Kathmandu Upatyaka Khanepani Limited

ANNUAL REPORT

2079

ON THE OCCASION OF FIFTEENTH ANNIVERSARY OF KATHMANDU UPATYAKA KHANEPANI LIMITED, WE WOULD LIKE TO COMMIT FOR THE BETTER DELIVERY OF OUR SERVICES IN EFFICIENT AND RELIABLE MEANS TO OUR CONSUMERS.

हाम्रो केयूकेएल

तातेगर्दै बामेसर्दै भयो पन्ध्र वर्ष ।
मेलम्ची आएकोछ, छायो जनमा हर्ष ।
मेलम्ची दिगो बनाऔं सबको प्रयास रहोस ।
क्षणिक मात्र खुशियाली जनतामा नहोस ।
कम्पनी हाम्रो मन्दिर हो, पूजा कर्म हाम्रो ।
कम्पनी सक्षम बनाउंन कर्म गरौं राम्रो ।
उदाहरणिय कम्पनी बन्छ प्रयास सबले गरौं ।
हामी सबमा आत्मविश्वास जोश जांगर भरौं ।
कम्पनीको उन्नती, प्रगतीको पथमा ।
दिलोज्यान दिई काम गर्ने कर्मचारी साथमा ।
आफ्नो घर भन्दा प्यारो कम्पनी हाम्रो बनोस् ।
व्यवस्थित केयूकेएल सबै जनले भनोस् ।
कम्पनी प्रति माया जागोस् उच्च रहोस भावना ।
पन्ध्रौं वार्षिक उत्सवको सम्पूर्णमा हार्दिक मंगलमय शुभकामना ।

---लक्ष्मी अर्याल

मा. अब्दुल खां
मन्त्री
खानेपानी मन्त्रालय
सिंहदरबार, काठमाण्डौं, नेपाल।

प.सं.:
च.नं.:

नेपाल सरकार
Government of Nepal

Hon'ble Abdul Khan
Minister
Ministry of Water Supply
Singhadurbar, Kathmandu, Nepal.

मिति: .....
Date: .....

Message from the Honorable Minister of Water Supply

Best Wishes to Kathmandu Upatyaka Khanepani Limited (KUKL)

I am delighted to offer my warm congratulations and kindest regards to the entire KUKL team for their 15 years achievement in providing water and wastewater services in the Kathmandu Valley. I commend KUKL's commitment and hard work in addressing the critical challenge of fairly distributing available limited water to meet increasing demand.

Access to clean and safe drinking water and sanitation is a fundamental right of every Nepalese. In line with the constitution, the Ministry of Water Supply gives top priority to ensure that every citizen has access to quality drinking water and sanitation throughout the country. We are dedicated to comply with this fundamental right by pursuing sustainable growth and protecting the environment through our water and wastewater services, while striving towards national prosperity.

KUKL has earned the confidence of its customers and stakeholders by successfully distributing 150 MLD of Melamchi water through the existing network from Chaitra 2078 to Jestha 2079 during the testing, after rehabilitation works to resume water supply halted by unfortunate landslides and floods at Melamchi. Currently, KUKL is efficiently managing the distribution of an additional 150 MLD of water from Melamchi, in addition to valley sources, in a commendable manner. The enhancement in the water and wastewater services in the Kathmandu Valley is now visibly apparent compared to earlier times. In addition to distributing Melamchi water through its existing network, KUKL is also going to manage the bulk transmission mains and the Melamchi Treatment Plant, further demonstrating its capabilities as a competent water operator.

I am confident that KUKL will continue to efficiently perform and exert maximum efforts in the future to ensure the seamless operation of the Melamchi water supply, making the Kathmandu Valley cleaner, healthier, and more lively. I would like to acknowledge KUKL's persistent endeavors in preserving water sources and providing purified water to the Kathmandu Valley. I will extend full support to KUKL in its future advancements, personally as well as on behalf of the Ministry.

