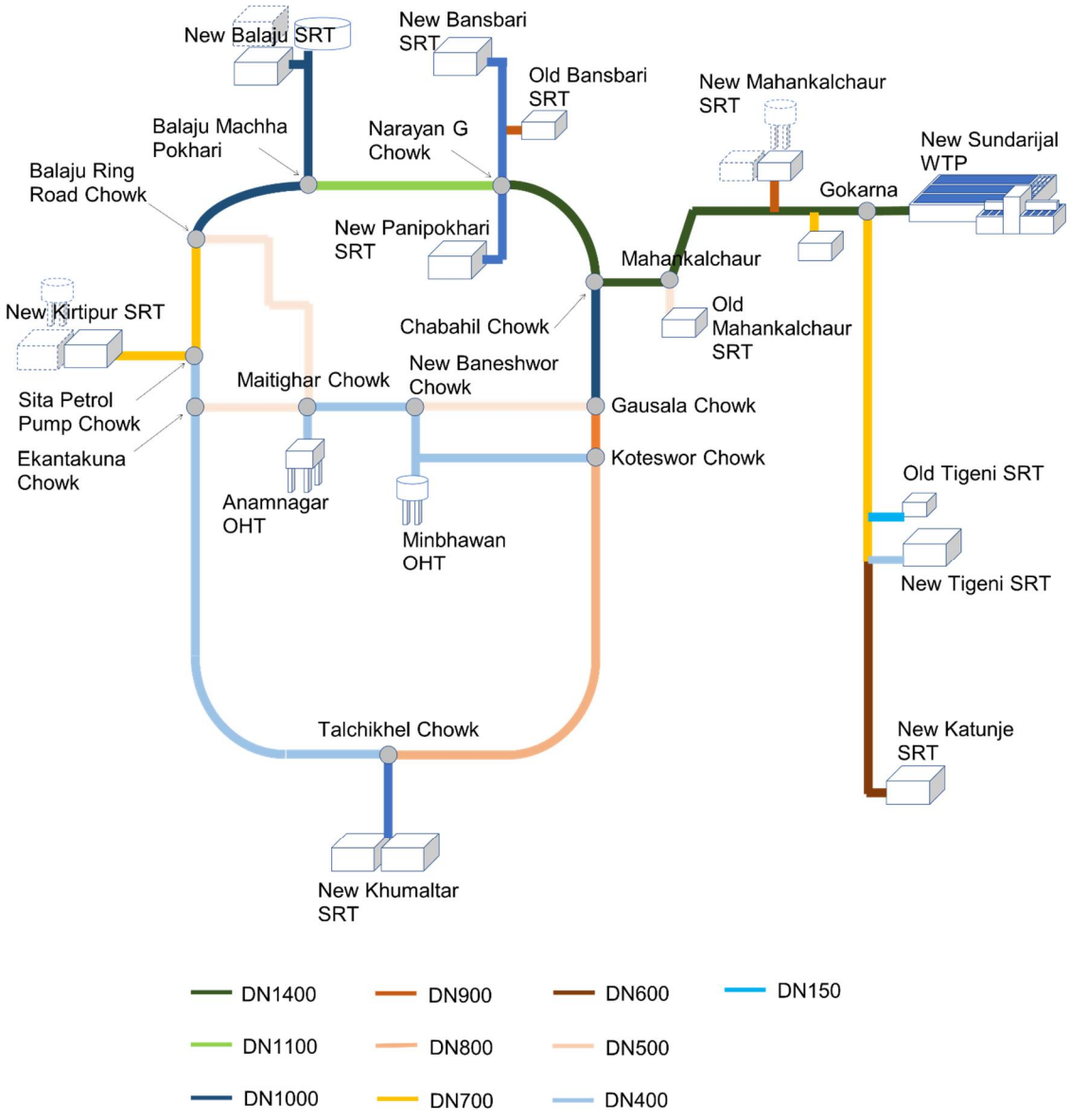


Figure 5.1.1 Schematic Water Supply Network of BDS

The amount of water to be delivered to each Service Reservoir Tank is determined based on the following steps.

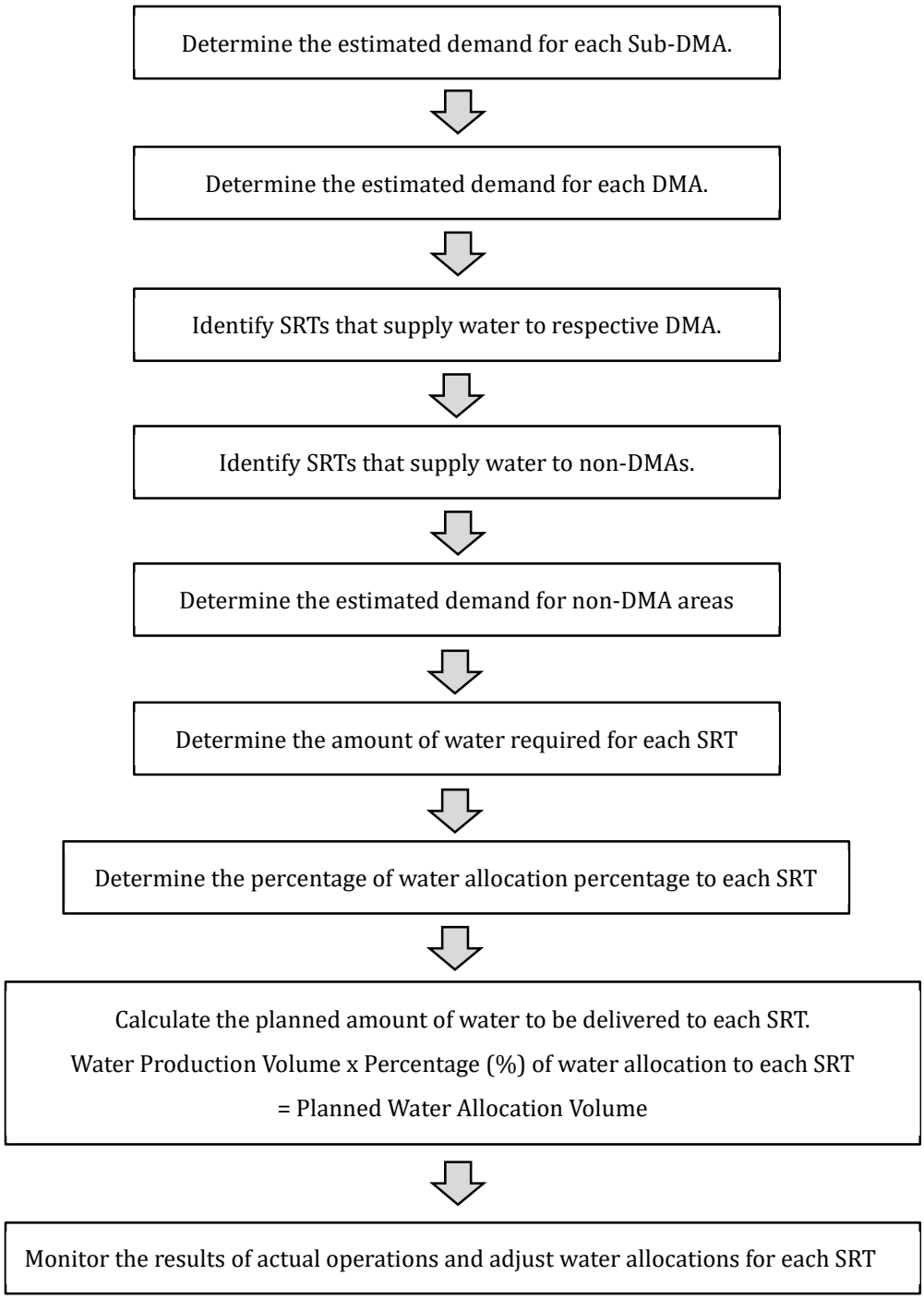


Figure 5.1.2 Steps to determine water allocation for each SRT

Table 5.1.1 Draft of Water Demand and Demand Percentage to each SRT

DMA	Estimated Demand (m3/day)	Demand Percentage (%)	Reservoir
1.1	1,853	0.53	Panipokhari
1.2	3,660	1.05	Panipokhari
1.3	5,268	1.52	Panipokhari
1.4	4,640	1.34	Panipokhari
1.5	1,641	0.47	Panipokhari
2.1	4,214	1.21	New Mahankalchaur
2.2	6,877	1.98	New Mahankalchaur
2.3	1,780	0.51	New Mahankalchaur
2.4	2,796	0.80	New Mahankalchaur
3.1	4,366	1.26	New Mahankalchaur
3.2	4,274	1.23	New Mahankalchaur
3.3	3,737	1.08	New Mahankalchaur
3.4	1,458	0.42	New Mahankalchaur
3.5	2,462	0.71	New Mahankalchaur
4.1	922	0.27	Anamnagar
4.2	1,980	0.57	Anamnagar
5.1	9,150	2.63	Khumaltar
5.2	5,860	1.69	Khumaltar
6.1	5,939	1.71	Khumaltar
6.2	7,386	2.13	Khumaltar
7.1	3,807	1.10	Balaju
7.2	4,018	1.16	Balaju
7.3	5,022	1.45	Balaju
7.4	7,250	2.09	Balaju
8.1	6,307	1.81	Khumaltar
8.2	4,536	1.31	Khumaltar
9.1	3,870	1.11	Khumaltar
9.2	6,491	1.87	Khumaltar
10.1	778	0.22	Balaju
10.2	4,327	1.25	Balaju
11.1	3,362	0.97	Kirtipur
11.2	2,723	0.78	Kirtipur
11.3	2,007	0.58	Kirtipur
Demo Area	8,100	2.33	Minbhawan
Tribhuvan University (TU)	100	0.03	Kirtipur
Non-DMA within the Ring Road	0	0.00	Anamnagar
Non-DMA within the Ring Road	14,742	4.24	Balaju
Non-DMA within the Ring Road	17,010	4.90	Bansbari
Non-DMA within the Ring Road	0	0.00	Khumaltar
Non-DMA within the Ring Road	7,128	2.05	Kirtipur
Non-DMA within the Ring Road	16,119	4.64	Old Mahankalchaur
Non-DMA within the Ring Road	0	0.00	Minbhawan
Non-DMA within the Ring Road	3,240	0.93	Panipokhari
Outside Ring Road	0	0.00	Arubari
Outside Ring Road	12,150	3.50	Bansbari
Outside Ring Road	16,200	4.66	Balaju
Outside Ring Road	11,980	3.45	Khumaltar
Outside Ring Road	17,097	4.92	Kirtipur
Outside Ring Road	40,016	11.52	Old Mahankalchaur
Outside Ring Road	0	0.00	Panipokhari
Outside Ring Road	26,886	7.74	Tigeni
Outside Ring Road	21,967	6.32	Katunje
Total	347,493	100.0	

Currently, water conduction from the Melamchi River is suspended during the rainy season, so the limited amount of water must be equally distributed according to the estimated demand.

Table 5.1.2 Standard Water Production (Main)

	Dry Season with Melamchi water	Monsoon Season without Melamchi water
Supply volume to BDS from New Sundarijal WTP	192 MLD	48 MLD
Production of Mahankalchaur WTP with existing water sources	16.37 MLD	20.67 MLD
Production of Bansbari WTP with existing water sources	10.18 MLD	18.33 MLD
Production of Bode WTP with existing water sources	7.90 MLD	8.08 MLD
Total	226.45 MLD	95.08 MLD

Source: KUKL Annual Report

Table 5.1.3 Water Production Record 2080/2081

		Mahanlakchaur WTP	Bansbari WTP	Bode WTP
Shrawan	July-August	20.15	22.43	8.91
Bhadra	August-September	25.54	30.96	8.08
Ashwin	September-October	17.00	29.32	8.32
Kartik	October-November	20.80	22.83	8.19
Mangsir	November-December	22.86	10.47	8.15
Paush	December-January	22.80	5.83	8.13
Magh	January-February	13.46	5.43	7.64
Falgun	February-March	15.34	19.34	7.50
Chaitra	March-April	9.73	2.7	7.70
Baishakh	April-May	9.66	4.67	8.00
Jestha	May-June	11.26	1.09	7.55
Ashad	June-July	29.22	7.85	7.55
Daily Average (MLD)		18.15	13.58	7.98
Monsoon season average without operation of Melamchi tunnel (MLD)		20.63	18.33	8.08
Dry season average with operation of Melamchi tunnel (MLD)		16.37	10.18	7.90

Source: KUKL Annual Report

Note: The operation of the Melamchi Diversion Tunnel will be suspended from the end-May to the mid-October.

Figure 5.1.4 Water Allocation Plan in Dry Season

Dry Season with Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	1,603				1,603	289	1,892
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	31,020				31,020	5,595	36,615
Bansbari (New & Old)	29,160	8.39	16,112		10,180		5,932	2,906	8,838
Khumaltar	61,518	17.70	33,990				33,990	6,131	40,121
Kirtipur	32,417	9.33	17,911				17,911	3,231	21,142
Mahankalchaur (New)	31,964	9.20	17,661				17,661	3,185	20,847
Mahankalchaur (Old)	56,135	16.15	31,016	16,370			14,646	5,594	20,240
Minbhawan	8,100	2.33	4,475				4,475	807	5,283
Panipokhari (New & Old)	20,302	5.84	11,217				11,217	2,023	13,241
Tigeni	26,886	7.74	14,855			8,080	6,775	2,679	9,455
Katunje	21,967	6.32	12,137				12,137	2,189	14,327
Total	347,493	100.00	192,000				157,370	34,630	192,000
			(F)				(G)		

Figure 5.1.5 Water Allocation Plan in Monsoon Season

Monsoon Season without Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	401				401	129	530
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	7,755				7,755	2,504	10,259
Bansbari (New & Old)	29,160	8.39	4,028		18,330		0	1,300	1,300
Khumaltar	61,518	17.70	8,498				8,498	2,743	11,241
Kirtipur	32,417	9.33	4,478				4,478	1,446	5,923
Mahankalchaur (New)	31,964	9.20	4,415				4,415	1,425	5,841
Mahankalchaur (Old)	56,135	16.15	7,754	20,630			0	2,503	2,503
Minbhawan	8,100	2.33	1,119				1,119	361	1,480
Panipokhari (New & Old)	20,302	5.84	2,804				2,804	905	3,710
Tigeni	26,886	7.74	3,714			7,900	0	1,199	1,199
Katunje	21,967	6.32	3,034				3,034	980	4,014
Total	347,493	100.00	48,000				32,504	15,496	48,000
			(F)				(G)		

6. Target of Water Supply Hour, Frequency of Water Supply and Water Supply Volume

[Supply Hour]

2 hours or more per supply day for all DMAs

[Supply Frequency]

Dry Season with Melamchi water:	At least once every 3 days in all DMAs
Monsoon Season without Melamchi water:	At least once every 5 days in all DMAs

[Supply Volume]

The amount of water allocated to each SRT is compared with the estimated demand of each Sub-DMA and other water supply areas to determine the water supply frequency and hours for each area so that water supply is achieved equally in all areas.

The following page shows the standard water supply schedule created by KUKL's Operation Division. Since available water sources differ between the monsoon and dry seasons, headquarters must review the need for monthly adjustments to the water supply schedule based on local conditions.

Table 6.1.1 Water Supply Plan in Dry Season with Melamchi water (1/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																												
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
Anamnagar	79	1,892	4.1	4.1.1	921.8	14:00	20:00			√			√			√			√			√			√			√			√			√			√
				4.1.2		14:00	22:00			√			√			√			√			√			√			√			√			√			√
			4.2	4.2.1	414.7	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.2	842.4	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.3	722.5	11:00	22:00			√			√			√			√			√			√			√			√			√			√
			Old Network	1st Shift	0.0	4:00	5:00	√			√			√			√			√			√			√			√			√			√		
				2nd Shift		20:00	21:00	√			√			√			√			√			√			√			√			√			√		
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																																
Balaju	1,526	36,615	7.1	7.1.1	2,509.4	4:00	12:00				√				√				√				√				√				√				√		
				7.1.2	1,297.6	4:00	12:00				√				√				√				√				√				√				√		
			7.2	7.2.1(A)	4,017.6	4:00	12:00		√				√				√				√			√			√				√				√
				7.2.1(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(A)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.3		4:00	12:00		√				√				√				√			√			√				√				√
			7.3	7.3.1(A)	5,022.0	7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.1(B)		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.2		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.3		7:00	19:00	√				√				√				√			√			√			√			√			√	
			7.4	7.4.1(A)	7,249.5	7:00	19:00			√				√				√				√			√				√			√				
				7.4.1(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(A)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.3		7:00	19:00			√				√				√				√			√				√			√				
				7.4.4		7:00	19:00			√				√				√				√			√				√			√				
			10.1	10.1.1	777.6	12:00	17:00				√				√				√				√				√				√				√		
			10.2	10.2.1(A)	4,327.0	17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(B)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(C)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.2(A)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(B)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(C)		13:00	20:00				√				√				√				√				√				√				√		
			Old Network	1st Shift	14,742.0	5:30	8:00		√					√					√					√					√					√			
				2nd Shift		8:00	20:00		√					√					√					√					√					√			
			Outside Ring Road		16,200.0	18:15	20:15					√					√				√					√				√						√
Bansbari	368	8,838	Old Network	1st zone, 1st Shift	17,010.0	5:30	8:00	√				√				√				√				√				√				√				√	
				1st zone, 2nd Shift		10:30	13:00	√				√				√				√				√				√				√				√	
				1st zone, 3rd Shift		15:30	18:00	√				√				√				√				√				√				√				√	
				1st zone, 4th Shift		20:30	23:00	√				√				√				√				√				√				√				√	
				2nd Zone, 1st Shift		3:00	5:30		√				√				√				√				√				√				√				√
				2nd Zone 2nd Shift		8:00	10:30		√				√				√				√				√				√				√				√
				2nd Zone 3rd Shift		13:00	15:30		√				√				√				√				√				√				√				√
				2nd Zone 4th Shift		18:00	20:30		√				√				√				√				√				√				√				√
				3rd Zone, 1st Shift		3:00	5:30			√				√				√				√			√				√				√				
				3rd Zone, 2nd Shift		8:00	10:30			√				√				√				√			√				√				√				
				3rd Zone, 3rd Shift		13:00	15:30			√				√				√				√			√				√				√				
				3rd Zone, 4th Shift		18:00	20:30			√				√				√				√			√				√				√				
			Outside Ring Road	1st Shift	12,150.0	3:00	18:00				√				√				√				√				√				√				√		
				2nd Shift		18:00	21:00				√				√				√				√				√				√				√		
				3rd Shift		21:00	0:00				√				√				√				√				√				√				√		
				4th Shift		0:00	3:00				√				√				√				√				√				√				√		
Khumaltar	1,672	40,121	5.1	5.1.1	9,149.8	18:00	6:00			√				√				√				√				√				√				√		
				5.1.2		18:00	6:00			√				√				√				√				√				√				√		
				5.1.3		18:00	6:00			√				√				√				√				√				√				√		
			5.2	5.2.1	5,859.5	6:00	18:00		√				√				√				√			√			√				√				√
				5.2.2		6:00	18:00		√				√				√				√			√			√				√				√
				5.2.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.1	6.1.1(A)	5,938.9	6:00	18:00		√				√				√				√			√			√				√				√
				6.1.1(B)		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.2		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.2	6.2.1	7,385.6	18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.2		18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.3		18:00	18:00	√				√				√				√				√				√				√				√	
			8.1	8.1.1	6,306.7	6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.2		6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.3		6:00	6:00	√				√				√				√				√				√				√				√	
			8.2	8.2.1	4,536.0	6:00	18:00		√				√				√				√			√				√				√				√
				8.2.2		6:00	18:00		√				√				√				√			√				√				√				√
			9.1	9.1.1	1,294.4	19:00	6:00				√				√				√				√				√				√				√		
				9.1.2	1,681.6	19:00	6:00				√				√				√				√				√				√				√		
				9.1.3	894.2	19:00	6:00				√				√				√				√				√				√				√		
			9.2	9.2.1	1,202.0	6:00	19:00				√				√				√				√				√				√				√		
				9.2.2	1,020.6	6:00	19:00				√				√				√				√				√				√				√		
				9.2.3	1,095.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.4	657.7	6:00	19:00				√				√				√				√				√				√				√		
				9.2.5	724.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.6	1,009.3	6:00	19:00				√				√				√				√				√				√				√		
				9.2.7	782.5	6:00	19:00				√				√				√				√				√				√				√		

Table 6.1.2 Water Supply Plan in Dry Season with Melamchi water (2/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			Old Network		0.0																														
			Outside Ring Road	1st Zone I	11,980.0	5:00	21:00		√				√				√				√			√				√				√				√
				1st Zone - II(a)		5:00	14:00				√				√				√				√			√				√				√		
				1st Zone - II(b)		8:00	9:00				√				√				√				√			√				√				√		
				1st Zone - II©		5:00	20:00				√				√				√				√			√				√				√		
				1st Zone - III		5:00	8:00	√				√				√				√				√				√				√				√	
				2nd Zone - I		6:00	18:00			√								√								√								√		
				2nd Zone - II		6:00	18:00							√								√								√						√
				3rd Zone - I		7:00	19:00	√				√				√				√				√				√				√				√	
				3rd Zone - II		7:00	19:00			√				√				√				√				√				√				√		
				4th Zone - I		6:00	20:00			√				√				√				√				√				√				√		
				4th Zone - II		17:00	0:00				√				√				√				√				√				√				√		
				4th Zone - III		17:00	0:00					√				√				√				√			√				√				√		
				4th Zone - IV		17:00	0:00						√				√				√				√			√				√					
Kirtipur	881	21,142	11.1	11.1.1	3,361.5	18:00	6:00	√			√			√			√			√			√			√			√			√			
			11.2	11.2.1	2,723.2	18:00	6:00		√			√			√			√			√			√			√			√			√		
			11.3	11.3.1	2,007.2	18:00	6:00			√			√			√			√			√			√			√			√			√	
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network	Zone 1	7,128.0	6:00	18:00		√							√							√						√							√
				Zone 2		6:00	18:00			√							√							√							√						
				Zone 3		6:00	18:00				√							√							√							√					
				Zone 4		6:00	18:00					√							√							√							√				
				Zone 5		6:00	18:00						√							√							√							√			
				Zone 6		6:00	18:00							√							√							√							√		
				Zone 7		6:00	18:00	√							√							√							√							√	
				Tyanglaphant - I		6:00	16:00		√		√		√			√		√		√			√		√		√			√		√		√			√
				Tyanglaphant - II a		8:00	16:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Tyanglaphant - II b		8:00	17:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III a		7:00	13:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III b		6:00	2:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		9:00	15:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		15:30	18:30			√		√					√		√					√		√					√		√				
				Maitri Chandani		16:00	19:00				√		√					√		√						√		√					√		√		√
				Maitri Chandani		9:00	15:00							√								√							√							√	
				Panga Dokashi -I		12:00	17:00			√							√							√							√						
				Panga Dokashi -II		8:00	13:00					√							√							√							√				
				Panga Dokashi -III		8:00	11:20	√							√							√						√							√		
				Bhatkepati - I		8:00	14:00		√							√							√							√							√
				Bhatkepati - II		10:00	17:00			√							√							√							√						
				Bhatkepati - III		10:00	17:00				√							√							√							√					
				Nagaun - I		9:00	17:00					√							√							√							√				
				Nagaun - II		10:00	17:00						√							√							√							√			
				Nagaun - III		8:00	16:00							√							√							√							√		
				Nagaun - IV		9:00	12:00								√							√							√							√	
				Jakha-Sikhunchhe D		9:00	10:00			√			√				√			√			√			√			√			√				
				Jakha-Sikhunchhe U		8:00	9:00				√				√			√			√			√			√			√			√			√	
				Nagaun & Old		5:00	11:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Nagaun & Old		5:00	11:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		10:00	19:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				KIRTIPUR old		10:00	19:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		4:00	20:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Kwachwo - I		4:00	22:00		√							√							√							√							√
				Kwachwo - II		3:00	8:00			√							√							√							√						
				Kwachwo - III		4:00	7:00				√							√							√							√					
				Kwachwo R - I		5:00	9:00					√							√							√							√				
				Kwachwo R - I		3:00	22:00						√							√							√							√			
				Kwachwo R - I		4:00	8:00							√							√							√							√		
				Kwachwo R - I		4:00	7:00								√							√							√							√	
				Bhajangal - I		4:00	9:00			√		√			√		√		√				√		√		√			√		√		√			√
				Bhajangal - II		6:00	10:00		√			√			√	√			√			√	√			√			√	√			√			√	√
				Bhajangal - III		5:00	10:00			√	√		√				√	√		√				√	√		√				√	√		√			
				Nayabazar Area		10:00	18:10		√						√								√							√							√
				Nayabazar Area - I		8:00	18:00				√			√				√			√				√			√				√			√		
				Nayabazar Area - II		14:00	19:00					√							√							√							√				
				Nayabazar Area - II		11:30	16:30	√							√							√							√							√	
Mahankalchaur	1,712	41,087	2.1	2.1.1(A)	649.6	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.1(B)	701.5	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(A)	895.9	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(B)	218.7	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(A)	823.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(B)	473.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.4	452.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
			2.2	2.2.1	1,247.4	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.2	1,412.6	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.3	3,222.2	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.4	994.7	12:00	22:00	√			√			√			√			√			√			√			√			√			
			2.3	2.3.1(A)	826.2	1:00	8:00		√			√			√			√			√			√			√			√				√	
				2.3.1(B)	954.2	1:00	8:00		√			√			√			√			√			√			√			√				√	

Table 6.1.3 Water Supply Plan in Dry Season with Melamchi water (3/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			2.4	2.4.1(A)	832.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(B)	772.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(C)	1,190.7	7:00	12:00	√			√			√			√			√			√			√			√			√			√		
			3.1	3.1.1(A)	672.3	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(B)	588.1	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(C)	563.8	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(A)	814.9	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(B)	988.2	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(C)	738.7	13:00	17:00			√			√			√			√			√			√			√			√			√		√
			3.2	3.2.1(A)	675.5	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(B)	464.9	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(C)	774.4	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(A)	776.0	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(B)	784.1	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(C)	798.7	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
			3.3	3.3.1(A)	652.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(B)	863.5	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(C)	814.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(D)	779.2	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(E)	626.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
			3.4	3.4.1(A)	868.3	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
				3.4.1(B)	589.7	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
			3.5	3.5.1(A)	892.6	4:00	7:00			√			√			√			√			√			√			√			√			√		√
				3.5.1(B)	950.9	7:00	12:00			√			√			√			√			√			√			√			√			√		√
				3.5.2	618.8	7:00	12:00			√			√			√			√			√			√			√			√			√		√
			Old Network	Zone 1	16,119.0	8:00	7:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	7:00			√			√			√			√			√			√			√			√			√			
				Zone 3		10:00	7:00	√			√			√			√			√			√			√			√			√			√			
			Outside Ring Road	Zone 1	40,016.0	8:00	10:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	8:00			√			√			√			√			√			√			√			√			√			
				Zone 3		20:00	0:00	√			√			√			√			√			√			√			√			√			√		
				Zone 4 i		4:00	3:00		√						√							√								√							
				Zone 4 ii		3:00	3:00			√						√								√							√						
				Zone 5 i		4:00	5:00	√							√							√						√								
				Zone 5 ii		5:00	5:00		√							√							√						√							
				Zone 5 iii		5:00	5:00			√							√							√							√						
				Zone 5 iv		5:00	5:00				√							√							√							√					
				Zone 5 v		5:00	4:00					√							√							√							√				
				Zone 5 vi		4:00	22:00						√							√							√							√			
				Zone 5 vii		4:00	4:00							√							√							√							√		
				Zone 6 i		5:00	22:00				√							√				√							√								
				Zone 6 ii		6:00	19:00					√							√							√							√				
				Zone 6 iii		19:00	5:00						√							√							√							√			
				Zone 6 iv		5:00	17:00							√							√							√							√		
Minbhawan	220	5,283	Demo Area	Zone 1	8,100.0	5:00	11:00		√			√			√			√			√			√			√			√			√		√	
				Zone 1 - II		3:00	8:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		5:00	11:00			√			√			√			√			√			√			√			√			√			√
				Zone 2 - II		3:00	8:00			√			√			√			√			√			√			√			√			√			√
				Zone 3		5:00	10:00	√			√			√			√			√			√			√			√			√			√		
				Zone 3 - II		12:00	18:00	√			√			√			√			√			√			√			√			√			√		
Panipokhari	552	13,241	1.1	1.1.1	1,853.3	12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.2		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.3		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
			1.2	1.2.1	3,659.6	12:00	16:00		√			√			√			√			√			√			√			√			√		√	
				1.2.2		7:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.2.3(A)		16:00	20:00		√				√				√				√				√				√				√			√
				1.2.3(B)		16:00	20:00		√				√				√				√				√				√				√			√
			1.3	1.3.1	5,268.2	6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(A)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(B)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(C)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
			1.4	1.4.1	4,639.7	16:00	18:00			√			√			√			√			√			√			√			√			√		√
				1.4.2		16:00	18:00			√			√			√			√			√			√			√			√			√		√
			1.5	1.5.1	424.4	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.2	591.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.3	625.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
			Old Network	1st Zone, 1st Shift	3,240.0	4:00	7:00				√					√			√				√				√				√				√	
				1st Zone, 2nd Shift		07"00	9:00				√					√			√				√				√				√				√	
				1st Zone, 3rd Shift		9:00	11:00				√					√			√				√				√				√				√	
				1st Zone, 4th Shift		11:00	13:00				√					√			√				√				√				√				√	
				1st Zone, 5th Shift		13:00	16:00				√					√			√				√				√				√				√	
				1st Zone, 6th Shift		16:00	19:00				√					√			√				√				√				√				√	
				1st Zone, 7th Shift		19:00	22:00				√					√			√				√				√				√				√	
				2nd Zone		4:00	7:00	√				√				√				√				√				√				√				√	
			Outside Ring Road		0.0																															
Tigeni	394	9,455	Outside Ring Road	1st zone	26,886.0	5:00	4:00	√				√				√				√				√				√				√				√	
				2nd zone		5:00	4:00		√				√				√				√				√				√				√				√
				3rd zone		5:00	4:00			√			√			√			√			√			√			√			√			√			√
				4th zone		5:00	4:00				√				√				√				√				√				√				√		
Katunje	597	14,327	Outside Ring Road	1st zone - I	21,967.0	4:00	10:00				√				√				√				√				√				√				√	
				1st zone - II		16:00	20:00				√				√				√				√				√				√				√	
				2nd zone - I		4:00	10:00	√				√				√				√				√				√				√				√	
				2nd zone - II		16:00	20:00	√				√				√				√				√				√				√				√	
				3rd zone - I		4:00	10:00		√				√				√				√				√				√				√				√
				3rd zone - II		16:00	20:00		√				√				√				√				√				√				√				√
				4th zone - I		4:00	10:00			√			√			√			√			√			√			√			√			√			√
				4th zone - II		16:00	20:00			√			√			√			√			√			√			√			√			√			√
				5th zone -I		10:00	14:00				√				√				√				√				√				√				√	
				5th zone - II		20:00	0:00				√				√				√				√				√				√				√	
				6th zone - I		10:00	14:00			√			√			√			√			√			√			√			√			√			√
				6th zone - II		20:00	0:00			√			√			√			√			√			√			√			√			√			√
		192,000		Total	347,493.1																															

Table 6.1.4 Water Supply Plan in Monsoon Season without Melamchi water (1/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Anamnagar	22	530	4.1	4.1.1	921.8																															
				4.1.2		14:00	20:00			√						√						√						√						√				
			4.2	4.2.1	414.7	11:00	20:00			√						√						√						√						√				
				4.2.2	842.4	11:00	20:00			√						√						√						√						√				
				4.2.3	722.5	11:00	20:00			√						√						√						√						√				
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																															
Balaju	427	10,259	7.1	7.1.1	2,509.4	17:00	22:00						√						√						√						√					√	
				7.1.2	1,297.6	17:00	22:00						√						√						√						√					√	
			7.2	7.2.1(A)		4:00	11:00						√						√						√						√					√	
				7.2.1(B)		4:00	11:00						√						√						√						√					√	
				7.2.2(A)	4,017.6	4:00	11:00						√						√						√						√					√	
				7.2.2(B)		4:00	11:00						√						√						√						√					√	
				7.2.3		4:00	11:00						√						√						√						√					√	
			7.3	7.3.1(A)		4:00	13:00					√						√					√						√					√		
				7.3.1(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(A)	5,022.0	4:00	13:00					√						√					√						√					√		
				7.3.2(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(C)		4:00	13:00					√						√					√						√					√		
				7.3.3		4:00	13:00					√						√					√						√					√		
			7.4	7.4.1(A)		4:00	13:00				√						√						√	√					√					√		
				7.4.1(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.2(A)	0.0	4:00	13:00				√						√						√	√					√					√		
				7.4.2(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.3		4:00	13:00				√						√						√	√					√					√		
				7.4.4		4:00	13:00				√						√						√	√					√					√		
			10.1	10.1.1	777.6																															
			10.2	10.2.1(A)		15:00	20:00					√						√						√						√					√		
				10.2.1(B)		15:00	20:00					√						√						√						√					√		
				10.2.1(C)	4,327.0	15:00	20:00					√						√						√						√					√		
				10.2.2(A)		15:00	20:00				√						√						√						√					√		
				10.2.2(B)		15:00	20:00				√						√						√						√					√		
				10.2.2(C)		15:00	20:00				√						√						√						√					√		
			Old Network	1st Zone		6:00	8:00				√						√						√						√					√		
				2nd Zone		8:00	18:00				√						√						√						√					√		
				1st zone, 1st Shift		3:30	5:00			√						√						√						√					√				
				1st zone, 2nd Shift		7:00	8:00			√						√						√						√					√				
				1st zone, 3rd Shift		13:00	17:00			√						√						√						√					√				
				2nd Zone, 1st Shift		14:30	15:30						√						√						√						√					√	
				2nd Zone 2nd Shift		15:30	16:30						√						√						√						√					√	
				2nd Zone 3rd Shift	14,742.0	16:30	17:30						√						√						√						√					√	
				3rd Zone, 1st Shift		14:30	15:30				√						√						√						√					√		
				3rd Zone, 2nd Shift		15:30	16:30				√						√						√						√					√		
				3rd Zone, 3rd Shift		16:30	17:30				√						√						√						√					√		
				3rd Zone, 4th Shift		17:30	18:30				√						√						√						√					√		
				3rd Zone, 5th Shift		18:30	19:30				√						√						√						√					√		
				4th Zone, 1st Shift		14:30	17:00			√						√						√						√						√		
				4th Zone, 2nd Shift		15:30	17:00			√						√						√						√						√		
				5th Zone, 1st Shift		15:30	17:00				√						√						√						√					√		
			Outside Ring Road	1st Zone	16,200.0	5:15	8:00						√						√						√						√					√	
				2nd Zone		5:15	8:00			√						√						√						√						√				
Bansbari	54	1,300	Old Network	1st zone, 1st Shift		3:00	5:00				√						√						√						√					√		
				1st zone, 2nd Shift		9:00	11:00				√						√						√						√					√		
				1st zone, 3rd Shift		15:00	17:00				√						√						√						√					√		
				2nd Zone, 1st Shift		3:00	5:00					√						√						√						√					√	
				2nd Zone 2nd Shift		9:00	11:00					√						√						√						√					√	
				2nd Zone 3rd Shift		15:00	17:00					√						√						√						√					√	
				3rd Zone, 1st Shift		3:00	5:00						√						√						√						√					√	
				3rd Zone, 2nd Shift	17,010.0	9:00	11:00						√						√						√						√					√	
				4th Zone, 1st Shift		3:00	5:00	√						√						√						√						√					√
				4th Zone, 2nd Shift		9:00	11:00	√						√						√						√						√					√
				4th Zone, 3rd Shift		15:00	17:00	√						√						√						√						√					√
				5th Zone, 1st Shift		3:00	5:00		√						√						√						√						√				
				5th Zone, 2nd Shift		9:00	11:00		√						√						√						√						√				
				5th Zone, 3rd Shift		15:00	17:00		√						√						√						√						√				
				6th Zone, 1st Shift		18:00	22:00			√						√						√						√					√				
			Outside Ring Road	1st zone, 1st Shift		3:00	5:30		√					√						√					√						√						
				1st zone, 2nd Shift		14:00	15:30		√					√						√					√						√						
				1st zone, 3rd Shift		15:30	16:30		√					√						√					√						√						
				2nd Zone, 1st Shift		3:00	5:00			√					√					√						√						√					
				2nd Zone 2nd Shift	12,150.0	14:00	16:00			√					√					√						√						√					
				3rd Zone, 1st Shift		3:00	5:00				√					√						√						√						√		
				3rd Zone, 2nd Shift		14:00	16:00				√					√						√						√						√		
				4th Zone, 1st Shift		3:00	5:00					√					√					√						√					√			
				4th Zone, 2nd Shift		14:00	16:00					√					√					√						√					√			
				5th Zone, 1st Shift		3:00	5:00	√					√					√					√						√								√

Table 6.1.5 Water Supply Plan in Monsoon Season without Melamchi water (2/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																								
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Khumaltar	468	11,241	5.1	5.1.1	9,149.8	14:00	21:00							7							14							21							28			
				5.1.2		14:00	21:00							7							14							21							28			
				5.1.3		14:00	21:00							7							14							21							28			
			5.2	5.2.1	5,859.5	4:00	11:00						6							13						20							27				
				5.2.2		4:00	11:00						6							13						20							27				
				5.2.3		4:00	11:00						6							13						20							27				
			6.1	6.1(DNI)	5,938.9	19:00	6:00						6							13						20							27				
				6.1(DNI)		19:00	6:00							7							14							21							28			
			6.2	6.2(DNI)	7,385.6	18:00	6:00				4							11						18							25						
				6.2(DNI)		18:00	6:00					5							12							19							26					
			8.1	8.1 (DNI)	6,306.7	8:00	20:00					5							12							19							26					
			8.2	8.2 (DNI)	4,536.0	8:00	20:00					5							12							19							26					
			9.1	9.1.1	1,294.4	20:00	5:00								√							√							√							√		
				9.1.2	1,681.6	20:00	5:00								√							√							√							√		
				9.1.3	894.2	20:00	5:00								√							√							√							√		
			9.2	9.2.1	1,202.0	5:00	19:00							√							√							√							√		
				9.2.2	1,020.6	5:00	19:00							√							√							√							√		
				9.2.3	1,095.1	5:00	19:00							√							√							√							√		
				9.2.4	657.7	5:00	19:00							√							√							√							√		
				9.2.5	724.1	5:00	19:00							√							√							√							√		
				9.2.6	1,009.3	5:00	19:00							√							√							√							√		
				9.2.7	782.5	5:00	19:00							√							√							√							√		
			Old Network		0.0																																	
			Outside Ring Road	8.1 (20" KUKL)	11,980.0	6:00	14:00				4							11						18							25						
				8.1 (20" KUKL)		15:00	17:00				4							11						18							25						
				8.1 (20" KUKL)		7:00	16:00		2							9						16								23							30	
				8.1 (20" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	13:00							7							14							21							28			
Kirtipur	247	5,923	11.1	11.1.1	3,361.5	18:00	6:00	√						√						√					√						v	√						√
			11.2	11.2.1	2,723.2	18:00	6:00						√						√						√					√						v		
			11.3	11.3.1	2,723.2	18:00	6:00					√						√						√					√						v			
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network		7,128.0	7:00	17:00																															
			Siwalaya System	Siwalaya 1		7:00	12:30							√							√							√							√			
				Siwalaya 1		7:00	9:40	√							√							√							√							√			
			Bhajangal System	Bhajangal R1		4:00	8:40	√				√			√				√			√				√			√				√			√			
				Bhajangal R2		5:00	5:40	√		√					√		√					√		√					√		√					√			√
				Bhajangal R3		5:00	8:40	√			√				√			√				√			√					√			√				√		
				Bhajangal R4		5:00	5:40		√					√		√						√		√				√		√					√		√	
						18:30	20:00		√					√		√						√		√				√		√					√		√	
				Bhajangal R5		6:00	8:40		√			√				√			√				√			√				√			√				√	
				Bhajangal D		8:00	14:40			√			√				√			√				√			√				√			√				√
				Bhajangal K		8:00	11:20				√			√				√			√				√			√				√			√			
				Gurung Compound		14:40	18:00				√							√							√							√						
			Chilancho System	Chilancho 1		4:00	7:30	√				√			√				√			√				√			√				√			√		
						21:00	22:00	√				√			√				√			√				√			√				√			√		
				Chilancho 2		6:00	9:00		√				√			√				√			√				√			√				√			√	
						19:30	20:00		√				√			√				√			√				√			√				√			√	
				Chilancho 3		4:00	8:00				√			√				√			√				√			√				√			√		
				Chilancho 4		16:00	19:00	√				√		√	√			√	√		√	√			√	√		√	√			√	√		√	√		
				Chilancho 5		14:30	18:30		√				√	√		√		√		√	√		√		√		√	√		√		√		√		√		
				Chilancho 6		14:15	18:00				√			√				√							√				√			√			√			
			Devdhoka System	Devdhoka 1	17,097.0	6:00	15:00	√							√							√							√							√		
						12:00	15:00	√							√							√							√							√		
				Devdhoka 2		6:00	19:00		√							√							√							√							√	
						15:00	19:00		√							√							√							√							√	
				Devdhoka 3		6:00	11:00			√							√							√							√							√
						13:00	14:00			√							√							√							√							√
				Devdhoka 4		6:00	10:00				√							√							√							√						
				Devdhoka 5		6:00	9:00					√							√							√							√						
						12:00	15:30					√							√														√						
				Devdhoka 6		6:00	9:00						√							√							√							√				
						15:00	18:30						√							√							√							√				
				Devdhoka 7		6:00	21:00							√							√							√							√			
						15:00	18:30							√							√							√							√			
			Kwacho System	Kwacho 1		4:00	6:30	√				√			√				√			√				√			√				√			√		
						18:30	19:30	√				√			√				√			√				√			√				√			√		
				Kwacho 2		3:00	6:30		√				√			√				√			√				√			√				√			√	
				Kwacho 3		4:00	5:30			√				√			√				√			√				√			√				√			√
			Jakha System	Water is used when local																																		
			Nagau System	Nagau 1 (8 area)		5:00	9:00	√		√		√			√		√		√			√		√		√			√		√		√			√			√
				Nagau 2 (8 area)		5:00	9:00		√		√		√			√		√			√		√		√		√			√		√		√			√		
Mahankalchaur	348	8,344	2.1	2.1.1(A)	649.0	11:00	14:00	√						√							√						√					√						
				2.1.1(B)	701.5	11:00	14:00	√						√							√						√					√						
				2.1.2(A)	895.9	11:00	14:00	√						√							√						√					√						
				2.1.2(B)	218.7	11:00	14:00	√						√							√						√					√						
				2.1.3(A)	823.0	11:00	14:00	√						√							√						√					√						
				2.1.3(B)	473.0	11:00	14:00	√						√							√						√					√						
				2.1.4	452.0	11:00	14:00	√						√							√						√					√						
			2.2	2.2.1	1,247.4	13:00	22:00			√						√						√						√						√			
				2.2.2	1,412.6	13:00	22:00			√						√						√						√						√			
				2.2.3	3,222.2	13:00	22:00			√						√						√						√						√			
				2.2.4	994.7	13:00	22:00			√						√						√						√						√			
			2.3	2.3.1(A)	826.2	22:00	1:00		√						√						√						√					√					
				2.3.1(B)	954.2	22:00	1:00		√						√						√						√					√					
			2.4	2.4.1(A)	832.7	14:00	20:00	√						√						√					√						√						
				2.4.1(B)	772.7	14:00	20:00	√						√						√					√						√						
				2.4.1(C)	1,190.7	14:00	20:00	√						√						√					√						√						

Table 6.1.6 Water Supply Plan in Monsoon Season without Melamchi water (3/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																													
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
			3.1	3.1.1(A)	672.3	11:00	17:00		√						√						√						√						√					
				3.1.1(B)	588.1	11:00	17:00		√						√						√						√						√					
				3.1.1(C)	563.8	11:00	17:00		√						√						√						√						√					
				3.1.2(A)	814.9	11:00	17:00		√						√						√						√						√					
				3.1.2(B)	988.2	11:00	17:00		√						√						√						√						√					
				3.1.2(C)	738.7	11:00	17:00		√						√						√						√						√					
			3.2	3.2.1(A)	675.5	6:00	12:00			√						√						√						√						√				
				3.2.1(B)	464.9	6:00	12:00			√						√						√						√						√				
				3.2.1(C)	774.4	6:00	12:00			√						√						√						√						√				
				3.2.2(A)	776.0	6:00	12:00			√						√						√						√						√				
				3.2.2(B)	784.1	6:00	12:00			√						√						√						√						√				
				3.2.2(C)	798.7	6:00	12:00			√						√						√						√						√				
			3.3	3.3.1(A)	652.9	15:00	21:00		√						√						√						√						√					
				3.3.1(B)	863.5	15:00	21:00		√						√						√						√						√					
				3.3.1(C)	814.9	15:00	21:00		√						√						√						√						√					
				3.3.1(D)	779.2	15:00	21:00		√						√						√						√						√					
				3.3.1(E)	626.9	15:00	21:00		√						√						√						√						√					
			3.4	3.4.1(A)	868.3	20:00	23:00	√						√					√					√							√							
				3.4.1(B)	589.7	20:00	23:00	√						√					√					√							√							
			3.5	3.5.1(A)	802.6	4:00	10:00		√						√						√						√						√					
				3.5.1(B)	950.9	4:00	10:00		√						√						√						√						√					
				3.5.2	618.8	4:00	10:00		√						√						√						√						√					
			Old Network	Zone 1 a	16,119.0	8:00	10:00		√			√			√			√			√			√			√			√			√			√		
				Zone 1 b		16:00	19:00		√			√			√			√			√			√			√			√			√			√		
				Zone 2		4:00	8:00			√			√			√			√			√			√			√			√			√			√	
				Zone 3 a		11:00	13:00	√			√			√			√			√			√			√			√			√			√			√
				Zone 3 b		13:00	16:00	√			√			√			√			√			√			√			√			√			√			√
			Outside Ring Road	Zone 1-gravity	19,846.4																																	
				Zone 2-gravity																																		
				Zone 3 a-pumping																																		
				Zone 3 b-pumping																																		
				Zone 3 c-pumping																																		
				Zone 3 d-pumping																																		
				Zone 3 e-pumping																																		
				Zone 3 f-pumping																																		
				Zone 3 g-pumping																																		
Minbhawan	62	1,480	Demo Area	Zone 1	8,100.0	10:00	12:30						√						√						√					√						√	
				Zone 2		18:00	20:30						√						√						√					√						√	
				Zone3		5:00	8:00	√						√						√						√						√						√
				Zone 4		15:00	18:00	√						√						√						√						√						√
				Zone 5		5:00	8:00		√						√						√						√						√					
				Zone 6		12:00	16:00		√						√						√						√						√					
Panipokhari	155	3,710	1.1	1.1.1	1,853.3	4:00	22:00							√						√						√						√					√
				1.1.2										√						√						√						√					√
				1.1.3										√						√						√						√					√
			1.2	1.2.1	3,659.6	4:00	7:00								√						√						√						√				
				1.2.2											√						√						√						√				
				1.2.3(A)											√						√						√						√				
				1.2.3(B)											√						√						√						√				
			1.3	1.3.1	5,268.2	14:00	21:00							√						√						√						√					√
				1.3.2(A)		14:00	21:00							√						√						√						√					√
				1.3.2(B)		14:00	21:00							√						√						√						√					√
				1.3.2(C)		14:00	21:00							√						√						√						√					√
			1.4	1.4.1	4,639.7	13:00	19:00						√						√					√					√						√	
				1.4.2		13:00	19:00						√						√					√					√						√	
			1.5	1.5.1	424.4	5:00	13:00							√						√						√						√					√
				1.5.2	591.3	5:00	13:00							√						√						√						√					√
				1.5.3	625.3	5:00	13:00							√						√						√						√					√
Tigeni	50	1,199	Outside Ring Road	1st zone	26,886.0	4:00	11:00		√							√						√							√						√	
				2nd zone		4:00	11:00			√							√						√							√						√
				3rd zone		4:00	11:00				√							√						√							√						
				4th zone		4:00	11:00					√							√						√							√					
				5th zone		4:00	11:00						√							√						√							√				
				6th zone		4:00	11:00							√							√						√							√			
				7th zone		4:00	11:00	√							√							√						√							√			
Katunje	167	4,014	Outside Ring Road	1st zone	21,967.0	13:00	20:00		√						√						√						√						√				
				2nd zone						√						√						√						√						√				
				3rd zone					√						√						√						√						√				
				4th zone		14:00	17:00		√			√			√			√				√			√			√			√			√			√	
				5th zone		8:00	12:00	√						√						√						√						√						√
				6th zone				√						√						√						√						√						√
				7th zone				√						√						√						√						√						√
				8th zone		6:00	10:00			√			√			√			√			√			√			√			√			√			
				9th zone		8:00	11:00		√							√						√						√						√				
		48,000		Total	317,550.0																																

7. Actions to be taken by KUKL

In the technical cooperation project by JICA, indicators are established to measure the achievement of Output 1 and the project purpose.

Both indicators must be achieved by December 2026, when the technical cooperation project concludes.

[Output 1]

The capacity of water distribution management utilizing GIS is enhanced.

Indicator 1-3: The water distribution plan for maintaining fair supply hour is prepared for the DMAs within the Ring Road.

[Project Purpose]

The KUKL's capacity of operation and maintenance of water supply is improved.

Indicator 1: The water distribution management plan for fair water supply is implemented in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

Indicator 2: Water supply hours are fair in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

To achieve the above-mentioned indicators, KUKL should implement the following actions:

7.1 Actions to be taken by Production Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-1: Monthly water inflow at each SRT from BDS
(Table 7.1.1, Table 7.1.2, Figure 7.1.1, Figure 7.1.2)

PI-2: Monthly water inflow per customer at each SRT from BDS
(Table 7.1.3, Figure 7.1.3)

PI-3: Water losses in BDS between New Sundarijal WTP and each SRT
(Table 7.1.2)

Table 7.1.1 Monitoring Format of Monthly Inflow by SRT wise (1/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Baisakh		Jestha		Asadh		Shrawan		Bhadra		Ashwin	
				14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	15164	3	231591	46	129935	26	114419	23	131183	26	372,456	74
Balaju (New)	15,556	291,578	1,098,464	237048	15	280865	18	184668	12	199020	13	181238	12	230070	15
Balaju (Old)	19,100			298687	16	239059	13	115738	6	0	0	202898	11	351175	18
Bansbari (Old)	18,000	30,605	265,132	291703	16	293788	16	44799	2	0	0	317	0	6784	0
Khumaltar	37,974	319,495	1,203,634	1023350	27	1146020	30	662190	17	734120	19	764932	20	802258	21
Kirtipur	19,949	168,358	634,255	323657	16	329460	17	198622	10	237609	12	216165	11	249046	12
Mahankalchaur (New)	19,731	291,538	1,098,313	467845	24	516628	26	225886	11	287506	15	450396	23	466119	24
Mahankalchaur (Old)	34,651	33,548	134,298	431083	12	442614	13	72781	2	0	0	303	0	162782	5
Minbhawan	5,000	42,067	158,481	236571	47	136076	27	58780	12	108294	22	119345	24	150899	30
Panipokhari (New)	10,532	105,438	397,217	137442	13	133258	13	87793	8	88573	8	95710	9	111872	11
Panipokhari (Old)	2,000			37848	19	21103	11	7043	4	17084	9	11696	6	14515	7
Tigeni	16,596	28,218	283,640	-	-	-	-	-	-	-	-	344	0	483	0
Katunje	13,560	114,086	429,797	0	0	328681	24	180919	13	154526	11	166588	12	208998	15
Average				291,700	17	341,595	21	164,096	10	161,763	11	180,086	12	240,574	18

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

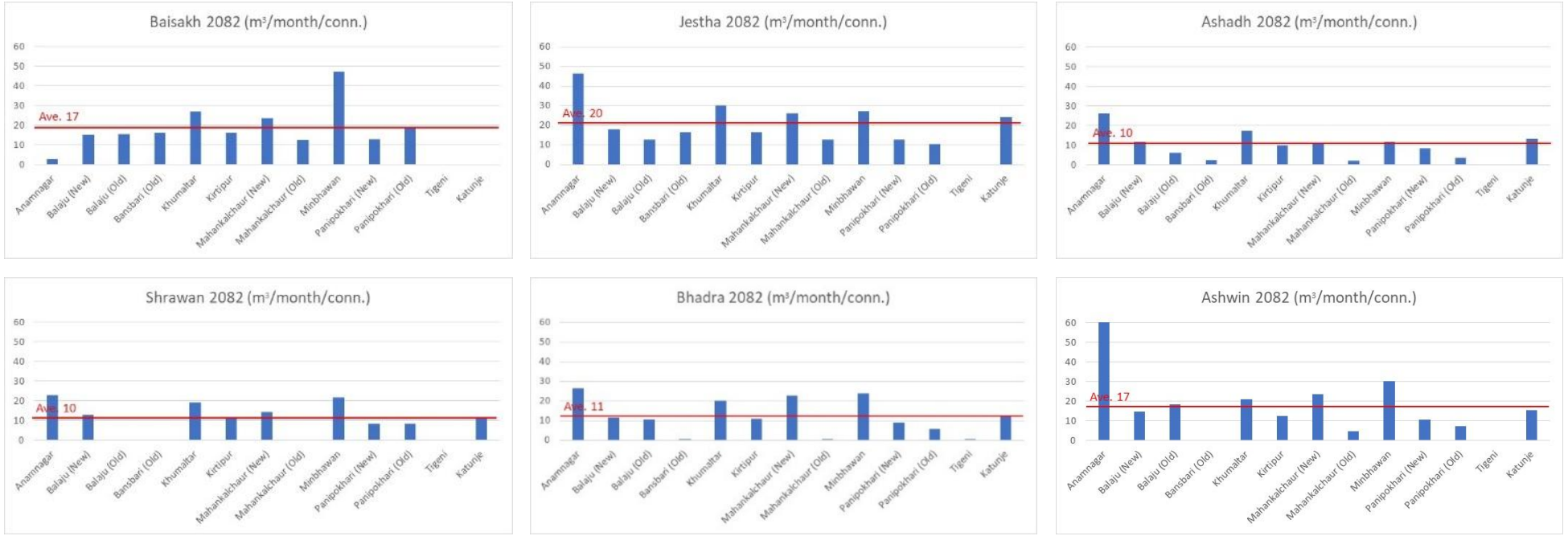


Figure 7.1.1 Change of Monthly Inflow by SRT wise (1/2)

Table 7.1.2 Monitoring Format of Monthly Inflow by SRT wise (2/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Kartik		Mangsir		Poush			Magh		Falgun		Chaitra	
				18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25		14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	14-Mar-26	15-Mar-26	13-Apr-26
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow		Inflow		Inflow			Inflow		Inflow		Inflow	
				(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	Local sources	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	182330	36	143,488	29	220,633		44		0		0		0
Balaju (New)	15,556	291,578	1,098,464	326808	21	363,390	23	414,438		27		0		0		0
Balaju (Old)	19,100			438440	23	460,982	24	585,595		31		0		0		0
Bansbari (Old)	18,000	30,605	265,132	64275	4	102,621	6	292,397	104,400	22		0		0		0
Khumaltar	37,974	319,495	1,203,634	972150	26	1,016,340	27	1,227,320		32		0		0		0
Kirtipur	19,949	168,358	634,255	335258	17	347,178	17	424,761		21		0		0		0
Mahankalchaur (New)	19,731	291,538	1,098,313	477628	24	522,914	27	618,450		31		0		0		0
Mahankalchaur (Old)	34,651	33,548	134,298	411567	12	441,275	13	487,527	681,500	34		0		0		0
Minbhawan	5,000	42,067	158,481	195975	39	140,311	28	234,816		47		0		0		0
Panipokhari (New)	10,532	105,438	397,217	192052	18	213,775	20	227,497		22		0		0		0
Panipokhari (Old)	2,000			24593	12	27277	14	53,189		27		0		0		0
Tigeni	16,596	28,218	283,640	469	0	288,000	17	288,000	161,994	27		0		0		0
Katunje	13,560	114,086	429,797	350301	26	344,498	25	398,271	-76,560	24		0		0		0
Average				305,527	20	339,388	21	420,992		30		0		0		0

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

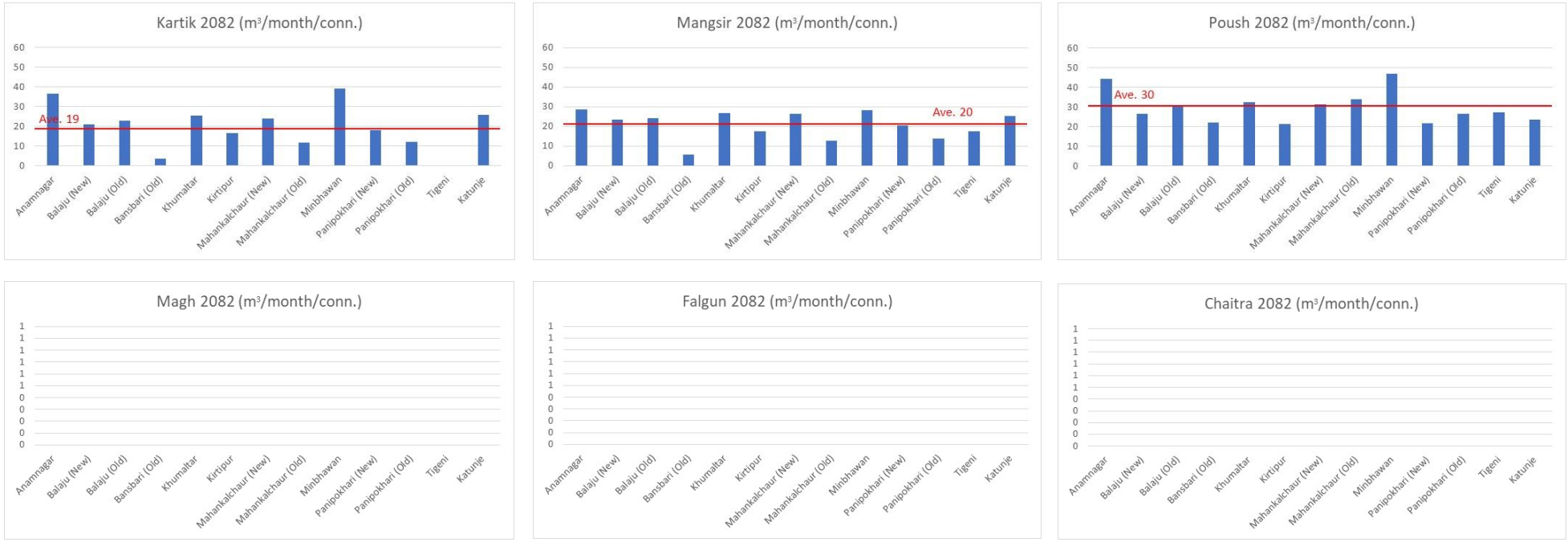


Figure 7.1.2 Change of Monthly Inflow by SRT wise (2/2)

Table 7.1.3 Monitoring Format of Water Loss in BDS

Description	Unit	January/2025	February/2025	March/2025	April/2025	May/2025	June/2025
Total Water transmitted from New Sundarijal WTP	m3						
Total water received by SRTs	m3						
Water losses in BDS	m3						
Wate losses ratio	%						
Description	Unit	July/2025	August/2025	September/2025	October/2025	November/2025	December/2025
Total Water transmitted from New Sundarijal WTP	m3	1,104,558.54	2,541550.32	2,819,664.66	4,337,372.36	4402496.86	5m796,124.00
Total water received by SRTs	m3	2,294,058.00	2,421495.00	2,707,171.00	4,290,970.00	4412049	5,691,271.00
Water losses in BDS	m3	-1,189,499.46	120,055.32	112,493.66	46,402.36	-9,552.14	104,853.00
Wate losses ratio	%	-107.69	4.72	3.99	1.07	-0.22	1.81

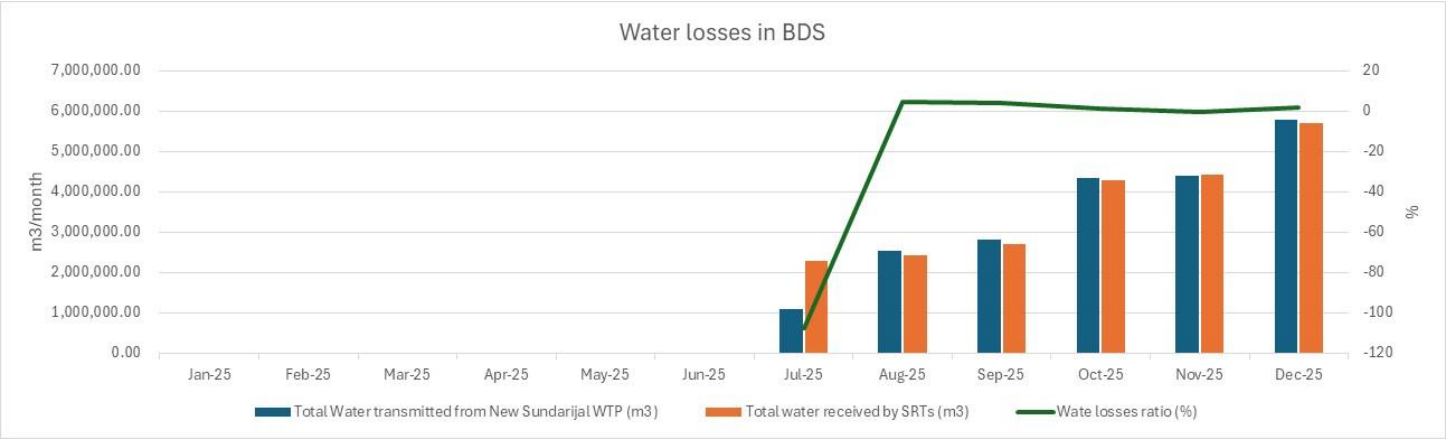


Figure 7.1.3 Change of Water Losses in BDS

7.2 Actions to be taken by Operation Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-4: Daily water supply volume as average at each DMA or sub-DMA and the volume per connection (Table 7.2.1, Figure 7.2.1, Figure 7.2.2)

[Responsibilities of the Operation Division]

- The Operations Division monitors the number of customers and water distribution volumes for each DMA on a monthly basis.
- The Operation Division monitors an indicator (PI-4) calculated by dividing the water distribution volume per DMA by the number of customers on a monthly basis.
- Using the Indicator PI-4. evaluate the feasibility of achieving equitable water distribution. If significant inequities arise or significant fluctuations occur, review the water distribution volume and distribution times for each DMA.

In addition to those main actions, the Operation division shall take responsibility for daily maintenance of SRTs. The operation division is required to take a record of the following monitoring.

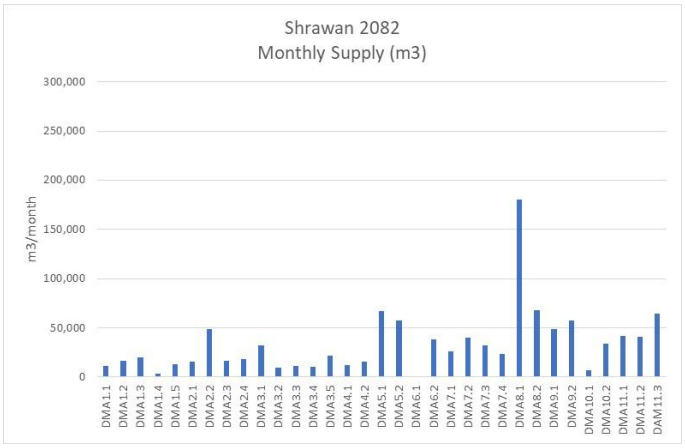
PI-5: Operation and Maintenance Status of each SRT (Table 7.2.2, Table 7.2.3)

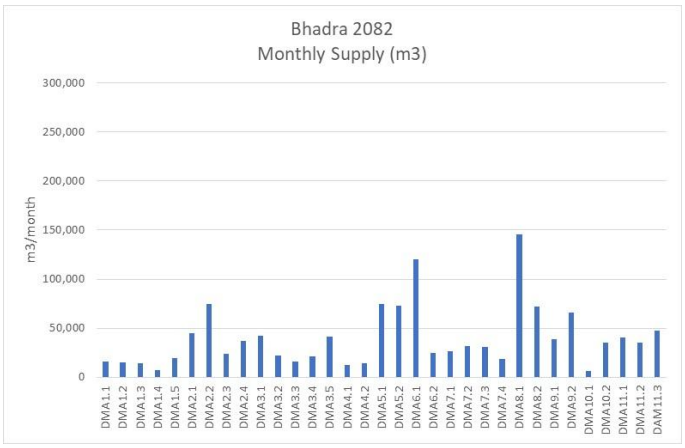
Action-1: Allocate the responsible operator (Everyday)
Action-2: Prepare a Standard Operation Procedure (SOP) for each SRT (Everyday)
Action-3: Cleaning work of the inside of valve chambers (2 times per month)
Action-4: Inspection of air valves at the outlet chamber (2 time per month)
Action-5: Cleaning work of the inside of reservoirs (1 time per year)
Action-6: Inspection of the inside of reservoirs (1 time per year)
Action-7: Water quality test (Everyday)

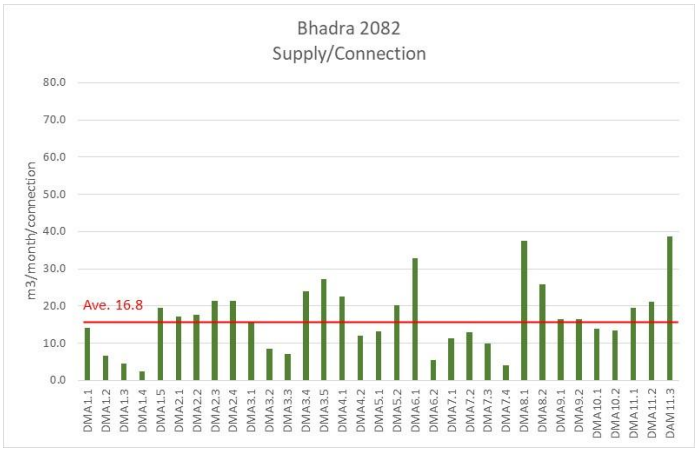
Table 7.2.1 Monitoring Format of Water Supply Volume by DMA wise

Year:2082	1	1		2		3		4		5		6		7		8		9		10		11		12	
	Baisakha	Baisakha		Jestha		Asadh		Shrawan		Bhadra		Ashwin		Kartik		Mangsir		Poush		magh		Falgun		Chaitra	
DMA	No. of Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection
DMA1.1	1,144	21,648	18.9	13,221	11.6	6,092	5.3	11,017	9.6	16,049	14.0	13,973	12.2	27,747	24.3	29,252	25.6	29,370	25.7	0	0.0	0	0.0	0	0.0
DMA1.2	2,259	25,922	11.5	35,173	15.6	19,444	8.6	16,136	7.1	15,011	6.6	18,217	8.1	28,727	12.7	37,082	16.4	41,999	18.6	0	0.0	0	0.0	0	0.0
DMA1.3	3,252	37,697	11.6	24,193	7.4	15,796	4.9	19,892	6.1	14,553	4.5	16,613	5.1	50,400	15.5	62,017	19.1	56,966	17.5	0	0.0	0	0.0	0	0.0
DMA1.4	2,864	5,717	2.0	4,591	1.6	1,946	0.7	3,314	1.2	7,159	2.5	6,845	2.4	5,161	1.8	19,453	6.8	8,288	2.9	0	0.0	0	0.0	0	0.0
DMA1.5	1,013	26,675	26.3	19,455	19.2	15,818	15.6	13,108	12.9	19,660	19.4	18,398	18.2	25,601	25.3	40,877	40.4	32,025	31.6	0	0.0	0	0.0	0	0.0
DMA2.1	2,601	41,335	15.9	48,209	18.5	18,312	7.0	15,388	5.9	44,703	17.2	52,792	20.3	73,993	28.4	99,200	38.1	85,590	32.9	0	0.0	0	0.0	0	0.0
DMA2.2	4,245	97,828	23.0	88,406	20.8	35,715	8.4	48,721	11.5	74,516	17.6	96,162	22.7	96,259	22.7	125,271	29.5	67,604	15.9	0	0.0	0	0.0	0	0.0
DMA2.3	1,099	23,446	21.3	27,561	25.1	7,506	6.8	16,152	14.7	23,541	21.4	16,114	14.7	21,198	19.3	34,262	31.2	32,861	29.9	0	0.0	0	0.0	0	0.0
DMA2.4	1,726	27,410	15.9	31,419	18.2	16,988	9.8	18,450	10.7	36,817	21.3	28,018	16.2	27,321	15.8	35,194	20.4	43,056	24.9	0	0.0	0	0.0	0	0.0
DMA3.1	2,695	59,187	22.0	52,864	19.6	26,607	9.9	32,091	11.9	42,450	15.8	41,410	15.4	45,549	16.9	60,547	22.5	82,687	30.7	0	0.0	0	0.0	0	0.0
DMA3.2	2,638	19,912	7.5	16,719	6.3	7,802	3.0	9,946	3.8	22,357	8.5	21,939	8.3	30,817	11.7	44,383	16.8	1,980	0.8	0	0.0	0	0.0	0	0.0
DMA3.3	2,307	19,119	8.3	12,201	5.3	13,993	6.1	11,359	4.9	16,331	7.1	10,784	4.7	6,494	2.8	13,961	6.1	6,345	2.8	0	0.0	0	0.0	0	0.0
DMA3.4	900	25,964	28.8	22,342	24.8	9,682	10.8	10,516	11.7	21,542	23.9	20,233	22.5	23,032	25.6	33,976	37.8	22,445	24.9	0	0.0	0	0.0	0	0.0
DMA3.5	1,520	30,491	20.1	29,776	19.6	19,133	12.6	21,938	14.4	41,349	27.2	25,625	16.9	51,037	33.6	37,626	24.8	28,972	19.1	0	0.0	0	0.0	0	0.0
DMA4.1	569	20,624	36.2	20,328	35.7	16,961	29.8	12,591	22.1	12,792	22.5	15,569	27.4	19,270	33.9	16,257	28.6	27,560	48.4	0	0.0	0	0.0	0	0.0
DMA4.2	1,222	32,362	26.5	29,019	23.7	19,335	15.8	15,577	12.7	14,663	12.0	19,796	16.2	25,419	20.8	20,552	16.8	23,110	18.9	0	0.0	0	0.0	0	0.0
DMA5.1	5,648	104,751	18.5	113,842	20.2	66,889	11.8	67,444	11.9	74,886	13.3	76,034	13.5	117,202	20.8	160,002	28.3	148,855	26.4	0	0.0	0	0.0	0	0.0
DMA5.2	3,617	73,329	20.3	94,180	26.0	42,194	11.7	57,770	16.0	72,932	20.2	58,361	16.1	75,219	20.8	120,350	33.3	107,295	29.7	0	0.0	0	0.0	0	0.0
DMA6.1	3,666	92,386	25.2	225,885	61.6	45,045	12.3	0	0.0	120,495	32.9	157,296	42.9	144,778	39.5	169,591	46.3	211,028	57.6	0	0.0	0	0.0	0	0.0
DMA6.2	4,559	20,120	4.4	107,860	23.7	51,579	11.3	38,735	8.5	24,491	5.4	53,359	11.7	7,525	1.7	63,393	13.9	23,176	5.1	0	0.0	0	0.0	0	0.0
DMA7.1	2,350	42,330	18.0	34,721	14.8	21,020	8.9	25,749	11.0	26,498	11.3	35,978	15.3	33,058	14.1	44,179	18.8	37,704	16.0	0	0.0	0	0.0	0	0.0
DMA7.2	2,480	44,289	17.9	38,732	15.6	24,663	9.9	39,861	16.1	32,022	12.9	29,824	12.0	42,822	17.3	89,470	36.1	49,134	19.8	0	0.0	0	0.0	0	0.0
DMA7.3	3,100	33,038	10.7	55,121	17.8	27,045	8.7	32,592	10.5	30,638	9.9	29,986	9.7	48,528	15.7	50,049	16.1	52,972	17.1	0	0.0	0	0.0	0	0.0
DMA7.4	4,475	46,350	10.4	34,726	7.8	31,530	7.0	23,479	5.2	18,656	4.2	45,727	10.2	55,808	12.5	91,910	20.5	81,872	18.3	0	0.0	0	0.0	0	0.0
DMA8.1	3,893	243,448	62.5	253,177	65.0	111,160	28.6	180,034	46.2	145,776	37.4	168,523	43.3	211,259	54.3	274,338	70.5	256,717	65.9	0	0.0	0	0.0	0	0.0
DMA8.2	2,800	112,901	40.3	86,608	30.9	70,131	25.0	67,884	24.2	72,491	25.9	81,403	29.1	72,187	25.8	76,861	27.5	72,160	25.8	0	0.0	0	0.0	0	0.0
DMA9.1	2,389	113,632	47.6	108,407	45.4	60,422	25.3	49,032	20.5	39,160	16.4	51,395	21.5	58,327	24.4	81,353	34.1	99,425	41.6	0	0.0	0	0.0	0	0.0
DMA9.2	4,007	95,662	23.9	96,331	24.0	63,773	15.9	57,680	14.4	65,922	16.5	74,004	18.5	70,840	17.7	134,651	33.6	133,988	33.4	0	0.0	0	0.0	0	0.0
DMA10.1	480	9,223	19.2	10,751	22.4	4,883	10.2	7,236	15.1	6,646	13.8	7,211	15.0	28,696	59.8	16,266	33.9	23,945	49.9	0	0.0	0	0.0	0	0.0
DMA10.2	2,671	55,874	20.9	53,489	20.0	33,176	12.4	33,812	12.7	35,507	13.3	44,055	16.5	77,317	28.9	59,582	22.3	85,442	32.0	0	0.0	0	0.0	0	0.0
DMA11.1	2,075	39,163	18.9	34,347	16.6	28,235	13.6	42,134	20.3	40,646	19.6	33,276	16.0	43,180	20.8	60,738	29.3	53,179	25.6	0	0.0	0	0.0	0	0.0
DMA11.2	1,681	48,781	29.0	27,279	16.2	20,924	12.4	41,258	24.5	35,708	21.2	31,406	18.7	30,385	18.1	55,741	33.2	53,264	31.7	0	0.0	0	0.0	0	0.0
DAM11.3	1,239	92,592	74.7	75,878	61.2	49,886	40.3	64,198	51.8	47,964	38.7	62,830	50.7	123,897	100.0	132,456	106.9	176,441	142.4						
Total / Avarage	81,945	1,690,614	23.0	1,850,933	23.1	953,799	12.7	1,040,896	14.3	1,265,967	16.8	1,400,326	17.9	1,675,154	24.3	2,258,383	29.9	2,081,013	29.8	0	0.0	0	0.0	0	0.0
More than 1.5 times of Average			4		4		4		4		4		4		3		2		4		32		32		32
Less than 1/2 of Average			7		5		5		7		6		5		4		3		4		32		32		32

Figure 7.2.1 Monitoring Graph of Water Supply Volume by DMA wise (1/2)







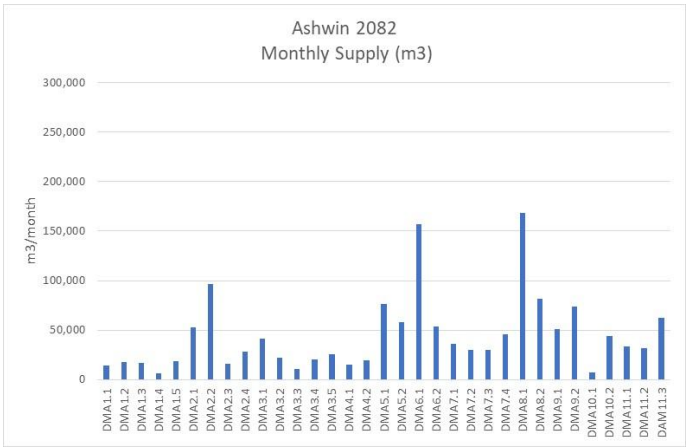


Figure 7.2.2 Monitoring Graph of Water Supply Volume by DMA wise (2/2)

Table 7.2.2 Monitoring Record of Operation & Maintenance of SRTs (1/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Anamnagar (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Arubari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Khumaltar (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Kirtipur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Mahankalchaur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

Table 7.2.3 Monitoring Record of Operation & Maintenance of SRTs (2/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Mahankalchaur (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Minbhawan (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Tigeni																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Katunje																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

7.3 Actions to be taken by each Branch Office

Improvements in water supply services should not be evaluated solely based on water volume. By accurately notifying customers of water delivery schedule and ensuring KUKL operators adhere to these schedules, customer satisfaction can be enhanced.

From this perspective, at the branch office level, efforts must be made to reduce customer complaints by verifying monthly whether any complaints are received regarding the pre-planned water supply schedule.

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicator must be monitored by each branch manager.

PI-6: Number of grievances about water supply hour especially the gap between standard supply hour and real supply hour (Table 7.3.1, Table 7.3.2)

Action-1: The branch manager must accurately track the number of customers within the DMA under their branch's jurisdiction.

Action-2: Report the number of customers per DMA required for the monitoring sheets created by the Operation Division and Production Division to the responsible personnel at headquarters.

Action-3: Valve operators shall be assigned to accurately open and close valves according to the water supply schedule determined in this main water distribution management plan.

Action-4: Analyze customer complaints and requests received by the branch office each month, and tally the number of complaints and requests regarding the accuracy of the water supply schedule.

Action-5: Achieve a 100% water meter installation rate for customers within the DMA.

Action-6: Achieve a 100% water meter reading rate for customers within the DMA.

Action-7: Measure turbidity and residual chlorine at the locations specified by the Central Laboratory at the prescribed frequency and report the results to the Central Laboratory.

Table 7.3.1 Monitoring Record of Grievances about Water Supply Hour (1/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
1.1	1.1.1	Maharajgunj	5:00	14:00																												
1.1	1.1.2	Maharajgunj	5:00	14:00																												
1.1	1.1.3	Maharajgunj	5:00	14:00																												
1.2	1.2.1	Maharajgunj	9:00	16:00																												
1.2	1.2.2	Baneshwor	9:00	16:00																												
1.2	1.2.3(A)	Maharajgunj	9:00	16:00																												
1.2	1.2.3(B)	Maharajgunj	9:00	16:00																												
1.3	1.3.1	Tripureshwor	12:00	21:00																												
1.3	1.3.2(A)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(B)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(C)	Tripureshwor	12:00	21:00																												
1.4	1.4.1	Tripureshwor	15:00	21:00																												
1.4	1.4.2	Tripureshwor	15:00	21:00																												
1.5	1.5.1	Tripureshwor	5:00	15:00																												
1.5	1.5.2	Tripureshwor	5:00	15:00																												
1.5	1.5.3	Tripureshwor	5:00	15:00																												
2.1	2.1.1(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.1(B)	Maharajgunj	6:00	12:00																												
2.1	2.1.1(B)	Mahankal	6:00	12:00																												
2.1	2.1.2(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.2(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.4	Mahankalchaur	6:00	12:00																												
2.2	2.2.1	Baneshwor	14:00	20:00																												
2.2	2.2.2	Baneshwor	14:00	20:00																												
2.2	2.2.3	Baneshwor	14:00	20:00																												
2.2	2.2.4	Baneshwor	14:00	20:00																												
2.3	2.3.1(A)	Baneshwor	5:00	12:00																												
2.3	2.3.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Mahankal	5:00	12:00																												
2.4	2.4.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(C)	Baneshwor	5:00	12:00																												
3.1	3.1.1(A)	Baneshwor	14:00	21:00																												
3.1	3.1.1(B)	Baneshwor	14:00	21:00																												
3.1	3.1.1(C)	Baneshwor	14:00	21:00																												
3.1	3.1.2(A)	Baneshwor	14:00	21:00																												
3.1	3.1.2(B)	Baneshwor	14:00	21:00																												
3.1	3.1.2(C)	Baneshwor	14:00	21:00																												
3.2	3.2.1(A)	Baneshwor	5:00	12:00																												
3.2	3.2.1(B)	Baneshwor	5:00	12:00																												
3.2	3.2.1(C)	Baneshwor	5:00	12:00																												
3.2	3.2.2(A)	Baneshwor	5:00	12:00																												
3.2	3.2.2(B)	Baneshwor	5:00	12:00																												
3.2	3.2.2(C)	Baneshwor	5:00	12:00																												
3.3	3.3.1(A)	Baneshwor	14:00	20:00																												
3.3	3.3.1(B)	Baneshwor	14:00	20:00																												
3.3	3.3.1(C)	Baneshwor	14:00	20:00																												
3.3	3.3.1(D)	Baneshwor	14:00	20:00																												
3.3	3.3.1(E)	Baneshwor	14:00	20:00																												
3.4	3.4.1(A)	Baneshwor	9:00	15:00																												
3.4	3.4.1(B)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Maharajgunj	9:00	15:00																												
3.5	3.5.1(B)	Baneshwor	9:00	15:00																												
3.5	3.5.2	Baneshwor	9:00	15:00																												
3.5	3.5.2	Maharajgunj	9:00	15:00																												
4.1	4.1.1	Baneshwor	12:00	16:00																												
4.1	4.1.2	Baneshwor	12:00	16:00																												
4.2	4.2.1	Tripureshwor	11:00	20:00																												
4.2	4.2.2	Tripureshwor	11:00	20:00																												
4.2	4.2.3	Tripureshwor	11:00	20:00																												
5.1	5.1.1	Lalitpur	20:00	8:00																												
5.1	5.1.2	Lalitpur	20:00	8:00																												
5.1	5.1.3	Lalitpur	20:00	8:00																												
5.2	5.2.1(A)	Lalitpur	20:00	8:00																												
5.2	5.2.1(B)	Lalitpur	20:00	8:00																												
5.2	5.2.1(C)	Lalitpur	20:00	8:00																												
5.2	5.2.1(D)	Lalitpur	20:00	8:00																												
5.2	5.2.2(A)	Lalitpur	20:00	8:00																												
5.2	5.2.2(B)	Lalitpur	20:00	8:00																												
5.2	5.2.2(C)	Lalitpur	20:00	8:00																												
5.2	5.2.2(D)	Lalitpur	20:00	8:00																												
5.2	5.2.2(E)	Lalitpur	20:00	8:00																												
5.2	5.2.3(A)	Lalitpur	20:00	8:00																												
5.2	5.2.3(B)	Lalitpur	20:00	8:00																												
6.1	6.1.1(A)	Lalitpur	6:00	20:00																												
6.1	6.1.1(B)	Lalitpur	6:00	20:00																												
6.1	6.1.2	Lalitpur	6:00	20:00																												
6.1	6.1.3	Lalitpur	6:00	20:00																												
6.2	6.2.1	Lalitpur	17:00	8:00																												
6.2	6.2.2	Lalitpur	17:00	8:00																												
6.2	6.2.3	Lalitpur	17:00	8:00																												
7.1	7.1.1	Maharajgunj	17:00	22:00																												
7.1	7.1.2	Chhetrapati	17:00	22:00																												
7.2	7.2.1(A)	Chhetrapati	7:00	12:00																												
7.2	7.2.1(B)	Chhetrapati	7:00	12:00																												
7.2	7.2.2(A)	Maharajgunj	7:00	12:00																												
7.2	7.2.2(B)	Maharajgunj	7:00	12:00																												
7.2	7.2.3	Maharajgunj	7:00	12:00																												
7.3	7.3.1(A)	Chhetrapati	7:00	12:00																												
7.3	7.3.1(B)	Chhetrapati	7:00	12:00																												
7.3	7.3.2	Chhetrapati	7:00	12:00																												
7.3	7.3.3	Maharajgunj	7:00	12:00																												
7.4	7.4.1(A)	Chhetrapati	7:00	12:00																												
7.4	7.4.1(B)	Chhetrapati	7:00	12:00																												
7.4	7.4.2(A)	Chhetrapati	7:00	12:00																												
7.4	7.4.2(A)	Lalitpur	7:00	12:00																												
7.4	7.4.2(B)	Chhetrapati	7:00	12:00																												
7.4	7.4.3	Chhetrapati	7:00	12:00																												
7.4	7.4.3	Maharajgunj	7:00	12:00																												
7.4	7.4.4	Maharajgunj	7:00	12:00																												

Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

Table 7.3.2 Monitoring Record of Grievances about Water Supply Hour (2/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
8.1	8.1.1	Lalitpur	8:00	20:00																												
8.1	8.1.2	Lalitpur	20:00	8:00																												
8.1	8.1.3	Lalitpur	20:00	8:00																												
8.2	8.2.1(A)	Lalitpur	17:00	8:00																												
8.2	8.2.1(B)	Lalitpur	17:00	8:00																												
8.2	8.2.1(C)	Lalitpur	17:00	8:00																												
8.2	8.2.2(A)	Lalitpur	17:00	8:00																												
8.2	8.2.2(B)	Lalitpur	17:00	8:00																												
8.2	8.2.2(C)	Lalitpur	17:00	8:00																												
9.1	9.1.1	Lalitpur	20:00	6:00																												
9.1	9.1.2	Lalitpur	20:00	6:00																												
9.1	9.1.3	Lalitpur	20:00	6:00																												
9.2	9.2.1	Lalitpur	6:00	20:00																												
9.2	9.2.2	Lalitpur	6:00	20:00																												
9.2	9.2.3	Lalitpur	6:00	20:00																												
9.2	9.2.4	Lalitpur	6:00	20:00																												
9.2	9.2.5	Lalitpur	6:00	20:00																												
9.2	9.2.6	Lalitpur	6:00	20:00																												
9.2	9.2.7	Lalitpur	6:00	20:00																												
10.1	10.1.1	Maharajgunj	12:00	17:00																												
10.2	10.2.1(A)	Chhetrapati	17:00	22:00																												
10.2	10.2.1(B)	Chhetrapati	17:00	22:00																												
10.2	10.2.1(C)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(A)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(B)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(C)	Chhetrapati	17:00	22:00																												
11.1	11.1.1	Tripureshwor	18:00	10:00																												
11.2	11.2.1	Tripureshwor	18:00	10:00																												
11.2	11.2.2	Tripureshwor	18:00	10:00																												
Demo	Demo	Baneshwor	5:00	21:00																												

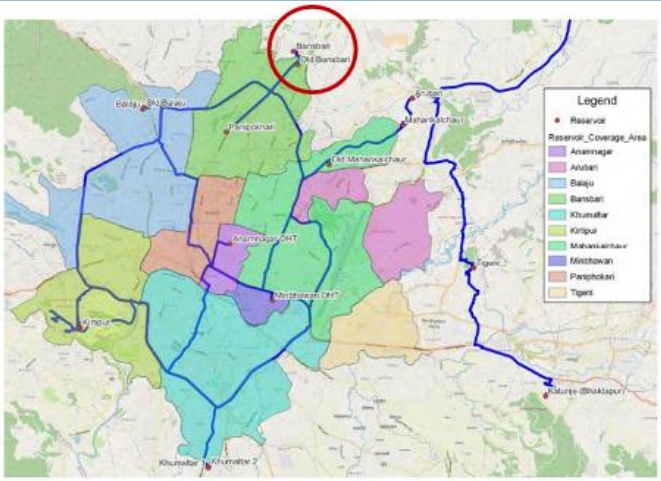
Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

8. Example of SOP for service reservoirs

Standard Operating Procedure
Bansbari SRT (Service Reservoir Tank)

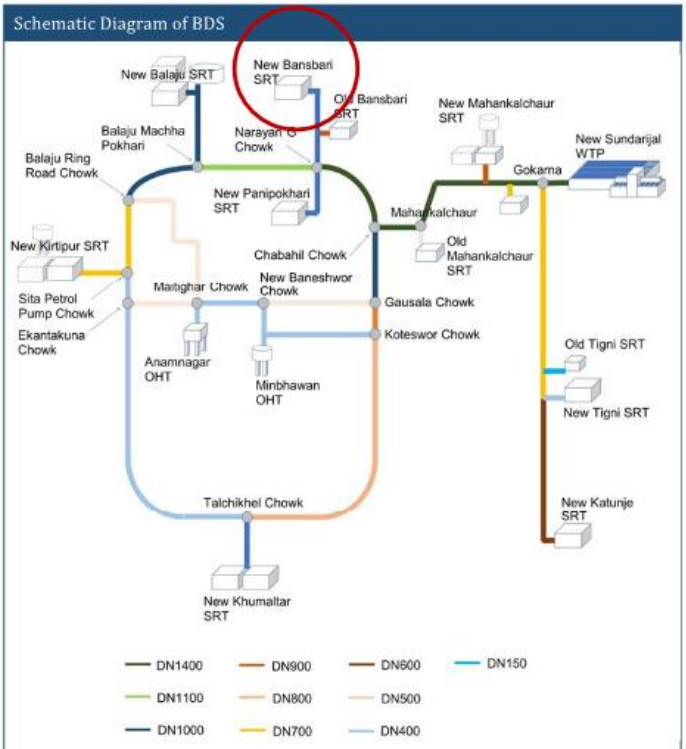
Layout of facilities

General Layout of Bulk Distribution System (BDS)



Layout of facilities

Schematic Diagram of BDS

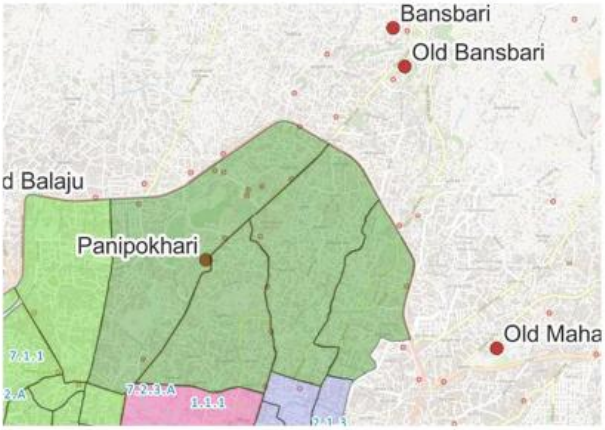


Bulk Distribution System Schematic Diagram

Layout of facilities

District Metered Area (DMA) covered by Bansbari SRT

The coverage area of Bansbari SRT has yet to be divided in DMAs.
This area is called DNI-7c and divided into several DMAs which will be constructed by the Package 6.



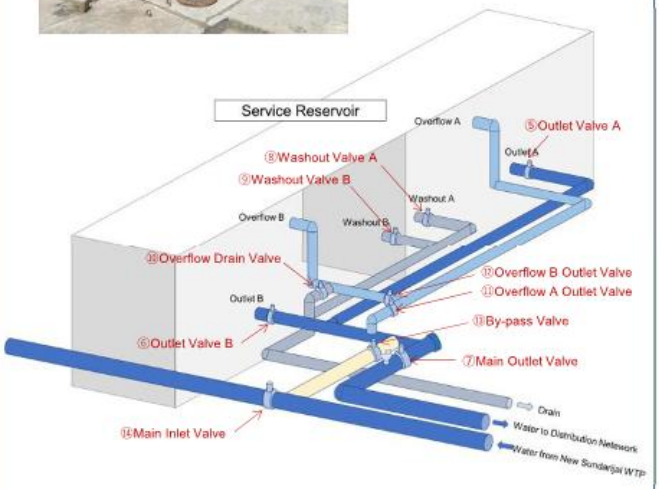
Layout of facilities

Outline of Bansbari SRT

No	Name	Objective	DN	Chamber Drawing No.
1	Flowmeter A	Inflow Measurement Reservoir A	700mm	BDS1-E-C-07
2	Flowmeter B	Inflow Measurement Reservoir A	700mm	BDS1-E-C-09
3	Inlet Valve A	Open/Stop Inflow Reservoir A	700mm	BDS1-E-C-06
4	Inlet Valve B	Open/Stop Inflow Reservoir B	700mm	BDS1-E-C-08
5	Outlet Valve A	Open/Stop Outflow Reservoir A	800mm	BDS1-E-C-10
6	Outlet Valve B	Open/Stop Outflow Reservoir B	800mm	BDS1-E-C-12
7	Main Outlet Valve	Regulate Total Outflow Volume	1200mm	BDS1-E-C-13
8	Washout Valve A	Sand discharge from Reservoir A	500mm	BDS1-E-C-15
9	Washout Valve B	Sand discharge from Reservoir B	500mm	BDS1-E-C-15
10	Overflow Drain	Discharge overflow to washout line	500mm	BDS1-E-C-14
11	Overflow A Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
12	Overflow B Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
13	By-pass Valve	Supply water without passing reservoir	1000mm	BDS1-E-C-13
14	Main Inlet Valve	Regulate Total Inflow Volume	1000mm	BDS1-E-C-05
15	Air Valve	Air release from the main outlet line	200mm	BDS1-E-C-13

Layout of facilities

Isometric Schematic Image of Pipeline Layout (Outlet side)



Operating Procedure

Normal Operation

Operating Procedure

Emergent Operation

If there is an accident or malfunction in both reservoirs A and B and water cannot be stored, the bypass valve on the Inlet Pipe should be opened to continue transmission of water.