Hon'ble Abdul Khan
Minister

(Hon. Abdul Khan)
Minister of Water Supply

फोन नं.: ०१-४२११५६५ फ्याक्स: ०१-४२००५९७ इमेल: abdulkhanbardiya@gmail.com

नेपाल सरकार

खानेपानी मन्त्रालय

फोन नं.: ४२११४३३
फ्याक्स: ९७७-१-४२११६९३
सिंहदरबार,
काठमाडौं, नेपाल।

पत्र संख्या:-
चलानी नं.:-

नेपाल सरकार
खानेपानी मन्त्रालय
सिंहदरबार

Message from Secretary, Ministry of Water Supply

I would like to extend my warmest congratulations to the team at Kathmandu Upatyaka Khanepani Limited (KUKL) on their 15th anniversary on behalf of Ministry of Water Supply. KUKL's dedication in alleviating water scarcity in the Kathmandu Valley and its diligent efforts to efficiently manage water and waste water services to meet growing demand is Commendable.

KUKL has excelled in distributing water from the Melamchi source bringing joy to the residents of Kathmandu. With its extensive experience, KUKL started delivering 150 MLD of Melamchi water to the valley in December 2022 and is expected to enhance its water and waste water management services in the future. With over 15 years of experience in water services in the valley, KUKL is capable of effectively addressing any challenges in distributing Melamchi water. The addition of Melamchi water is expected to enhance KUKL's ability to meet the growing demand for drinking water and waste water management in the future. Furthermore, with the phased transfer of new infrastructure, such as the Bulk Distribution System, Melamchi Water Treatment Plant and the new Distribution Network, KUKL has a unique opportunity to demonstrate its competence in operating advanced systems.

Being lead agency of Government for Water Supply and Sanitation, the Ministry acknowledges the company's efforts in enhancing the quality of life in the valley and continuously improving customer services through the adoption of information and communication technology in finance, human resources, inventory, customer care, etc. We assure our continued support in helping KUKL build its capacity and financial stability to achieve its goal of becoming champion water company. We express our gratitude to the Asian Development Bank, the Japan International Cooperation Agency, and other development partners for their sustained support to KUKL.

Finally, I would like to congratulate KUKL for their accomplishments and hope for further enhancement of their services and wish them all the success in future endeavors as well.

Er. Mani Ram Gelal
Secretary, Ministry of Water Supply

इ. मणिराम गेलाल
सचिव

Government of Nepal

KATHMANDU VALLEY WATER SUPPLY MANAGEMENT BOARD

Sainbu, Bhaisepati, Lalitpur

Message of Best Wishes

It is with great joy that we extend our congratulations to Kathmandu Upatyaka Khanepani Limited (KUKL) for its 15th anniversary. Since it's establishment on 13 February 2008 with 30 years lease license agreement with Kathmandu Valley Water Supply Management Board (KVWSMB), KUKL is working continually to ensure equitable water supply to inhabitants of Kathmandu valley.

The aspects such as rapid urbanization resulting in increased population, limited and depleting water sources inside the valley, and the effects of climate change have contributed in significant disparity between demand and supply of water in Kathmandu valley. Assigned with the responsibility of water production, treatment and distribution within the valley, KUKL has the responsibility of overcoming this present situation of shortage of water.

As Melamchi water has been already been introduced to Kathmandu valley through temporary arrangements, the process of handing over process of the new Melamchi treatment plant at Sundarijal, Bulk Distribution System (BDS), and District Metering Area (DMA) based Distribution Network also has been initiated. This development is a new opportunity as well as a challenge for KUKL since the added water is going to augment the availability of water where as the new infrastructure management would be the sensitive task which KUKL needs to handle in proper way. The utilization of surplus water available in Bagmati river during rainy season by KUKL is a viable solution to mitigate the additional water stress created by Melamchi disaster.

In this new circumstances, I hope that KUKL will be able to gradually provide solution to the challenges and obstacles in the path of providing equitable water and sanitation services and move towards winning the trust of the consumers through a reliable and excellent service delivery in coming days.

Finally, I would like to express my sincerest greetings, for the progression and success of KUKL on this occasion of fifteenth anniversary, with a Heartfelt trust that KUKL will be able to deliver its service with meaningfully improved efficiency in upcoming days as awaited by valley denizens through establishment of a cordial relation with all stakeholders.