[Caution]

When continuing to supply water through the bypass pipe, the following valves of the reservoir should be closed in advance to prevent water from entering the reservoir.
1. Main Inflow Valve
2. Outlet Valves of Reservoirs
3. Overflow Valves of Reservoirs

Cleaning of Reservoir

Direction of Water Flow during Cleaning of Reservoir

Steps for Cleaning of Reservoir

Step 1

Reservoir cleaning should be performed separately for A and B. Close one of the Inlet Valve to shut down entering water into the reservoir.

Step 2

When the water level in the reservoir is low enough, close the Outlet Valve.

Step 3

Open the Washout Valve to drain the water that has accumulated at the bottom of reservoir.

Steps for Cleaning of Reservoir

Step 4

Operators go inside and uses a wiper and nylon brush to scrape sand and mud from the walls and bottom in the direction of the Washout Port.

Step 5

If mud or sand remains in the middle of the interior, open the Inlet Valve of reservoir slightly to draw in water, and then scrape it out again with a scraper.

Step 6

Once the interior has been cleaned, the operator goes outside.
Then close the washout valve.

Steps for Cleaning of Reservoir

Step 7

Then slowly open the Inlet Valve.

Step 8

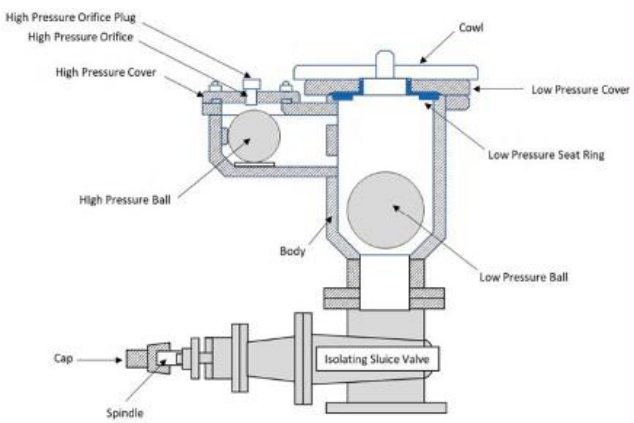
Wait a few hours to fill the reservoir.

Step 9

Once the reservoir has recovered more than half of its water level, slowly open the Outlet Valve.

Cleaning of Air Valve

Structure of Air Valve (Indian Valve International)

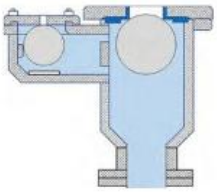


[Caution]

When clean the air valve, make sure that the Isolation Sluice Valve is completely closed. After closed the Isolation Sluice Valve, you can dismantle the cowl and top cover of the air valve.

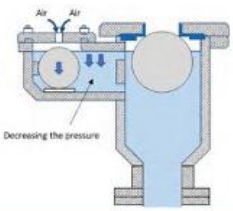
Function of Kinetic Air Valve

Normal Operation under High Pressure



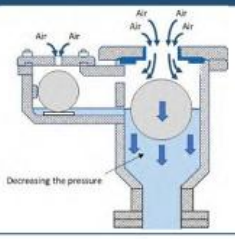
The pipe remains filled with water and the internal float ball plugs the air outlet orifice.

When a small air pocket occurs in the pipe



When a small amount of air accumulates in the air valve, the water level begins to drop, which causes the High Pressure Ball to drop and the small orifice to open. (Small exhaust mode)

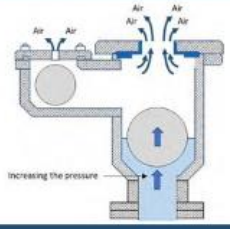
When the water in the reservoir runs out and a large amount of air accumulates



When a large amount of air accumulates, the water level drops below High Pressure Ball, which causes the Low Pressure Ball to drop and the large orifice to open. (Large exhaust mode).

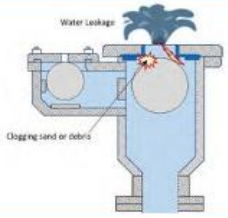
Function of Kinetic Air Valve

When water begins to accumulate in the pipe.



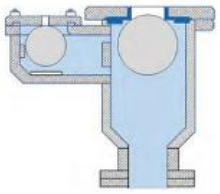
As the water pressure in the pipe increases, the water level rises and the Low Pressure Ball plugs the orifice.

When debris or sand clog the orifice



When debris or sand clog the orifice of air exhaust, the leaks will occur under high pressure.

When the pipe is perfectly filled with water



When water fills the pipe and the water pressure increases, the High Pressure Ball plugs the orifice.

Site Cleaning

Keeping premises clean

- Ensure that there is no debris or hazardous materials in the vicinity of the reservoir.
- The valve chamber should be kept clean and free of cobwebs, debris, and puddles, and no disposed material should be left inside.
- Do not place hazardous or flammable materials near the reservoir.

- Service Reservoir Tank and Water Treatment Plants are places where drinking water is stored, so animals should not be allowed to enter.

Meter Reading

Flowmeter on Inlet Pipe

Flowmeter on Outlet Pipe

In Bansbari SRT, there is no water meter on the outlet pipe.

How to read the flowmeter

Instantaneous Flow (m3/hour)

Accumulated Flow (m3)

The operators should keep record of "Accumulated Water Flow" in daily recording sheet

Recording of water volume

Operator's duty

- Once a day, the operator should check the flowmeter reading and note it on the record form.

Date	Time	Meter Reading		Daily Inflow	Name of Recorder
		Reservoir A	Reservoir B		

Standard Inspection

Daily Inspection

- Operators shall check the condition of facilities and clean the site once per day.

Items	Target	Status	Evaluation
External of tank	Concrete	No Water Leakage	☐Yes/☐No
	Painting	No Crack	☐Yes/☐No
		No Peeling	☐Yes/☐No
	Steps	Firmly Fixed	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No
	Cable	No disconnection	☐Yes/☐No
Valves	Operation Panel	No broken parts	☐Yes/☐No
	Button	No broken button	☐Yes/☐No
	Operation Wheel	Smoothly operating	☐Yes/☐No
	Chamber	No waste/garbage inside	☐Yes/☐No
Pipes	Exposed pipe	No Water Leakage	☐Yes/☐No
	Chamber	No Water Leakage	☐Yes/☐No
Chamber	Cover	Smoothly opening	☐Yes/☐No

Standard Inspection

Annual Inspection

- When cleaning the reservoir tank once per year, conduct an annual inspection of the following items:

Items	Target	Status	Evaluation
Internal of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Level Gauge	Drop of sensor	☐Yes/☐No
		Rust or Corrosion	☐Yes/☐No
External of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
		Water Leakage	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Steps	Corrosion	☐Yes/☐No
	Ventilation	Corrosion	☐Yes/☐No
Facilities	Valves	Greasing on gear	☐Yes/☐No
	Pipes	Water Leakage	☐Yes/☐No
	Chamber	Cleaning of inside	☐Yes/☐No
		Corrosion of Cover	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No

Inspection Schedule

Annual Inspection Plan

Month	Day	What to do
Baisakh		
Jestha		
Asadh		
Shrawan		
Bhadra		
Ashwin		
Kartik		
Mangsir		
Poush		
Magh		
Falgun		
Chaitra		

Water Distribution Management Plan
For
District Metered Area (DMA)
In
Kathmandu Valley

3rd version: 24 February 2026

Kathmandu Upatyaka Khanepani Limited (KUKL)

JICA Expert Team

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Japan International Cooperation Agency

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1. Introduction

1.1 Basic Approach to the Water Distribution Management

The maintenance and management of water supply facilities is an indispensable daily task for KUKL and should be carried out from a long-term perspective in order to achieve the following objectives.

Security: To supply safe water with assured quality to water users for drinking in the Kathmandu Valley.

Stability: To provide a stable supply of water necessary for daily life anytime, anywhere.

1.2 Procedure for Development of the Water Distribution Management Plan

Water service is a business that consists of providing drinking water to water users and collecting fees in return. Therefore, in the Water Distribution Management Plan, water utilities themselves need to set more specific management targets based on their Performance Indicators and monitor them in their daily operations.

The workflow of water distribution management in water utility management is as follows

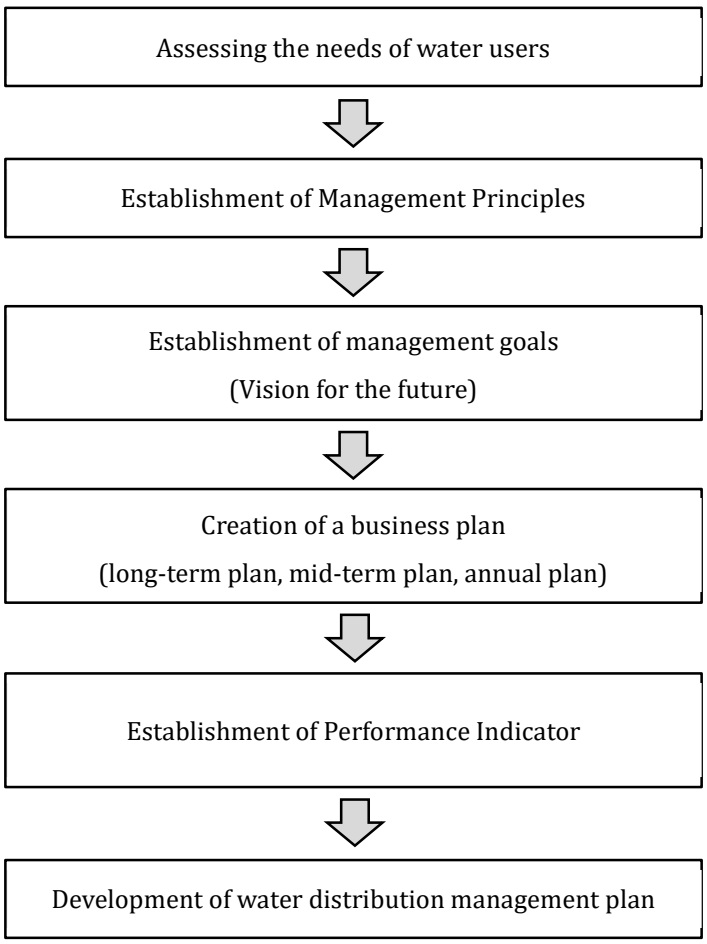


Figure 1.2.1 Relationship between water supply management and maintenance

2. Purpose of the Water Distribution Management Plan

The purpose of the Water Distribution Management Plan is to ensure that KUKL, as the entity responsible for operation and maintenance, properly manages the water supply facilities and provides water to water users in a manner that is equitable in terms of both quantity and time, thereby contributing to the improvement of the living environment.

This Water Distribution Management Plan is the most basic document for KUKL in maintenance and management.

KUKL is required to maintain and repair the water supply facilities to keep them in good condition.

3. Target District Metered Area (DMA)

This Water Distribution Management Plan covers DMAs constructed within the ring road.

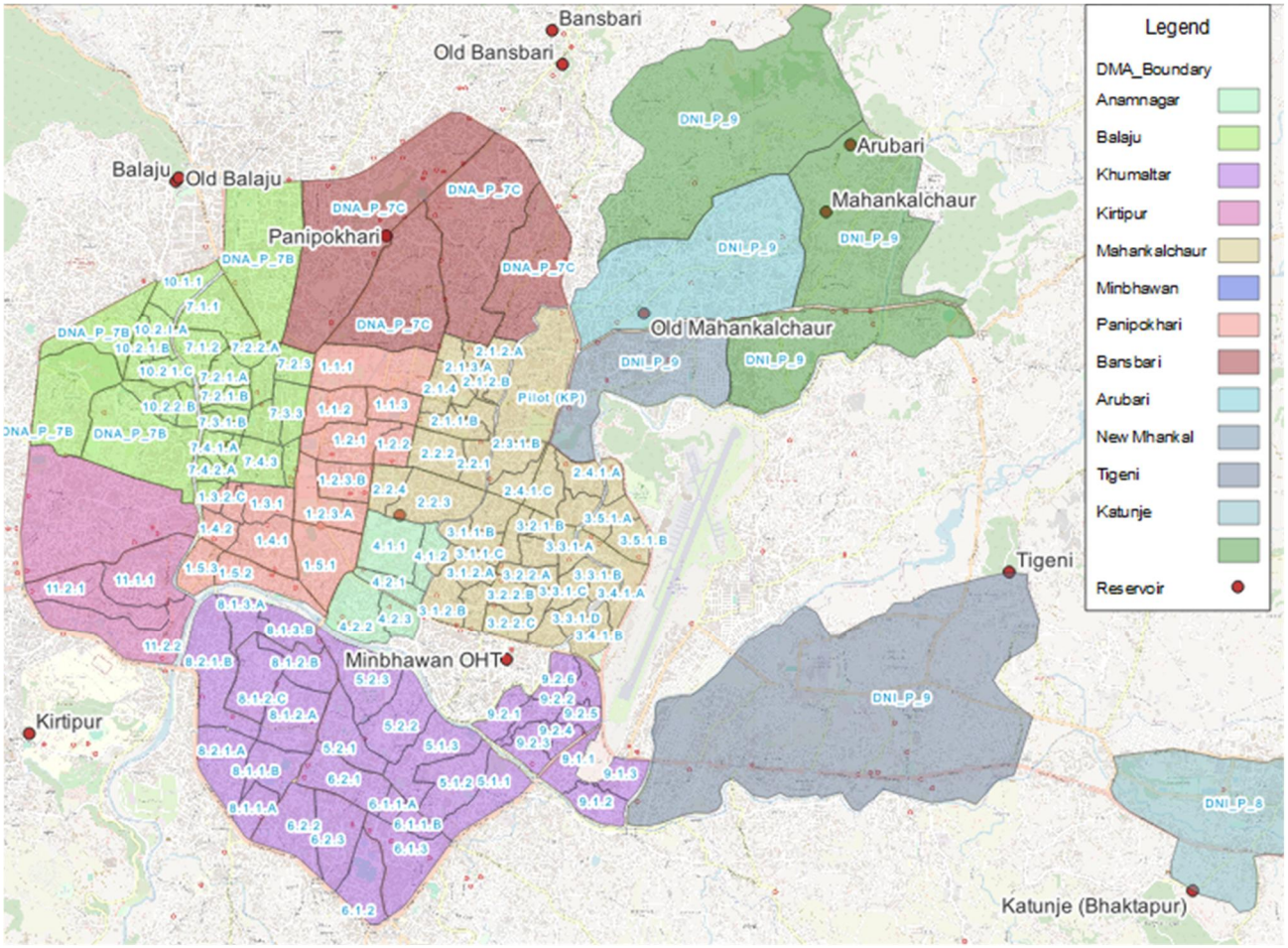


Figure 3.1.1 DMAs constructed in the Ring Road

The following figure is the water supply area covered by each of the service reservoir tanks.

The three water distribution reservoirs located within the ring road are Anamnagar, Minbhawan, and Panipokhari; the other reservoirs may also cover water supply outside the ring road.

In addition, some of the reservoirs supply the old distribution network, but in the future, they will be switched to supply the new distribution network constructed by Melamchi Water Supply Project.

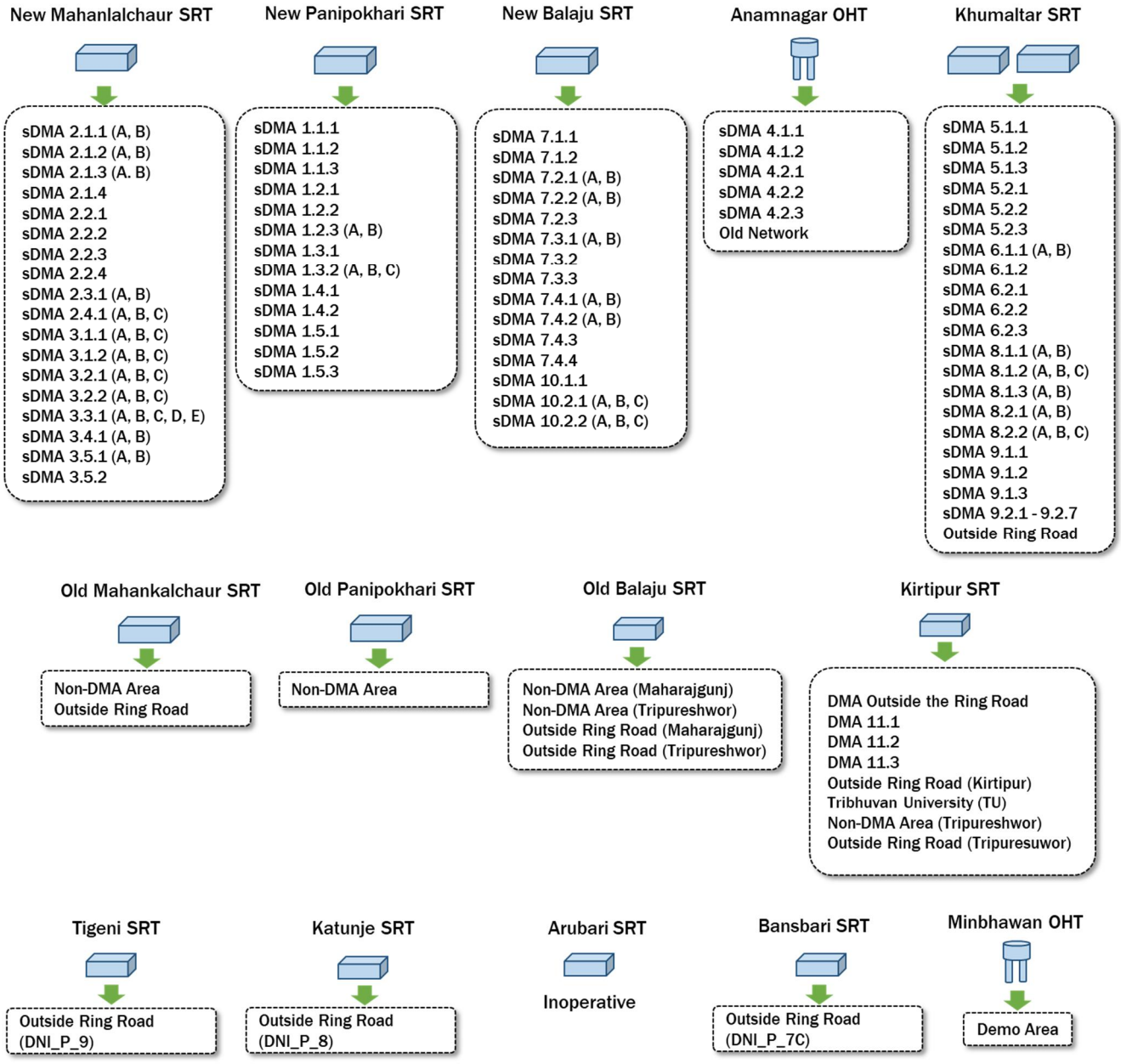


Figure 3.1.2 Sub-DMA covered by each Service Reservoir Tanks (SRTs)

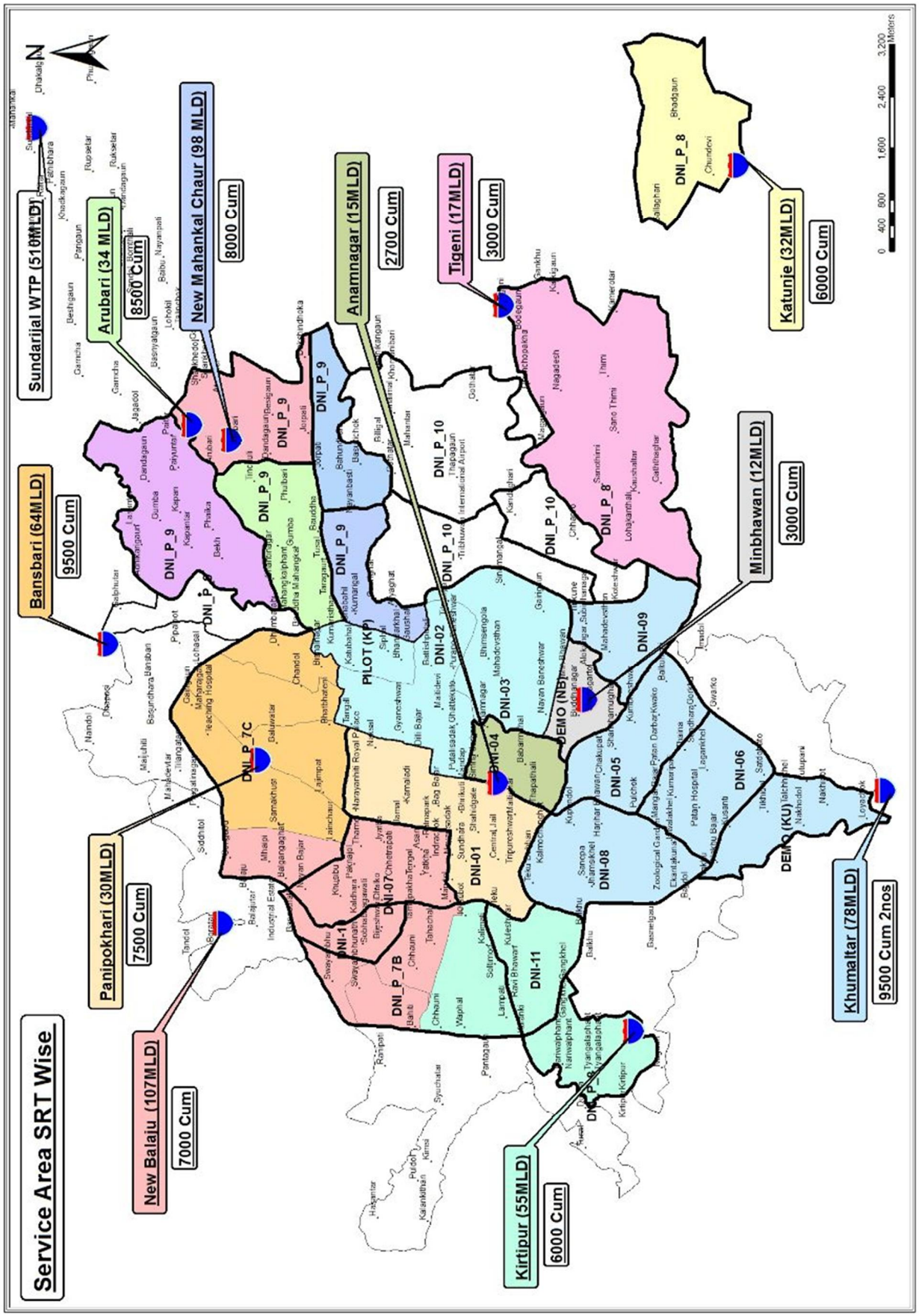


Figure 3.1.3 Water Coverage Area by SRT wise

4. Basic Information on DMAs and Sub-DMAs

The number of customers and estimated demand for each Sub-DMA are shown below.

Table 4.1.1 Estimated Demand in each DMA/Sub-DMA

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
1	1.1	1.1.1	Maharajgunj	Kathmandu				
		1.1.2	Maharajgunj	Kathmandu	12	1,144	135	1,853.3
		1.1.3	Maharajgunj	Kathmandu				
						1,144	Sub total	1,853.3
	1.2	1.2.1	Maharajgunj	Kathmandu				
		1.2.2	Baneshwor	Kathmandu	12	2,259	135	3,659.6
		1.2.3(A)	Maharajgunj	Kathmandu				
		1.2.3(B)	Maharajgunj	Kathmandu				
						2,259	Sub total	3,659.6
	1.3	1.3.1	Tripureshwor	Kathmandu				
		1.3.2(A)	Tripureshwor	Kathmandu	12	3,252	135	5,268.2
		1.3.2(B)	Tripureshwor	Kathmandu				
		1.3.2(C)	Tripureshwor	Kathmandu				
						3,252	Sub total	5,268.2
	1.4	1.4.1	Tripureshwor	Kathmandu	12	2,864	135	4,639.7
		1.4.2	Tripureshwor	Kathmandu				
						2,864	Sub total	4,639.7
	1.5	1.5.1	Tripureshwor	Kathmandu	12	262	135	424.4
		1.5.2	Tripureshwor	Kathmandu	12	365	135	591.3
		1.5.3	Tripureshwor	Kathmandu	12	386	135	625.3
						1,013	Sub total	1,641.1
2	2.1	2.1.1(A)	Mahankalchaur	Kathmandu	12	401	135	649.6
		2.1.1(B)	Maharajgunj & Mahankal	Kathmandu	12	433	135	701.5
		2.1.2(A)	Mahankalchaur	Kathmandu	12	553	135	895.9
		2.1.2(B)	Mahankalchaur	Kathmandu	12	135	135	218.7
		2.1.3(A)	Mahankalchaur	Kathmandu	12	508	135	823.0
		2.1.3(B)	Mahankalchaur	Kathmandu	12	292	135	473.0
		2.1.4	Mahankalchaur	Kathmandu	12	279	135	452.0
						2,601	Sub total	4,213.6
	2.2	2.2.1	Baneshwor	Kathmandu	12	770	135	1,247.4
		2.2.2	Baneshwor	Kathmandu	12	872	135	1,412.6
		2.2.3	Baneshwor	Kathmandu	12	1,989	135	3,222.2
		2.2.4	Baneshwor	Kathmandu	12	614	135	994.7
						4,245	Sub total	6,876.9
	2.3	2.3.1(A)	Baneshwor	Kathmandu	12	510	135	826.2
		2.3.1(B)	Baneshwor	Kathmandu	12	589	135	954.2
						1,099	Sub total	1,780.4
	2.4	2.4.1(A)	Baneshwor & Mahankal	Kathmandu	12	514	135	832.7
		2.4.1(B)	Baneshwor	Kathmandu	12	477	135	772.7
		2.4.1(C)	Baneshwor	Kathmandu	12	735	135	1,190.7
						1,726	Sub total	2,796.1
3	3.1	3.1.1(A)	Baneshwor	Kathmandu	12	415	135	672.3
		3.1.1(B)	Baneshwor	Kathmandu	12	363	135	588.1
		3.1.1(C)	Baneshwor	Kathmandu	12	348	135	563.8
		3.1.2(A)	Baneshwor	Kathmandu	12	503	135	814.9
		3.1.2(B)	Baneshwor	Kathmandu	12	610	135	988.2
		3.1.2(C)	Baneshwor	Kathmandu	12	456	135	738.7
						2,695	Sub total	4,365.9
	3.2	3.2.1(A)	Baneshwor	Kathmandu	12	417	135	675.5
		3.2.1(B)	Baneshwor	Kathmandu	12	287	135	464.9
		3.2.1(C)	Baneshwor	Kathmandu	12	478	135	774.4
		3.2.2(A)	Baneshwor	Kathmandu	12	479	135	776.0
		3.2.2(B)	Baneshwor	Kathmandu	12	484	135	784.1
		3.2.2(C)	Baneshwor	Kathmandu	12	493	135	798.7
						2,638	Sub total	4,273.6
	3.3	3.3.1(A)	Baneshwor	Kathmandu	12	403	135	652.9
		3.3.1(B)	Baneshwor	Kathmandu	12	533	135	863.5
		3.3.1(C)	Baneshwor	Kathmandu	12	503	135	814.9
		3.3.1(D)	Baneshwor	Kathmandu	12	481	135	779.2
		3.3.1(E)	Baneshwor	Kathmandu	12	387	135	626.9
						2,307	Sub total	3,737.3
	3.4	3.4.1(A)	Baneshwor	Kathmandu	12	536	135	868.3
		3.4.1(B)	Baneshwor	Kathmandu	12	364	135	589.7
						900	Sub total	1,458.0
	3.5	3.5.1(A)	Baneshwor & Maharajgunj	Kathmandu	12	551	135	892.6
		3.5.1(B)	Baneshwor	Kathmandu	12	587	135	950.9
		3.5.2	Baneshwor & Maharajgunj	Kathmandu	12	382	135	618.8
						1,520	Sub total	2,462.4
4	4.1	4.1.1	Baneshwor	Kathmandu				
		4.1.2	Baneshwor	Kathmandu	12	569	135	921.8
						569	Sub total	921.8
	4.2	4.2.1	Tripureshwor	Kathmandu	12	256	135	414.7
		4.2.2	Tripureshwor	Kathmandu	12	520	135	842.4
		4.2.3	Tripureshwor	Kathmandu	12	446	135	722.5
						1,222	Sub total	1,979.6

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
5	5.1	5.1.1	Lalitpur	Lalitpur				
		5.1.2	Lalitpur	Lalitpur	12	5,648	135	9,149.8
		5.1.3	Lalitpur	Lalitpur				
						5,648	Sub total	9,149.8
	5.2	5.2.1(A)	Lalitpur	Lalitpur				
		5.2.1(B)	Lalitpur	Lalitpur				
		5.2.1(C)	Lalitpur	Lalitpur				
		5.2.1(D)	Lalitpur	Lalitpur				
		5.2.2(A)	Lalitpur	Lalitpur				
		5.2.2(B)	Lalitpur	Lalitpur	12	3,617	135	5,859.5
		5.2.2(C)	Lalitpur	Lalitpur				
		5.2.2(D)	Lalitpur	Lalitpur				
		5.2.2(E)	Lalitpur	Lalitpur				
		5.2.3(A)	Lalitpur	Lalitpur				
		5.2.3(B)	Lalitpur	Lalitpur				
						3,617	Sub total	5,859.5
6	6.1	6.1.1(A)	Lalitpur	Lalitpur				
		6.1.1(B)	Lalitpur	Lalitpur	12	3,666	135	5,938.9
		6.1.2	Lalitpur	Lalitpur				
		6.1.3	Lalitpur	Lalitpur				
						3,666	Sub total	5,938.9
	6.2	6.2.1	Lalitpur	Lalitpur				
		6.2.2	Lalitpur	Lalitpur	12	4,559	135	7,385.6
		6.2.3	Lalitpur	Lalitpur				
						4,559	Sub total	7,385.6
7	7.1	7.1.1	Maharajgunj	Kathmandu	12	1,549	135	2,509.4
		7.1.2	Tripureshwor	Kathmandu	12	801	135	1,297.6
						2,350	Sub total	3,807.0
	7.2	7.2.1(A)	Tripureshwor	Kathmandu				
		7.2.1(B)	Tripureshwor	Kathmandu				
		7.2.2(A)	Maharajgunj	Kathmandu	12	2,480	135	4,017.6
		7.2.2(B)	Maharajgunj	Kathmandu				
		7.2.3	Maharajgunj	Kathmandu				
						2,480	Sub total	4,017.6
	7.3	7.3.1(A)	Tripureshwor	Kathmandu				
		7.3.1(B)	Tripureshwor	Kathmandu	12	3,100	135	5,022.0
		7.3.2	Tripureshwor	Kathmandu				
		7.3.3	Maharajgunj	Kathmandu				
						3,100	Sub total	5,022.0
	7.4	7.4.1(A)	Tripureshwor	Kathmandu				
		7.4.1(B)	Tripureshwor	Kathmandu				
		7.4.2(A)	Tripureshwor & Lalitpur	Kathmandu	12	4,475	135	7,249.5
		7.4.2(B)	Tripureshwor	Kathmandu				
		7.4.3	Tripureshwor & Maharajgunj	Kathmandu				
		7.4.4	Maharajgunj	Kathmandu				
						4,475	Sub total	7,249.5
8	8.1	8.1.1(A)	Lalitpur	Lalitpur				
		8.1.1(B)	Lalitpur	Lalitpur				
		8.1.2(A)	Lalitpur	Lalitpur				
		8.1.2(B)	Lalitpur	Lalitpur	12	3,893	135	6,306.7
		8.1.2(C)	Lalitpur	Lalitpur				
		8.1.3(A)	Lalitpur	Lalitpur				
		8.1.3(B)	Lalitpur	Lalitpur				
						3,893	Sub total	6,306.7
	8.2	8.2.1(A)	Lalitpur	Lalitpur				
		8.2.1(B)	Lalitpur	Lalitpur				
		8.2.1(C)	Lalitpur	Lalitpur				
		8.2.2(A)	Lalitpur	Lalitpur	12	2,800	135	4,536.0
		8.2.2(B)	Lalitpur	Lalitpur				
		8.2.2(C)	Lalitpur	Lalitpur				
						2,800	Sub total	4,536.0
9	9.1	9.1.1	Baneshwor	Lalitpur	12	799	135	1,294.4
		9.1.2	Baneshwor	Lalitpur	12	1,038	135	1,681.6
		9.1.3	Baneshwor	Lalitpur	12	552	135	894.2
						2,389	Sub total	3,870.2
	9.2	9.2.1	Baneshwor	Lalitpur	12	742	135	1,202.0
		9.2.2	Baneshwor	Lalitpur	12	630	135	1,020.6
		9.2.3	Baneshwor	Lalitpur	12	676	135	1,095.1
		9.2.4	Baneshwor	Lalitpur	12	406	135	657.7
		9.2.5	Baneshwor	Lalitpur	12	447	135	724.1
		9.2.6	Baneshwor	Lalitpur	12	623	135	1,009.3
		9.2.7	Baneshwor	Lalitpur	12	483	135	782.5
						4,007	Sub total	6,491.3
10	10.1	10.1.1	Maharajgunj	Kathmandu	12	480	135	777.6
					12	480	Sub total	777.6
	10.2	10.2.1(A)	Tripureshwor	Kathmandu				
		10.2.1(B)	Tripureshwor	Kathmandu				
		10.2.1(C)	Tripureshwor	Kathmandu				
		10.2.2(A)	Tripureshwor	Kathmandu	12	2,671	135	4,327.0
		10.2.2(B)	Tripureshwor	Kathmandu				
		10.2.2(C)	Tripureshwor	Kathmandu				
						2,671	Sub total	4,327.0
11	11.1	11.1.1	Tripureshwor	Kathmandu	12	2,075	135	3,361.5
						2,075	Sub total	3,361.5
	11.2	11.2.1	Tripureshwor	Kathmandu	12	1,681	135	2,723.2
						1,681	Sub total	2,723.2
	11.3	11.3.1	Tripureshwor	Kathmandu	12	1,239	135	2,007.2
						1,239	Sub total	2,007.2
Demo	Demo	Demo	Baneshwor	Kathmandu	12	5,000	135	8,100.0
						5,000	Sub total	8,100.0
Total	33					88,184		142,858.1

The table above calculates the water demand in DMAs and the existing Demo Area.

However, since the BDS Reservoir supplies water to areas other than the DMAs, it is necessary to estimate the demand for those areas.

Table 4. 1.2 Estimated number of households in the areas except for DMAs and Demo Area

Breakdown of household (connection) for the areas except 32 DMAs

Non DMA Area inside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to DNI 7B (Mhepi, Balaju Area)	2,500	Maharajgunj	Old Balaju
Supply to DNI 7B (Chauni Area)	3,300	Tripureshwor	Old Balaju
Supply to DNI 7B (Tahachal Area)	4,400	Tripureshwor	Kirtipur
Supply to DNI 7B (Kimdol, Dallu, Swoyambhu)	3,300	Tripureshwor (Ex-Chhetrapati)	Old Balaju
Supply to DNI 7C (Lainchaur, Galkopakha, Kapurdhara, Samakhusi, Gongabu)	10,500	Maharajgunj	Old Bansbari
Supply to DNI 7C (Khursanitar Area)	2,000	Maharajgunj	Old Panipokhari
Supply to DNI 7C (Bishalnagar, Chandol)	7,650	Mahankalchaur	Old Mahankal
Supply to Kalopur Pilot Area	2,300	Mahankalchaur	Old Mahankal
Outside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to Tarkeshwor, Banasthali, Dhunge dhara	8,000	Maharajgunj	Old Balaju
Supply to Tokha, Dhapasi, Basundhara (outside ringroad)	7,500	Maharajgunj	Old Bansbari
Supply to Kumari Club, Arcade colony	500	Tripureshwor (Ex-Chhetrapati)	Kirtipur
Supply to Outside the Ringroad by Tripureshwor	2,000	Tripureshwor	Old Balaju
Supply to Kapan, Jorpati	24,701	Mahankalchaur	Old Mahankal
Supply to Kirtipur Customer except for Tribhuvan University	10,054	Kirtipur	Kirtipur
Supply to Kusunti, Bagdol, Nakhu, Nakhipot, Khumaltar, Gwarko, ANFA, Dhapakhel, Dholahiti, Sunakothi	7,395	Lalitpur	Khumaltar
Supply to Kaushaltar, Lokanthali, Gatthaghar, Nagadesh, Sintitar, Dhunchepakha, Saraswatikhel, Thimi Core city, New Thimi, Old Thimi, Bappa, Kamerotar, Madhyapur Hospital	16,596	Madhyapur-Thimi	Thigni
Supply to Kamalbinayak planning, Liwali Planning, Byasi, Bansagopal, Nasamana, Gapali, Tekhacho, Sukuldhoka, Tulachhen, Khiche, Choche, Hanumante Purba, Chundevi, Ghalate, Pandubazar, Shrijananagar, Suryamadhi, Dattatraya, Chyamasingh, Wakupati, Chango road, Mahalaxmi, Bholachhen, Golmadhi, Jagati,	13,560	Bhaktapur	Katunje

Those values should be revised by the respective branch under the supervision by Operation Division.

After filling in the number of households in the areas Non-DMA and outside the Ring Road, the demand to be allocated to each SRT is calculated as follows:

Table 4.1.3 Estimated water demand in the areas except for DMAs and Demo Area

Breakdown of demand for the areas except for 33 DMAs

No of users per connection 12 persons/connection

Demand per capita 135 L/day/person

	Additional Water Demand except for 33 DMAs (m3/day)							
	Balaju	Kirtipur	Bansbari	Panipokhari	Old Mahnkalchaur	Khumaltar	Tigeni	Katunje
Maharajgunj Branch Area								
Non-DMA area inside the Ring Road	4,050		17,010	3,240				
Outside the Ring Road	12,960		12,150					
Tripureshwor Branch Area								
Non-DMA area inside the Ring Road	5,346	7,128						
Outside the Ring Road		810						
Ex-Chhetrapati Branch Area								
Non-DMA area inside the Ring Road	5,346							
Outside the Ring Road	3,240							
Mahankalchaur Branch Area								
Non-DMA area inside the Ring Road					16,119			
Outside the Ring Road					40,016			
Kirtipur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road		16,287						
Madhyapur-Thimi Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road							26,886	
Lalitpur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road						11,980		
Bhaktapur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road								21,967
Total								
Non-DMA area inside the Ring Road	14,742	7,128	17,010	3,240	16,119	0	0	0
Outside the Ring Road	16,200	17,097	12,150	0	40,016	11,980	26,886	21,967

5. Water Receiving Plan from Bulk Distribution System (BDS)

The BDS component will provide water supply to the Kathmandu Metro area using a combination of new water sources developed under Sub-Project 1 of the Melamchi Water Supply Project and other existing water sources.

In order to supply various areas within the Kathmandu Metro area, the new water treatment plant constructed at Sundarijal is the starting point in the water supply network, which will be routed through distribution reservoirs at Mahankalchaur, along the ring road and along the longitudinal route.

The distribution zones, called DMA, are designed to be independent with scattered distribution reservoirs to ensure the stability of water pressure and supply.

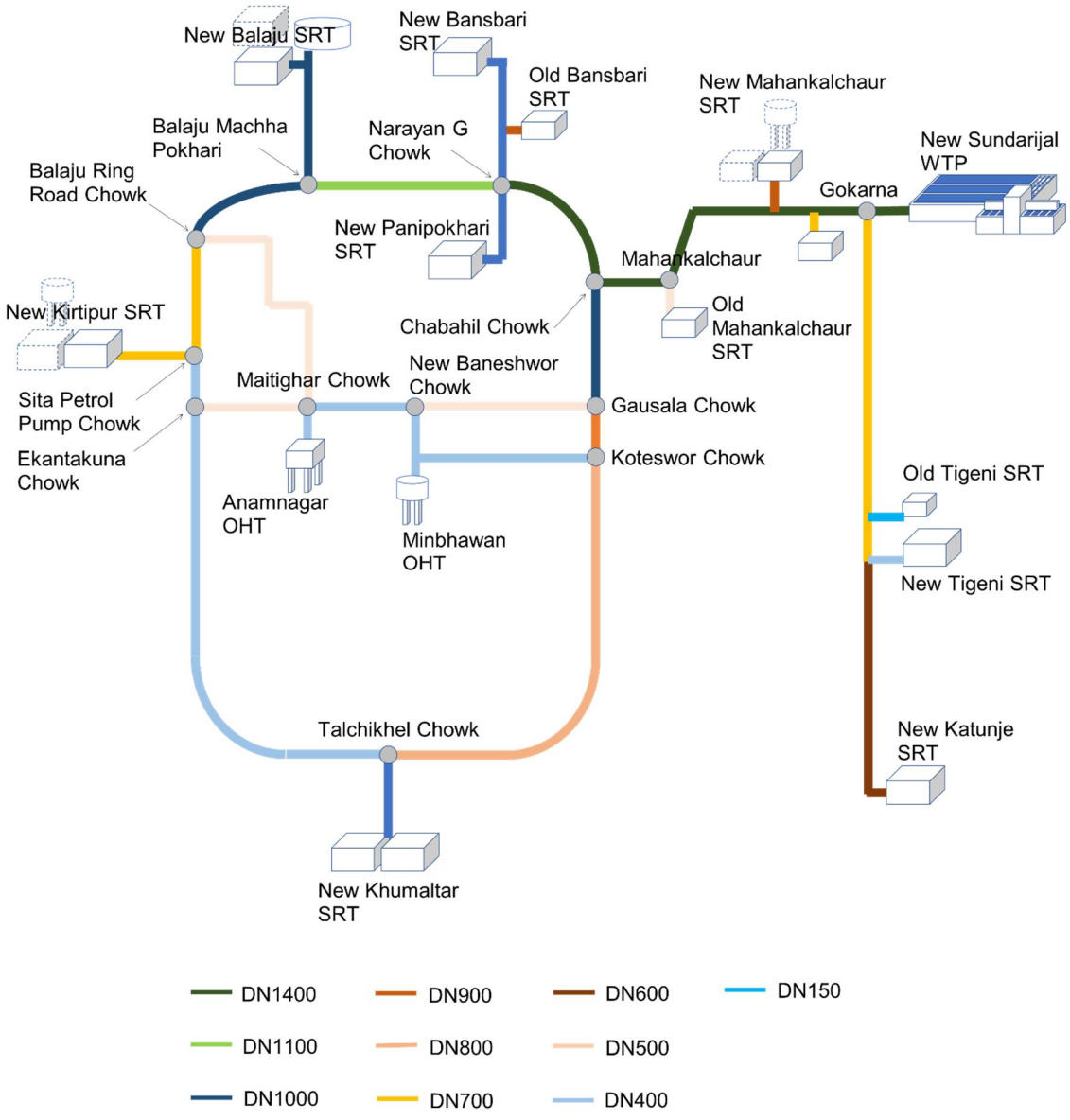


Figure 5.1.1 Schematic Water Supply Network of BDS

The amount of water to be delivered to each Service Reservoir Tank is determined based on the following steps.

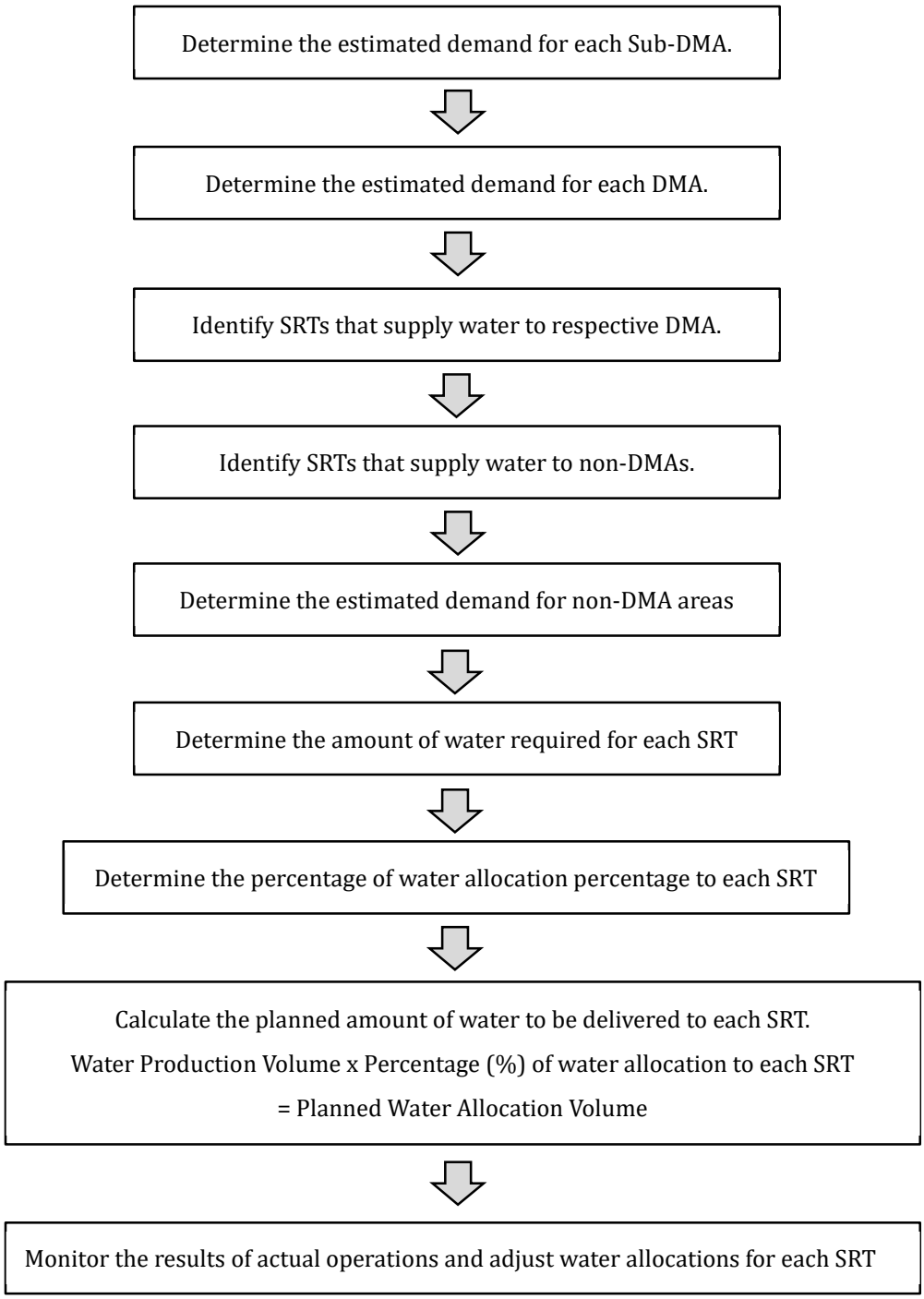


Figure 5.1.2 Steps to determine water allocation for each SRT

Table 5.1.1 Draft of Water Demand and Demand Percentage to each SRT

DMA	Estimated Demand (m3/day)	Demand Percentage (%)	Reservoir
1.1	1,853	0.53	Panipokhari
1.2	3,660	1.05	Panipokhari
1.3	5,268	1.52	Panipokhari
1.4	4,640	1.34	Panipokhari
1.5	1,641	0.47	Panipokhari
2.1	4,214	1.21	New Mahankalchaur
2.2	6,877	1.98	New Mahankalchaur
2.3	1,780	0.51	New Mahankalchaur
2.4	2,796	0.80	New Mahankalchaur
3.1	4,366	1.26	New Mahankalchaur
3.2	4,274	1.23	New Mahankalchaur
3.3	3,737	1.08	New Mahankalchaur
3.4	1,458	0.42	New Mahankalchaur
3.5	2,462	0.71	New Mahankalchaur
4.1	922	0.27	Anamnagar
4.2	1,980	0.57	Anamnagar
5.1	9,150	2.63	Khumaltar
5.2	5,860	1.69	Khumaltar
6.1	5,939	1.71	Khumaltar
6.2	7,386	2.13	Khumaltar
7.1	3,807	1.10	Balaju
7.2	4,018	1.16	Balaju
7.3	5,022	1.45	Balaju
7.4	7,250	2.09	Balaju
8.1	6,307	1.81	Khumaltar
8.2	4,536	1.31	Khumaltar
9.1	3,870	1.11	Khumaltar
9.2	6,491	1.87	Khumaltar
10.1	778	0.22	Balaju
10.2	4,327	1.25	Balaju
11.1	3,362	0.97	Kirtipur
11.2	2,723	0.78	Kirtipur
11.3	2,007	0.58	Kirtipur
Demo Area	8,100	2.33	Minbhawan
Tribhuvan University (TU)	100	0.03	Kirtipur
Non-DMA within the Ring Road	0	0.00	Anamnagar
Non-DMA within the Ring Road	14,742	4.24	Balaju
Non-DMA within the Ring Road	17,010	4.90	Bansbari
Non-DMA within the Ring Road	0	0.00	Khumaltar
Non-DMA within the Ring Road	7,128	2.05	Kirtipur
Non-DMA within the Ring Road	16,119	4.64	Old Mahankalchaur
Non-DMA within the Ring Road	0	0.00	Minbhawan
Non-DMA within the Ring Road	3,240	0.93	Panipokhari
Outside Ring Road	0	0.00	Arubari
Outside Ring Road	12,150	3.50	Bansbari
Outside Ring Road	16,200	4.66	Balaju
Outside Ring Road	11,980	3.45	Khumaltar
Outside Ring Road	17,097	4.92	Kirtipur
Outside Ring Road	40,016	11.52	Old Mahankalchaur
Outside Ring Road	0	0.00	Panipokhari
Outside Ring Road	26,886	7.74	Tigeni
Outside Ring Road	21,967	6.32	Katunje
Total	347,493	100.0	

Currently, water conduction from the Melamchi River is suspended during the rainy season, so the limited amount of water must be equally distributed according to the estimated demand.

Table 5.1.2 Standard Water Production (Main)

	Dry Season with Melamchi water	Monsoon Season without Melamchi water
Supply volume to BDS from New Sundarijal WTP	192 MLD	48 MLD
Production of Mahankalchaur WTP with existing water sources	16.37 MLD	20.67 MLD
Production of Bansbari WTP with existing water sources	10.18 MLD	18.33 MLD
Production of Bode WTP with existing water sources	7.90 MLD	8.08 MLD
Total	226.45 MLD	95.08 MLD

Source: KUKL Annual Report

Table 5.1.3 Water Production Record 2080/2081

		Mahanlakchaur WTP	Bansbari WTP	Bode WTP
Shrawan	July-August	20.15	22.43	8.91
Bhadra	August-September	25.54	30.96	8.08
Ashwin	September-October	17.00	29.32	8.32
Kartik	October-November	20.80	22.83	8.19
Mangsir	November-December	22.86	10.47	8.15
Paush	December-January	22.80	5.83	8.13
Magh	January-February	13.46	5.43	7.64
Falgun	February-March	15.34	19.34	7.50
Chaitra	March-April	9.73	2.7	7.70
Baishakh	April-May	9.66	4.67	8.00
Jestha	May-June	11.26	1.09	7.55
Ashad	June-July	29.22	7.85	7.55
Daily Average (MLD)		18.15	13.58	7.98
Monsoon season average without operation of Melamchi tunnel (MLD)		20.63	18.33	8.08
Dry season average with operation of Melamchi tunnel (MLD)		16.37	10.18	7.90

Source: KUKL Annual Report

Note: The operation of the Melamchi Diversion Tunnel will be suspended from the end-May to the mid-October.

Figure 5.1.4 Water Allocation Plan in Dry Season

Dry Season with Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	1,603				1,603	289	1,892
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	31,020				31,020	5,595	36,615
Bansbari (New & Old)	29,160	8.39	16,112		10,180		5,932	2,906	8,838
Khumaltar	61,518	17.70	33,990				33,990	6,131	40,121
Kirtipur	32,417	9.33	17,911				17,911	3,231	21,142
Mahankalchaur (New)	31,964	9.20	17,661				17,661	3,185	20,847
Mahankalchaur (Old)	56,135	16.15	31,016	16,370			14,646	5,594	20,240
Minbhawan	8,100	2.33	4,475				4,475	807	5,283
Panipokhari (New & Old)	20,302	5.84	11,217				11,217	2,023	13,241
Tigeni	26,886	7.74	14,855			8,080	6,775	2,679	9,455
Katunje	21,967	6.32	12,137				12,137	2,189	14,327
Total	347,493	100.00	192,000				157,370	34,630	192,000
			(F)				(G)		

Figure 5.1.5 Water Allocation Plan in Monsoon Season

Monsoon Season without Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	401				401	129	530
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	7,755				7,755	2,504	10,259
Bansbari (New & Old)	29,160	8.39	4,028		18,330		0	1,300	1,300
Khumaltar	61,518	17.70	8,498				8,498	2,743	11,241
Kirtipur	32,417	9.33	4,478				4,478	1,446	5,923
Mahankalchaur (New)	31,964	9.20	4,415				4,415	1,425	5,841
Mahankalchaur (Old)	56,135	16.15	7,754	20,630			0	2,503	2,503
Minbhawan	8,100	2.33	1,119				1,119	361	1,480
Panipokhari (New & Old)	20,302	5.84	2,804				2,804	905	3,710
Tigeni	26,886	7.74	3,714			7,900	0	1,199	1,199
Katunje	21,967	6.32	3,034				3,034	980	4,014
Total	347,493	100.00	48,000				32,504	15,496	48,000
			(F)				(G)		

6. Target of Water Supply Hour, Frequency of Water Supply and Water Supply Volume

[Supply Hour]

2 hours or more per supply day for all DMAs

[Supply Frequency]

Dry Season with Melamchi water:	At least once every 3 days in all DMAs
Monsoon Season without Melamchi water:	At least once every 5 days in all DMAs

[Supply Volume]

The amount of water allocated to each SRT is compared with the estimated demand of each Sub-DMA and other water supply areas to determine the water supply frequency and hours for each area so that water supply is achieved equally in all areas.

The following page shows the standard water supply schedule created by KUKL's Operation Division. Since available water sources differ between the monsoon and dry seasons, headquarters must review the need for monthly adjustments to the water supply schedule based on local conditions.

Table 6.1.1 Water Supply Plan in Dry Season with Melamchi water (1/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																												
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
Anamnagar	79	1,892	4.1	4.1.1	921.8	14:00	20:00			√			√			√			√			√			√			√			√			√			√
				4.1.2		14:00	22:00			√			√			√			√			√			√			√			√			√			√
			4.2	4.2.1	414.7	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.2	842.4	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.3	722.5	11:00	22:00			√			√			√			√			√			√			√			√			√			√
			Old Network	1st Shift	0.0	4:00	5:00	√			√			√			√			√			√			√			√			√			√		
				2nd Shift		20:00	21:00	√			√			√			√			√			√			√			√			√			√		
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																																
Balaju	1,526	36,615	7.1	7.1.1	2,509.4	4:00	12:00				√				√				√				√				√				√				√		
				7.1.2	1,297.6	4:00	12:00				√				√				√				√				√				√				√		
			7.2	7.2.1(A)	4,017.6	4:00	12:00		√				√				√				√			√			√				√				√
				7.2.1(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(A)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.3		4:00	12:00		√				√				√				√			√			√				√				√
			7.3	7.3.1(A)	5,022.0	7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.1(B)		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.2		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.3		7:00	19:00	√				√				√				√			√			√			√			√			√	
			7.4	7.4.1(A)	7,249.5	7:00	19:00			√				√				√				√			√				√			√				
				7.4.1(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(A)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.3		7:00	19:00			√				√				√				√			√				√			√				
				7.4.4		7:00	19:00			√				√				√				√			√				√			√				
			10.1	10.1.1	777.6	12:00	17:00				√				√				√				√				√				√				√		
			10.2	10.2.1(A)	4,327.0	17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(B)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(C)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.2(A)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(B)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(C)		13:00	20:00				√				√				√				√				√				√				√		
			Old Network	1st Shift	14,742.0	5:30	8:00		√					√					√					√					√					√			
				2nd Shift		8:00	20:00		√					√					√					√					√					√			
			Outside Ring Road		16,200.0	18:15	20:15					√					√				√					√				√						√
Bansbari	368	8,838	Old Network	1st zone, 1st Shift	17,010.0	5:30	8:00	√				√				√				√				√				√				√				√	
				1st zone, 2nd Shift		10:30	13:00	√				√				√				√				√				√				√				√	
				1st zone, 3rd Shift		15:30	18:00	√				√				√				√				√				√				√				√	
				1st zone, 4th Shift		20:30	23:00	√				√				√				√				√				√				√				√	
				2nd Zone, 1st Shift		3:00	5:30		√				√				√				√				√				√				√				√
				2nd Zone 2nd Shift		8:00	10:30		√				√				√				√				√				√				√				√
				2nd Zone 3rd Shift		13:00	15:30		√				√				√				√				√				√				√				√
				2nd Zone 4th Shift		18:00	20:30		√				√				√				√				√				√				√				√
				3rd Zone, 1st Shift		3:00	5:30			√				√				√				√			√				√				√				
				3rd Zone, 2nd Shift		8:00	10:30			√				√				√				√			√				√				√				
				3rd Zone, 3rd Shift		13:00	15:30			√				√				√				√			√				√				√				
				3rd Zone, 4th Shift		18:00	20:30			√				√				√				√			√				√				√				
			Outside Ring Road	1st Shift	12,150.0	3:00	18:00				√				√				√				√				√				√				√		
				2nd Shift		18:00	21:00				√				√				√				√				√				√				√		
				3rd Shift		21:00	0:00				√				√				√				√				√				√				√		
				4th Shift		0:00	3:00				√				√				√				√				√				√				√		
Khumaltar	1,672	40,121	5.1	5.1.1	9,149.8	18:00	6:00			√				√				√				√				√				√				√		
				5.1.2		18:00	6:00			√				√				√				√				√				√				√		
				5.1.3		18:00	6:00			√				√				√				√				√				√				√		
			5.2	5.2.1	5,859.5	6:00	18:00		√				√				√				√			√			√				√				√
				5.2.2		6:00	18:00		√				√				√				√			√			√				√				√
				5.2.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.1	6.1.1(A)	5,938.9	6:00	18:00		√				√				√				√			√			√				√				√
				6.1.1(B)		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.2		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.2	6.2.1	7,385.6	18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.2		18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.3		18:00	18:00	√				√				√				√				√				√				√				√	
			8.1	8.1.1	6,306.7	6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.2		6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.3		6:00	6:00	√				√				√				√				√				√				√				√	
			8.2	8.2.1	4,536.0	6:00	18:00		√				√				√				√			√				√				√				√
				8.2.2		6:00	18:00		√				√				√				√			√				√				√				√
			9.1	9.1.1	1,294.4	19:00	6:00				√				√				√				√				√				√				√		
				9.1.2	1,681.6	19:00	6:00				√				√				√				√				√				√				√		
				9.1.3	894.2	19:00	6:00				√				√				√				√				√				√				√		
			9.2	9.2.1	1,202.0	6:00	19:00				√				√				√				√				√				√				√		
				9.2.2	1,020.6	6:00	19:00				√				√				√				√				√				√				√		
				9.2.3	1,095.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.4	657.7	6:00	19:00				√				√				√				√				√				√				√		
				9.2.5	724.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.6	1,009.3	6:00	19:00				√				√				√				√				√				√				√		
				9.2.7	782.5	6:00	19:00				√				√				√				√				√				√				√		

Table 6.1.2 Water Supply Plan in Dry Season with Melamchi water (2/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			Old Network		0.0																														
			Outside Ring Road	1st Zone I	11,980.0	5:00	21:00		√				√				√				√			√				√				√				√
				1st Zone - II(a)		5:00	14:00				√				√				√				√			√				√				√		
				1st Zone - II(b)		8:00	9:00				√				√				√				√			√				√				√		
				1st Zone - II©		5:00	20:00				√				√				√				√			√				√				√		
				1st Zone - III		5:00	8:00	√				√				√				√				√				√				√				√	
				2nd Zone - I		6:00	18:00			√								√								√								√		
				2nd Zone - II		6:00	18:00							√								√								√						√
				3rd Zone - I		7:00	19:00	√				√				√				√				√				√				√				√	
				3rd Zone - II		7:00	19:00			√				√				√				√				√				√				√		
				4th Zone - I		6:00	20:00			√				√				√				√				√				√				√		
				4th Zone - II		17:00	0:00				√				√				√				√				√				√				√		
				4th Zone - III		17:00	0:00					√				√				√				√			√				√				√		
				4th Zone - IV		17:00	0:00						√				√				√				√			√				√					
Kirtipur	881	21,142	11.1	11.1.1	3,361.5	18:00	6:00	√			√			√			√			√			√			√			√			√			
			11.2	11.2.1	2,723.2	18:00	6:00		√			√			√			√			√			√			√			√			√		
			11.3	11.3.1	2,007.2	18:00	6:00			√			√			√			√			√			√			√			√			√	
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network	Zone 1	7,128.0	6:00	18:00		√							√							√						√							√
				Zone 2		6:00	18:00			√							√							√							√						
				Zone 3		6:00	18:00				√							√							√							√					
				Zone 4		6:00	18:00					√							√							√							√				
				Zone 5		6:00	18:00						√							√							√							√			
				Zone 6		6:00	18:00							√							√							√							√		
				Zone 7		6:00	18:00	√							√							√							√							√	
				Tyanglaphant - I		6:00	16:00		√		√		√			√		√		√			√		√		√			√		√		√			√
				Tyanglaphant - II a		8:00	16:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Tyanglaphant - II b		8:00	17:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III a		7:00	13:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III b		6:00	2:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		9:00	15:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		15:30	18:30			√		√					√		√					√		√					√		√				
				Maitri Chandani		16:00	19:00				√		√					√		√						√		√					√		√		√
				Maitri Chandani		9:00	15:00							√								√							√							√	
				Panga Dokashi -I		12:00	17:00			√							√							√							√						
				Panga Dokashi -II		8:00	13:00					√							√							√							√				
				Panga Dokashi -III		8:00	11:20	√							√							√						√							√		
				Bhatkepati - I		8:00	14:00		√							√							√							√							√
				Bhatkepati - II		10:00	17:00			√							√							√							√						
				Bhatkepati - III		10:00	17:00				√							√							√							√					
				Nagaun - I		9:00	17:00					√							√							√							√				
				Nagaun - II		10:00	17:00						√							√							√							√			
				Nagaun - III		8:00	16:00							√							√							√							√		
				Nagaun - IV		9:00	12:00								√							√							√							√	
				Jakha-Sikhunchhe D		9:00	10:00			√			√				√			√			√			√			√			√				
				Jakha-Sikhunchhe U		8:00	9:00				√				√			√			√			√			√			√			√			√	
				Nagaun & Old		5:00	11:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Nagaun & Old		5:00	11:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		10:00	19:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				KIRTIPUR old		10:00	19:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		4:00	20:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Kwachwo - I		4:00	22:00		√							√							√							√							√
				Kwachwo - II		3:00	8:00			√							√							√							√						
				Kwachwo - III		4:00	7:00				√							√							√							√					
				Kwachwo R - I		5:00	9:00					√							√							√							√				
				Kwachwo R - I		3:00	22:00						√							√							√							√			
				Kwachwo R - I		4:00	8:00							√							√							√							√		
				Kwachwo R - I		4:00	7:00								√							√							√							√	
				Bhajangal - I		4:00	9:00			√		√			√		√		√				√		√		√			√		√		√			√
				Bhajangal - II		6:00	10:00		√			√			√	√			√			√	√			√			√	√			√			√	√
				Bhajangal - III		5:00	10:00			√	√		√				√	√		√				√	√		√				√	√		√			
				Nayabazar Area		10:00	18:10		√						√								√							√							√
				Nayabazar Area - I		8:00	18:00				√			√				√			√				√			√				√			√		
				Nayabazar Area - II		14:00	19:00					√							√							√							√				
				Nayabazar Area - II		11:30	16:30	√							√							√							√							√	
Mahankalchaur	1,712	41,087	2.1	2.1.1(A)	649.6	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.1(B)	701.5	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(A)	895.9	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(B)	218.7	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(A)	823.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(B)	473.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.4	452.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
			2.2	2.2.1	1,247.4	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.2	1,412.6	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.3	3,222.2	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.4	994.7	12:00	22:00	√			√			√			√			√			√			√			√			√			
			2.3	2.3.1(A)	826.2	1:00	8:00		√			√			√			√			√			√			√			√				√	
				2.3.1(B)	954.2	1:00	8:00		√			√			√			√			√			√			√			√				√	

Table 6.1.3 Water Supply Plan in Dry Season with Melamchi water (3/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			2.4	2.4.1(A)	832.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(B)	772.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(C)	1,190.7	7:00	12:00	√			√			√			√			√			√			√			√			√			√		
			3.1	3.1.1(A)	672.3	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(B)	588.1	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(C)	563.8	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(A)	814.9	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(B)	988.2	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(C)	738.7	13:00	17:00			√			√			√			√			√			√			√			√			√		√
			3.2	3.2.1(A)	675.5	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(B)	464.9	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(C)	774.4	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(A)	776.0	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(B)	784.1	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(C)	798.7	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
			3.3	3.3.1(A)	652.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(B)	863.5	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(C)	814.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(D)	779.2	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(E)	626.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
			3.4	3.4.1(A)	868.3	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
				3.4.1(B)	589.7	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
			3.5	3.5.1(A)	892.6	4:00	7:00			√			√			√			√			√			√			√			√			√		√
				3.5.1(B)	950.9	7:00	12:00			√			√			√			√			√			√			√			√			√		√
				3.5.2	618.8	7:00	12:00			√			√			√			√			√			√			√			√			√		√
			Old Network	Zone 1	16,119.0	8:00	7:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	7:00			√			√			√			√			√			√			√			√			√			
				Zone 3		10:00	7:00	√			√			√			√			√			√			√			√			√			√			
			Outside Ring Road	Zone 1	40,016.0	8:00	10:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	8:00			√			√			√			√			√			√			√			√			√			
				Zone 3		20:00	0:00	√			√			√			√			√			√			√			√			√			√		
				Zone 4 i		4:00	3:00		√						√							√								√							
				Zone 4 ii		3:00	3:00			√						√								√							√						
				Zone 5 i		4:00	5:00	√							√							√						√								
				Zone 5 ii		5:00	5:00		√							√							√						√							
				Zone 5 iii		5:00	5:00			√							√							√							√						
				Zone 5 iv		5:00	5:00				√							√							√							√					
				Zone 5 v		5:00	4:00					√							√							√							√				
				Zone 5 vi		4:00	22:00						√							√							√							√			
				Zone 5 vii		4:00	4:00							√							√							√							√		
				Zone 6 i		5:00	22:00				√							√				√							√								
				Zone 6 ii		6:00	19:00					√							√							√							√				
				Zone 6 iii		19:00	5:00						√							√							√							√			
				Zone 6 iv		5:00	17:00							√							√							√							√		
Minbhawan	220	5,283	Demo Area	Zone 1	8,100.0	5:00	11:00		√			√			√			√			√			√			√			√			√		√	
				Zone 1 - II		3:00	8:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		5:00	11:00			√			√			√			√			√			√			√			√			√			√
				Zone 2 - II		3:00	8:00			√			√			√			√			√			√			√			√			√			√
				Zone 3		5:00	10:00	√			√			√			√			√			√			√			√			√			√		
				Zone 3 - II		12:00	18:00	√			√			√			√			√			√			√			√			√			√		
Panipokhari	552	13,241	1.1	1.1.1	1,853.3	12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.2		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.3		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
			1.2	1.2.1	3,659.6	12:00	16:00		√			√			√			√			√			√			√			√			√		√	
				1.2.2		7:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.2.3(A)		16:00	20:00		√				√				√				√				√				√				√			√
				1.2.3(B)		16:00	20:00		√				√				√				√				√				√				√			√
			1.3	1.3.1	5,268.2	6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(A)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(B)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(C)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
			1.4	1.4.1	4,639.7	16:00	18:00			√			√			√			√			√			√			√			√			√		√
				1.4.2		16:00	18:00			√			√			√			√			√			√			√			√			√		√
			1.5	1.5.1	424.4	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.2	591.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.3	625.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
			Old Network	1st Zone, 1st Shift	3,240.0	4:00	7:00				√					√			√				√				√				√				√	
				1st Zone, 2nd Shift		07"00	9:00				√					√			√				√				√				√				√	
				1st Zone, 3rd Shift		9:00	11:00				√					√			√				√				√				√				√	
				1st Zone, 4th Shift		11:00	13:00				√					√			√				√				√				√				√	
				1st Zone, 5th Shift		13:00	16:00				√					√			√				√				√				√				√	
				1st Zone, 6th Shift		16:00	19:00				√					√			√				√				√				√				√	
				1st Zone, 7th Shift		19:00	22:00				√					√			√				√				√				√				√	
				2nd Zone		4:00	7:00	√				√				√				√				√				√				√				√	
			Outside Ring Road		0.0																															
Tigeni	394	9,455	Outside Ring Road	1st zone	26,886.0	5:00	4:00	√				√				√				√				√				√				√				√	
				2nd zone		5:00	4:00		√				√				√				√				√				√				√				√
				3rd zone		5:00	4:00			√			√			√			√			√			√			√			√			√			√
				4th zone		5:00	4:00				√				√				√				√				√				√				√		
Katunje	597	14,327	Outside Ring Road	1st zone - I	21,967.0	4:00	10:00				√				√				√				√				√				√				√	
				1st zone - II		16:00	20:00				√				√				√				√				√				√				√	
				2nd zone - I		4:00	10:00	√				√				√				√				√				√				√				√	
				2nd zone - II		16:00	20:00	√				√				√				√				√				√				√				√	
				3rd zone - I		4:00	10:00		√				√				√				√				√				√				√				√
				3rd zone - II		16:00	20:00		√				√				√				√				√				√				√				√
				4th zone - I		4:00	10:00			√			√			√			√			√			√			√			√			√			√
				4th zone - II		16:00	20:00			√			√			√			√			√			√			√			√			√			√
				5th zone -I		10:00	14:00				√				√				√				√				√				√				√	
				5th zone - II		20:00	0:00				√				√				√				√				√				√				√	
				6th zone - I		10:00	14:00			√			√			√			√			√			√			√			√			√			√
				6th zone - II		20:00	0:00			√			√			√			√			√			√			√			√			√			√
		192,000		Total	347,493.1																															

Table 6.1.4 Water Supply Plan in Monsoon Season without Melamchi water (1/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Anamnagar	22	530	4.1	4.1.1	921.8																															
				4.1.2		14:00	20:00			√						√						√						√						√				
			4.2	4.2.1	414.7	11:00	20:00			√						√						√						√						√				
				4.2.2	842.4	11:00	20:00			√						√						√						√						√				
				4.2.3	722.5	11:00	20:00			√						√						√						√						√				
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																															
Balaju	427	10,259	7.1	7.1.1	2,509.4	17:00	22:00						√						√						√						√					√	
				7.1.2	1,297.6	17:00	22:00						√						√						√						√					√	
			7.2	7.2.1(A)		4:00	11:00						√						√						√						√					√	
				7.2.1(B)		4:00	11:00						√						√						√						√					√	
				7.2.2(A)	4,017.6	4:00	11:00						√						√						√						√					√	
				7.2.2(B)		4:00	11:00						√						√						√						√					√	
				7.2.3		4:00	11:00						√						√						√						√					√	
			7.3	7.3.1(A)		4:00	13:00					√						√					√						√					√		
				7.3.1(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(A)	5,022.0	4:00	13:00					√						√					√						√					√		
				7.3.2(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(C)		4:00	13:00					√						√					√						√					√		
				7.3.3		4:00	13:00					√						√					√						√					√		
			7.4	7.4.1(A)		4:00	13:00				√						√						√	√					√					√		
				7.4.1(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.2(A)	0.0	4:00	13:00				√						√						√	√					√					√		
				7.4.2(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.3		4:00	13:00				√						√						√	√					√					√		
				7.4.4		4:00	13:00				√						√						√	√					√					√		
			10.1	10.1.1	777.6																															
			10.2	10.2.1(A)		15:00	20:00					√						√						√						√					√		
				10.2.1(B)		15:00	20:00					√						√						√						√					√		
				10.2.1(C)	4,327.0	15:00	20:00					√						√						√						√					√		
				10.2.2(A)		15:00	20:00				√						√						√						√					√		
				10.2.2(B)		15:00	20:00				√						√						√						√					√		
				10.2.2(C)		15:00	20:00				√						√						√						√					√		
			Old Network	1st Zone		6:00	8:00				√						√						√						√					√		
				2nd Zone		8:00	18:00				√						√						√						√					√		
				1st zone, 1st Shift		3:30	5:00			√						√						√						√					√				
				1st zone, 2nd Shift		7:00	8:00			√						√						√						√					√				
				1st zone, 3rd Shift		13:00	17:00			√						√						√						√					√				
				2nd Zone, 1st Shift		14:30	15:30						√						√						√						√					√	
				2nd Zone 2nd Shift		15:30	16:30						√						√						√						√					√	
				2nd Zone 3rd Shift	14,742.0	16:30	17:30						√						√						√						√					√	
				3rd Zone, 1st Shift		14:30	15:30				√						√						√						√					√		
				3rd Zone, 2nd Shift		15:30	16:30				√						√						√						√					√		
				3rd Zone, 3rd Shift		16:30	17:30				√						√						√						√					√		
				3rd Zone, 4th Shift		17:30	18:30				√						√						√						√					√		
				3rd Zone, 5th Shift		18:30	19:30				√						√						√						√					√		
				4th Zone, 1st Shift		14:30	17:00			√						√						√						√						√		
				4th Zone, 2nd Shift		15:30	17:00			√						√						√						√						√		
				5th Zone, 1st Shift		15:30	17:00				√						√						√						√					√		
			Outside Ring Road	1st Zone	16,200.0	5:15	8:00						√						√						√						√					√	
				2nd Zone		5:15	8:00			√						√						√						√						√				
Bansbari	54	1,300	Old Network	1st zone, 1st Shift		3:00	5:00				√						√						√						√					√		
				1st zone, 2nd Shift		9:00	11:00				√						√						√						√					√		
				1st zone, 3rd Shift		15:00	17:00				√						√						√						√					√		
				2nd Zone, 1st Shift		3:00	5:00					√						√						√						√					√	
				2nd Zone 2nd Shift		9:00	11:00					√						√						√						√					√	
				2nd Zone 3rd Shift		15:00	17:00					√						√						√						√					√	
				3rd Zone, 1st Shift		3:00	5:00						√						√						√						√					√	
				3rd Zone, 2nd Shift	17,010.0	9:00	11:00						√						√						√						√					√	
				4th Zone, 1st Shift		3:00	5:00	√						√						√						√						√					√
				4th Zone, 2nd Shift		9:00	11:00	√						√						√						√						√					√
				4th Zone, 3rd Shift		15:00	17:00	√						√						√						√						√					√
				5th Zone, 1st Shift		3:00	5:00		√						√						√						√						√				
				5th Zone, 2nd Shift		9:00	11:00		√						√						√						√						√				
				5th Zone, 3rd Shift		15:00	17:00		√						√						√						√						√				
				6th Zone, 1st Shift		18:00	22:00			√						√						√						√					√				
			Outside Ring Road	1st zone, 1st Shift		3:00	5:30		√					√						√					√						√						
				1st zone, 2nd Shift		14:00	15:30		√					√						√					√						√						
				1st zone, 3rd Shift		15:30	16:30		√					√						√					√						√						
				2nd Zone, 1st Shift		3:00	5:00			√					√					√						√						√					
				2nd Zone 2nd Shift	12,150.0	14:00	16:00			√					√					√						√						√					
				3rd Zone, 1st Shift		3:00	5:00				√					√						√						√						√		
				3rd Zone, 2nd Shift		14:00	16:00				√					√						√						√						√		
				4th Zone, 1st Shift		3:00	5:00					√					√					√						√					√			
				4th Zone, 2nd Shift		14:00	16:00					√					√					√						√					√			
				5th Zone, 1st Shift		3:00	5:00	√					√					√					√						√								√

Table 6.1.5 Water Supply Plan in Monsoon Season without Melamchi water (2/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																								
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Khumaltar	468	11,241	5.1	5.1.1	9,149.8	14:00	21:00							7							14							21							28			
				5.1.2		14:00	21:00							7							14							21							28			
				5.1.3		14:00	21:00							7							14							21							28			
			5.2	5.2.1	5,859.5	4:00	11:00						6							13						20							27				
				5.2.2		4:00	11:00						6							13						20							27				
				5.2.3		4:00	11:00						6							13						20							27				
			6.1	6.1(DNI)	5,938.9	19:00	6:00						6							13						20							27				
				6.1(DNI)		19:00	6:00							7							14							21							28			
			6.2	6.2(DNI)	7,385.6	18:00	6:00				4							11						18							25						
				6.2(DNI)		18:00	6:00					5							12							19							26					
			8.1	8.1 (DNI)	6,306.7	8:00	20:00					5							12							19							26					
			8.2	8.2 (DNI)	4,536.0	8:00	20:00					5							12							19							26					
			9.1	9.1.1	1,294.4	20:00	5:00								√							√							√							√		
				9.1.2	1,681.6	20:00	5:00								√							√							√							√		
				9.1.3	894.2	20:00	5:00								√							√							√							√		
			9.2	9.2.1	1,202.0	5:00	19:00							√							√							√							√		
				9.2.2	1,020.6	5:00	19:00							√							√							√							√		
				9.2.3	1,095.1	5:00	19:00							√							√							√							√		
				9.2.4	657.7	5:00	19:00							√							√							√							√		
				9.2.5	724.1	5:00	19:00							√							√							√							√		
				9.2.6	1,009.3	5:00	19:00							√							√							√							√		
				9.2.7	782.5	5:00	19:00							√							√							√							√		
			Old Network		0.0																																	
			Outside Ring Road	8.1 (20" KUKL)	11,980.0	6:00	14:00				4							11						18							25						
				8.1 (20" KUKL)		15:00	17:00				4							11						18							25						
				8.1 (20" KUKL)		7:00	16:00		2							9						16								23							30	
				8.1 (20" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	13:00							7							14							21							28			
Kirtipur	247	5,923	11.1	11.1.1	3,361.5	18:00	6:00	√						√						√					√						v	√						√
			11.2	11.2.1	2,723.2	18:00	6:00						√						√						√					√						v		
			11.3	11.3.1	2,723.2	18:00	6:00					√						√						√					√						v			
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network		7,128.0	7:00	17:00																															
			Siwalaya System	Siwalaya 1		7:00	12:30							√							√							√							√			
				Siwalaya 1		7:00	9:40	√							√							√							√							√			
			Bhajangal System	Bhajangal R1		4:00	8:40	√				√			√				√			√				√			√				√			√			
				Bhajangal R2		5:00	5:40	√		√					√		√					√		√					√		√					√			√
				Bhajangal R3		5:00	8:40	√			√				√			√				√			√					√			√				√		
				Bhajangal R4		5:00	5:40		√					√		√						√		√				√		√					√		√	
						18:30	20:00		√					√		√						√		√				√		√					√		√	
				Bhajangal R5		6:00	8:40		√			√				√			√				√			√				√			√				√	
				Bhajangal D		8:00	14:40			√			√				√			√				√			√				√			√				√
				Bhajangal K		8:00	11:20				√			√				√			√				√			√				√			√			
				Gurung Compound		14:40	18:00				√							√							√							√						
			Chilancho System	Chilancho 1		4:00	7:30	√				√			√				√			√				√			√				√			√		
						21:00	22:00	√				√			√				√			√				√			√				√			√		
				Chilancho 2		6:00	9:00		√				√			√				√			√				√			√				√			√	
						19:30	20:00		√				√			√				√			√				√			√				√			√	
				Chilancho 3		4:00	8:00				√			√				√			√				√			√				√			√		
				Chilancho 4		16:00	19:00	√				√		√	√			√	√		√	√			√	√		√	√			√	√		√	√		
				Chilancho 5		14:30	18:30		√				√	√		√		√		√	√		√		√		√	√		√		√		√		√		
				Chilancho 6		14:15	18:00				√			√				√							√				√			√			√			
			Devdhoka System	Devdhoka 1	17,097.0	6:00	15:00	√							√							√							√							√		
						12:00	15:00	√							√							√							√							√		
				Devdhoka 2		6:00	19:00		√							√							√							√							√	
						15:00	19:00		√							√							√							√							√	
				Devdhoka 3		6:00	11:00			√							√							√							√							√
						13:00	14:00			√							√							√							√							√
				Devdhoka 4		6:00	10:00				√							√							√							√						
				Devdhoka 5		6:00	9:00					√							√							√							√						
						12:00	15:30					√							√														√						
				Devdhoka 6		6:00	9:00						√							√							√							√				
						15:00	18:30						√							√							√							√				
				Devdhoka 7		6:00	21:00							√							√							√							√			
						15:00	18:30							√							√							√							√			
			Kwacho System	Kwacho 1		4:00	6:30	√				√			√				√			√				√			√				√			√		
						18:30	19:30	√				√			√				√			√				√			√				√			√		
				Kwacho 2		3:00	6:30		√				√			√				√			√				√			√				√			√	
				Kwacho 3		4:00	5:30			√				√			√				√			√				√			√				√			√
			Jakha System	Water is used when local																																		
			Nagau System	Nagau 1 (8 area)		5:00	9:00	√		√		√			√		√		√			√		√		√			√		√		√			√			√
				Nagau 2 (8 area)		5:00	9:00		√		√		√			√		√			√		√		√		√			√		√		√			√		
Mahankalchaur	348	8,344	2.1	2.1.1(A)	649.0	11:00	14:00	√						√							√						√					√						
				2.1.1(B)	701.5	11:00	14:00	√						√							√						√					√						
				2.1.2(A)	895.9	11:00	14:00	√						√							√						√					√						
				2.1.2(B)	218.7	11:00	14:00	√						√							√						√					√						
				2.1.3(A)	823.0	11:00	14:00	√						√							√						√					√						
				2.1.3(B)	473.0	11:00	14:00	√						√							√						√					√						
				2.1.4	452.0	11:00	14:00	√						√							√						√					√						
			2.2	2.2.1	1,247.4	13:00	22:00			√						√						√						√						√			
				2.2.2	1,412.6	13:00	22:00			√						√						√						√						√			
				2.2.3	3,222.2	13:00	22:00			√						√						√						√						√			
				2.2.4	994.7	13:00	22:00			√						√						√						√						√			
			2.3	2.3.1(A)	826.2	22:00	1:00		√						√						√						√					√					
				2.3.1(B)	954.2	22:00	1:00		√						√						√						√					√					
			2.4	2.4.1(A)	832.7	14:00	20:00	√						√						√					√						√						
				2.4.1(B)	772.7	14:00	20:00	√						√						√					√						√						
				2.4.1(C)	1,190.7	14:00	20:00	√						√						√					√						√						

Table 6.1.6 Water Supply Plan in Monsoon Season without Melamchi water (3/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																													
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
			3.1	3.1.1(A)	672.3	11:00	17:00		√						√						√						√						√					
				3.1.1(B)	588.1	11:00	17:00		√						√						√						√						√					
				3.1.1(C)	563.8	11:00	17:00		√						√						√						√						√					
				3.1.2(A)	814.9	11:00	17:00		√						√						√						√						√					
				3.1.2(B)	988.2	11:00	17:00		√						√						√						√						√					
				3.1.2(C)	738.7	11:00	17:00		√						√						√						√						√					
			3.2	3.2.1(A)	675.5	6:00	12:00			√						√						√						√						√				
				3.2.1(B)	464.9	6:00	12:00			√						√						√						√						√				
				3.2.1(C)	774.4	6:00	12:00			√						√						√						√						√				
				3.2.2(A)	776.0	6:00	12:00			√						√						√						√						√				
				3.2.2(B)	784.1	6:00	12:00			√						√						√						√						√				
				3.2.2(C)	798.7	6:00	12:00			√						√						√						√						√				
			3.3	3.3.1(A)	652.9	15:00	21:00		√						√						√						√						√					
				3.3.1(B)	863.5	15:00	21:00		√						√						√						√						√					
				3.3.1(C)	814.9	15:00	21:00		√						√						√						√						√					
				3.3.1(D)	779.2	15:00	21:00		√						√						√						√						√					
				3.3.1(E)	626.9	15:00	21:00		√						√						√						√						√					
			3.4	3.4.1(A)	868.3	20:00	23:00	√						√					√					√							√							
				3.4.1(B)	589.7	20:00	23:00	√						√					√					√							√							
			3.5	3.5.1(A)	802.6	4:00	10:00		√						√						√						√						√					
				3.5.1(B)	950.9	4:00	10:00		√						√						√						√						√					
				3.5.2	618.8	4:00	10:00		√						√						√						√						√					
			Old Network	Zone 1 a	16,119.0	8:00	10:00		√			√			√			√			√			√			√			√			√			√		
				Zone 1 b		16:00	19:00		√			√			√			√			√			√			√			√			√			√		
				Zone 2		4:00	8:00			√			√			√			√			√			√			√			√			√			√	
				Zone 3 a		11:00	13:00	√			√			√			√			√			√			√			√			√			√			√
				Zone 3 b		13:00	16:00	√			√			√			√			√			√			√			√			√			√			√
			Outside Ring Road	Zone 1-gravity	19,846.4																																	
				Zone 2-gravity																																		
				Zone 3 a-pumping																																		
				Zone 3 b-pumping																																		
				Zone 3 c-pumping																																		
				Zone 3 d-pumping																																		
				Zone 3 e-pumping																																		
				Zone 3 f-pumping																																		
				Zone 3 g-pumping																																		
Minbhawan	62	1,480	Demo Area	Zone 1	8,100.0	10:00	12:30						√						√						√					√						√	
				Zone 2		18:00	20:30						√						√						√					√						√	
				Zone3		5:00	8:00	√						√						√						√						√						√
				Zone 4		15:00	18:00	√						√						√						√						√						√
				Zone 5		5:00	8:00		√						√						√						√						√					
				Zone 6		12:00	16:00		√						√						√						√						√					
Panipokhari	155	3,710	1.1	1.1.1	1,853.3	4:00	22:00							√						√						√						√					√
				1.1.2										√						√						√						√					√
				1.1.3										√						√						√						√					√
			1.2	1.2.1	3,659.6	4:00	7:00								√						√						√						√				
				1.2.2											√						√						√						√				
				1.2.3(A)											√						√						√						√				
				1.2.3(B)											√						√						√						√				
			1.3	1.3.1	5,268.2	14:00	21:00							√						√						√						√					√
				1.3.2(A)		14:00	21:00							√						√						√						√					√
				1.3.2(B)		14:00	21:00							√						√						√						√					√
				1.3.2(C)		14:00	21:00							√						√						√						√					√
			1.4	1.4.1	4,639.7	13:00	19:00						√						√					√					√						√	
				1.4.2		13:00	19:00						√						√					√					√						√	
			1.5	1.5.1	424.4	5:00	13:00							√						√						√						√					√
				1.5.2	591.3	5:00	13:00							√						√						√						√					√
				1.5.3	625.3	5:00	13:00							√						√						√						√					√
Tigeni	50	1,199	Outside Ring Road	1st zone	26,886.0	4:00	11:00		√							√						√							√						√	
				2nd zone		4:00	11:00			√							√						√							√						√
				3rd zone		4:00	11:00				√							√						√							√						
				4th zone		4:00	11:00					√							√						√							√					
				5th zone		4:00	11:00						√							√						√							√				
				6th zone		4:00	11:00							√							√						√							√			
				7th zone		4:00	11:00	√							√							√						√							√			
Katunje	167	4,014	Outside Ring Road	1st zone	21,967.0	13:00	20:00		√						√						√						√						√				
				2nd zone						√						√						√						√						√				
				3rd zone					√						√						√						√						√				
				4th zone		14:00	17:00		√			√			√			√				√			√			√			√			√			√	
				5th zone		8:00	12:00	√						√						√						√						√						√
				6th zone				√						√						√						√						√						√
				7th zone				√						√						√						√						√						√
				8th zone		6:00	10:00			√			√			√			√			√			√			√			√			√			
				9th zone		8:00	11:00		√							√						√						√						√				
		48,000		Total	317,550.0																																

7. Actions to be taken by KUKL

In the technical cooperation project by JICA, indicators are established to measure the achievement of Output 1 and the project purpose.

Both indicators must be achieved by December 2026, when the technical cooperation project concludes.

[Output 1]

The capacity of water distribution management utilizing GIS is enhanced.

Indicator 1-3: The water distribution plan for maintaining fair supply hour is prepared for the DMAs within the Ring Road.

[Project Purpose]

The KUKL's capacity of operation and maintenance of water supply is improved.

Indicator 1: The water distribution management plan for fair water supply is implemented in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

Indicator 2: Water supply hours are fair in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

To achieve the above-mentioned indicators, KUKL should implement the following actions:

7.1 Actions to be taken by Production Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-1: Monthly water inflow at each SRT from BDS
(Table 7.1.1, Table 7.1.2, Figure 7.1.1, Figure 7.1.2)

PI-2: Monthly water inflow per customer at each SRT from BDS
(Table 7.1.3, Figure 7.1.3)

PI-3: Water losses in BDS between New Sundarijal WTP and each SRT
(Table 7.1.2)

Table 7.1.1 Monitoring Format of Monthly Inflow by SRT wise (1/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Baisakh		Jestha		Asadh		Shrawan		Bhadra		Ashwin	
				14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	15164	3	231591	46	129935	26	114419	23	131183	26	372,456	74
Balaju (New)	15,556	291,578	1,098,464	237048	15	280865	18	184668	12	199020	13	181238	12	230070	15
Balaju (Old)	19,100			298687	16	239059	13	115738	6	0	0	202898	11	351175	18
Bansbari (Old)	18,000	30,605	265,132	291703	16	293788	16	44799	2	0	0	317	0	6784	0
Khumaltar	37,974	319,495	1,203,634	1023350	27	1146020	30	662190	17	734120	19	764932	20	802258	21
Kirtipur	19,949	168,358	634,255	323657	16	329460	17	198622	10	237609	12	216165	11	249046	12
Mahankalchaur (New)	19,731	291,538	1,098,313	467845	24	516628	26	225886	11	287506	15	450396	23	466119	24
Mahankalchaur (Old)	34,651	33,548	134,298	431083	12	442614	13	72781	2	0	0	303	0	162782	5
Minbhawan	5,000	42,067	158,481	236571	47	136076	27	58780	12	108294	22	119345	24	150899	30
Panipokhari (New)	10,532	105,438	397,217	137442	13	133258	13	87793	8	88573	8	95710	9	111872	11
Panipokhari (Old)	2,000			37848	19	21103	11	7043	4	17084	9	11696	6	14515	7
Tigeni	16,596	28,218	283,640	-	-	-	-	-	-	-	-	344	0	483	0
Katunje	13,560	114,086	429,797	0	0	328681	24	180919	13	154526	11	166588	12	208998	15
Average				291,700	17	341,595	21	164,096	10	161,763	11	180,086	12	240,574	18

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

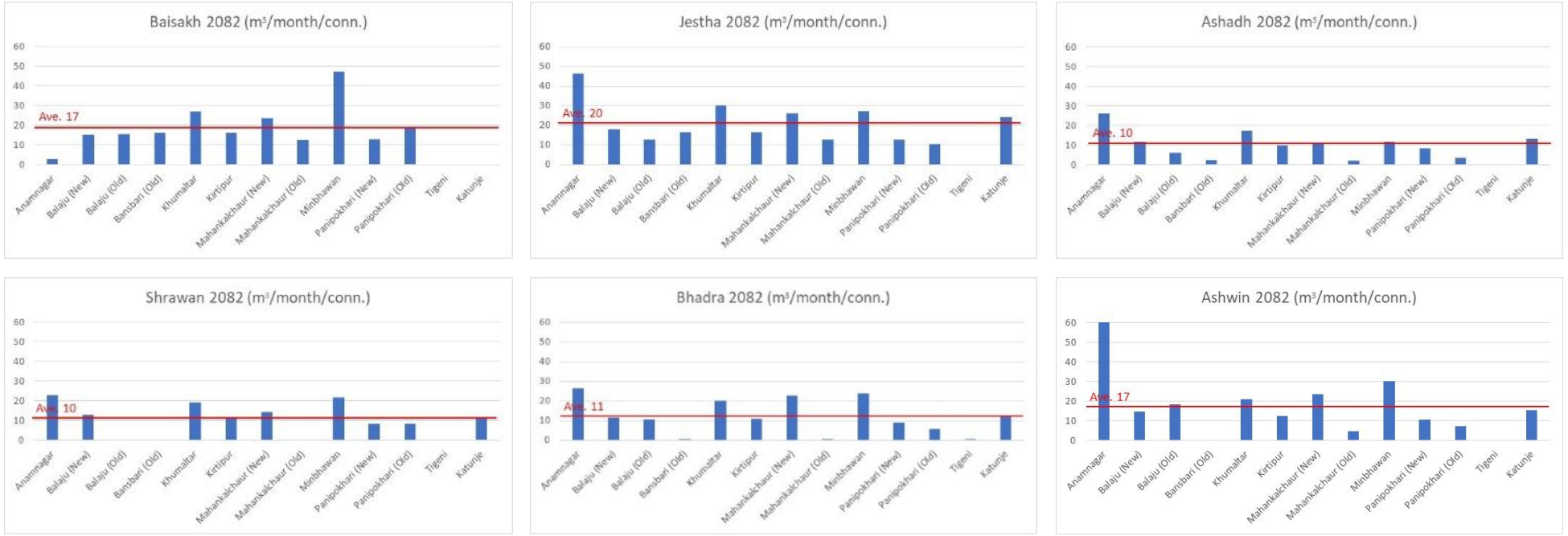


Figure 7.1.1 Change of Monthly Inflow by SRT wise (1/2)

Table 7.1.2 Monitoring Format of Monthly Inflow by SRT wise (2/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Kartik		Mangsir		Poush			Magh		Falgun		Chaitra	
				18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25		14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	14-Mar-26	15-Mar-26	13-Apr-26
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow		Inflow		Inflow			Inflow		Inflow		Inflow	
				(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	Local sources	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	182330	36	143,488	29	220,633		44		0		0		0
Balaju (New)	15,556	291,578	1,098,464	326808	21	363,390	23	414,438		27		0		0		0
Balaju (Old)	19,100			438440	23	460,982	24	585,595		31		0		0		0
Bansbari (Old)	18,000	30,605	265,132	64275	4	102,621	6	292,397	104,400	22		0		0		0
Khumaltar	37,974	319,495	1,203,634	972150	26	1,016,340	27	1,227,320		32		0		0		0
Kirtipur	19,949	168,358	634,255	335258	17	347,178	17	424,761		21		0		0		0
Mahankalchaur (New)	19,731	291,538	1,098,313	477628	24	522,914	27	618,450		31		0		0		0
Mahankalchaur (Old)	34,651	33,548	134,298	411567	12	441,275	13	487,527	681,500	34		0		0		0
Minbhawan	5,000	42,067	158,481	195975	39	140,311	28	234,816		47		0		0		0
Panipokhari (New)	10,532	105,438	397,217	192052	18	213,775	20	227,497		22		0		0		0
Panipokhari (Old)	2,000			24593	12	27277	14	53,189		27		0		0		0
Tigeni	16,596	28,218	283,640	469	0	288,000	17	288,000	161,994	27		0		0		0
Katunje	13,560	114,086	429,797	350301	26	344,498	25	398,271	-76,560	24		0		0		0
Average				305,527	20	339,388	21	420,992		30		0		0		0

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

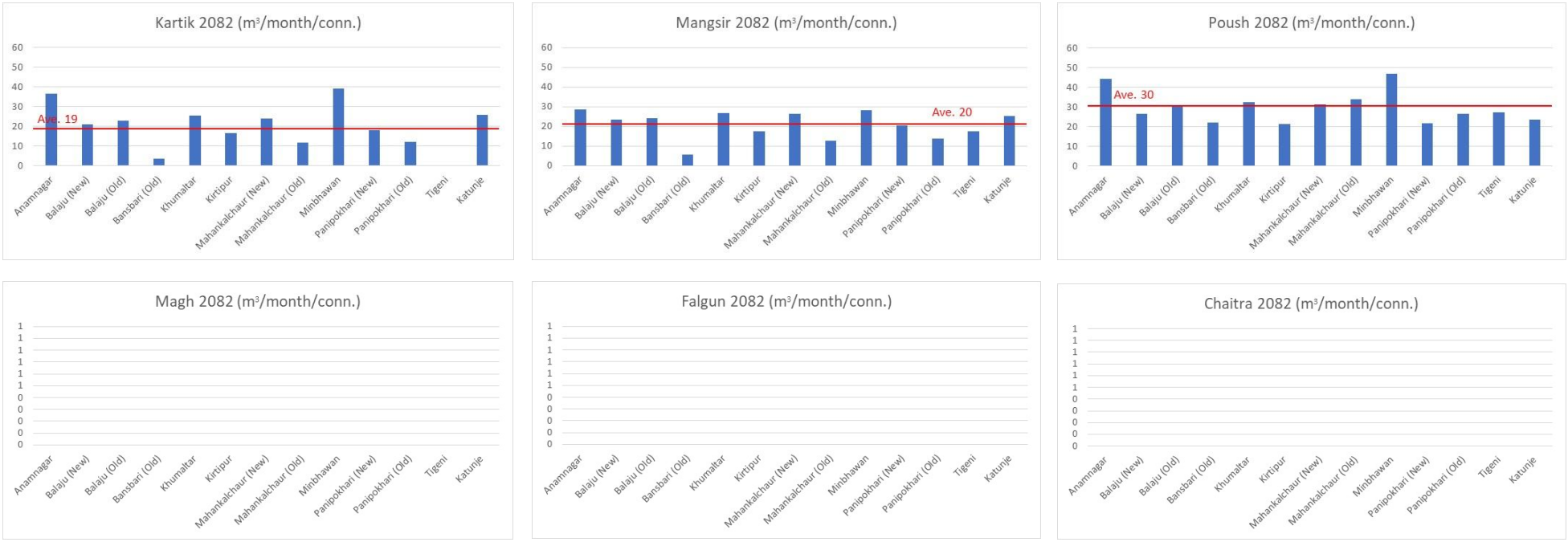


Figure 7.1.2 Change of Monthly Inflow by SRT wise (2/2)

Table 7.1.3 Monitoring Format of Water Loss in BDS

Description	Unit	January/2025	February/2025	March/2025	April/2025	May/2025	June/2025
Total Water transmitted from New Sundarijal WTP	m3						
Total water received by SRTs	m3						
Water losses in BDS	m3						
Wate losses ratio	%						
Description	Unit	July/2025	August/2025	September/2025	October/2025	November/2025	December/2025
Total Water transmitted from New Sundarijal WTP	m3	1,104,558.54	2,541550.32	2,819,664.66	4,337,372.36	4402496.86	5m796,124.00
Total water received by SRTs	m3	2,294,058.00	2,421495.00	2,707,171.00	4,290,970.00	4412049	5,691,271.00
Water losses in BDS	m3	-1,189,499.46	120,055.32	112,493.66	46,402.36	-9,552.14	104,853.00
Wate losses ratio	%	-107.69	4.72	3.99	1.07	-0.22	1.81

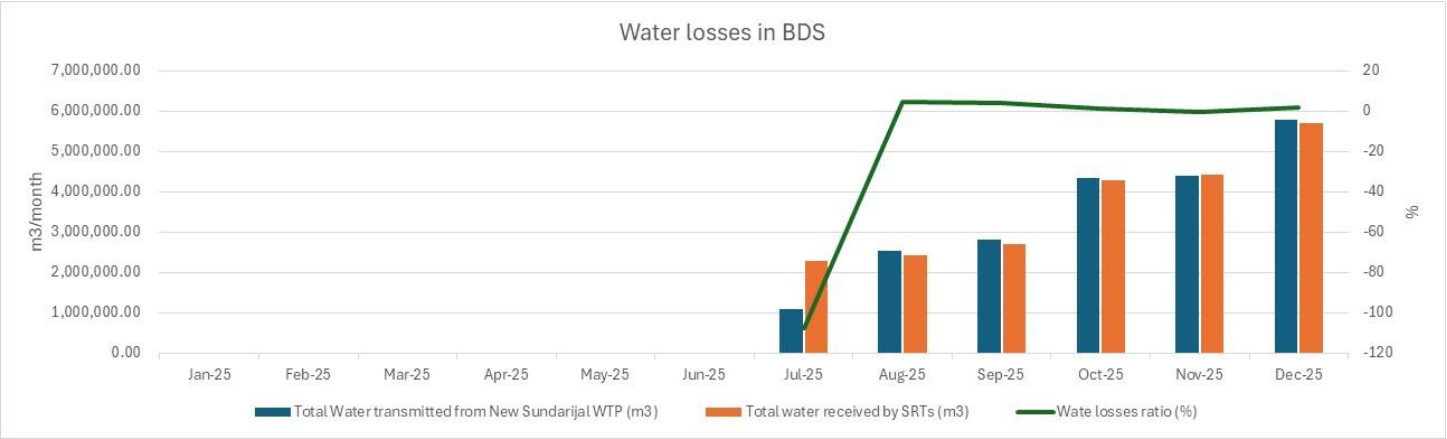


Figure 7.1.3 Change of Water Losses in BDS

7.2 Actions to be taken by Operation Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-4: Daily water supply volume as average at each DMA or sub-DMA and the volume per connection (Table 7.2.1, Figure 7.2.1, Figure 7.2.2)

[Responsibilities of the Operation Division]

- The Operations Division monitors the number of customers and water distribution volumes for each DMA on a monthly basis.
- The Operation Division monitors an indicator (PI-4) calculated by dividing the water distribution volume per DMA by the number of customers on a monthly basis.
- Using the Indicator PI-4. evaluate the feasibility of achieving equitable water distribution. If significant inequities arise or significant fluctuations occur, review the water distribution volume and distribution times for each DMA.

In addition to those main actions, the Operation division shall take responsibility for daily maintenance of SRTs. The operation division is required to take a record of the following monitoring.

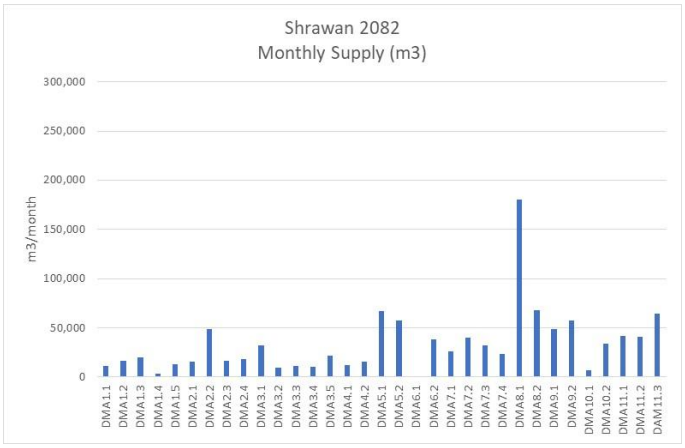
PI-5: Operation and Maintenance Status of each SRT (Table 7.2.2, Table 7.2.3)

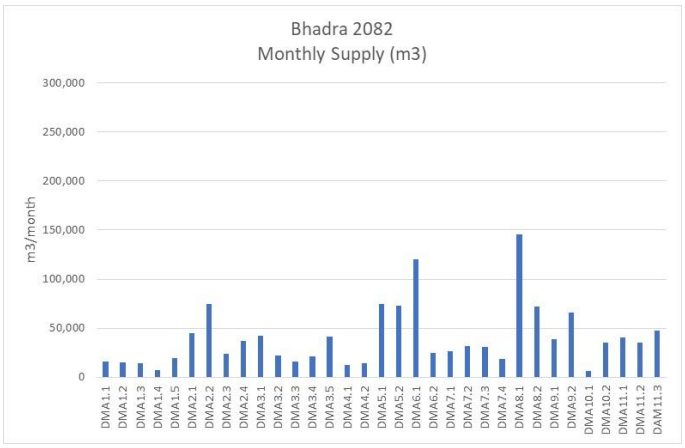
Action-1: Allocate the responsible operator (Everyday)
Action-2: Prepare a Standard Operation Procedure (SOP) for each SRT (Everyday)
Action-3: Cleaning work of the inside of valve chambers (2 times per month)
Action-4: Inspection of air valves at the outlet chamber (2 time per month)
Action-5: Cleaning work of the inside of reservoirs (1 time per year)
Action-6: Inspection of the inside of reservoirs (1 time per year)
Action-7: Water quality test (Everyday)

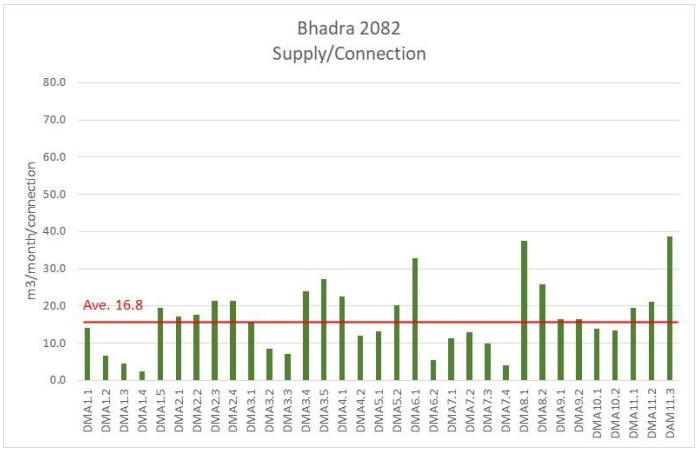
Table 7.2.1 Monitoring Format of Water Supply Volume by DMA wise

Year:2082	1	1		2		3		4		5		6		7		8		9		10		11		12	
	Baisakha	Baisakha		Jestha		Asadh		Shrawan		Bhadra		Ashwin		Kartik		Mangsir		Poush		magh		Falgun		Chaitra	
DMA	No. of Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection
DMA1.1	1,144	21,648	18.9	13,221	11.6	6,092	5.3	11,017	9.6	16,049	14.0	13,973	12.2	27,747	24.3	29,252	25.6	29,370	25.7	0	0.0	0	0.0	0	0.0
DMA1.2	2,259	25,922	11.5	35,173	15.6	19,444	8.6	16,136	7.1	15,011	6.6	18,217	8.1	28,727	12.7	37,082	16.4	41,999	18.6	0	0.0	0	0.0	0	0.0
DMA1.3	3,252	37,697	11.6	24,193	7.4	15,796	4.9	19,892	6.1	14,553	4.5	16,613	5.1	50,400	15.5	62,017	19.1	56,966	17.5	0	0.0	0	0.0	0	0.0
DMA1.4	2,864	5,717	2.0	4,591	1.6	1,946	0.7	3,314	1.2	7,159	2.5	6,845	2.4	5,161	1.8	19,453	6.8	8,288	2.9	0	0.0	0	0.0	0	0.0
DMA1.5	1,013	26,675	26.3	19,455	19.2	15,818	15.6	13,108	12.9	19,660	19.4	18,398	18.2	25,601	25.3	40,877	40.4	32,025	31.6	0	0.0	0	0.0	0	0.0
DMA2.1	2,601	41,335	15.9	48,209	18.5	18,312	7.0	15,388	5.9	44,703	17.2	52,792	20.3	73,993	28.4	99,200	38.1	85,590	32.9	0	0.0	0	0.0	0	0.0
DMA2.2	4,245	97,828	23.0	88,406	20.8	35,715	8.4	48,721	11.5	74,516	17.6	96,162	22.7	96,259	22.7	125,271	29.5	67,604	15.9	0	0.0	0	0.0	0	0.0
DMA2.3	1,099	23,446	21.3	27,561	25.1	7,506	6.8	16,152	14.7	23,541	21.4	16,114	14.7	21,198	19.3	34,262	31.2	32,861	29.9	0	0.0	0	0.0	0	0.0
DMA2.4	1,726	27,410	15.9	31,419	18.2	16,988	9.8	18,450	10.7	36,817	21.3	28,018	16.2	27,321	15.8	35,194	20.4	43,056	24.9	0	0.0	0	0.0	0	0.0
DMA3.1	2,695	59,187	22.0	52,864	19.6	26,607	9.9	32,091	11.9	42,450	15.8	41,410	15.4	45,549	16.9	60,547	22.5	82,687	30.7	0	0.0	0	0.0	0	0.0
DMA3.2	2,638	19,912	7.5	16,719	6.3	7,802	3.0	9,946	3.8	22,357	8.5	21,939	8.3	30,817	11.7	44,383	16.8	1,980	0.8	0	0.0	0	0.0	0	0.0
DMA3.3	2,307	19,119	8.3	12,201	5.3	13,993	6.1	11,359	4.9	16,331	7.1	10,784	4.7	6,494	2.8	13,961	6.1	6,345	2.8	0	0.0	0	0.0	0	0.0
DMA3.4	900	25,964	28.8	22,342	24.8	9,682	10.8	10,516	11.7	21,542	23.9	20,233	22.5	23,032	25.6	33,976	37.8	22,445	24.9	0	0.0	0	0.0	0	0.0
DMA3.5	1,520	30,491	20.1	29,776	19.6	19,133	12.6	21,938	14.4	41,349	27.2	25,625	16.9	51,037	33.6	37,626	24.8	28,972	19.1	0	0.0	0	0.0	0	0.0
DMA4.1	569	20,624	36.2	20,328	35.7	16,961	29.8	12,591	22.1	12,792	22.5	15,569	27.4	19,270	33.9	16,257	28.6	27,560	48.4	0	0.0	0	0.0	0	0.0
DMA4.2	1,222	32,362	26.5	29,019	23.7	19,335	15.8	15,577	12.7	14,663	12.0	19,796	16.2	25,419	20.8	20,552	16.8	23,110	18.9	0	0.0	0	0.0	0	0.0
DMA5.1	5,648	104,751	18.5	113,842	20.2	66,889	11.8	67,444	11.9	74,886	13.3	76,034	13.5	117,202	20.8	160,002	28.3	148,855	26.4	0	0.0	0	0.0	0	0.0
DMA5.2	3,617	73,329	20.3	94,180	26.0	42,194	11.7	57,770	16.0	72,932	20.2	58,361	16.1	75,219	20.8	120,350	33.3	107,295	29.7	0	0.0	0	0.0	0	0.0
DMA6.1	3,666	92,386	25.2	225,885	61.6	45,045	12.3	0	0.0	120,495	32.9	157,296	42.9	144,778	39.5	169,591	46.3	211,028	57.6	0	0.0	0	0.0	0	0.0
DMA6.2	4,559	20,120	4.4	107,860	23.7	51,579	11.3	38,735	8.5	24,491	5.4	53,359	11.7	7,525	1.7	63,393	13.9	23,176	5.1	0	0.0	0	0.0	0	0.0
DMA7.1	2,350	42,330	18.0	34,721	14.8	21,020	8.9	25,749	11.0	26,498	11.3	35,978	15.3	33,058	14.1	44,179	18.8	37,704	16.0	0	0.0	0	0.0	0	0.0
DMA7.2	2,480	44,289	17.9	38,732	15.6	24,663	9.9	39,861	16.1	32,022	12.9	29,824	12.0	42,822	17.3	89,470	36.1	49,134	19.8	0	0.0	0	0.0	0	0.0
DMA7.3	3,100	33,038	10.7	55,121	17.8	27,045	8.7	32,592	10.5	30,638	9.9	29,986	9.7	48,528	15.7	50,049	16.1	52,972	17.1	0	0.0	0	0.0	0	0.0
DMA7.4	4,475	46,350	10.4	34,726	7.8	31,530	7.0	23,479	5.2	18,656	4.2	45,727	10.2	55,808	12.5	91,910	20.5	81,872	18.3	0	0.0	0	0.0	0	0.0
DMA8.1	3,893	243,448	62.5	253,177	65.0	111,160	28.6	180,034	46.2	145,776	37.4	168,523	43.3	211,259	54.3	274,338	70.5	256,717	65.9	0	0.0	0	0.0	0	0.0
DMA8.2	2,800	112,901	40.3	86,608	30.9	70,131	25.0	67,884	24.2	72,491	25.9	81,403	29.1	72,187	25.8	76,861	27.5	72,160	25.8	0	0.0	0	0.0	0	0.0
DMA9.1	2,389	113,632	47.6	108,407	45.4	60,422	25.3	49,032	20.5	39,160	16.4	51,395	21.5	58,327	24.4	81,353	34.1	99,425	41.6	0	0.0	0	0.0	0	0.0
DMA9.2	4,007	95,662	23.9	96,331	24.0	63,773	15.9	57,680	14.4	65,922	16.5	74,004	18.5	70,840	17.7	134,651	33.6	133,988	33.4	0	0.0	0	0.0	0	0.0
DMA10.1	480	9,223	19.2	10,751	22.4	4,883	10.2	7,236	15.1	6,646	13.8	7,211	15.0	28,696	59.8	16,266	33.9	23,945	49.9	0	0.0	0	0.0	0	0.0
DMA10.2	2,671	55,874	20.9	53,489	20.0	33,176	12.4	33,812	12.7	35,507	13.3	44,055	16.5	77,317	28.9	59,582	22.3	85,442	32.0	0	0.0	0	0.0	0	0.0
DMA11.1	2,075	39,163	18.9	34,347	16.6	28,235	13.6	42,134	20.3	40,646	19.6	33,276	16.0	43,180	20.8	60,738	29.3	53,179	25.6	0	0.0	0	0.0	0	0.0
DMA11.2	1,681	48,781	29.0	27,279	16.2	20,924	12.4	41,258	24.5	35,708	21.2	31,406	18.7	30,385	18.1	55,741	33.2	53,264	31.7	0	0.0	0	0.0	0	0.0
DAM11.3	1,239	92,592	74.7	75,878	61.2	49,886	40.3	64,198	51.8	47,964	38.7	62,830	50.7	123,897	100.0	132,456	106.9	176,441	142.4						
Total / Avarage	81,945	1,690,614	23.0	1,850,933	23.1	953,799	12.7	1,040,896	14.3	1,265,967	16.8	1,400,326	17.9	1,675,154	24.3	2,258,383	29.9	2,081,013	29.8	0	0.0	0	0.0	0	0.0
More than 1.5 times of Average			4		4		4		4		4		4		3		2		4		32		32		32
Less than 1/2 of Average			7		5		5		7		6		5		4		3		4		32		32		32

Figure 7.2.1 Monitoring Graph of Water Supply Volume by DMA wise (1/2)







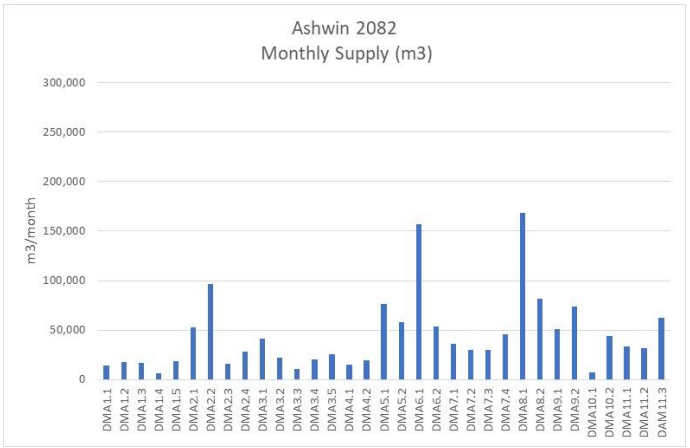


Figure 7.2.2 Monitoring Graph of Water Supply Volume by DMA wise (2/2)

Table 7.2.2 Monitoring Record of Operation & Maintenance of SRTs (1/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Anamnagar (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Arubari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Khumaltar (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Kirtipur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Mahankalchaur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

Table 7.2.3 Monitoring Record of Operation & Maintenance of SRTs (2/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Mahankalchaur (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Minbhawan (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Tigeni																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Katunje																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

7.3 Actions to be taken by each Branch Office

Improvements in water supply services should not be evaluated solely based on water volume. By accurately notifying customers of water delivery schedule and ensuring KUKL operators adhere to these schedules, customer satisfaction can be enhanced.

From this perspective, at the branch office level, efforts must be made to reduce customer complaints by verifying monthly whether any complaints are received regarding the pre-planned water supply schedule.

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicator must be monitored by each branch manager.

PI-6: Number of grievances about water supply hour especially the gap between standard supply hour and real supply hour (Table 7.3.1, Table 7.3.2)

Action-1: The branch manager must accurately track the number of customers within the DMA under their branch's jurisdiction.

Action-2: Report the number of customers per DMA required for the monitoring sheets created by the Operation Division and Production Division to the responsible personnel at headquarters.

Action-3: Valve operators shall be assigned to accurately open and close valves according to the water supply schedule determined in this main water distribution management plan.

Action-4: Analyze customer complaints and requests received by the branch office each month, and tally the number of complaints and requests regarding the accuracy of the water supply schedule.

Action-5: Achieve a 100% water meter installation rate for customers within the DMA.

Action-6: Achieve a 100% water meter reading rate for customers within the DMA.

Action-7: Measure turbidity and residual chlorine at the locations specified by the Central Laboratory at the prescribed frequency and report the results to the Central Laboratory.

Table 7.3.1 Monitoring Record of Grievances about Water Supply Hour (1/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
1.1	1.1.1	Maharajgunj	5:00	14:00																												
1.1	1.1.2	Maharajgunj	5:00	14:00																												
1.1	1.1.3	Maharajgunj	5:00	14:00																												
1.2	1.2.1	Maharajgunj	9:00	16:00																												
1.2	1.2.2	Baneshwor	9:00	16:00																												
1.2	1.2.3(A)	Maharajgunj	9:00	16:00																												
1.2	1.2.3(B)	Maharajgunj	9:00	16:00																												
1.3	1.3.1	Tripureshwor	12:00	21:00																												
1.3	1.3.2(A)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(B)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(C)	Tripureshwor	12:00	21:00																												
1.4	1.4.1	Tripureshwor	15:00	21:00																												
1.4	1.4.2	Tripureshwor	15:00	21:00																												
1.5	1.5.1	Tripureshwor	5:00	15:00																												
1.5	1.5.2	Tripureshwor	5:00	15:00																												
1.5	1.5.3	Tripureshwor	5:00	15:00																												
2.1	2.1.1(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.1(B)	Maharajgunj	6:00	12:00																												
2.1	2.1.1(B)	Mahankal	6:00	12:00																												
2.1	2.1.2(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.2(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.4	Mahankalchaur	6:00	12:00																												
2.2	2.2.1	Baneshwor	14:00	20:00																												
2.2	2.2.2	Baneshwor	14:00	20:00																												
2.2	2.2.3	Baneshwor	14:00	20:00																												
2.2	2.2.4	Baneshwor	14:00	20:00																												
2.3	2.3.1(A)	Baneshwor	5:00	12:00																												
2.3	2.3.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Mahankal	5:00	12:00																												
2.4	2.4.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(C)	Baneshwor	5:00	12:00																												
3.1	3.1.1(A)	Baneshwor	14:00	21:00																												
3.1	3.1.1(B)	Baneshwor	14:00	21:00																												
3.1	3.1.1(C)	Baneshwor	14:00	21:00																												
3.1	3.1.2(A)	Baneshwor	14:00	21:00																												
3.1	3.1.2(B)	Baneshwor	14:00	21:00																												
3.1	3.1.2(C)	Baneshwor	14:00	21:00																												
3.2	3.2.1(A)	Baneshwor	5:00	12:00																												
3.2	3.2.1(B)	Baneshwor	5:00	12:00																												
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3.3	3.3.1(A)	Baneshwor	14:00	20:00																												
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3.3	3.3.1(C)	Baneshwor	14:00	20:00																												
3.3	3.3.1(D)	Baneshwor	14:00	20:00																												
3.3	3.3.1(E)	Baneshwor	14:00	20:00																												
3.4	3.4.1(A)	Baneshwor	9:00	15:00																												
3.4	3.4.1(B)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Maharajgunj	9:00	15:00																												
3.5	3.5.1(B)	Baneshwor	9:00	15:00																												
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3.5	3.5.2	Maharajgunj	9:00	15:00																												
4.1	4.1.1	Baneshwor	12:00	16:00																												
4.1	4.1.2	Baneshwor	12:00	16:00																												
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4.2	4.2.2	Tripureshwor	11:00	20:00																												
4.2	4.2.3	Tripureshwor	11:00	20:00																												
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5.1	5.1.2	Lalitpur	20:00	8:00																												
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5.2	5.2.2(A)	Lalitpur	20:00	8:00																												
5.2	5.2.2(B)	Lalitpur	20:00	8:00																												
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5.2	5.2.3(A)	Lalitpur	20:00	8:00																												
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6.1	6.1.1(A)	Lalitpur	6:00	20:00																												
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6.1	6.1.2	Lalitpur	6:00	20:00																												
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7.1	7.1.1	Maharajgunj	17:00	22:00																												
7.1	7.1.2	Chhetrapati	17:00	22:00																												
7.2	7.2.1(A)	Chhetrapati	7:00	12:00																												
7.2	7.2.1(B)	Chhetrapati	7:00	12:00																												
7.2	7.2.2(A)	Maharajgunj	7:00	12:00																												
7.2	7.2.2(B)	Maharajgunj	7:00	12:00																												
7.2	7.2.3	Maharajgunj	7:00	12:00																												
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7.4	7.4.3	Maharajgunj	7:00	12:00																												
7.4	7.4.4	Maharajgunj	7:00	12:00																												

Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

Table 7.3.2 Monitoring Record of Grievances about Water Supply Hour (2/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
8.1	8.1.1	Lalitpur	8:00	20:00																												
8.1	8.1.2	Lalitpur	20:00	8:00																												
8.1	8.1.3	Lalitpur	20:00	8:00																												
8.2	8.2.1(A)	Lalitpur	17:00	8:00																												
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8.2	8.2.1(C)	Lalitpur	17:00	8:00																												
8.2	8.2.2(A)	Lalitpur	17:00	8:00																												
8.2	8.2.2(B)	Lalitpur	17:00	8:00																												
8.2	8.2.2(C)	Lalitpur	17:00	8:00																												
9.1	9.1.1	Lalitpur	20:00	6:00																												
9.1	9.1.2	Lalitpur	20:00	6:00																												
9.1	9.1.3	Lalitpur	20:00	6:00																												
9.2	9.2.1	Lalitpur	6:00	20:00																												
9.2	9.2.2	Lalitpur	6:00	20:00																												
9.2	9.2.3	Lalitpur	6:00	20:00																												
9.2	9.2.4	Lalitpur	6:00	20:00																												
9.2	9.2.5	Lalitpur	6:00	20:00																												
9.2	9.2.6	Lalitpur	6:00	20:00																												
9.2	9.2.7	Lalitpur	6:00	20:00																												
10.1	10.1.1	Maharajgunj	12:00	17:00																												
10.2	10.2.1(A)	Chhetrapati	17:00	22:00																												
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11.2	11.2.2	Tripureshwor	18:00	10:00																												
Demo	Demo	Baneshwor	5:00	21:00																												

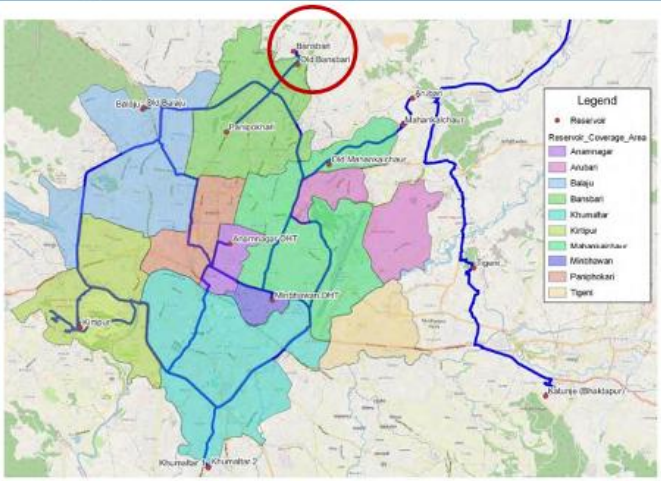
Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

8. Example of SOP for service reservoirs

Standard Operating Procedure
Bansbari SRT (Service Reservoir Tank)

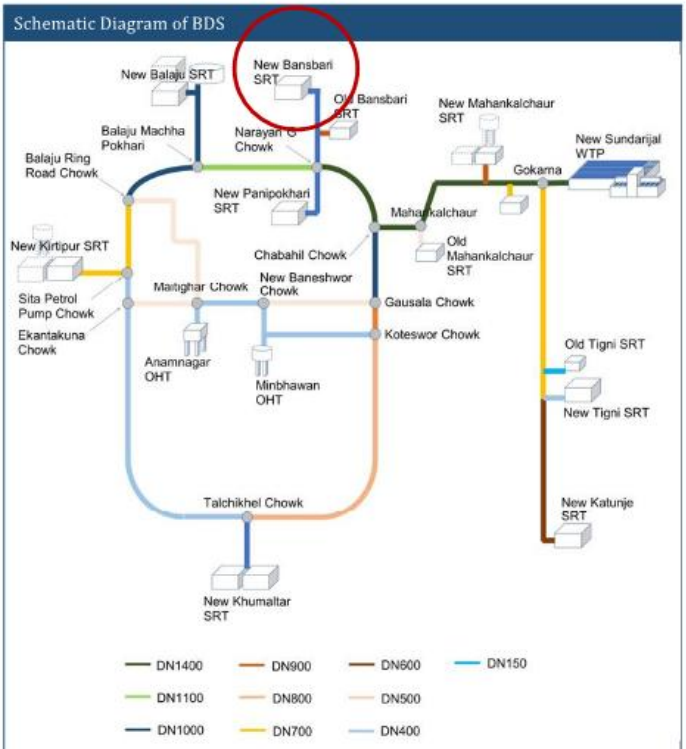
Layout of facilities

General Layout of Bulk Distribution System (BDS)



Layout of facilities

Schematic Diagram of BDS

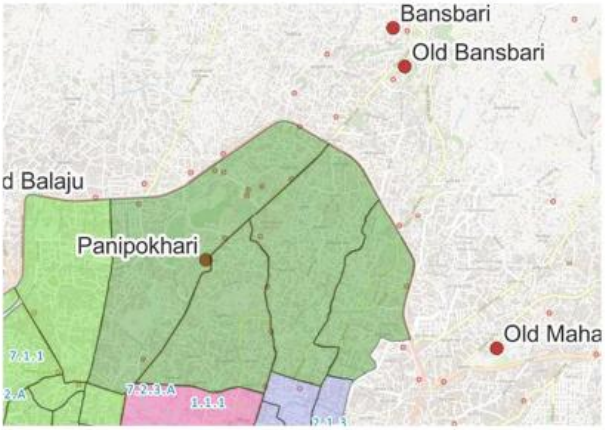


Bulk Distribution System Schematic Diagram

Layout of facilities

District Metered Area (DMA) covered by Bansbari SRT

The coverage area of Bansbari SRT has yet to be divided in DMAs.
This area is called DNI-7c and divided into several DMAs which will be constructed by the Package 6.



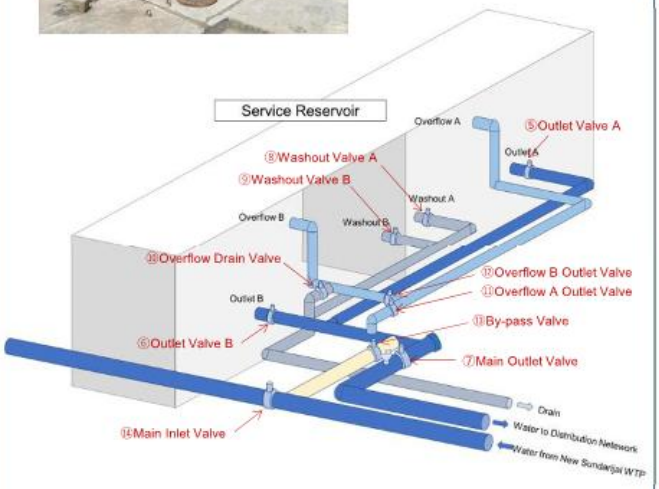
Layout of facilities

Outline of Bansbari SRT

No	Name	Objective	DN	Chamber Drawing No.
1	Flowmeter A	Inflow Measurement Reservoir A	700mm	BDS1-E-C-07
2	Flowmeter B	Inflow Measurement Reservoir A	700mm	BDS1-E-C-09
3	Inlet Valve A	Open/Stop Inflow Reservoir A	700mm	BDS1-E-C-06
4	Inlet Valve B	Open/Stop Inflow Reservoir B	700mm	BDS1-E-C-08
5	Outlet Valve A	Open/Stop Outflow Reservoir A	800mm	BDS1-E-C-10
6	Outlet Valve B	Open/Stop Outflow Reservoir B	800mm	BDS1-E-C-12
7	Main Outlet Valve	Regulate Total Outflow Volume	1200mm	BDS1-E-C-13
8	Washout Valve A	Sand discharge from Reservoir A	500mm	BDS1-E-C-15
9	Washout Valve B	Sand discharge from Reservoir B	500mm	BDS1-E-C-15
10	Overflow Drain	Discharge overflow to washout line	500mm	BDS1-E-C-14
11	Overflow A Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
12	Overflow B Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
13	By-pass Valve	Supply water without passing reservoir	1000mm	BDS1-E-C-13
14	Main Inlet Valve	Regulate Total Inflow Volume	1000mm	BDS1-E-C-05
15	Air Valve	Air release from the main outlet line	200mm	BDS1-E-C-13

Layout of facilities

Isometric Schematic Image of Pipeline Layout (Outlet side)



Operating Procedure

Normal Operation

Operating Procedure

Emergent Operation

If there is an accident or malfunction in both reservoirs A and B and water cannot be stored, the bypass valve on the Inlet Pipe should be opened to continue transmission of water.

[Caution]

When continuing to supply water through the bypass pipe, the following valves of the reservoir should be closed in advance to prevent water from entering the reservoir.
1. Main Inflow Valve
2. Outlet Valves of Reservoirs
3. Overflow Valves of Reservoirs

Cleaning of Reservoir

Direction of Water Flow during Cleaning of Reservoir

Steps for Cleaning of Reservoir

Step 1

Reservoir cleaning should be performed separately for A and B. Close one of the Inlet Valve to shut down entering water into the reservoir.

Step 2

When the water level in the reservoir is low enough, close the Outlet Valve.

Step 3

Open the Washout Valve to drain the water that has accumulated at the bottom of reservoir.

Steps for Cleaning of Reservoir

Step 4

Operators go inside and uses a wiper and nylon brush to scrape sand and mud from the walls and bottom in the direction of the Washout Port.

Step 5

If mud or sand remains in the middle of the interior, open the Inlet Valve of reservoir slightly to draw in water, and then scrape it out again with a scraper.

Step 6

Once the interior has been cleaned, the operator goes outside.
Then close the washout valve.

Steps for Cleaning of Reservoir

Step 7

Then slowly open the Inlet Valve.

Step 8

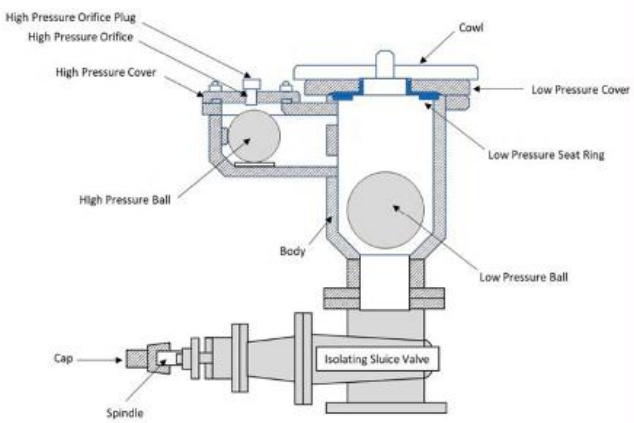
Wait a few hours to fill the reservoir.

Step 9

Once the reservoir has recovered more than half of its water level, slowly open the Outlet Valve.

Cleaning of Air Valve

Structure of Air Valve (Indian Valve International)

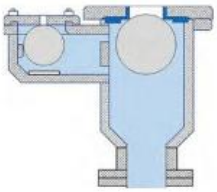


[Caution]

When clean the air valve, make sure that the Isolation Sluice Valve is completely closed. After closed the Isolation Sluice Valve, you can dismantle the cowl and top cover of the air valve.

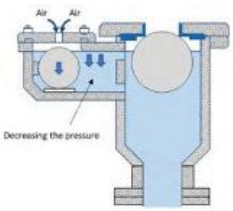
Function of Kinetic Air Valve

Normal Operation under High Pressure



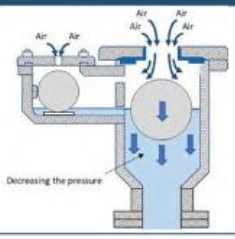
The pipe remains filled with water and the internal float ball plugs the air outlet orifice.

When a small air pocket occurs in the pipe



When a small amount of air accumulates in the air valve, the water level begins to drop, which causes the High Pressure Ball to drop and the small orifice to open. (Small exhaust mode)

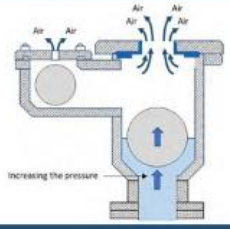
When the water in the reservoir runs out and a large amount of air accumulates



When a large amount of air accumulates, the water level drops below High Pressure Ball, which causes the Low Pressure Ball to drop and the large orifice to open. (Large exhaust mode).

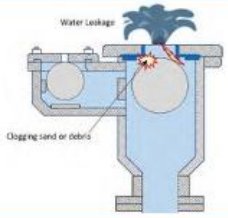
Function of Kinetic Air Valve

When water begins to accumulate in the pipe.



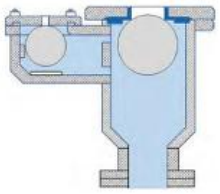
As the water pressure in the pipe increases, the water level rises and the Low Pressure Ball plugs the orifice.

When debris or sand clog the orifice



When debris or sand clog the orifice of air exhaust, the leaks will occur under high pressure.

When the pipe is perfectly filled with water



When water fills the pipe and the water pressure increases, the High Pressure Ball plugs the orifice.

Site Cleaning

Keeping premises clean

- Ensure that there is no debris or hazardous materials in the vicinity of the reservoir.
- The valve chamber should be kept clean and free of cobwebs, debris, and puddles, and no disposed material should be left inside.
- Do not place hazardous or flammable materials near the reservoir.

- Service Reservoir Tank and Water Treatment Plants are places where drinking water is stored, so animals should not be allowed to enter.

Meter Reading

Flowmeter on Inlet Pipe

Flowmeter on Outlet Pipe

In Bansbari SRT, there is no water meter on the outlet pipe.

How to read the flowmeter

Instantaneous Flow (m3/hour)

Accumulated Flow (m3)

The operators should keep record of "Accumulated Water Flow" in daily recording sheet

Recording of water volume

Operator's duty

- Once a day, the operator should check the flowmeter reading and note it on the record form.

Date	Time	Meter Reading		Daily Inflow	Name of Recorder
		Reservoir A	Reservoir B		

Standard Inspection

Daily Inspection

- Operators shall check the condition of facilities and clean the site once per day.

Items	Target	Status	Evaluation
External of tank	Concrete	No Water Leakage	☐Yes/☐No
	Painting	No Crack	☐Yes/☐No
		No Peeling	☐Yes/☐No
	Steps	Firmly Fixed	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No
	Cable	No disconnection	☐Yes/☐No
Valves	Operation Panel	No broken parts	☐Yes/☐No
	Button	No broken button	☐Yes/☐No
	Operation Wheel	Smoothly operating	☐Yes/☐No
	Chamber	No waste/garbage inside	☐Yes/☐No
Pipes	Exposed pipe	No Water Leakage	☐Yes/☐No
	Chamber	No Water Leakage	☐Yes/☐No
Chamber	Cover	Smoothly opening	☐Yes/☐No

Standard Inspection

Annual Inspection

- When cleaning the reservoir tank once per year, conduct an annual inspection of the following items:

Items	Target	Status	Evaluation
Internal of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Level Gauge	Drop of sensor	☐Yes/☐No
		Rust or Corrosion	☐Yes/☐No
External of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
		Water Leakage	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Steps	Corrosion	☐Yes/☐No
	Ventilation	Corrosion	☐Yes/☐No
Facilities	Valves	Greasing on gear	☐Yes/☐No
	Pipes	Water Leakage	☐Yes/☐No
	Chamber	Cleaning of inside	☐Yes/☐No
		Corrosion of Cover	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No

Inspection Schedule

Annual Inspection Plan

Month	Day	What to do
Baisakh		
Jestha		
Asadh		
Shrawan		
Bhadra		
Ashwin		
Kartik		
Mangsir		
Poush		
Magh		
Falgun		
Chaitra		

Water Distribution Management Plan
For
District Metered Area (DMA)
In
Kathmandu Valley

3rd version: 24 February 2026

Kathmandu Upatyaka Khanepani Limited (KUKL)

JICA Expert Team

Kathmandu Upatyaka Khanepani Limited

Japan International Cooperation Agency

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1. Introduction

1.1 Basic Approach to the Water Distribution Management

The maintenance and management of water supply facilities is an indispensable daily task for KUKL and should be carried out from a long-term perspective in order to achieve the following objectives.

Security: To supply safe water with assured quality to water users for drinking in the Kathmandu Valley.

Stability: To provide a stable supply of water necessary for daily life anytime, anywhere.

1.2 Procedure for Development of the Water Distribution Management Plan

Water service is a business that consists of providing drinking water to water users and collecting fees in return. Therefore, in the Water Distribution Management Plan, water utilities themselves need to set more specific management targets based on their Performance Indicators and monitor them in their daily operations.

The workflow of water distribution management in water utility management is as follows

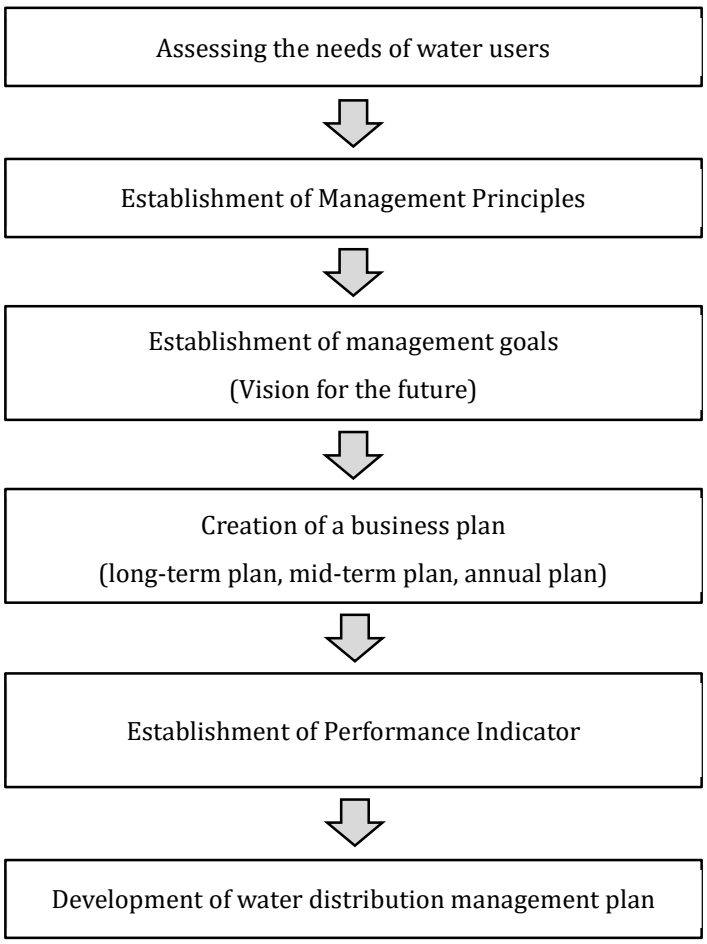


Figure 1.2.1 Relationship between water supply management and maintenance

2. Purpose of the Water Distribution Management Plan

The purpose of the Water Distribution Management Plan is to ensure that KUKL, as the entity responsible for operation and maintenance, properly manages the water supply facilities and provides water to water users in a manner that is equitable in terms of both quantity and time, thereby contributing to the improvement of the living environment.

This Water Distribution Management Plan is the most basic document for KUKL in maintenance and management.

KUKL is required to maintain and repair the water supply facilities to keep them in good condition.

3. Target District Metered Area (DMA)

This Water Distribution Management Plan covers DMAs constructed within the ring road.

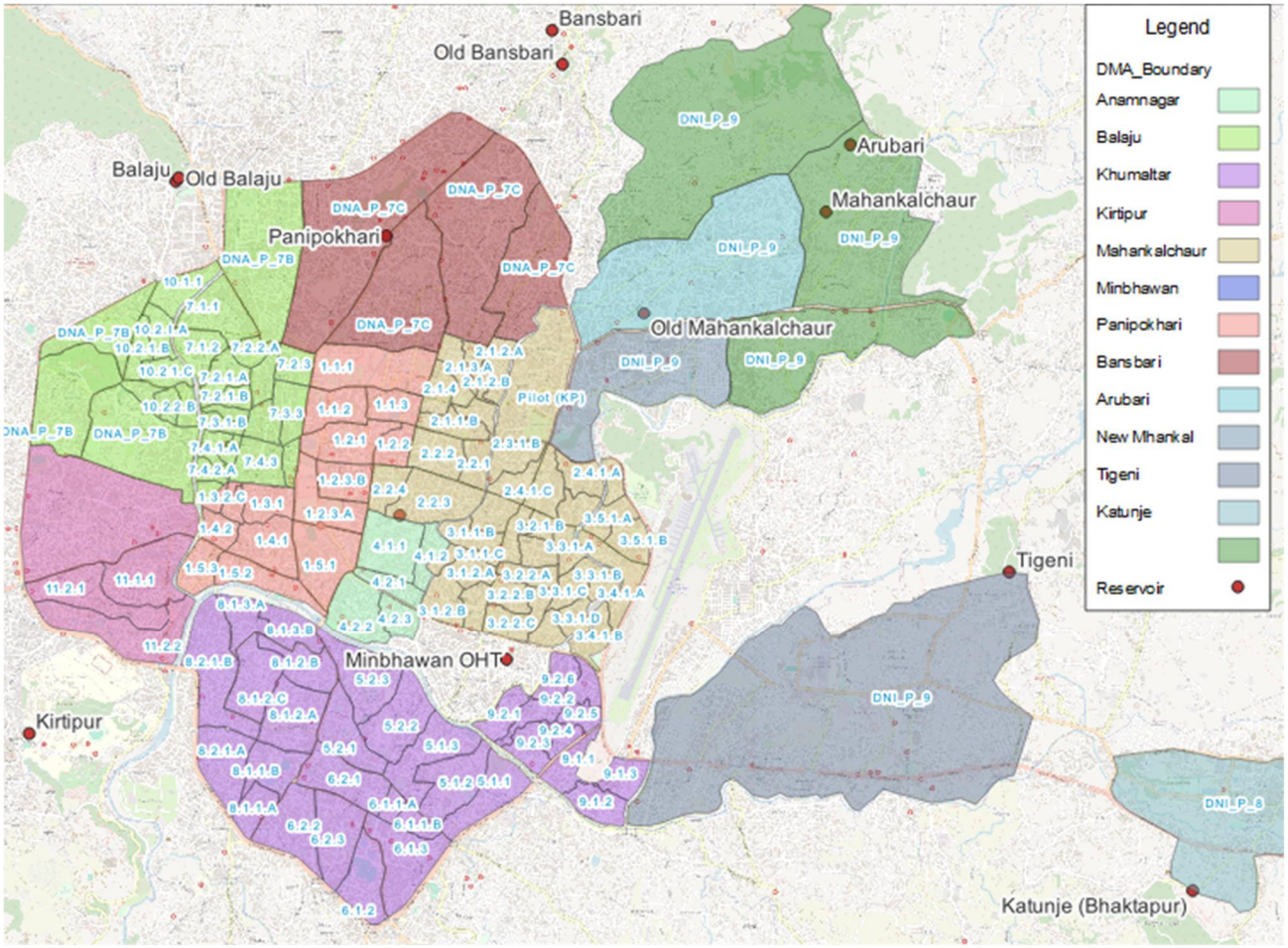


Figure 3.1.1 DMAs constructed in the Ring Road

The following figure is the water supply area covered by each of the service reservoir tanks.

The three water distribution reservoirs located within the ring road are Anamnagar, Minbhawan, and Panipokhari; the other reservoirs may also cover water supply outside the ring road.

In addition, some of the reservoirs supply the old distribution network, but in the future, they will be switched to supply the new distribution network constructed by Melamchi Water Supply Project.

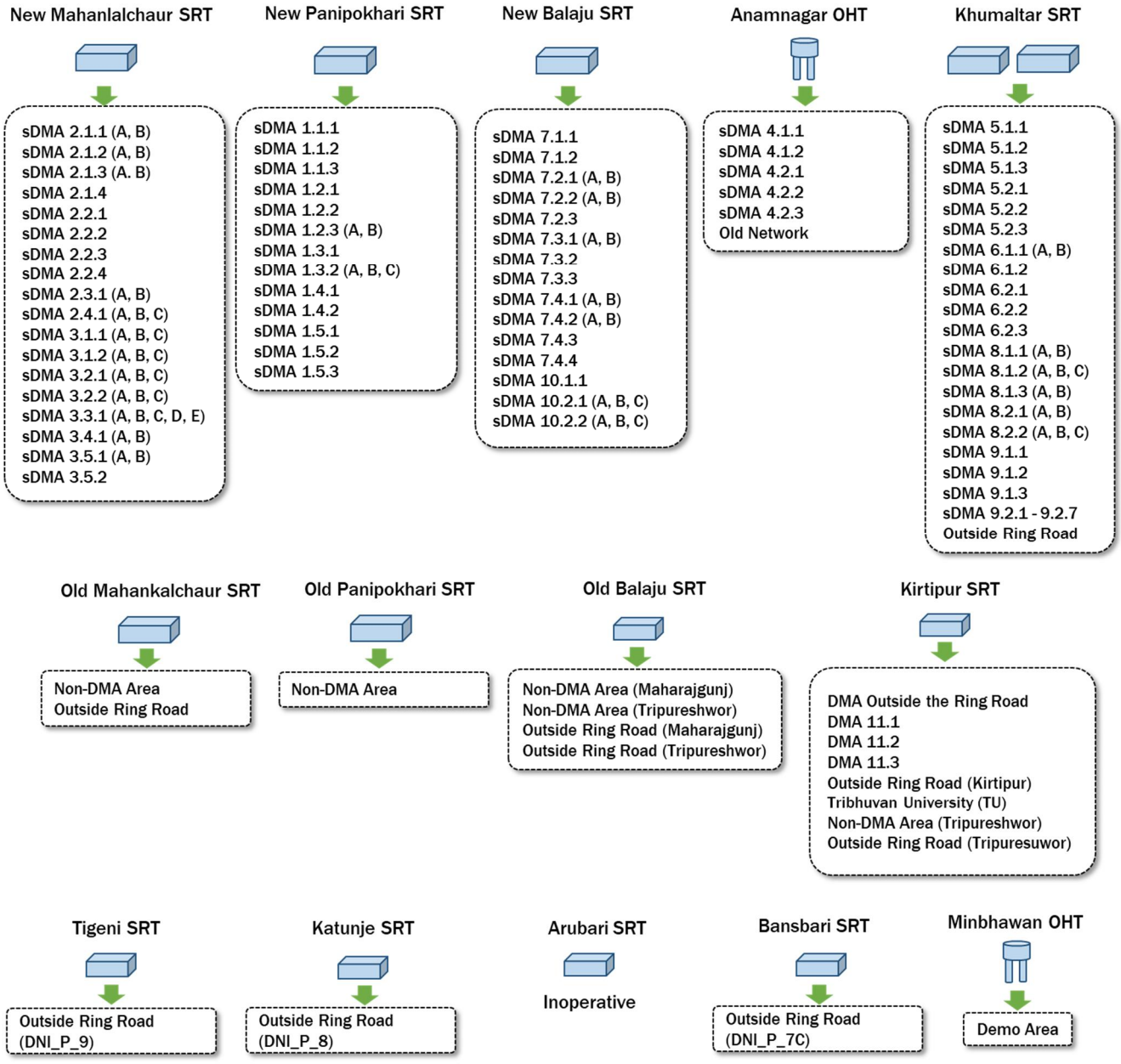


Figure 3.1.2 Sub-DMA covered by each Service Reservoir Tanks (SRTs)

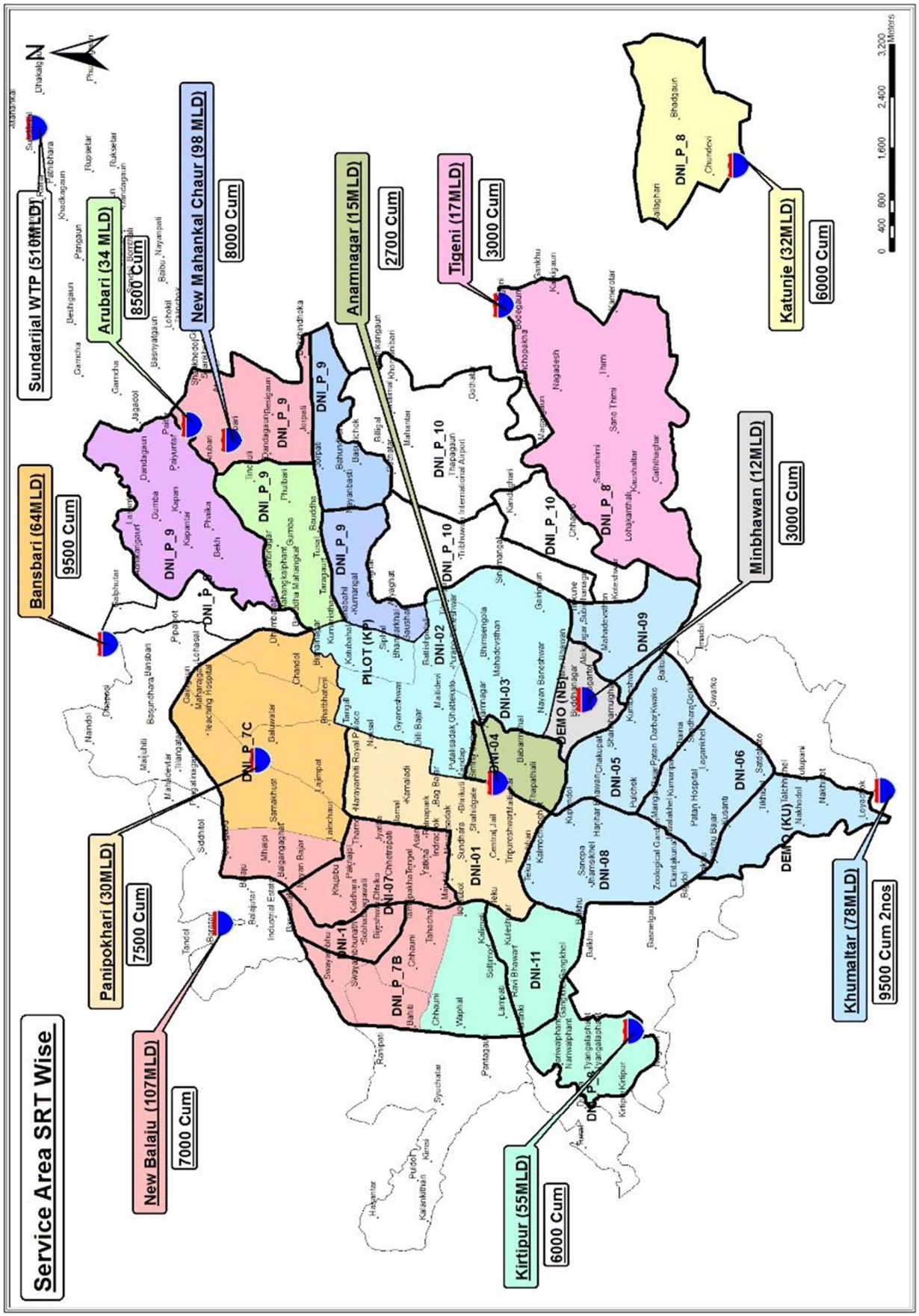


Figure 3.1.3 Water Coverage Area by SRT wise

4. Basic Information on DMAs and Sub-DMAs

The number of customers and estimated demand for each Sub-DMA are shown below.

Table 4.1.1 Estimated Demand in each DMA/Sub-DMA

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
1	1.1	1.1.1	Maharajgunj	Kathmandu				
		1.1.2	Maharajgunj	Kathmandu	12	1,144	135	1,853.3
		1.1.3	Maharajgunj	Kathmandu				
						1,144	Sub total	1,853.3
	1.2	1.2.1	Maharajgunj	Kathmandu				
		1.2.2	Baneshwor	Kathmandu	12	2,259	135	3,659.6
		1.2.3(A)	Maharajgunj	Kathmandu				
		1.2.3(B)	Maharajgunj	Kathmandu				
						2,259	Sub total	3,659.6
	1.3	1.3.1	Tripureshwor	Kathmandu				
		1.3.2(A)	Tripureshwor	Kathmandu	12	3,252	135	5,268.2
		1.3.2(B)	Tripureshwor	Kathmandu				
		1.3.2(C)	Tripureshwor	Kathmandu				
						3,252	Sub total	5,268.2
	1.4	1.4.1	Tripureshwor	Kathmandu	12	2,864	135	4,639.7
		1.4.2	Tripureshwor	Kathmandu				
						2,864	Sub total	4,639.7
	1.5	1.5.1	Tripureshwor	Kathmandu	12	262	135	424.4
		1.5.2	Tripureshwor	Kathmandu	12	365	135	591.3
		1.5.3	Tripureshwor	Kathmandu	12	386	135	625.3
						1,013	Sub total	1,641.1
2	2.1	2.1.1(A)	Mahankalchaur	Kathmandu	12	401	135	649.6
		2.1.1(B)	Maharajgunj & Mahankal	Kathmandu	12	433	135	701.5
		2.1.2(A)	Mahankalchaur	Kathmandu	12	553	135	895.9
		2.1.2(B)	Mahankalchaur	Kathmandu	12	135	135	218.7
		2.1.3(A)	Mahankalchaur	Kathmandu	12	508	135	823.0
		2.1.3(B)	Mahankalchaur	Kathmandu	12	292	135	473.0
		2.1.4	Mahankalchaur	Kathmandu	12	279	135	452.0
						2,601	Sub total	4,213.6
	2.2	2.2.1	Baneshwor	Kathmandu	12	770	135	1,247.4
		2.2.2	Baneshwor	Kathmandu	12	872	135	1,412.6
		2.2.3	Baneshwor	Kathmandu	12	1,989	135	3,222.2
		2.2.4	Baneshwor	Kathmandu	12	614	135	994.7
						4,245	Sub total	6,876.9
	2.3	2.3.1(A)	Baneshwor	Kathmandu	12	510	135	826.2
		2.3.1(B)	Baneshwor	Kathmandu	12	589	135	954.2
						1,099	Sub total	1,780.4
	2.4	2.4.1(A)	Baneshwor & Mahankal	Kathmandu	12	514	135	832.7
		2.4.1(B)	Baneshwor	Kathmandu	12	477	135	772.7
		2.4.1(C)	Baneshwor	Kathmandu	12	735	135	1,190.7
						1,726	Sub total	2,796.1
3	3.1	3.1.1(A)	Baneshwor	Kathmandu	12	415	135	672.3
		3.1.1(B)	Baneshwor	Kathmandu	12	363	135	588.1
		3.1.1(C)	Baneshwor	Kathmandu	12	348	135	563.8
		3.1.2(A)	Baneshwor	Kathmandu	12	503	135	814.9
		3.1.2(B)	Baneshwor	Kathmandu	12	610	135	988.2
		3.1.2(C)	Baneshwor	Kathmandu	12	456	135	738.7
						2,695	Sub total	4,365.9
	3.2	3.2.1(A)	Baneshwor	Kathmandu	12	417	135	675.5
		3.2.1(B)	Baneshwor	Kathmandu	12	287	135	464.9
		3.2.1(C)	Baneshwor	Kathmandu	12	478	135	774.4
		3.2.2(A)	Baneshwor	Kathmandu	12	479	135	776.0
		3.2.2(B)	Baneshwor	Kathmandu	12	484	135	784.1
		3.2.2(C)	Baneshwor	Kathmandu	12	493	135	798.7
						2,638	Sub total	4,273.6
	3.3	3.3.1(A)	Baneshwor	Kathmandu	12	403	135	652.9
		3.3.1(B)	Baneshwor	Kathmandu	12	533	135	863.5
		3.3.1(C)	Baneshwor	Kathmandu	12	503	135	814.9
		3.3.1(D)	Baneshwor	Kathmandu	12	481	135	779.2
		3.3.1(E)	Baneshwor	Kathmandu	12	387	135	626.9
						2,307	Sub total	3,737.3
	3.4	3.4.1(A)	Baneshwor	Kathmandu	12	536	135	868.3
		3.4.1(B)	Baneshwor	Kathmandu	12	364	135	589.7
						900	Sub total	1,458.0
	3.5	3.5.1(A)	Baneshwor & Maharajgunj	Kathmandu	12	551	135	892.6
		3.5.1(B)	Baneshwor	Kathmandu	12	587	135	950.9
		3.5.2	Baneshwor & Maharajgunj	Kathmandu	12	382	135	618.8
						1,520	Sub total	2,462.4
4	4.1	4.1.1	Baneshwor	Kathmandu				
		4.1.2	Baneshwor	Kathmandu	12	569	135	921.8
						569	Sub total	921.8
	4.2	4.2.1	Tripureshwor	Kathmandu	12	256	135	414.7
		4.2.2	Tripureshwor	Kathmandu	12	520	135	842.4
		4.2.3	Tripureshwor	Kathmandu	12	446	135	722.5
						1,222	Sub total	1,979.6

DNI No	DMA	Sub-DMA	Current Branch Area	District	No of users per connection	Estimated Number of Customer	Demand per capita (LPCD)	Estimated Demand (m3/day)
5	5.1	5.1.1	Lalitpur	Lalitpur				
		5.1.2	Lalitpur	Lalitpur	12	5,648	135	9,149.8
		5.1.3	Lalitpur	Lalitpur				
						5,648	Sub total	9,149.8
	5.2	5.2.1(A)	Lalitpur	Lalitpur				
		5.2.1(B)	Lalitpur	Lalitpur				
		5.2.1(C)	Lalitpur	Lalitpur				
		5.2.1(D)	Lalitpur	Lalitpur				
		5.2.2(A)	Lalitpur	Lalitpur				
		5.2.2(B)	Lalitpur	Lalitpur	12	3,617	135	5,859.5
		5.2.2(C)	Lalitpur	Lalitpur				
		5.2.2(D)	Lalitpur	Lalitpur				
		5.2.2(E)	Lalitpur	Lalitpur				
		5.2.3(A)	Lalitpur	Lalitpur				
		5.2.3(B)	Lalitpur	Lalitpur				
						3,617	Sub total	5,859.5
6	6.1	6.1.1(A)	Lalitpur	Lalitpur				
		6.1.1(B)	Lalitpur	Lalitpur	12	3,666	135	5,938.9
		6.1.2	Lalitpur	Lalitpur				
		6.1.3	Lalitpur	Lalitpur				
						3,666	Sub total	5,938.9
	6.2	6.2.1	Lalitpur	Lalitpur				
		6.2.2	Lalitpur	Lalitpur	12	4,559	135	7,385.6
		6.2.3	Lalitpur	Lalitpur				
						4,559	Sub total	7,385.6
7	7.1	7.1.1	Maharajgunj	Kathmandu	12	1,549	135	2,509.4
		7.1.2	Tripureshwor	Kathmandu	12	801	135	1,297.6
						2,350	Sub total	3,807.0
	7.2	7.2.1(A)	Tripureshwor	Kathmandu				
		7.2.1(B)	Tripureshwor	Kathmandu				
		7.2.2(A)	Maharajgunj	Kathmandu	12	2,480	135	4,017.6
		7.2.2(B)	Maharajgunj	Kathmandu				
		7.2.3	Maharajgunj	Kathmandu				
						2,480	Sub total	4,017.6
	7.3	7.3.1(A)	Tripureshwor	Kathmandu				
		7.3.1(B)	Tripureshwor	Kathmandu	12	3,100	135	5,022.0
		7.3.2	Tripureshwor	Kathmandu				
		7.3.3	Maharajgunj	Kathmandu				
						3,100	Sub total	5,022.0
	7.4	7.4.1(A)	Tripureshwor	Kathmandu				
		7.4.1(B)	Tripureshwor	Kathmandu				
		7.4.2(A)	Tripureshwor & Lalitpur	Kathmandu	12	4,475	135	7,249.5
		7.4.2(B)	Tripureshwor	Kathmandu				
		7.4.3	Tripureshwor & Maharajgunj	Kathmandu				
		7.4.4	Maharajgunj	Kathmandu				
						4,475	Sub total	7,249.5
8	8.1	8.1.1(A)	Lalitpur	Lalitpur				
		8.1.1(B)	Lalitpur	Lalitpur				
		8.1.2(A)	Lalitpur	Lalitpur				
		8.1.2(B)	Lalitpur	Lalitpur	12	3,893	135	6,306.7
		8.1.2(C)	Lalitpur	Lalitpur				
		8.1.3(A)	Lalitpur	Lalitpur				
		8.1.3(B)	Lalitpur	Lalitpur				
						3,893	Sub total	6,306.7
	8.2	8.2.1(A)	Lalitpur	Lalitpur				
		8.2.1(B)	Lalitpur	Lalitpur				
		8.2.1(C)	Lalitpur	Lalitpur				
		8.2.2(A)	Lalitpur	Lalitpur	12	2,800	135	4,536.0
		8.2.2(B)	Lalitpur	Lalitpur				
		8.2.2(C)	Lalitpur	Lalitpur				
						2,800	Sub total	4,536.0
9	9.1	9.1.1	Baneshwor	Lalitpur	12	799	135	1,294.4
		9.1.2	Baneshwor	Lalitpur	12	1,038	135	1,681.6
		9.1.3	Baneshwor	Lalitpur	12	552	135	894.2
						2,389	Sub total	3,870.2
	9.2	9.2.1	Baneshwor	Lalitpur	12	742	135	1,202.0
		9.2.2	Baneshwor	Lalitpur	12	630	135	1,020.6
		9.2.3	Baneshwor	Lalitpur	12	676	135	1,095.1
		9.2.4	Baneshwor	Lalitpur	12	406	135	657.7
		9.2.5	Baneshwor	Lalitpur	12	447	135	724.1
		9.2.6	Baneshwor	Lalitpur	12	623	135	1,009.3
		9.2.7	Baneshwor	Lalitpur	12	483	135	782.5
						4,007	Sub total	6,491.3
10	10.1	10.1.1	Maharajgunj	Kathmandu	12	480	135	777.6
					12	480	Sub total	777.6
	10.2	10.2.1(A)	Tripureshwor	Kathmandu				
		10.2.1(B)	Tripureshwor	Kathmandu				
		10.2.1(C)	Tripureshwor	Kathmandu				
		10.2.2(A)	Tripureshwor	Kathmandu	12	2,671	135	4,327.0
		10.2.2(B)	Tripureshwor	Kathmandu				
		10.2.2(C)	Tripureshwor	Kathmandu				
						2,671	Sub total	4,327.0
11	11.1	11.1.1	Tripureshwor	Kathmandu	12	2,075	135	3,361.5
						2,075	Sub total	3,361.5
	11.2	11.2.1	Tripureshwor	Kathmandu	12	1,681	135	2,723.2
						1,681	Sub total	2,723.2
	11.3	11.3.1	Tripureshwor	Kathmandu	12	1,239	135	2,007.2
						1,239	Sub total	2,007.2
Demo	Demo	Demo	Baneshwor	Kathmandu	12	5,000	135	8,100.0
						5,000	Sub total	8,100.0
Total	33					88,184		142,858.1

The table above calculates the water demand in DMAs and the existing Demo Area.

However, since the BDS Reservoir supplies water to areas other than the DMAs, it is necessary to estimate the demand for those areas.

Table 4. 1.2 Estimated number of households in the areas except for DMAs and Demo Area

Breakdown of household (connection) for the areas except 32 DMAs

Non DMA Area inside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to DNI 7B (Mhepi, Balaju Area)	2,500	Maharajgunj	Old Balaju
Supply to DNI 7B (Chauni Area)	3,300	Tripureshwor	Old Balaju
Supply to DNI 7B (Tahachal Area)	4,400	Tripureshwor	Kirtipur
Supply to DNI 7B (Kimdol, Dallu, Swoyambhu)	3,300	Tripureshwor (Ex-Chhetrapati)	Old Balaju
Supply to DNI 7C (Lainchaur, Galkopakha, Kapurdhara, Samakhusi, Gongabu)	10,500	Maharajgunj	Old Bansbari
Supply to DNI 7C (Khursanitar Area)	2,000	Maharajgunj	Old Panipokhari
Supply to DNI 7C (Bishalnagar, Chandol)	7,650	Mahankalchaur	Old Mahankal
Supply to Kalopur Pilot Area	2,300	Mahankalchaur	Old Mahankal
Outside the Ring Road	No. of H.H.	Branch Office	SRT
Supply to Tarkeshwor, Banasthali, Dhunge dhara	8,000	Maharajgunj	Old Balaju
Supply to Tokha, Dhapasi, Basundhara (outside ringroad)	7,500	Maharajgunj	Old Bansbari
Supply to Kumari Club, Arcade colony	500	Tripureshwor (Ex-Chhetrapati)	Kirtipur
Supply to Outside the Ringroad by Tripureshwor	2,000	Tripureshwor	Old Balaju
Supply to Kapan, Jorpati	24,701	Mahankalchaur	Old Mahankal
Supply to Kirtipur Customer except for Tribhuvan University	10,054	Kirtipur	Kirtipur
Supply to Kusunti, Bagdol, Nakhu, Nakhipot, Khumaltar, Gwarko, ANFA, Dhapakhel, Dholahiti, Sunakothi	7,395	Lalitpur	Khumaltar
Supply to Kaushaltar, Lokanthali, Gatthaghar, Nagadesh, Sintitar, Dhunchepakha, Saraswatikhel, Thimi Core city, New Thimi, Old Thimi, Bappa, Kamerotar, Madhyapur Hospital	16,596	Madhyapur-Thimi	Thigni
Supply to Kamalbinayak planning, Liwali Planning, Byasi, Bansagopal, Nasamana, Gapali, Tekhacho, Sukuldhoka, Tulachhen, Khiche, Choche, Hanumante Purba, Chundevi, Ghalate, Pandubazar, Shrijananagar, Suryamadhi, Dattatraya, Chyamasingh, Wakupati, Chango road, Mahalaxmi, Bholachhen, Golmadhi, Jagati,	13,560	Bhaktapur	Katunje

Those values should be revised by the respective branch under the supervision by Operation Division.

After filling in the number of households in the areas Non-DMA and outside the Ring Road, the demand to be allocated to each SRT is calculated as follows:

Table 4.1.3 Estimated water demand in the areas except for DMAs and Demo Area

Breakdown of demand for the areas except for 33 DMAs

No of users per connection 12 persons/connection

Demand per capita 135 L/day/person

	Additional Water Demand except for 33 DMAs (m3/day)							
	Balaju	Kirtipur	Bansbari	Panipokhari	Old Mahnkalchaur	Khumaltar	Tigeni	Katunje
Maharajgunj Branch Area								
Non-DMA area inside the Ring Road	4,050		17,010	3,240				
Outside the Ring Road	12,960		12,150					
Tripureshwor Branch Area								
Non-DMA area inside the Ring Road	5,346	7,128						
Outside the Ring Road		810						
Ex-Chhetrapati Branch Area								
Non-DMA area inside the Ring Road	5,346							
Outside the Ring Road	3,240							
Mahankalchaur Branch Area								
Non-DMA area inside the Ring Road					16,119			
Outside the Ring Road					40,016			
Kirtipur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road		16,287						
Madhyapur-Thimi Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road							26,886	
Lalitpur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road						11,980		
Bhaktapur Branch Area								
Non-DMA area inside the Ring Road								
Outside the Ring Road								21,967
Total								
Non-DMA area inside the Ring Road	14,742	7,128	17,010	3,240	16,119	0	0	0
Outside the Ring Road	16,200	17,097	12,150	0	40,016	11,980	26,886	21,967

5. Water Receiving Plan from Bulk Distribution System (BDS)

The BDS component will provide water supply to the Kathmandu Metro area using a combination of new water sources developed under Sub-Project 1 of the Melamchi Water Supply Project and other existing water sources.

In order to supply various areas within the Kathmandu Metro area, the new water treatment plant constructed at Sundarijal is the starting point in the water supply network, which will be routed through distribution reservoirs at Mahankalchaur, along the ring road and along the longitudinal route.

The distribution zones, called DMA, are designed to be independent with scattered distribution reservoirs to ensure the stability of water pressure and supply.

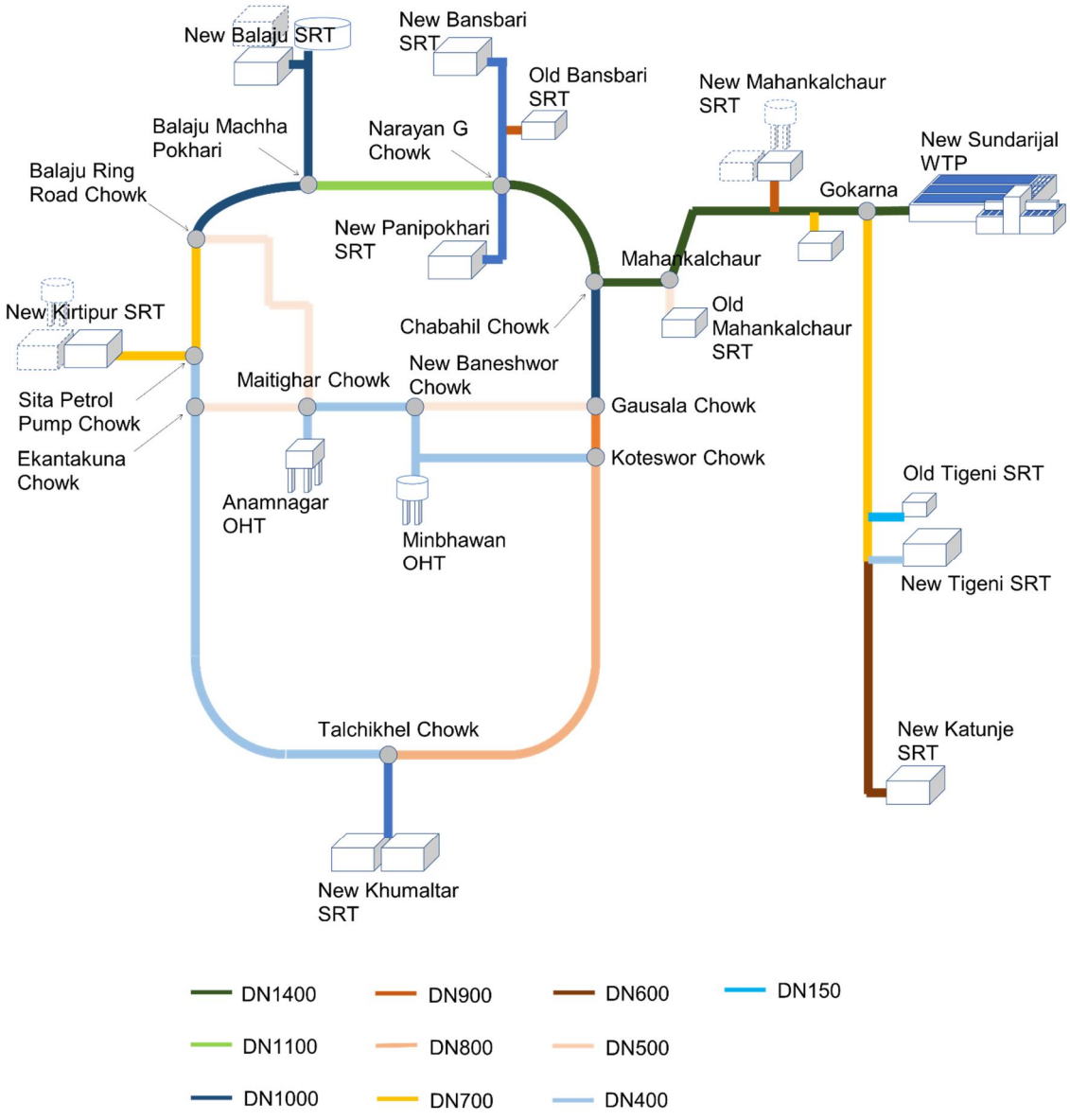


Figure 5.1.1 Schematic Water Supply Network of BDS

The amount of water to be delivered to each Service Reservoir Tank is determined based on the following steps.

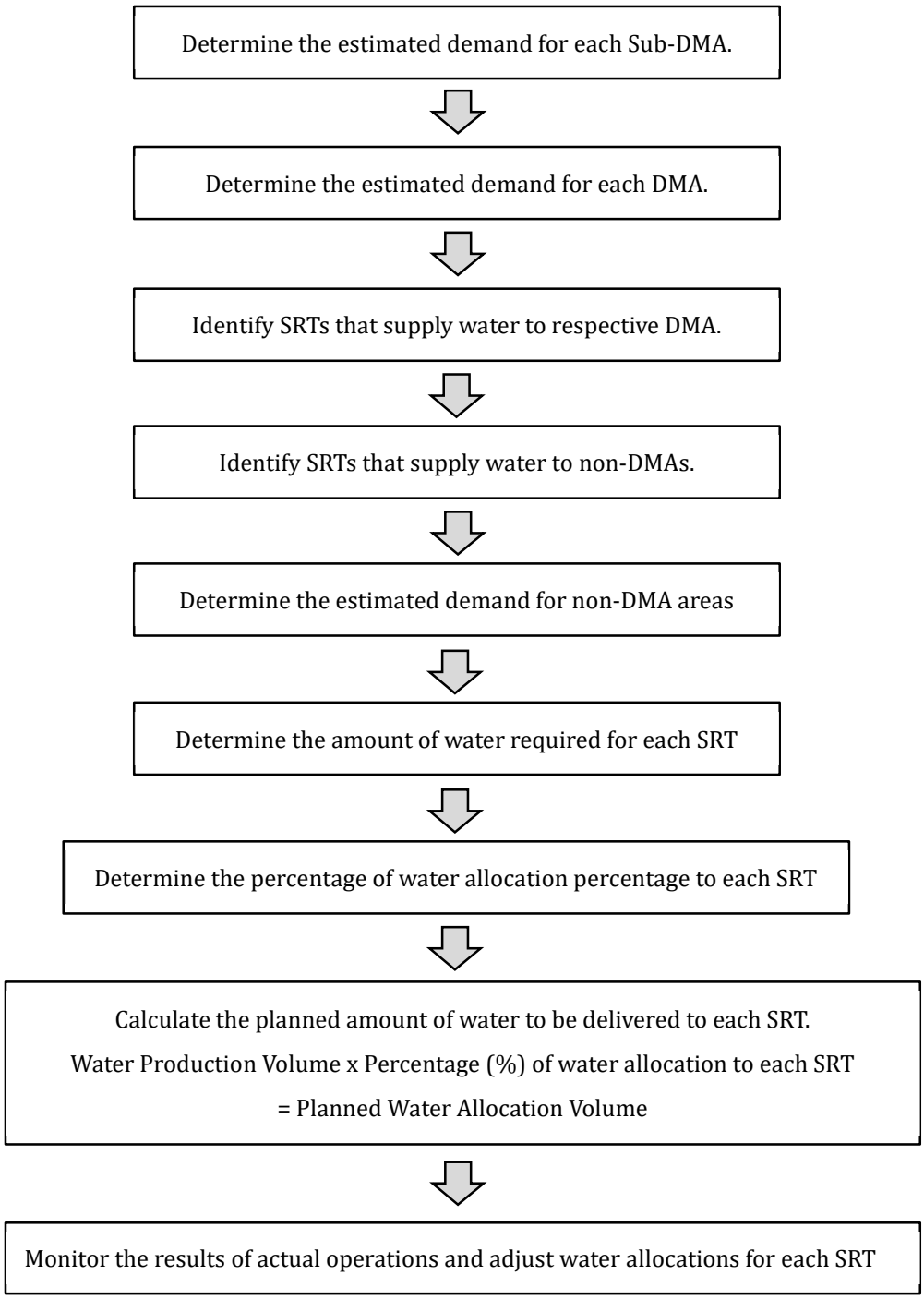


Figure 5.1.2 Steps to determine water allocation for each SRT

Table 5.1.1 Draft of Water Demand and Demand Percentage to each SRT

DMA	Estimated Demand (m3/day)	Demand Percentage (%)	Reservoir
1.1	1,853	0.53	Panipokhari
1.2	3,660	1.05	Panipokhari
1.3	5,268	1.52	Panipokhari
1.4	4,640	1.34	Panipokhari
1.5	1,641	0.47	Panipokhari
2.1	4,214	1.21	New Mahankalchaur
2.2	6,877	1.98	New Mahankalchaur
2.3	1,780	0.51	New Mahankalchaur
2.4	2,796	0.80	New Mahankalchaur
3.1	4,366	1.26	New Mahankalchaur
3.2	4,274	1.23	New Mahankalchaur
3.3	3,737	1.08	New Mahankalchaur
3.4	1,458	0.42	New Mahankalchaur
3.5	2,462	0.71	New Mahankalchaur
4.1	922	0.27	Anamnagar
4.2	1,980	0.57	Anamnagar
5.1	9,150	2.63	Khumaltar
5.2	5,860	1.69	Khumaltar
6.1	5,939	1.71	Khumaltar
6.2	7,386	2.13	Khumaltar
7.1	3,807	1.10	Balaju
7.2	4,018	1.16	Balaju
7.3	5,022	1.45	Balaju
7.4	7,250	2.09	Balaju
8.1	6,307	1.81	Khumaltar
8.2	4,536	1.31	Khumaltar
9.1	3,870	1.11	Khumaltar
9.2	6,491	1.87	Khumaltar
10.1	778	0.22	Balaju
10.2	4,327	1.25	Balaju
11.1	3,362	0.97	Kirtipur
11.2	2,723	0.78	Kirtipur
11.3	2,007	0.58	Kirtipur
Demo Area	8,100	2.33	Minbhawan
Tribhuvan University (TU)	100	0.03	Kirtipur
Non-DMA within the Ring Road	0	0.00	Anamnagar
Non-DMA within the Ring Road	14,742	4.24	Balaju
Non-DMA within the Ring Road	17,010	4.90	Bansbari
Non-DMA within the Ring Road	0	0.00	Khumaltar
Non-DMA within the Ring Road	7,128	2.05	Kirtipur
Non-DMA within the Ring Road	16,119	4.64	Old Mahankalchaur
Non-DMA within the Ring Road	0	0.00	Minbhawan
Non-DMA within the Ring Road	3,240	0.93	Panipokhari
Outside Ring Road	0	0.00	Arubari
Outside Ring Road	12,150	3.50	Bansbari
Outside Ring Road	16,200	4.66	Balaju
Outside Ring Road	11,980	3.45	Khumaltar
Outside Ring Road	17,097	4.92	Kirtipur
Outside Ring Road	40,016	11.52	Old Mahankalchaur
Outside Ring Road	0	0.00	Panipokhari
Outside Ring Road	26,886	7.74	Tigeni
Outside Ring Road	21,967	6.32	Katunje
Total	347,493	100.0	

Currently, water conduction from the Melamchi River is suspended during the rainy season, so the limited amount of water must be equally distributed according to the estimated demand.

Table 5.1.2 Standard Water Production (Main)

	Dry Season with Melamchi water	Monsoon Season without Melamchi water
Supply volume to BDS from New Sundarijal WTP	192 MLD	48 MLD
Production of Mahankalchaur WTP with existing water sources	16.37 MLD	20.67 MLD
Production of Bansbari WTP with existing water sources	10.18 MLD	18.33 MLD
Production of Bode WTP with existing water sources	7.90 MLD	8.08 MLD
Total	226.45 MLD	95.08 MLD

Source: KUKL Annual Report

Table 5.1.3 Water Production Record 2080/2081

		Mahanlakchaur WTP	Bansbari WTP	Bode WTP
Shrawan	July-August	20.15	22.43	8.91
Bhadra	August-September	25.54	30.96	8.08
Ashwin	September-October	17.00	29.32	8.32
Kartik	October-November	20.80	22.83	8.19
Mangsir	November-December	22.86	10.47	8.15
Paush	December-January	22.80	5.83	8.13
Magh	January-February	13.46	5.43	7.64
Falgun	February-March	15.34	19.34	7.50
Chaitra	March-April	9.73	2.7	7.70
Baishakh	April-May	9.66	4.67	8.00
Jestha	May-June	11.26	1.09	7.55
Ashad	June-July	29.22	7.85	7.55
Daily Average (MLD)		18.15	13.58	7.98
Monsoon season average without operation of Melamchi tunnel (MLD)		20.63	18.33	8.08
Dry season average with operation of Melamchi tunnel (MLD)		16.37	10.18	7.90

Source: KUKL Annual Report

Note: The operation of the Melamchi Diversion Tunnel will be suspended from the end-May to the mid-October.

Figure 5.1.4 Water Allocation Plan in Dry Season

Dry Season with Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	1,603				1,603	289	1,892
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	31,020				31,020	5,595	36,615
Bansbari (New & Old)	29,160	8.39	16,112		10,180		5,932	2,906	8,838
Khumaltar	61,518	17.70	33,990				33,990	6,131	40,121
Kirtipur	32,417	9.33	17,911				17,911	3,231	21,142
Mahankalchaur (New)	31,964	9.20	17,661				17,661	3,185	20,847
Mahankalchaur (Old)	56,135	16.15	31,016	16,370			14,646	5,594	20,240
Minbhawan	8,100	2.33	4,475				4,475	807	5,283
Panipokhari (New & Old)	20,302	5.84	11,217				11,217	2,023	13,241
Tigeni	26,886	7.74	14,855			8,080	6,775	2,679	9,455
Katunje	21,967	6.32	12,137				12,137	2,189	14,327
Total	347,493	100.00	192,000				157,370	34,630	192,000
			(F)				(G)		

Figure 5.1.5 Water Allocation Plan in Monsoon Season

Monsoon Season without Melamchi water

Reservoir	Estimated Demand (m3/day)	Demand Percentage (%)	First Allocation from BDS (m3/day)	Available Water Source (m3/day)			Adjusted Allocation after deduction of available water source (m3/day)		
				Mahankalchaur WTP	Bansbari WTP	Bode WTP	Necessary input from BDS	Reallocation of	Final Allocation from
		(P)	(A)		(B)		(C) = (A) - (B)	(D) = [(F)-(G)] x (P)	(E) = (C) + (D)
Anamnagar	2,901	0.83	401				401	129	530
Arubari	0	0.00	0				0	0	0
Balaju (New & Old)	56,143	16.16	7,755				7,755	2,504	10,259
Bansbari (New & Old)	29,160	8.39	4,028		18,330		0	1,300	1,300
Khumaltar	61,518	17.70	8,498				8,498	2,743	11,241
Kirtipur	32,417	9.33	4,478				4,478	1,446	5,923
Mahankalchaur (New)	31,964	9.20	4,415				4,415	1,425	5,841
Mahankalchaur (Old)	56,135	16.15	7,754	20,630			0	2,503	2,503
Minbhawan	8,100	2.33	1,119				1,119	361	1,480
Panipokhari (New & Old)	20,302	5.84	2,804				2,804	905	3,710
Tigeni	26,886	7.74	3,714			7,900	0	1,199	1,199
Katunje	21,967	6.32	3,034				3,034	980	4,014
Total	347,493	100.00	48,000				32,504	15,496	48,000
			(F)				(G)		

6. Target of Water Supply Hour, Frequency of Water Supply and Water Supply Volume

[Supply Hour]

2 hours or more per supply day for all DMAs

[Supply Frequency]

Dry Season with Melamchi water:	At least once every 3 days in all DMAs
Monsoon Season without Melamchi water:	At least once every 5 days in all DMAs

[Supply Volume]

The amount of water allocated to each SRT is compared with the estimated demand of each Sub-DMA and other water supply areas to determine the water supply frequency and hours for each area so that water supply is achieved equally in all areas.

The following page shows the standard water supply schedule created by KUKL's Operation Division. Since available water sources differ between the monsoon and dry seasons, headquarters must review the need for monthly adjustments to the water supply schedule based on local conditions.

Table 6.1.1 Water Supply Plan in Dry Season with Melamchi water (1/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																												
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
Anamnagar	79	1,892	4.1	4.1.1	921.8	14:00	20:00			√			√			√			√			√			√			√			√			√			√
				4.1.2		14:00	22:00			√			√			√			√			√			√			√			√			√			√
			4.2	4.2.1	414.7	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.2	842.4	11:00	22:00			√			√			√			√			√			√			√			√			√			√
				4.2.3	722.5	11:00	22:00			√			√			√			√			√			√			√			√			√			√
			Old Network	1st Shift	0.0	4:00	5:00	√			√			√			√			√			√			√			√			√			√		
				2nd Shift		20:00	21:00	√			√			√			√			√			√			√			√			√			√		
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																																
Balaju	1,526	36,615	7.1	7.1.1	2,509.4	4:00	12:00				√				√				√				√				√				√				√		
				7.1.2	1,297.6	4:00	12:00				√				√				√				√				√				√				√		
			7.2	7.2.1(A)	4,017.6	4:00	12:00		√				√				√				√			√			√				√				√
				7.2.1(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(A)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.2(B)		4:00	12:00		√				√				√				√			√			√				√				√
				7.2.3		4:00	12:00		√				√				√				√			√			√				√				√
			7.3	7.3.1(A)	5,022.0	7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.1(B)		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.2		7:00	19:00	√				√				√				√			√			√			√			√			√	
				7.3.3		7:00	19:00	√				√				√				√			√			√			√			√			√	
			7.4	7.4.1(A)	7,249.5	7:00	19:00			√				√				√				√			√				√			√				
				7.4.1(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(A)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.2(B)		7:00	19:00			√				√				√				√			√				√			√				
				7.4.3		7:00	19:00			√				√				√				√			√				√			√				
				7.4.4		7:00	19:00			√				√				√				√			√				√			√				
			10.1	10.1.1	777.6	12:00	17:00				√				√				√				√				√				√				√		
			10.2	10.2.1(A)	4,327.0	17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(B)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.1(C)		17:00	22:00		√				√				√				√			√			√				√				√
				10.2.2(A)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(B)		13:00	20:00				√				√				√				√				√				√				√		
				10.2.2(C)		13:00	20:00				√				√				√				√				√				√				√		
			Old Network	1st Shift	14,742.0	5:30	8:00		√					√					√					√					√					√			
				2nd Shift		8:00	20:00		√					√					√					√					√					√			
			Outside Ring Road		16,200.0	18:15	20:15					√					√				√					√				√						√
Bansbari	368	8,838	Old Network	1st zone, 1st Shift	17,010.0	5:30	8:00	√				√				√				√				√				√				√				√	
				1st zone, 2nd Shift		10:30	13:00	√				√				√				√				√				√				√				√	
				1st zone, 3rd Shift		15:30	18:00	√				√				√				√				√				√				√				√	
				1st zone, 4th Shift		20:30	23:00	√				√				√				√				√				√				√				√	
				2nd Zone, 1st Shift		3:00	5:30		√				√				√				√				√				√				√				√
				2nd Zone 2nd Shift		8:00	10:30		√				√				√				√				√				√				√				√
				2nd Zone 3rd Shift		13:00	15:30		√				√				√				√				√				√				√				√
				2nd Zone 4th Shift		18:00	20:30		√				√				√				√				√				√				√				√
				3rd Zone, 1st Shift		3:00	5:30			√				√				√				√			√				√				√				
				3rd Zone, 2nd Shift		8:00	10:30			√				√				√				√			√				√				√				
				3rd Zone, 3rd Shift		13:00	15:30			√				√				√				√			√				√				√				
				3rd Zone, 4th Shift		18:00	20:30			√				√				√				√			√				√				√				
			Outside Ring Road	1st Shift	12,150.0	3:00	18:00				√				√				√				√				√				√				√		
				2nd Shift		18:00	21:00				√				√				√				√				√				√				√		
				3rd Shift		21:00	0:00				√				√				√				√				√				√				√		
				4th Shift		0:00	3:00				√				√				√				√				√				√				√		
Khumaltar	1,672	40,121	5.1	5.1.1	9,149.8	18:00	6:00			√				√				√				√				√				√				√		
				5.1.2		18:00	6:00			√				√				√				√				√				√				√		
				5.1.3		18:00	6:00			√				√				√				√				√				√				√		
			5.2	5.2.1	5,859.5	6:00	18:00		√				√				√				√			√			√				√				√
				5.2.2		6:00	18:00		√				√				√				√			√			√				√				√
				5.2.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.1	6.1.1(A)	5,938.9	6:00	18:00		√				√				√				√			√			√				√				√
				6.1.1(B)		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.2		6:00	18:00		√				√				√				√			√			√				√				√
				6.1.3		6:00	18:00		√				√				√				√			√			√				√				√
			6.2	6.2.1	7,385.6	18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.2		18:00	18:00	√				√				√				√				√				√				√				√	
				6.2.3		18:00	18:00	√				√				√				√				√				√				√				√	
			8.1	8.1.1	6,306.7	6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.2		6:00	6:00	√				√				√				√				√				√				√				√	
				8.1.3		6:00	6:00	√				√				√				√				√				√				√				√	
			8.2	8.2.1	4,536.0	6:00	18:00		√				√				√				√			√				√				√				√
				8.2.2		6:00	18:00		√				√				√				√			√				√				√				√
			9.1	9.1.1	1,294.4	19:00	6:00				√				√				√				√				√				√				√		
				9.1.2	1,681.6	19:00	6:00				√				√				√				√				√				√				√		
				9.1.3	894.2	19:00	6:00				√				√				√				√				√				√				√		
			9.2	9.2.1	1,202.0	6:00	19:00				√				√				√				√				√				√				√		
				9.2.2	1,020.6	6:00	19:00				√				√				√				√				√				√				√		
				9.2.3	1,095.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.4	657.7	6:00	19:00				√				√				√				√				√				√				√		
				9.2.5	724.1	6:00	19:00				√				√				√				√				√				√				√		
				9.2.6	1,009.3	6:00	19:00				√				√				√				√				√				√				√		
				9.2.7	782.5	6:00	19:00				√				√				√				√				√				√				√		

Table 6.1.2 Water Supply Plan in Dry Season with Melamchi water (2/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			Old Network		0.0																														
			Outside Ring Road	1st Zone I	11,980.0	5:00	21:00		√				√				√				√			√				√				√				√
				1st Zone - II(a)		5:00	14:00				√				√				√				√			√				√				√		
				1st Zone - II(b)		8:00	9:00				√				√				√				√			√				√				√		
				1st Zone - II©		5:00	20:00				√				√				√				√			√				√				√		
				1st Zone - III		5:00	8:00	√				√				√				√				√				√				√				√	
				2nd Zone - I		6:00	18:00			√								√								√								√		
				2nd Zone - II		6:00	18:00							√								√								√						√
				3rd Zone - I		7:00	19:00	√				√				√				√				√				√				√				√	
				3rd Zone - II		7:00	19:00			√				√				√				√				√				√				√		
				4th Zone - I		6:00	20:00			√				√				√				√				√				√				√		
				4th Zone - II		17:00	0:00				√				√				√				√				√				√				√		
				4th Zone - III		17:00	0:00					√				√				√				√			√				√				√		
				4th Zone - IV		17:00	0:00						√				√				√				√			√				√					
Kirtipur	881	21,142	11.1	11.1.1	3,361.5	18:00	6:00	√			√			√			√			√			√			√			√			√			
			11.2	11.2.1	2,723.2	18:00	6:00		√			√			√			√			√			√			√			√			√		
			11.3	11.3.1	2,007.2	18:00	6:00			√			√			√			√			√			√			√			√			√	
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network	Zone 1	7,128.0	6:00	18:00		√							√							√						√							√
				Zone 2		6:00	18:00			√							√							√							√						
				Zone 3		6:00	18:00				√							√							√							√					
				Zone 4		6:00	18:00					√							√							√							√				
				Zone 5		6:00	18:00						√							√							√							√			
				Zone 6		6:00	18:00							√							√							√							√		
				Zone 7		6:00	18:00	√							√							√							√							√	
				Tyanglaphant - I		6:00	16:00		√		√		√			√		√		√			√		√		√			√		√		√			√
				Tyanglaphant - II a		8:00	16:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Tyanglaphant - II b		8:00	17:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III a		7:00	13:00		√		√		√			√		√		√			√		√		√			√		√				√
				Tyanglaphant - III b		6:00	2:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		9:00	15:00			√		√		√			√		√		√			√		√		√			√		√		√		
				Maitri Chandani		15:30	18:30			√		√					√		√					√		√					√		√				
				Maitri Chandani		16:00	19:00				√		√					√		√						√		√					√		√		√
				Maitri Chandani		9:00	15:00							√								√							√							√	
				Panga Dokashi -I		12:00	17:00			√							√							√							√						
				Panga Dokashi -II		8:00	13:00					√							√							√							√				
				Panga Dokashi -III		8:00	11:20	√							√							√						√							√		
				Bhatkepati - I		8:00	14:00		√							√							√							√							√
				Bhatkepati - II		10:00	17:00			√							√							√							√						
				Bhatkepati - III		10:00	17:00				√							√							√							√					
				Nagaun - I		9:00	17:00					√							√							√							√				
				Nagaun - II		10:00	17:00						√							√							√							√			
				Nagaun - III		8:00	16:00							√							√							√							√		
				Nagaun - IV		9:00	12:00								√							√							√							√	
				Jakha-Sikhunchhe D		9:00	10:00			√			√				√			√			√			√			√			√				
				Jakha-Sikhunchhe U		8:00	9:00				√				√			√			√			√			√			√			√			√	
				Nagaun & Old		5:00	11:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Nagaun & Old		5:00	11:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		10:00	19:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				KIRTIPUR old		10:00	19:00		√		√		√		√		√		√		√		√		√		√		√		√		√		√		√
				KIRTIPUR old		4:00	20:00	√		√		√		√		√		√		√		√		√		√		√		√		√		√		√	
				Kwachwo - I		4:00	22:00		√							√							√							√							√
				Kwachwo - II		3:00	8:00			√							√							√							√						
				Kwachwo - III		4:00	7:00				√							√							√							√					
				Kwachwo R - I		5:00	9:00					√							√							√							√				
				Kwachwo R - I		3:00	22:00						√							√							√							√			
				Kwachwo R - I		4:00	8:00							√							√							√							√		
				Kwachwo R - I		4:00	7:00								√							√							√							√	
				Bhajangal - I		4:00	9:00			√		√			√		√		√				√		√		√			√		√		√			√
				Bhajangal - II		6:00	10:00		√			√			√	√			√			√	√			√			√	√			√			√	√
				Bhajangal - III		5:00	10:00			√	√		√				√	√		√				√	√		√				√	√		√			
				Nayabazar Area		10:00	18:10		√						√								√							√							√
				Nayabazar Area - I		8:00	18:00				√			√				√			√				√			√				√			√		
				Nayabazar Area - II		14:00	19:00					√							√							√							√				
				Nayabazar Area - II		11:30	16:30	√							√							√							√							√	
Mahankalchaur	1,712	41,087	2.1	2.1.1(A)	649.6	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.1(B)	701.5	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(A)	895.9	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.2(B)	218.7	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(A)	823.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.3(B)	473.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
				2.1.4	452.0	7:00	14:00		√			√			√			√			√			√			√			√				√	
			2.2	2.2.1	1,247.4	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.2	1,412.6	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.3	3,222.2	12:00	22:00	√			√			√			√			√			√			√			√			√			
				2.2.4	994.7	12:00	22:00	√			√			√			√			√			√			√			√			√			
			2.3	2.3.1(A)	826.2	1:00	8:00		√			√			√			√			√			√			√			√				√	
				2.3.1(B)	954.2	1:00	8:00		√			√			√			√			√			√			√			√				√	

Table 6.1.3 Water Supply Plan in Dry Season with Melamchi water (3/3)

Dry Season (with Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Kartik 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
			2.4	2.4.1(A)	832.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(B)	772.7	4:00	7:00	√			√			√			√			√			√			√			√			√			√		
				2.4.1(C)	1,190.7	7:00	12:00	√			√			√			√			√			√			√			√			√			√		
			3.1	3.1.1(A)	672.3	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(B)	588.1	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.1(C)	563.8	9:00	13:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(A)	814.9	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(B)	988.2	13:00	17:00			√			√			√			√			√			√			√			√			√		√
				3.1.2(C)	738.7	13:00	17:00			√			√			√			√			√			√			√			√			√		√
			3.2	3.2.1(A)	675.5	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(B)	464.9	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.1(C)	774.4	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(A)	776.0	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(B)	784.1	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
				3.2.2(C)	798.7	14:00	21:00		√			√			√			√			√			√			√			√			√		√	
			3.3	3.3.1(A)	652.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(B)	863.5	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(C)	814.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(D)	779.2	15:00	21:00			√			√			√			√			√			√			√			√			√		√
				3.3.1(E)	626.9	15:00	21:00			√			√			√			√			√			√			√			√			√		√
			3.4	3.4.1(A)	868.3	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
				3.4.1(B)	589.7	20:00	1:00		√			√			√			√			√			√			√			√			√		√	
			3.5	3.5.1(A)	892.6	4:00	7:00			√			√			√			√			√			√			√			√			√		√
				3.5.1(B)	950.9	7:00	12:00			√			√			√			√			√			√			√			√			√		√
				3.5.2	618.8	7:00	12:00			√			√			√			√			√			√			√			√			√		√
			Old Network	Zone 1	16,119.0	8:00	7:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	7:00			√			√			√			√			√			√			√			√			√			
				Zone 3		10:00	7:00	√			√			√			√			√			√			√			√			√			√			
			Outside Ring Road	Zone 1	40,016.0	8:00	10:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		8:00	8:00			√			√			√			√			√			√			√			√			√			
				Zone 3		20:00	0:00	√			√			√			√			√			√			√			√			√			√		
				Zone 4 i		4:00	3:00		√						√							√								√							
				Zone 4 ii		3:00	3:00			√						√								√							√						
				Zone 5 i		4:00	5:00	√							√							√						√								
				Zone 5 ii		5:00	5:00		√							√							√						√							
				Zone 5 iii		5:00	5:00			√							√							√							√						
				Zone 5 iv		5:00	5:00				√							√							√							√					
				Zone 5 v		5:00	4:00					√							√							√							√				
				Zone 5 vi		4:00	22:00						√							√							√							√			
				Zone 5 vii		4:00	4:00							√							√							√							√		
				Zone 6 i		5:00	22:00				√							√				√							√								
				Zone 6 ii		6:00	19:00					√							√							√							√				
				Zone 6 iii		19:00	5:00						√							√							√							√			
				Zone 6 iv		5:00	17:00							√							√							√							√		
Minbhawan	220	5,283	Demo Area	Zone 1	8,100.0	5:00	11:00		√			√			√			√			√			√			√			√			√		√	
				Zone 1 - II		3:00	8:00		√			√			√			√			√			√			√			√			√		√	
				Zone 2		5:00	11:00			√			√			√			√			√			√			√			√			√			√
				Zone 2 - II		3:00	8:00			√			√			√			√			√			√			√			√			√			√
				Zone 3		5:00	10:00	√			√			√			√			√			√			√			√			√			√		
				Zone 3 - II		12:00	18:00	√			√			√			√			√			√			√			√			√			√		
Panipokhari	552	13,241	1.1	1.1.1	1,853.3	12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.2		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.1.3		12:00	20:00		√			√			√			√			√			√			√			√			√		√	
			1.2	1.2.1	3,659.6	12:00	16:00		√			√			√			√			√			√			√			√			√		√	
				1.2.2		7:00	20:00		√			√			√			√			√			√			√			√			√		√	
				1.2.3(A)		16:00	20:00		√				√				√				√				√				√				√			√
				1.2.3(B)		16:00	20:00		√				√				√				√				√				√				√			√
			1.3	1.3.1	5,268.2	6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(A)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(B)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
				1.3.2(C)		6:00	16:00	√			√			√			√			√			√			√			√			√			√	
			1.4	1.4.1	4,639.7	16:00	18:00			√			√			√			√			√			√			√			√			√		√
				1.4.2		16:00	18:00			√			√			√			√			√			√			√			√			√		√
			1.5	1.5.1	424.4	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.2	591.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
				1.5.3	625.3	19:00	7:00	√			√			√			√			√			√			√			√			√			√	
			Old Network	1st Zone, 1st Shift	3,240.0	4:00	7:00				√					√			√				√				√				√				√	
				1st Zone, 2nd Shift		07"00	9:00				√					√			√				√				√				√				√	
				1st Zone, 3rd Shift		9:00	11:00				√					√			√				√				√				√				√	
				1st Zone, 4th Shift		11:00	13:00				√					√			√				√				√				√				√	
				1st Zone, 5th Shift		13:00	16:00				√					√			√				√				√				√				√	
				1st Zone, 6th Shift		16:00	19:00				√					√			√				√				√				√				√	
				1st Zone, 7th Shift		19:00	22:00				√					√			√				√				√				√				√	
				2nd Zone		4:00	7:00	√				√				√				√				√				√				√				√	
			Outside Ring Road		0.0																															
Tigeni	394	9,455	Outside Ring Road	1st zone	26,886.0	5:00	4:00	√				√				√				√				√				√				√				√	
				2nd zone		5:00	4:00		√				√				√				√				√				√				√				√
				3rd zone		5:00	4:00			√			√			√			√			√			√			√			√			√			√
				4th zone		5:00	4:00				√				√				√				√				√				√				√		
Katunje	597	14,327	Outside Ring Road	1st zone - I	21,967.0	4:00	10:00				√				√				√				√				√				√				√	
				1st zone - II		16:00	20:00				√				√				√				√				√				√				√	
				2nd zone - I		4:00	10:00	√				√				√				√				√				√				√				√	
				2nd zone - II		16:00	20:00	√				√				√				√				√				√				√				√	
				3rd zone - I		4:00	10:00		√				√				√				√				√				√				√				√
				3rd zone - II		16:00	20:00		√				√				√				√				√				√				√				√
				4th zone - I		4:00	10:00			√			√			√			√			√			√			√			√			√			√
				4th zone - II		16:00	20:00			√			√			√			√			√			√			√			√			√			√
				5th zone -I		10:00	14:00				√				√				√				√				√				√				√	
				5th zone - II		20:00	0:00				√				√				√				√				√				√				√	
				6th zone - I		10:00	14:00			√			√			√			√			√			√			√			√			√			√
				6th zone - II		20:00	0:00			√			√			√			√			√			√			√			√			√			√
		192,000		Total	347,493.1																															

Table 6.1.4 Water Supply Plan in Monsoon Season without Melamchi water (1/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																										
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Anamnagar	22	530	4.1	4.1.1	921.8																															
				4.1.2		14:00	20:00			√						√						√						√						√				
			4.2	4.2.1	414.7	11:00	20:00			√						√						√						√						√				
				4.2.2	842.4	11:00	20:00			√						√						√						√						√				
				4.2.3	722.5	11:00	20:00			√						√						√						√						√				
Arubari	0	0	Outside Ring Road	No Outlet Pipe	0.0																															
Balaju	427	10,259	7.1	7.1.1	2,509.4	17:00	22:00						√						√						√						√					√	
				7.1.2	1,297.6	17:00	22:00						√						√						√						√					√	
			7.2	7.2.1(A)		4:00	11:00						√						√						√						√					√	
				7.2.1(B)		4:00	11:00						√						√						√						√					√	
				7.2.2(A)	4,017.6	4:00	11:00						√						√						√						√					√	
				7.2.2(B)		4:00	11:00						√						√						√						√					√	
				7.2.3		4:00	11:00						√						√						√						√					√	
			7.3	7.3.1(A)		4:00	13:00					√						√					√						√					√		
				7.3.1(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(A)	5,022.0	4:00	13:00					√						√					√						√					√		
				7.3.2(B)		4:00	13:00					√						√					√						√					√		
				7.3.2(C)		4:00	13:00					√						√					√						√					√		
				7.3.3		4:00	13:00					√						√					√						√					√		
			7.4	7.4.1(A)		4:00	13:00				√						√						√	√					√					√		
				7.4.1(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.2(A)	0.0	4:00	13:00				√						√						√	√					√					√		
				7.4.2(B)		4:00	13:00				√						√						√	√					√					√		
				7.4.3		4:00	13:00				√						√						√	√					√					√		
				7.4.4		4:00	13:00				√						√						√	√					√					√		
			10.1	10.1.1	777.6																															
			10.2	10.2.1(A)		15:00	20:00					√						√						√						√					√		
				10.2.1(B)		15:00	20:00					√						√						√						√					√		
				10.2.1(C)	4,327.0	15:00	20:00					√						√						√						√					√		
				10.2.2(A)		15:00	20:00				√						√						√						√					√		
				10.2.2(B)		15:00	20:00				√						√						√						√					√		
				10.2.2(C)		15:00	20:00				√						√						√						√					√		
			Old Network	1st Zone		6:00	8:00				√						√						√						√					√		
				2nd Zone		8:00	18:00				√						√						√						√					√		
				1st zone, 1st Shift		3:30	5:00			√						√						√						√					√				
				1st zone, 2nd Shift		7:00	8:00			√						√						√						√					√				
				1st zone, 3rd Shift		13:00	17:00			√						√						√						√					√				
				2nd Zone, 1st Shift		14:30	15:30						√						√						√						√					√	
				2nd Zone 2nd Shift		15:30	16:30						√						√						√						√					√	
				2nd Zone 3rd Shift	14,742.0	16:30	17:30						√						√						√						√					√	
				3rd Zone, 1st Shift		14:30	15:30				√						√						√						√					√		
				3rd Zone, 2nd Shift		15:30	16:30				√						√						√						√					√		
				3rd Zone, 3rd Shift		16:30	17:30				√						√						√						√					√		
				3rd Zone, 4th Shift		17:30	18:30				√						√						√						√					√		
				3rd Zone, 5th Shift		18:30	19:30				√						√						√						√					√		
				4th Zone, 1st Shift		14:30	17:00			√						√						√						√						√		
				4th Zone, 2nd Shift		15:30	17:00			√						√						√						√						√		
				5th Zone, 1st Shift		15:30	17:00				√						√						√						√					√		
			Outside Ring Road	1st Zone	16,200.0	5:15	8:00						√						√						√						√					√	
				2nd Zone		5:15	8:00			√						√						√						√						√				
Bansbari	54	1,300	Old Network	1st zone, 1st Shift		3:00	5:00				√						√						√						√					√		
				1st zone, 2nd Shift		9:00	11:00				√						√						√						√					√		
				1st zone, 3rd Shift		15:00	17:00				√						√						√						√					√		
				2nd Zone, 1st Shift		3:00	5:00					√						√						√						√					√	
				2nd Zone 2nd Shift		9:00	11:00					√						√						√						√					√	
				2nd Zone 3rd Shift		15:00	17:00					√						√						√						√					√	
				3rd Zone, 1st Shift		3:00	5:00						√						√						√						√					√	
				3rd Zone, 2nd Shift	17,010.0	9:00	11:00						√						√						√						√					√	
				4th Zone, 1st Shift		3:00	5:00	√						√						√						√						√					√
				4th Zone, 2nd Shift		9:00	11:00	√						√						√						√						√					√
				4th Zone, 3rd Shift		15:00	17:00	√						√						√						√						√					√
				5th Zone, 1st Shift		3:00	5:00		√						√						√						√						√				
				5th Zone, 2nd Shift		9:00	11:00		√						√						√						√						√				
				5th Zone, 3rd Shift		15:00	17:00		√						√						√						√						√				
				6th Zone, 1st Shift		18:00	22:00			√						√						√						√					√				
			Outside Ring Road	1st zone, 1st Shift		3:00	5:30		√					√						√					√						√						
				1st zone, 2nd Shift		14:00	15:30		√					√						√					√						√						
				1st zone, 3rd Shift		15:30	16:30		√					√						√					√						√						
				2nd Zone, 1st Shift		3:00	5:00			√					√					√						√						√					
				2nd Zone 2nd Shift	12,150.0	14:00	16:00			√					√					√						√						√					
				3rd Zone, 1st Shift		3:00	5:00				√					√						√						√						√		
				3rd Zone, 2nd Shift		14:00	16:00				√					√						√						√						√		
				4th Zone, 1st Shift		3:00	5:00					√					√					√						√					√			
				4th Zone, 2nd Shift		14:00	16:00					√					√					√						√					√			
				5th Zone, 1st Shift		3:00	5:00	√					√					√					√						√								√

Table 6.1.5 Water Supply Plan in Monsoon Season without Melamchi water (2/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																								
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
Khumaltar	468	11,241	5.1	5.1.1	9,149.8	14:00	21:00							7							14							21							28			
				5.1.2		14:00	21:00							7							14							21							28			
				5.1.3		14:00	21:00							7							14							21							28			
			5.2	5.2.1	5,859.5	4:00	11:00						6							13						20							27				
				5.2.2		4:00	11:00						6							13						20							27				
				5.2.3		4:00	11:00						6							13						20							27				
			6.1	6.1(DNI)	5,938.9	19:00	6:00						6							13						20							27				
				6.1(DNI)		19:00	6:00							7							14							21							28			
			6.2	6.2(DNI)	7,385.6	18:00	6:00				4							11						18							25						
				6.2(DNI)		18:00	6:00					5							12							19							26					
			8.1	8.1 (DNI)	6,306.7	8:00	20:00					5							12							19							26					
			8.2	8.2 (DNI)	4,536.0	8:00	20:00					5							12							19							26					
			9.1	9.1.1	1,294.4	20:00	5:00								√							√							√							√		
				9.1.2	1,681.6	20:00	5:00								√							√							√							√		
				9.1.3	894.2	20:00	5:00								√							√							√							√		
			9.2	9.2.1	1,202.0	5:00	19:00							√							√							√							√		
				9.2.2	1,020.6	5:00	19:00							√							√							√							√		
				9.2.3	1,095.1	5:00	19:00							√							√							√							√		
				9.2.4	657.7	5:00	19:00							√							√							√							√		
				9.2.5	724.1	5:00	19:00							√							√							√							√		
				9.2.6	1,009.3	5:00	19:00							√							√							√							√		
				9.2.7	782.5	5:00	19:00							√							√							√							√		
			Old Network		0.0																																	
			Outside Ring Road	8.1 (20" KUKL)	11,980.0	6:00	14:00				4							11						18							25						
				8.1 (20" KUKL)		15:00	17:00				4							11						18							25						
				8.1 (20" KUKL)		7:00	16:00		2							9						16								23							30	
				8.1 (20" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	19:00			3							10						17								24							31
				8.2 (12" KUKL)		10:00	13:00							7							14							21							28			
Kirtipur	247	5,923	11.1	11.1.1	3,361.5	18:00	6:00	√						√						√					√						v	√						√
			11.2	11.2.1	2,723.2	18:00	6:00						√						√						√					√						v		
			11.3	11.3.1	2,723.2	18:00	6:00					√						√						√					√						v			
			TU		100.0	5:30	6:30	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
			Old Network		7,128.0	7:00	17:00																															
			Siwalaya System	Siwalaya 1		7:00	12:30							√							√							√							√			
				Siwalaya 1		7:00	9:40	√							√							√							√							√			
			Bhajangal System	Bhajangal R1		4:00	8:40	√				√			√				√			√				√			√				√			√			
				Bhajangal R2		5:00	5:40	√		√					√		√					√		√					√		√					√			√
				Bhajangal R3		5:00	8:40	√			√				√			√				√			√					√			√				√		
				Bhajangal R4		5:00	5:40		√					√		√						√		√				√		√					√		√	
						18:30	20:00		√					√		√						√		√				√		√					√		√	
				Bhajangal R5		6:00	8:40		√			√				√			√				√			√				√			√				√	
				Bhajangal D		8:00	14:40			√			√				√			√				√			√				√			√				√
				Bhajangal K		8:00	11:20				√			√				√			√				√			√				√			√			
				Gurung Compound		14:40	18:00				√							√							√							√						
			Chilancho System	Chilancho 1		4:00	7:30	√				√			√				√			√				√			√				√			√		
						21:00	22:00	√				√			√				√			√				√			√				√			√		
				Chilancho 2		6:00	9:00		√				√			√				√			√				√			√				√			√	
						19:30	20:00		√				√			√				√			√				√			√				√			√	
				Chilancho 3		4:00	8:00				√			√				√			√				√			√				√			√		
				Chilancho 4		16:00	19:00	√				√		√	√			√	√		√	√			√	√		√	√			√	√		√	√		
				Chilancho 5		14:30	18:30		√				√	√		√		√		√	√		√		√		√	√		√		√		√		√		
				Chilancho 6		14:15	18:00				√			√				√							√				√			√			√			
			Devdhoka System	Devdhoka 1	17,097.0	6:00	15:00	√							√							√							√							√		
						12:00	15:00	√							√							√							√							√		
				Devdhoka 2		6:00	19:00		√							√							√							√							√	
						15:00	19:00		√							√							√							√							√	
				Devdhoka 3		6:00	11:00			√							√							√							√							√
						13:00	14:00			√							√							√							√							√
				Devdhoka 4		6:00	10:00				√							√							√							√						
				Devdhoka 5		6:00	9:00					√							√							√							√						
						12:00	15:30					√							√														√						
				Devdhoka 6		6:00	9:00						√							√							√							√				
						15:00	18:30						√							√							√							√				
				Devdhoka 7		6:00	21:00							√							√							√							√			
						15:00	18:30							√							√							√							√			
			Kwacho System	Kwacho 1		4:00	6:30	√				√			√				√			√				√			√				√			√		
						18:30	19:30	√				√			√				√			√				√			√				√			√		
				Kwacho 2		3:00	6:30		√				√			√				√			√				√			√				√			√	
				Kwacho 3		4:00	5:30			√				√			√				√			√				√			√				√			√
			Jakha System	Water is used when local																																		
			Nagau System	Nagau 1 (8 area)		5:00	9:00	√		√		√			√		√		√			√		√		√			√		√		√			√			√
				Nagau 2 (8 area)		5:00	9:00		√		√		√			√		√			√		√		√		√			√		√		√			√		
Mahankalchaur	348	8,344	2.1	2.1.1(A)	649.0	11:00	14:00	√						√							√						√					√						
				2.1.1(B)	701.5	11:00	14:00	√						√							√						√					√						
				2.1.2(A)	895.9	11:00	14:00	√						√							√						√					√						
				2.1.2(B)	218.7	11:00	14:00	√						√							√						√					√						
				2.1.3(A)	823.0	11:00	14:00	√						√							√						√					√						
				2.1.3(B)	473.0	11:00	14:00	√						√							√						√					√						
				2.1.4	452.0	11:00	14:00	√						√							√						√					√						
			2.2	2.2.1	1,247.4	13:00	22:00			√						√						√						√						√			
				2.2.2	1,412.6	13:00	22:00			√						√						√						√						√			
				2.2.3	3,222.2	13:00	22:00			√						√						√						√						√			
				2.2.4	994.7	13:00	22:00			√						√						√						√						√			
			2.3	2.3.1(A)	826.2	22:00	1:00		√						√						√						√					√					
				2.3.1(B)	954.2	22:00	1:00		√						√						√						√					√					
			2.4	2.4.1(A)	832.7	14:00	20:00	√						√						√					√						√						
				2.4.1(B)	772.7	14:00	20:00	√						√						√					√						√						
				2.4.1(C)	1,190.7	14:00	20:00	√						√						√					√						√						

Table 6.1.6 Water Supply Plan in Monsoon Season without Melamchi water (3/3)

Monsoon Season (without Melamchi Water)

Reservoir	Alocated Volume (m3/hour)	Alocated Volume (m3/day)	Supply Area		Estimated Demand (m3/day)	Target Supply Time		Shrawan 2082																													
			DMA	Sub-DMA		Start	End	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30	Day 31
			3.1	3.1.1(A)	672.3	11:00	17:00		√						√						√						√						√					
				3.1.1(B)	588.1	11:00	17:00		√						√						√						√						√					
				3.1.1(C)	563.8	11:00	17:00		√						√						√						√						√					
				3.1.2(A)	814.9	11:00	17:00		√						√						√						√						√					
				3.1.2(B)	988.2	11:00	17:00		√						√						√						√						√					
				3.1.2(C)	738.7	11:00	17:00		√						√						√						√						√					
			3.2	3.2.1(A)	675.5	6:00	12:00			√						√						√						√						√				
				3.2.1(B)	464.9	6:00	12:00			√						√						√						√						√				
				3.2.1(C)	774.4	6:00	12:00			√						√						√						√						√				
				3.2.2(A)	776.0	6:00	12:00			√						√						√						√						√				
				3.2.2(B)	784.1	6:00	12:00			√						√						√						√						√				
				3.2.2(C)	798.7	6:00	12:00			√						√						√						√						√				
			3.3	3.3.1(A)	652.9	15:00	21:00		√						√						√						√						√					
				3.3.1(B)	863.5	15:00	21:00		√						√						√						√						√					
				3.3.1(C)	814.9	15:00	21:00		√						√						√						√						√					
				3.3.1(D)	779.2	15:00	21:00		√						√						√						√						√					
				3.3.1(E)	626.9	15:00	21:00		√						√						√						√						√					
			3.4	3.4.1(A)	868.3	20:00	23:00	√						√					√					√							√							
				3.4.1(B)	589.7	20:00	23:00	√						√					√					√							√							
			3.5	3.5.1(A)	802.6	4:00	10:00		√						√						√						√						√					
				3.5.1(B)	950.9	4:00	10:00		√						√						√						√						√					
				3.5.2	618.8	4:00	10:00		√						√						√						√						√					
			Old Network	Zone 1 a	16,119.0	8:00	10:00		√			√			√			√			√			√			√			√			√			√		
				Zone 1 b		16:00	19:00		√			√			√			√			√			√			√			√			√			√		
				Zone 2		4:00	8:00			√			√			√			√			√			√			√			√			√			√	
				Zone 3 a		11:00	13:00	√			√			√			√			√			√			√			√			√			√			√
				Zone 3 b		13:00	16:00	√			√			√			√			√			√			√			√			√			√			√
			Outside Ring Road	Zone 1-gravity	19,846.4																																	
				Zone 2-gravity																																		
				Zone 3 a-pumping																																		
				Zone 3 b-pumping																																		
				Zone 3 c-pumping																																		
				Zone 3 d-pumping																																		
				Zone 3 e-pumping																																		
				Zone 3 f-pumping																																		
				Zone 3 g-pumping																																		
Minbhawan	62	1,480	Demo Area	Zone 1	8,100.0	10:00	12:30						√						√						√					√						√	
				Zone 2		18:00	20:30						√						√						√					√						√	
				Zone3		5:00	8:00	√						√						√						√						√						√
				Zone 4		15:00	18:00	√						√						√						√						√						√
				Zone 5		5:00	8:00		√						√						√						√						√					
				Zone 6		12:00	16:00		√						√						√						√						√					
Panipokhari	155	3,710	1.1	1.1.1	1,853.3	4:00	22:00							√						√						√						√					√
				1.1.2										√						√						√						√					√
				1.1.3										√						√						√						√					√
			1.2	1.2.1	3,659.6	4:00	7:00								√						√						√						√				
				1.2.2											√						√						√						√				
				1.2.3(A)											√						√						√						√				
				1.2.3(B)											√						√						√						√				
			1.3	1.3.1	5,268.2	14:00	21:00							√						√						√						√					√
				1.3.2(A)		14:00	21:00							√						√						√						√					√
				1.3.2(B)		14:00	21:00							√						√						√						√					√
				1.3.2(C)		14:00	21:00							√						√						√						√					√
			1.4	1.4.1	4,639.7	13:00	19:00						√						√					√					√						√	
				1.4.2		13:00	19:00						√						√					√					√						√	
			1.5	1.5.1	424.4	5:00	13:00							√						√						√						√					√
				1.5.2	591.3	5:00	13:00							√						√						√						√					√
				1.5.3	625.3	5:00	13:00							√						√						√						√					√
Tigeni	50	1,199	Outside Ring Road	1st zone	26,886.0	4:00	11:00		√							√						√							√						√	
				2nd zone		4:00	11:00			√							√						√							√						√
				3rd zone		4:00	11:00				√							√						√							√						
				4th zone		4:00	11:00					√							√						√							√					
				5th zone		4:00	11:00						√							√						√							√				
				6th zone		4:00	11:00							√							√						√							√			
				7th zone		4:00	11:00	√							√							√						√							√			
Katunje	167	4,014	Outside Ring Road	1st zone	21,967.0	13:00	20:00		√						√						√						√						√				
				2nd zone						√						√						√						√						√				
				3rd zone					√						√						√						√						√				
				4th zone		14:00	17:00		√			√			√			√				√			√			√			√			√			√	
				5th zone		8:00	12:00	√						√						√						√						√						√
				6th zone				√						√						√						√						√						√
				7th zone				√						√						√						√						√						√
				8th zone		6:00	10:00			√			√			√			√			√			√			√			√			√			
				9th zone		8:00	11:00		√							√						√						√						√				
		48,000		Total	317,550.0																																

7. Actions to be taken by KUKL

In the technical cooperation project by JICA, indicators are established to measure the achievement of Output 1 and the project purpose.

Both indicators must be achieved by December 2026, when the technical cooperation project concludes.

[Output 1]

The capacity of water distribution management utilizing GIS is enhanced.

Indicator 1-3: The water distribution plan for maintaining fair supply hour is prepared for the DMAs within the Ring Road.

[Project Purpose]

The KUKL's capacity of operation and maintenance of water supply is improved.

Indicator 1: The water distribution management plan for fair water supply is implemented in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

Indicator 2: Water supply hours are fair in the DMAs handed over by KVWSMB and whose old network is disconnected as of December 2025.

To achieve the above-mentioned indicators, KUKL should implement the following actions:

7.1 Actions to be taken by Production Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-1: Monthly water inflow at each SRT from BDS
(Table 7.1.1, Table 7.1.2, Figure 7.1.1, Figure 7.1.2)

PI-2: Monthly water inflow per customer at each SRT from BDS
(Table 7.1.3, Figure 7.1.3)

PI-3: Water losses in BDS between New Sundarijal WTP and each SRT
(Table 7.1.2)

Table 7.1.1 Monitoring Format of Monthly Inflow by SRT wise (1/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Baisakh		Jestha		Asadh		Shrawan		Bhadra		Ashwin	
				14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)	Inflow (m^3/month)	Inflow (m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	15164	3	231591	46	129935	26	114419	23	131183	26	372,456	74
Balaju (New)	15,556	291,578	1,098,464	237048	15	280865	18	184668	12	199020	13	181238	12	230070	15
Balaju (Old)	19,100			298687	16	239059	13	115738	6	0	0	202898	11	351175	18
Bansbari (Old)	18,000	30,605	265,132	291703	16	293788	16	44799	2	0	0	317	0	6784	0
Khumaltar	37,974	319,495	1,203,634	1023350	27	1146020	30	662190	17	734120	19	764932	20	802258	21
Kirtipur	19,949	168,358	634,255	323657	16	329460	17	198622	10	237609	12	216165	11	249046	12
Mahankalchaur (New)	19,731	291,538	1,098,313	467845	24	516628	26	225886	11	287506	15	450396	23	466119	24
Mahankalchaur (Old)	34,651	33,548	134,298	431083	12	442614	13	72781	2	0	0	303	0	162782	5
Minbhawan	5,000	42,067	158,481	236571	47	136076	27	58780	12	108294	22	119345	24	150899	30
Panipokhari (New)	10,532	105,438	397,217	137442	13	133258	13	87793	8	88573	8	95710	9	111872	11
Panipokhari (Old)	2,000			37848	19	21103	11	7043	4	17084	9	11696	6	14515	7
Tigeni	16,596	28,218	283,640	-	-	-	-	-	-	-	-	344	0	483	0
Katunje	13,560	114,086	429,797	0	0	328681	24	180919	13	154526	11	166588	12	208998	15
Average				291,700	17	341,595	21	164,096	10	161,763	11	180,086	12	240,574	18

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

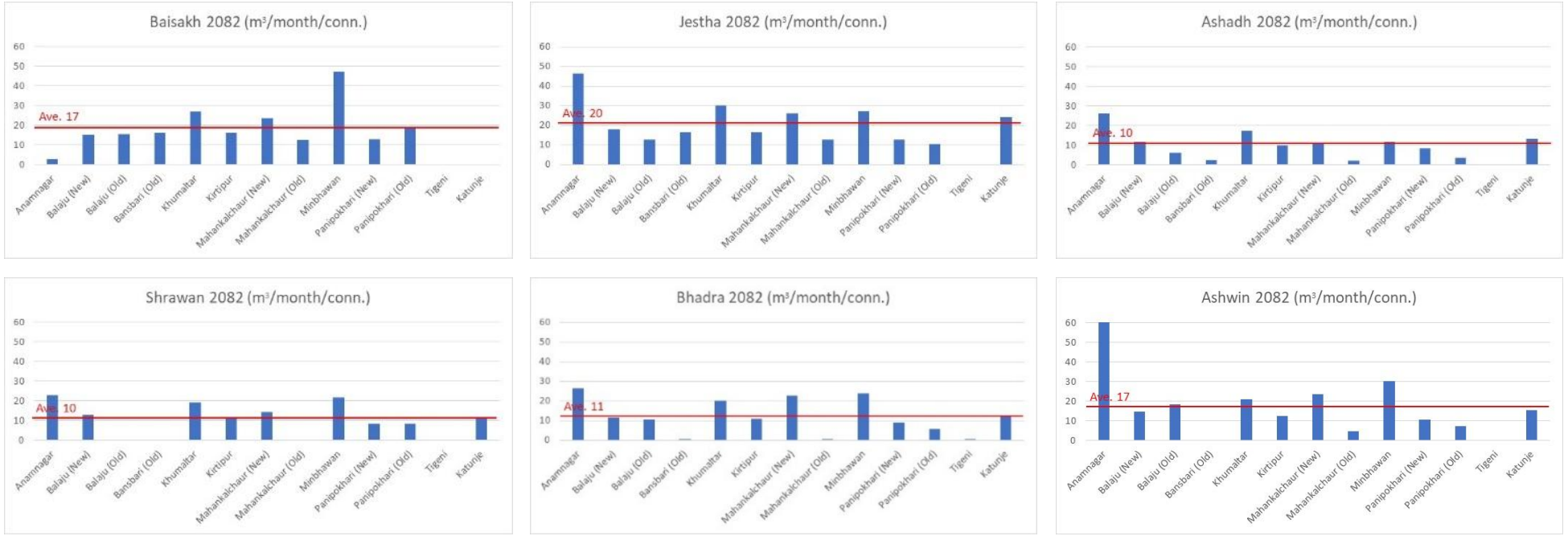


Figure 7.1.1 Change of Monthly Inflow by SRT wise (1/2)

Table 7.1.2 Monitoring Format of Monthly Inflow by SRT wise (2/2)

[Monthly Inflow Record in SRT wise]

Reservoir	No of Connections (DMA & non DMA)	Standard Flow		2082											
				Kartik		Mangsir		Poush			Magh		Falgun		Chaitra	
				18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25		14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	14-Mar-26	15-Mar-26	13-Apr-26
		Monsoon (m^3/month)	Dry (m^3/month)	Inflow		Inflow		Inflow			Inflow		Inflow		Inflow	
				(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	Local sources	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)	(m^3/month)	(m^3/month/conn.)
Anamnagar	5,000	15,069	56,768	182330	36	143,488	29	220,633		44		0		0		0
Balaju (New)	15,556	291,578	1,098,464	326808	21	363,390	23	414,438		27		0		0		0
Balaju (Old)	19,100			438440	23	460,982	24	585,595		31		0		0		0
Bansbari (Old)	18,000	30,605	265,132	64275	4	102,621	6	292,397	104,400	22		0		0		0
Khumaltar	37,974	319,495	1,203,634	972150	26	1,016,340	27	1,227,320		32		0		0		0
Kirtipur	19,949	168,358	634,255	335258	17	347,178	17	424,761		21		0		0		0
Mahankalchaur (New)	19,731	291,538	1,098,313	477628	24	522,914	27	618,450		31		0		0		0
Mahankalchaur (Old)	34,651	33,548	134,298	411567	12	441,275	13	487,527	681,500	34		0		0		0
Minbhawan	5,000	42,067	158,481	195975	39	140,311	28	234,816		47		0		0		0
Panipokhari (New)	10,532	105,438	397,217	192052	18	213,775	20	227,497		22		0		0		0
Panipokhari (Old)	2,000			24593	12	27277	14	53,189		27		0		0		0
Tigeni	16,596	28,218	283,640	469	0	288,000	17	288,000	161,994	27		0		0		0
Katunje	13,560	114,086	429,797	350301	26	344,498	25	398,271	-76,560	24		0		0		0
Average				305,527	20	339,388	21	420,992		30		0		0		0

*Arubari and Bansbari (New) are undre construction and water distribution has not started yet

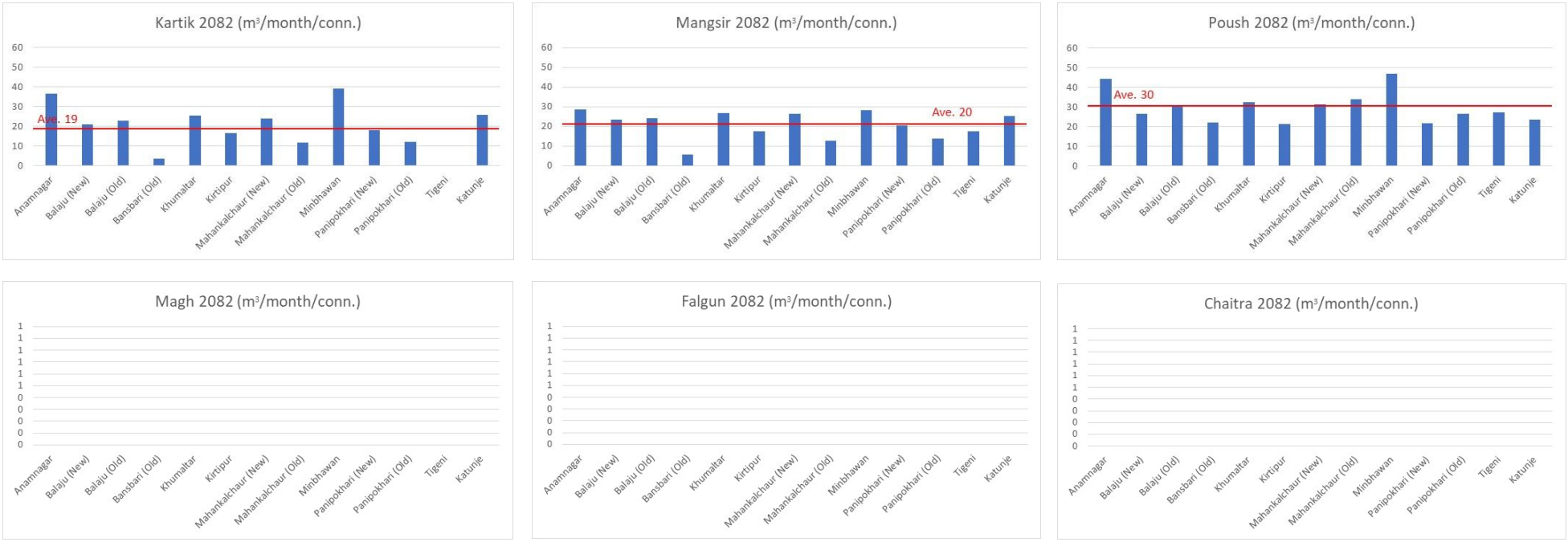


Figure 7.1.2 Change of Monthly Inflow by SRT wise (2/2)

Table 7.1.3 Monitoring Format of Water Loss in BDS

Description	Unit	January/2025	February/2025	March/2025	April/2025	May/2025	June/2025
Total Water transmitted from New Sundarijal WTP	m3						
Total water received by SRTs	m3						
Water losses in BDS	m3						
Wate losses ratio	%						
Description	Unit	July/2025	August/2025	September/2025	October/2025	November/2025	December/2025
Total Water transmitted from New Sundarijal WTP	m3	1,104,558.54	2,541550.32	2,819,664.66	4,337,372.36	4402496.86	5m796,124.00
Total water received by SRTs	m3	2,294,058.00	2,421495.00	2,707,171.00	4,290,970.00	4412049	5,691,271.00
Water losses in BDS	m3	-1,189,499.46	120,055.32	112,493.66	46,402.36	-9,552.14	104,853.00
Wate losses ratio	%	-107.69	4.72	3.99	1.07	-0.22	1.81

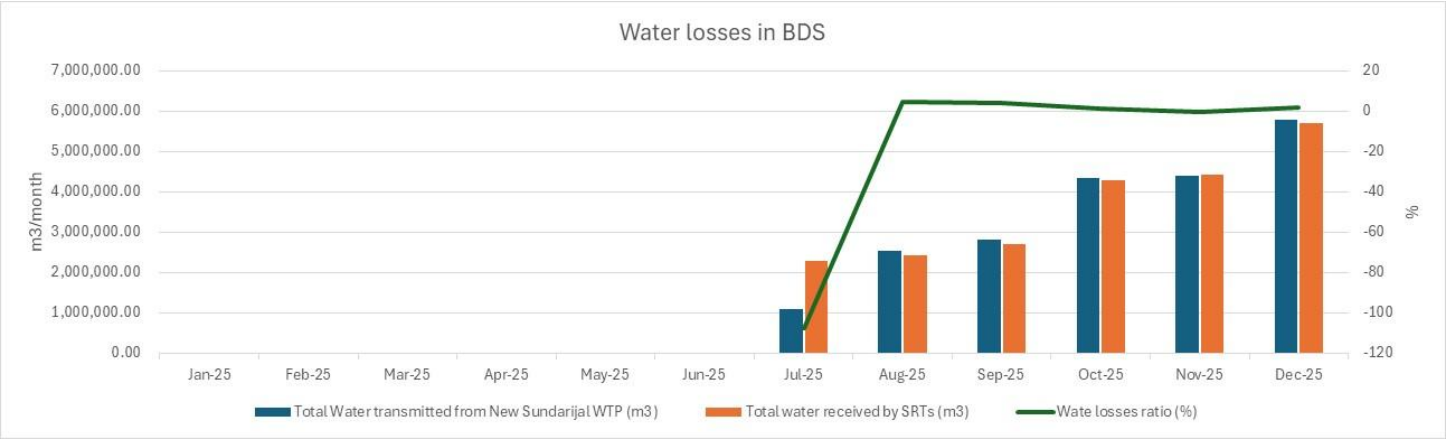


Figure 7.1.3 Change of Water Losses in BDS

7.2 Actions to be taken by Operation Division of Head Office

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicators must be monitored are shown below:

PI-4: Daily water supply volume as average at each DMA or sub-DMA and the volume per connection (Table 7.2.1, Figure 7.2.1, Figure 7.2.2)

[Responsibilities of the Operation Division]

- The Operations Division monitors the number of customers and water distribution volumes for each DMA on a monthly basis.
- The Operation Division monitors an indicator (PI-4) calculated by dividing the water distribution volume per DMA by the number of customers on a monthly basis.
- Using the Indicator PI-4. evaluate the feasibility of achieving equitable water distribution. If significant inequities arise or significant fluctuations occur, review the water distribution volume and distribution times for each DMA.

In addition to those main actions, the Operation division shall take responsibility for daily maintenance of SRTs. The operation division is required to take a record of the following monitoring.

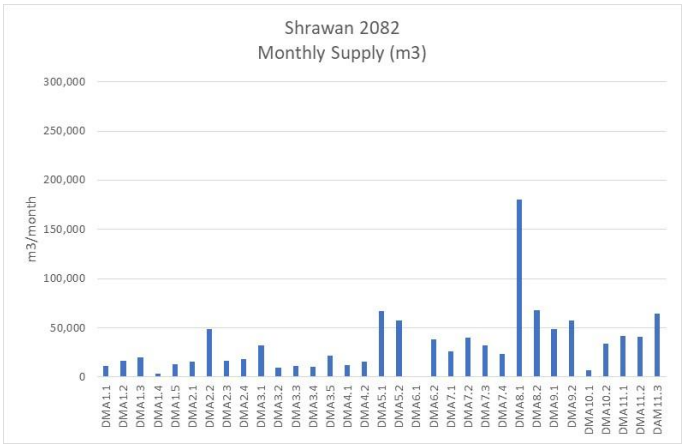
PI-5: Operation and Maintenance Status of each SRT (Table 7.2.2, Table 7.2.3)

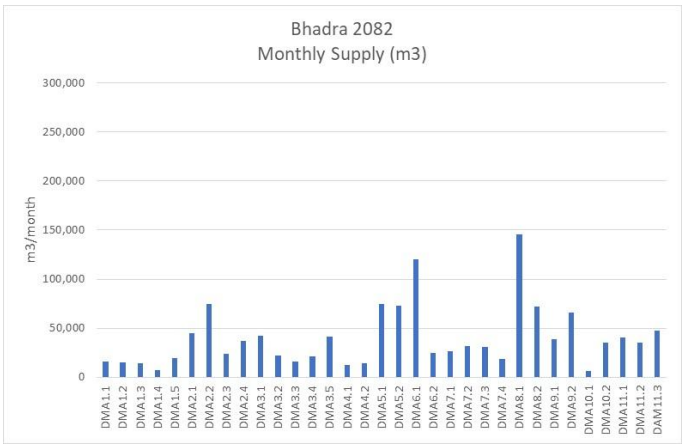
Action-1: Allocate the responsible operator (Everyday)
Action-2: Prepare a Standard Operation Procedure (SOP) for each SRT (Everyday)
Action-3: Cleaning work of the inside of valve chambers (2 times per month)
Action-4: Inspection of air valves at the outlet chamber (2 time per month)
Action-5: Cleaning work of the inside of reservoirs (1 time per year)
Action-6: Inspection of the inside of reservoirs (1 time per year)
Action-7: Water quality test (Everyday)

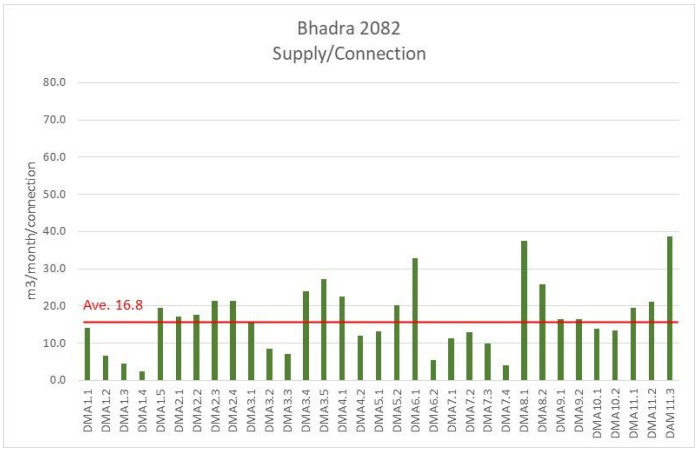
Table 7.2.1 Monitoring Format of Water Supply Volume by DMA wise

Year:2082	1	1		2		3		4		5		6		7		8		9		10		11		12	
	Baisakha	Baisakha		Jestha		Asadh		Shrawan		Bhadra		Ashwin		Kartik		Mangsir		Poush		magh		Falgun		Chaitra	
DMA	No. of Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection	Monthly Supply(m3)	Supply/ Connection
DMA1.1	1,144	21,648	18.9	13,221	11.6	6,092	5.3	11,017	9.6	16,049	14.0	13,973	12.2	27,747	24.3	29,252	25.6	29,370	25.7	0	0.0	0	0.0	0	0.0
DMA1.2	2,259	25,922	11.5	35,173	15.6	19,444	8.6	16,136	7.1	15,011	6.6	18,217	8.1	28,727	12.7	37,082	16.4	41,999	18.6	0	0.0	0	0.0	0	0.0
DMA1.3	3,252	37,697	11.6	24,193	7.4	15,796	4.9	19,892	6.1	14,553	4.5	16,613	5.1	50,400	15.5	62,017	19.1	56,966	17.5	0	0.0	0	0.0	0	0.0
DMA1.4	2,864	5,717	2.0	4,591	1.6	1,946	0.7	3,314	1.2	7,159	2.5	6,845	2.4	5,161	1.8	19,453	6.8	8,288	2.9	0	0.0	0	0.0	0	0.0
DMA1.5	1,013	26,675	26.3	19,455	19.2	15,818	15.6	13,108	12.9	19,660	19.4	18,398	18.2	25,601	25.3	40,877	40.4	32,025	31.6	0	0.0	0	0.0	0	0.0
DMA2.1	2,601	41,335	15.9	48,209	18.5	18,312	7.0	15,388	5.9	44,703	17.2	52,792	20.3	73,993	28.4	99,200	38.1	85,590	32.9	0	0.0	0	0.0	0	0.0
DMA2.2	4,245	97,828	23.0	88,406	20.8	35,715	8.4	48,721	11.5	74,516	17.6	96,162	22.7	96,259	22.7	125,271	29.5	67,604	15.9	0	0.0	0	0.0	0	0.0
DMA2.3	1,099	23,446	21.3	27,561	25.1	7,506	6.8	16,152	14.7	23,541	21.4	16,114	14.7	21,198	19.3	34,262	31.2	32,861	29.9	0	0.0	0	0.0	0	0.0
DMA2.4	1,726	27,410	15.9	31,419	18.2	16,988	9.8	18,450	10.7	36,817	21.3	28,018	16.2	27,321	15.8	35,194	20.4	43,056	24.9	0	0.0	0	0.0	0	0.0
DMA3.1	2,695	59,187	22.0	52,864	19.6	26,607	9.9	32,091	11.9	42,450	15.8	41,410	15.4	45,549	16.9	60,547	22.5	82,687	30.7	0	0.0	0	0.0	0	0.0
DMA3.2	2,638	19,912	7.5	16,719	6.3	7,802	3.0	9,946	3.8	22,357	8.5	21,939	8.3	30,817	11.7	44,383	16.8	1,980	0.8	0	0.0	0	0.0	0	0.0
DMA3.3	2,307	19,119	8.3	12,201	5.3	13,993	6.1	11,359	4.9	16,331	7.1	10,784	4.7	6,494	2.8	13,961	6.1	6,345	2.8	0	0.0	0	0.0	0	0.0
DMA3.4	900	25,964	28.8	22,342	24.8	9,682	10.8	10,516	11.7	21,542	23.9	20,233	22.5	23,032	25.6	33,976	37.8	22,445	24.9	0	0.0	0	0.0	0	0.0
DMA3.5	1,520	30,491	20.1	29,776	19.6	19,133	12.6	21,938	14.4	41,349	27.2	25,625	16.9	51,037	33.6	37,626	24.8	28,972	19.1	0	0.0	0	0.0	0	0.0
DMA4.1	569	20,624	36.2	20,328	35.7	16,961	29.8	12,591	22.1	12,792	22.5	15,569	27.4	19,270	33.9	16,257	28.6	27,560	48.4	0	0.0	0	0.0	0	0.0
DMA4.2	1,222	32,362	26.5	29,019	23.7	19,335	15.8	15,577	12.7	14,663	12.0	19,796	16.2	25,419	20.8	20,552	16.8	23,110	18.9	0	0.0	0	0.0	0	0.0
DMA5.1	5,648	104,751	18.5	113,842	20.2	66,889	11.8	67,444	11.9	74,886	13.3	76,034	13.5	117,202	20.8	160,002	28.3	148,855	26.4	0	0.0	0	0.0	0	0.0
DMA5.2	3,617	73,329	20.3	94,180	26.0	42,194	11.7	57,770	16.0	72,932	20.2	58,361	16.1	75,219	20.8	120,350	33.3	107,295	29.7	0	0.0	0	0.0	0	0.0
DMA6.1	3,666	92,386	25.2	225,885	61.6	45,045	12.3	0	0.0	120,495	32.9	157,296	42.9	144,778	39.5	169,591	46.3	211,028	57.6	0	0.0	0	0.0	0	0.0
DMA6.2	4,559	20,120	4.4	107,860	23.7	51,579	11.3	38,735	8.5	24,491	5.4	53,359	11.7	7,525	1.7	63,393	13.9	23,176	5.1	0	0.0	0	0.0	0	0.0
DMA7.1	2,350	42,330	18.0	34,721	14.8	21,020	8.9	25,749	11.0	26,498	11.3	35,978	15.3	33,058	14.1	44,179	18.8	37,704	16.0	0	0.0	0	0.0	0	0.0
DMA7.2	2,480	44,289	17.9	38,732	15.6	24,663	9.9	39,861	16.1	32,022	12.9	29,824	12.0	42,822	17.3	89,470	36.1	49,134	19.8	0	0.0	0	0.0	0	0.0
DMA7.3	3,100	33,038	10.7	55,121	17.8	27,045	8.7	32,592	10.5	30,638	9.9	29,986	9.7	48,528	15.7	50,049	16.1	52,972	17.1	0	0.0	0	0.0	0	0.0
DMA7.4	4,475	46,350	10.4	34,726	7.8	31,530	7.0	23,479	5.2	18,656	4.2	45,727	10.2	55,808	12.5	91,910	20.5	81,872	18.3	0	0.0	0	0.0	0	0.0
DMA8.1	3,893	243,448	62.5	253,177	65.0	111,160	28.6	180,034	46.2	145,776	37.4	168,523	43.3	211,259	54.3	274,338	70.5	256,717	65.9	0	0.0	0	0.0	0	0.0
DMA8.2	2,800	112,901	40.3	86,608	30.9	70,131	25.0	67,884	24.2	72,491	25.9	81,403	29.1	72,187	25.8	76,861	27.5	72,160	25.8	0	0.0	0	0.0	0	0.0
DMA9.1	2,389	113,632	47.6	108,407	45.4	60,422	25.3	49,032	20.5	39,160	16.4	51,395	21.5	58,327	24.4	81,353	34.1	99,425	41.6	0	0.0	0	0.0	0	0.0
DMA9.2	4,007	95,662	23.9	96,331	24.0	63,773	15.9	57,680	14.4	65,922	16.5	74,004	18.5	70,840	17.7	134,651	33.6	133,988	33.4	0	0.0	0	0.0	0	0.0
DMA10.1	480	9,223	19.2	10,751	22.4	4,883	10.2	7,236	15.1	6,646	13.8	7,211	15.0	28,696	59.8	16,266	33.9	23,945	49.9	0	0.0	0	0.0	0	0.0
DMA10.2	2,671	55,874	20.9	53,489	20.0	33,176	12.4	33,812	12.7	35,507	13.3	44,055	16.5	77,317	28.9	59,582	22.3	85,442	32.0	0	0.0	0	0.0	0	0.0
DMA11.1	2,075	39,163	18.9	34,347	16.6	28,235	13.6	42,134	20.3	40,646	19.6	33,276	16.0	43,180	20.8	60,738	29.3	53,179	25.6	0	0.0	0	0.0	0	0.0
DMA11.2	1,681	48,781	29.0	27,279	16.2	20,924	12.4	41,258	24.5	35,708	21.2	31,406	18.7	30,385	18.1	55,741	33.2	53,264	31.7	0	0.0	0	0.0	0	0.0
DAM11.3	1,239	92,592	74.7	75,878	61.2	49,886	40.3	64,198	51.8	47,964	38.7	62,830	50.7	123,897	100.0	132,456	106.9	176,441	142.4						
Total / Avarage	81,945	1,690,614	23.0	1,850,933	23.1	953,799	12.7	1,040,896	14.3	1,265,967	16.8	1,400,326	17.9	1,675,154	24.3	2,258,383	29.9	2,081,013	29.8	0	0.0	0	0.0	0	0.0
More than 1.5 times of Average			4		4		4		4		4		4		3		2		4		32		32		32
Less than 1/2 of Average			7		5		5		7		6		5		4		3		4		32		32		32

Figure 7.2.1 Monitoring Graph of Water Supply Volume by DMA wise (1/2)







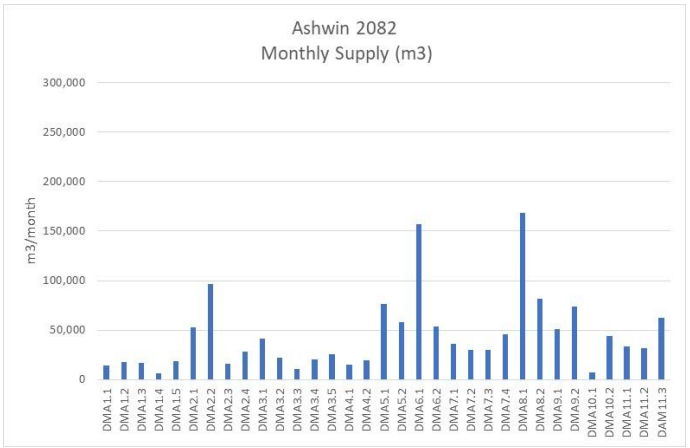


Figure 7.2.2 Monitoring Graph of Water Supply Volume by DMA wise (2/2)

Table 7.2.2 Monitoring Record of Operation & Maintenance of SRTs (1/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Anamnagar (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Arubari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Balaju (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Bansbari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Khumaltar (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Kirtipur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Mahankalchaur (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

Table 7.2.3 Monitoring Record of Operation & Maintenance of SRTs (2/2)

Reservoir	No. of action	Detail of action	Frequency	Record of Operation & Maintenance of SRT														
				Magh 2081	Falgun 2081	Chaitra 2081	Baisakh 2082	Jestha 2082	Asadh 2082	Shrawan 2082	Bhadra 2082	Ashwin 2082	Kartik 2082	Mangsir 2082	Poush 2082	Magh 2082	Falgun 2082	Chaitra 2082
				14-Jan-25	13-Feb-25	14-Mar-25	14-Apr-25	15-May-25	15-Jun-25	17-Jul-25	17-Aug-25	17-Sep-25	18-Oct-25	17-Nov-25	16-Dec-25	15-Jan-26	13-Feb-26	14-Mar-26
				12-Feb-25	13-Mar-25	13-Apr-25	14-May-25	14-Jun-25	16-Jul-25	16-Aug-25	16-Sep-25	17-Oct-25	16-Nov-25	15-Dec-25	14-Jan-26	12-Feb-26	13-Mar-26	13-Apr-26
Mahankalchaur (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Minbhawan (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (New)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Panipokhari (Old)																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Tigeni																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															
Katunje																		
	Action-1	Allocation of Operator	Everyday															
	Action-2	SOP based operation	Everyday															
	Action-3	Cleaning work of valve chamber	2 times / year															
	Action-4	Inspection of air valve at outlet	1 time / month															
	Action-5	Cleaning work of the inside of reservoir	1 time / year															
	Action-6	Inspection of the inside of reservoir	1 time / year															
	Action-7	Water quality test	Everyday															

Monitoring should be done by KUKL Operation Division.
"Done" or "Not done"

7.3 Actions to be taken by each Branch Office

Improvements in water supply services should not be evaluated solely based on water volume. By accurately notifying customers of water delivery schedule and ensuring KUKL operators adhere to these schedules, customer satisfaction can be enhanced.

From this perspective, at the branch office level, efforts must be made to reduce customer complaints by verifying monthly whether any complaints are received regarding the pre-planned water supply schedule.

In order for KUKL to certify that the Distribution Management Plan has been implemented, the following indicator must be monitored by each branch manager.

PI-6: Number of grievances about water supply hour especially the gap between standard supply hour and real supply hour (Table 7.3.1, Table 7.3.2)

Action-1: The branch manager must accurately track the number of customers within the DMA under their branch's jurisdiction.

Action-2: Report the number of customers per DMA required for the monitoring sheets created by the Operation Division and Production Division to the responsible personnel at headquarters.

Action-3: Valve operators shall be assigned to accurately open and close valves according to the water supply schedule determined in this main water distribution management plan.

Action-4: Analyze customer complaints and requests received by the branch office each month, and tally the number of complaints and requests regarding the accuracy of the water supply schedule.

Action-5: Achieve a 100% water meter installation rate for customers within the DMA.

Action-6: Achieve a 100% water meter reading rate for customers within the DMA.

Action-7: Measure turbidity and residual chlorine at the locations specified by the Central Laboratory at the prescribed frequency and report the results to the Central Laboratory.

Table 7.3.1 Monitoring Record of Grievances about Water Supply Hour (1/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
1.1	1.1.1	Maharajgunj	5:00	14:00																												
1.1	1.1.2	Maharajgunj	5:00	14:00																												
1.1	1.1.3	Maharajgunj	5:00	14:00																												
1.2	1.2.1	Maharajgunj	9:00	16:00																												
1.2	1.2.2	Baneshwor	9:00	16:00																												
1.2	1.2.3(A)	Maharajgunj	9:00	16:00																												
1.2	1.2.3(B)	Maharajgunj	9:00	16:00																												
1.3	1.3.1	Tripureshwor	12:00	21:00																												
1.3	1.3.2(A)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(B)	Tripureshwor	12:00	21:00																												
1.3	1.3.2(C)	Tripureshwor	12:00	21:00																												
1.4	1.4.1	Tripureshwor	15:00	21:00																												
1.4	1.4.2	Tripureshwor	15:00	21:00																												
1.5	1.5.1	Tripureshwor	5:00	15:00																												
1.5	1.5.2	Tripureshwor	5:00	15:00																												
1.5	1.5.3	Tripureshwor	5:00	15:00																												
2.1	2.1.1(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.1(B)	Maharajgunj	6:00	12:00																												
2.1	2.1.1(B)	Mahankal	6:00	12:00																												
2.1	2.1.2(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.2(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(A)	Mahankalchaur	6:00	12:00																												
2.1	2.1.3(B)	Mahankalchaur	6:00	12:00																												
2.1	2.1.4	Mahankalchaur	6:00	12:00																												
2.2	2.2.1	Baneshwor	14:00	20:00																												
2.2	2.2.2	Baneshwor	14:00	20:00																												
2.2	2.2.3	Baneshwor	14:00	20:00																												
2.2	2.2.4	Baneshwor	14:00	20:00																												
2.3	2.3.1(A)	Baneshwor	5:00	12:00																												
2.3	2.3.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Baneshwor	5:00	12:00																												
2.4	2.4.1(A)	Mahankal	5:00	12:00																												
2.4	2.4.1(B)	Baneshwor	5:00	12:00																												
2.4	2.4.1(C)	Baneshwor	5:00	12:00																												
3.1	3.1.1(A)	Baneshwor	14:00	21:00																												
3.1	3.1.1(B)	Baneshwor	14:00	21:00																												
3.1	3.1.1(C)	Baneshwor	14:00	21:00																												
3.1	3.1.2(A)	Baneshwor	14:00	21:00																												
3.1	3.1.2(B)	Baneshwor	14:00	21:00																												
3.1	3.1.2(C)	Baneshwor	14:00	21:00																												
3.2	3.2.1(A)	Baneshwor	5:00	12:00																												
3.2	3.2.1(B)	Baneshwor	5:00	12:00																												
3.2	3.2.1(C)	Baneshwor	5:00	12:00																												
3.2	3.2.2(A)	Baneshwor	5:00	12:00																												
3.2	3.2.2(B)	Baneshwor	5:00	12:00																												
3.2	3.2.2(C)	Baneshwor	5:00	12:00																												
3.3	3.3.1(A)	Baneshwor	14:00	20:00																												
3.3	3.3.1(B)	Baneshwor	14:00	20:00																												
3.3	3.3.1(C)	Baneshwor	14:00	20:00																												
3.3	3.3.1(D)	Baneshwor	14:00	20:00																												
3.3	3.3.1(E)	Baneshwor	14:00	20:00																												
3.4	3.4.1(A)	Baneshwor	9:00	15:00																												
3.4	3.4.1(B)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Baneshwor	9:00	15:00																												
3.5	3.5.1(A)	Maharajgunj	9:00	15:00																												
3.5	3.5.1(B)	Baneshwor	9:00	15:00																												
3.5	3.5.2	Baneshwor	9:00	15:00																												
3.5	3.5.2	Maharajgunj	9:00	15:00																												
4.1	4.1.1	Baneshwor	12:00	16:00																												
4.1	4.1.2	Baneshwor	12:00	16:00																												
4.2	4.2.1	Tripureshwor	11:00	20:00																												
4.2	4.2.2	Tripureshwor	11:00	20:00																												
4.2	4.2.3	Tripureshwor	11:00	20:00																												
5.1	5.1.1	Lalitpur	20:00	8:00																												
5.1	5.1.2	Lalitpur	20:00	8:00																												
5.1	5.1.3	Lalitpur	20:00	8:00																												
5.2	5.2.1(A)	Lalitpur	20:00	8:00																												
5.2	5.2.1(B)	Lalitpur	20:00	8:00																												
5.2	5.2.1(C)	Lalitpur	20:00	8:00																												
5.2	5.2.1(D)	Lalitpur	20:00	8:00																												
5.2	5.2.2(A)	Lalitpur	20:00	8:00																												
5.2	5.2.2(B)	Lalitpur	20:00	8:00																												
5.2	5.2.2(C)	Lalitpur	20:00	8:00																												
5.2	5.2.2(D)	Lalitpur	20:00	8:00																												
5.2	5.2.2(E)	Lalitpur	20:00	8:00																												
5.2	5.2.3(A)	Lalitpur	20:00	8:00																												
5.2	5.2.3(B)	Lalitpur	20:00	8:00																												
6.1	6.1.1(A)	Lalitpur	6:00	20:00																												
6.1	6.1.1(B)	Lalitpur	6:00	20:00																												
6.1	6.1.2	Lalitpur	6:00	20:00																												
6.1	6.1.3	Lalitpur	6:00	20:00																												
6.2	6.2.1	Lalitpur	17:00	8:00																												
6.2	6.2.2	Lalitpur	17:00	8:00																												
6.2	6.2.3	Lalitpur	17:00	8:00																												
7.1	7.1.1	Maharajgunj	17:00	22:00																												
7.1	7.1.2	Chhetrapati	17:00	22:00																												
7.2	7.2.1(A)	Chhetrapati	7:00	12:00																												
7.2	7.2.1(B)	Chhetrapati	7:00	12:00																												
7.2	7.2.2(A)	Maharajgunj	7:00	12:00																												
7.2	7.2.2(B)	Maharajgunj	7:00	12:00																												
7.2	7.2.3	Maharajgunj	7:00	12:00																												
7.3	7.3.1(A)	Chhetrapati	7:00	12:00																												
7.3	7.3.1(B)	Chhetrapati	7:00	12:00																												
7.3	7.3.2	Chhetrapati	7:00	12:00																												
7.3	7.3.3	Maharajgunj	7:00	12:00																												
7.4	7.4.1(A)	Chhetrapati	7:00	12:00																												
7.4	7.4.1(B)	Chhetrapati	7:00	12:00																												
7.4	7.4.2(A)	Chhetrapati	7:00	12:00																												
7.4	7.4.2(A)	Lalitpur	7:00	12:00																												
7.4	7.4.2(B)	Chhetrapati	7:00	12:00																												
7.4	7.4.3	Chhetrapati	7:00	12:00																												
7.4	7.4.3	Maharajgunj	7:00	12:00																												
7.4	7.4.4	Maharajgunj	7:00	12:00																												

Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

Table 7.3.2 Monitoring Record of Grievances about Water Supply Hour (2/2)

DMA	Sub-DMA	Current Branch Area	Target Supply Hour		No. of Grievance about Irregular Supply Hour																											
					Magh 2081		Falgun 2081		Chaitra 2081		Baisakh 2082		Jestha 2082		Asadh 2082		Shrawan 2082		Bhadra 2082		Ashwin 2082		Kartik 2082		Mangsir 2082		Poush 2082		Magh 2082		Falgun 2082		Chaitra 2082	
					14-Jan-25	12-Feb-25	13-Feb-25	13-Mar-25	14-Mar-25	13-Apr-25	14-Apr-25	14-May-25	15-May-25	14-Jun-25	15-Jun-25	16-Jul-25	17-Jul-25	16-Aug-25	17-Aug-25	16-Sep-25	17-Sep-25	17-Oct-25	18-Oct-25	16-Nov-25	17-Nov-25	15-Dec-25	16-Dec-25	14-Jan-26	15-Jan-26	12-Feb-26	13-Feb-26	13-Mar-26	14-Mar-26	13-Apr-26
			Start Time	End Time	Received	Attended																										
8.1	8.1.1	Lalitpur	8:00	20:00																												
8.1	8.1.2	Lalitpur	20:00	8:00																												
8.1	8.1.3	Lalitpur	20:00	8:00																												
8.2	8.2.1(A)	Lalitpur	17:00	8:00																												
8.2	8.2.1(B)	Lalitpur	17:00	8:00																												
8.2	8.2.1(C)	Lalitpur	17:00	8:00																												
8.2	8.2.2(A)	Lalitpur	17:00	8:00																												
8.2	8.2.2(B)	Lalitpur	17:00	8:00																												
8.2	8.2.2(C)	Lalitpur	17:00	8:00																												
9.1	9.1.1	Lalitpur	20:00	6:00																												
9.1	9.1.2	Lalitpur	20:00	6:00																												
9.1	9.1.3	Lalitpur	20:00	6:00																												
9.2	9.2.1	Lalitpur	6:00	20:00																												
9.2	9.2.2	Lalitpur	6:00	20:00																												
9.2	9.2.3	Lalitpur	6:00	20:00																												
9.2	9.2.4	Lalitpur	6:00	20:00																												
9.2	9.2.5	Lalitpur	6:00	20:00																												
9.2	9.2.6	Lalitpur	6:00	20:00																												
9.2	9.2.7	Lalitpur	6:00	20:00																												
10.1	10.1.1	Maharajgunj	12:00	17:00																												
10.2	10.2.1(A)	Chhetrapati	17:00	22:00																												
10.2	10.2.1(B)	Chhetrapati	17:00	22:00																												
10.2	10.2.1(C)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(A)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(B)	Chhetrapati	17:00	22:00																												
10.2	10.2.2(C)	Chhetrapati	17:00	22:00																												
11.1	11.1.1	Tripureshwor	18:00	10:00																												
11.2	11.2.1	Tripureshwor	18:00	10:00																												
11.2	11.2.2	Tripureshwor	18:00	10:00																												
Demo	Demo	Baneshwor	5:00	21:00																												

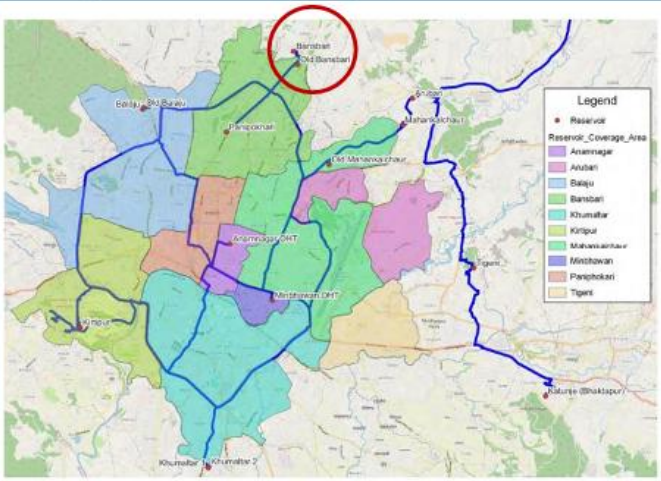
Monitoring should be done by KUKL Branch Office
Only
"Number of grievance received about water supply hour"
"Number of attended grievance"

8. Example of SOP for service reservoirs

Standard Operating Procedure
Bansbari SRT (Service Reservoir Tank)

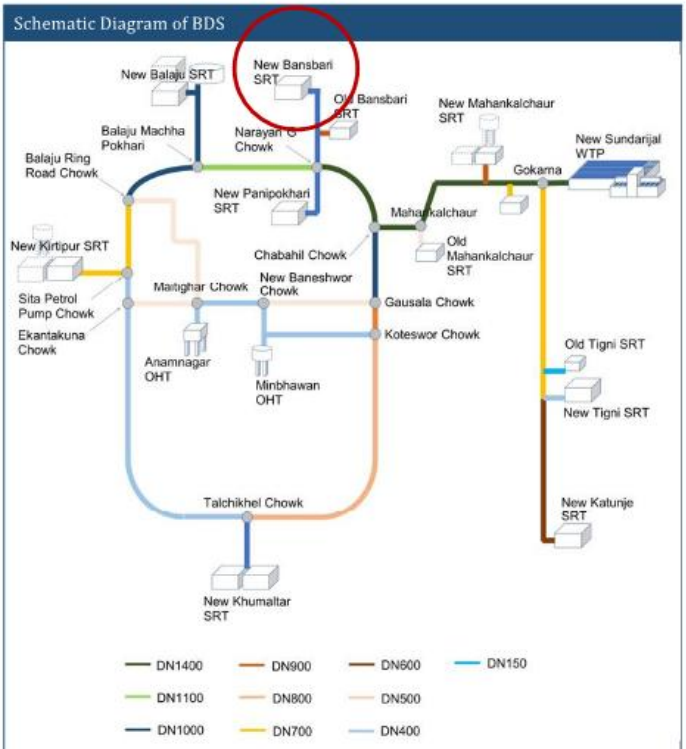
Layout of facilities

General Layout of Bulk Distribution System (BDS)



Layout of facilities

Schematic Diagram of BDS

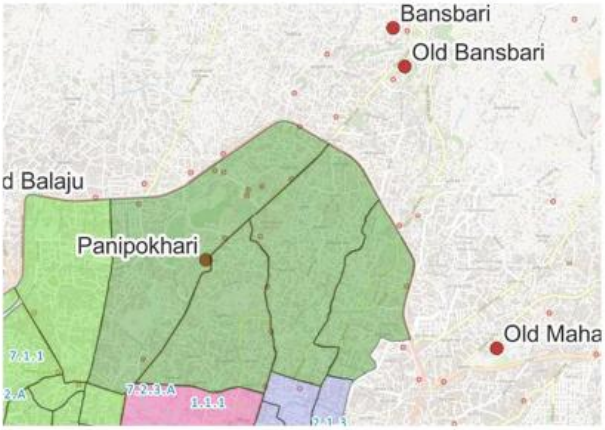


Bulk Distribution System Schematic Diagram

Layout of facilities

District Metered Area (DMA) covered by Bansbari SRT

The coverage area of Bansbari SRT has yet to be divided in DMAs.
This area is called DNI-7c and divided into several DMAs which will be constructed by the Package 6.



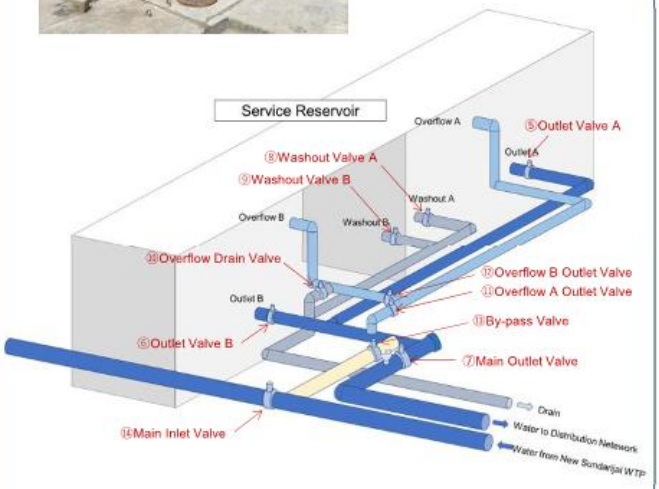
Layout of facilities

Outline of Bansbari SRT

No	Name	Objective	DN	Chamber Drawing No.
1	Flowmeter A	Inflow Measurement Reservoir A	700mm	BDS1-E-C-07
2	Flowmeter B	Inflow Measurement Reservoir A	700mm	BDS1-E-C-09
3	Inlet Valve A	Open/Stop Inflow Reservoir A	700mm	BDS1-E-C-06
4	Inlet Valve B	Open/Stop Inflow Reservoir B	700mm	BDS1-E-C-08
5	Outlet Valve A	Open/Stop Outflow Reservoir A	800mm	BDS1-E-C-10
6	Outlet Valve B	Open/Stop Outflow Reservoir B	800mm	BDS1-E-C-12
7	Main Outlet Valve	Regulate Total Outflow Volume	1200mm	BDS1-E-C-13
8	Washout Valve A	Sand discharge from Reservoir A	500mm	BDS1-E-C-15
9	Washout Valve B	Sand discharge from Reservoir B	500mm	BDS1-E-C-15
10	Overflow Drain	Discharge overflow to washout line	500mm	BDS1-E-C-14
11	Overflow A Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
12	Overflow B Outlet Valve	Connect overflow line with outlet line	500mm	BDS1-E-C-11
13	By-pass Valve	Supply water without passing reservoir	1000mm	BDS1-E-C-13
14	Main Inlet Valve	Regulate Total Inflow Volume	1000mm	BDS1-E-C-05
15	Air Valve	Air release from the main outlet line	200mm	BDS1-E-C-13

Layout of facilities

Isometric Schematic Image of Pipeline Layout (Outlet side)



Operating Procedure

Normal Operation

Operating Procedure

Emergent Operation

If there is an accident or malfunction in both reservoirs A and B and water cannot be stored, the bypass valve on the Inlet Pipe should be opened to continue transmission of water.

[Caution]

When continuing to supply water through the bypass pipe, the following valves of the reservoir should be closed in advance to prevent water from entering the reservoir.
1. Main Inflow Valve
2. Outlet Valves of Reservoirs
3. Overflow Valves of Reservoirs

Cleaning of Reservoir

Direction of Water Flow during Cleaning of Reservoir

Steps for Cleaning of Reservoir

Step 1

Reservoir cleaning should be performed separately for A and B. Close one of the Inlet Valve to shut down entering water into the reservoir.

Step 2

When the water level in the reservoir is low enough, close the Outlet Valve.

Step 3

Open the Washout Valve to drain the water that has accumulated at the bottom of reservoir.

Steps for Cleaning of Reservoir

Step 4

Operators go inside and uses a wiper and nylon brush to scrape sand and mud from the walls and bottom in the direction of the Washout Port.

Step 5

If mud or sand remains in the middle of the interior, open the Inlet Valve of reservoir slightly to draw in water, and then scrape it out again with a scraper.

Step 6

Once the interior has been cleaned, the operator goes outside.
Then close the washout valve.

Steps for Cleaning of Reservoir

Step 7

Then slowly open the Inlet Valve.

Step 8

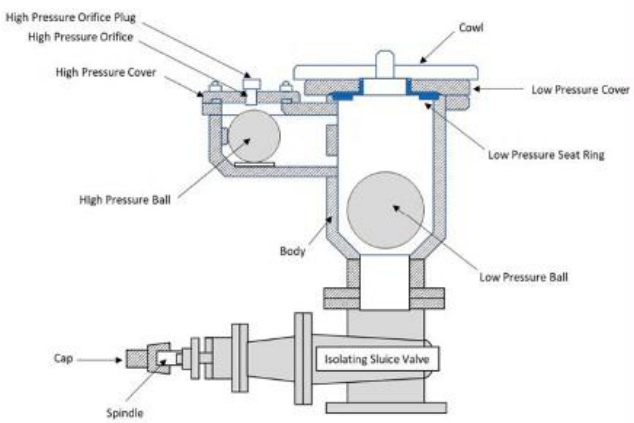
Wait a few hours to fill the reservoir.

Step 9

Once the reservoir has recovered more than half of its water level, slowly open the Outlet Valve.

Cleaning of Air Valve

Structure of Air Valve (Indian Valve International)

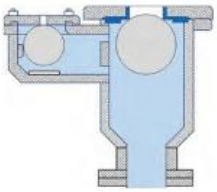


[Caution]

When clean the air valve, make sure that the Isolation Sluice Valve is completely closed. After closed the Isolation Sluice Valve, you can dismantle the cowl and top cover of the air valve.

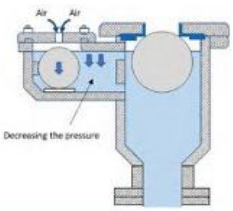
Function of Kinetic Air Valve

Normal Operation under High Pressure



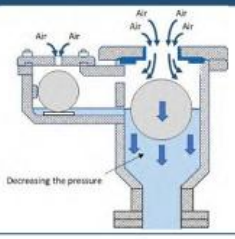
The pipe remains filled with water and the internal float ball plugs the air outlet orifice.

When a small air pocket occurs in the pipe



When a small amount of air accumulates in the air valve, the water level begins to drop, which causes the High Pressure Ball to drop and the small orifice to open. (Small exhaust mode)

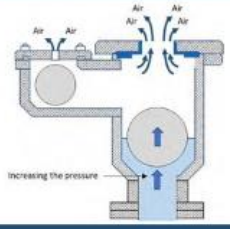
When the water in the reservoir runs out and a large amount of air accumulates



When a large amount of air accumulates, the water level drops below High Pressure Ball, which causes the Low Pressure Ball to drop and the large orifice to open. (Large exhaust mode).

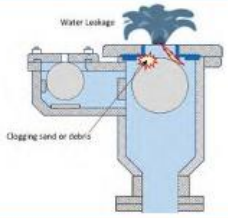
Function of Kinetic Air Valve

When water begins to accumulate in the pipe.



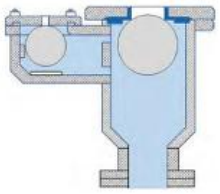
As the water pressure in the pipe increases, the water level rises and the Low Pressure Ball plugs the orifice.

When debris or sand clog the orifice



When debris or sand clog the orifice of air exhaust, the leaks will occur under high pressure.

When the pipe is perfectly filled with water



When water fills the pipe and the water pressure increases, the High Pressure Ball plugs the orifice.

Site Cleaning

Keeping premises clean

- Ensure that there is no debris or hazardous materials in the vicinity of the reservoir.
- The valve chamber should be kept clean and free of cobwebs, debris, and puddles, and no disposed material should be left inside.
- Do not place hazardous or flammable materials near the reservoir.

- Service Reservoir Tank and Water Treatment Plants are places where drinking water is stored, so animals should not be allowed to enter.

Meter Reading

Flowmeter on Inlet Pipe

Flowmeter on Outlet Pipe

In Bansbari SRT, there is no water meter on the outlet pipe.

How to read the flowmeter

Instantaneous Flow (m3/hour)

Accumulated Flow (m3)

The operators should keep record of "Accumulated Water Flow" in daily recording sheet

Recording of water volume

Operator's duty

- Once a day, the operator should check the flowmeter reading and note it on the record form.

Date	Time	Meter Reading		Daily Inflow	Name of Recorder
		Reservoir A	Reservoir B		

Standard Inspection

Daily Inspection

- Operators shall check the condition of facilities and clean the site once per day.

Items	Target	Status	Evaluation
External of tank	Concrete	No Water Leakage	☐Yes/☐No
	Painting	No Crack	☐Yes/☐No
		No Peeling	☐Yes/☐No
	Steps	Firmly Fixed	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No
	Cable	No disconnection	☐Yes/☐No
Valves	Operation Panel	No broken parts	☐Yes/☐No
	Button	No broken button	☐Yes/☐No
	Operation Wheel	Smoothly operating	☐Yes/☐No
	Chamber	No waste/garbage inside	☐Yes/☐No
Pipes	Exposed pipe	No Water Leakage	☐Yes/☐No
	Chamber	No Water Leakage	☐Yes/☐No
Chamber	Cover	Smoothly opening	☐Yes/☐No

Standard Inspection

Annual Inspection

- When cleaning the reservoir tank once per year, conduct an annual inspection of the following items:

Items	Target	Status	Evaluation
Internal of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Level Gauge	Drop of sensor	☐Yes/☐No
		Rust or Corrosion	☐Yes/☐No
External of tank	Concrete	Crack	☐Yes/☐No
		Rust Stain	☐Yes/☐No
		Rebar Exposure or Corrosion	☐Yes/☐No
		Water Leakage	☐Yes/☐No
	Painting	Crack	☐Yes/☐No
		Surface deterioration	☐Yes/☐No
	Steps	Corrosion	☐Yes/☐No
	Ventilation	Corrosion	☐Yes/☐No
Facilities	Valves	Greasing on gear	☐Yes/☐No
	Pipes	Water Leakage	☐Yes/☐No
	Chamber	Cleaning of inside	☐Yes/☐No
		Corrosion of Cover	☐Yes/☐No
Water Meter	Indicator	Showing the flow rate	☐Yes/☐No

Inspection Schedule

Annual Inspection Plan

Month	Day	What to do
Baisakh		
Jestha		
Asadh		
Shrawan		
Bhadra		
Ashwin		
Kartik		
Mangsir		
Poush		
Magh		
Falgun		
Chaitra		