Date : 2079/11/1

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(Dr. Sanjeev Bickram Rana)
Executive Director

Lalitpur Metropolitian City, Ward No.-18, Sainbu, Bhaisepati, Laitpur
Phone: 01-5591737, 5591937, Fax: 01-5591571
E-mail: info@kvwsmb.org.np, Website: www.kvwsmb.org.np

Messages from Chairman of Board of Directors

On this joyous occasion of KUKL's 15th anniversary, I would like to express my heartfelt gratitude to all of our customers for their unwavering support and cooperation. I would also like to extend my appreciation to all the hardworking and dedicated employees of KUKL who have made this day possible.

KUKL is facing a dual challenge of providing improved services to its existing customers while also meeting the growing demand for service in new areas. Most of the water sources inside the Kathmandu Valley have been exhausted, and the present infrastructure operated by the company is not well-organized, which only adds to the difficulties in maintaining service. We have been working hard over the past fifteen years to augment our existing sources, minimize losses in old networks, and judiciously ration water to the extent possible. However, the results had not been satisfactory or promising without the availability of additional water. KUKL is now expecting a change in this situation with availability of the additional 170 MLD water from Melamchi since December 2022. Moreover, the new infrastructures such as Melamchi water treatment plant, bulk water conveyance system and improved distribution network is being gradually handed over to KUKL. Therefore, I urge all KUKL personnel to take on this new challenge and allocate this augmented quantity of water to consumers in an equitable way. In light of these conditions, I am confident of KUKL’s capacity to professionally and efficiently manage this additional water along with new infrastructures. It is also noteworthy to inform that KUKL board has been working, with the Ministry of Water Supply, Kathmandu Valley Water Supply Management Board, Melamchi Water Supply Project and Project Implementation Directorate to facilitate the necessary arrangements, for effective management of augmented quantity of water as well as new infrastructures by KUKL.

In addition to regular managing water and infrastructure, the KUKL Board and management are determined to carry out reforms in KUKL's financial,

administrative, technical, and customer relations capabilities. These reforms are crucial to rebuilding and preserving customer trust, which has been weakened by the water shortage. As Melamchi water supply has resumed and new systems are being ready for handing over, KUKL's monopoly may face stiff competition, which is in the best interest of the valley's residents and the government. Therefore, KUKL must be responsible to the public, government, and itself. But KUKL cannot achieve this responsibility without a high class professional and customer service orientation of its staff. So, I also call upon every KUKL staff to stand up for this transformative occasion, where we have received additional water, by proving their own individual professional competence to leave a mark of service on our customers.

Through this message, I wish to express gratitude to the Government of Nepal (GON), Asian Development Bank (ADB), Japan International Corporation Agency (JICA), Kathmandu Valley Water Supply and Management Board (KVWSMB), and Australian Water Partnership (AWP) for their unrelenting support and trust in KUKL. I also wish to assure our shareholders and customers that we are committed to fulfilling our responsibilities by improving our service standards. Lastly, I hope that this anniversary will add extra energy and motivation to the KUKL team to continue their hard work and strive to provide professional and improved quality services to the residents of the Kathmandu Valley.

Er. Tiresh Prasad Khatri
Chairman
KUKL, Board of Directors

Kathmandu Upatyaka Khanepani Limited
Project Implementation Directorate
Anamnagar, Kathmandu

Ref. No.

Date: .....

Message from KUKL-PID

First of all, I would like to extend my best wishes to Kathmandu Upatyaka Khanepani Limited (KUKL) on the occasion of its 15th anniversary. I hope that KUKL will be able to achieve the goal of distributing safe and clean water to the residents of Kathmandu Valley in the coming days to the satisfaction of customers as its most valuable clients and address the challenges ahead.

It is my pleasure to inform you through this platform that we at Kathmandu Upatyaka Khanepani Limited, Project Implementation Directorate (KUKL-PID) have been working relentlessly with the construction of infrastructure necessary for the supply of Melamchi water to households of Kathmandu Valley. So far, we have completed the construction of 76 km of Bulk Distribution System (BDS) and 10 service reservoir tanks (SRTs) required for the new system and handed them over to KVWSMB/KUKL. At the same time, we have completed pipe laying of 1132 km in the first phase (including Demo) of Distribution Network Improvement Works and 175 km under new packages. Out of which flushing and testing of 550 km of distribution network have been completed and are ready for the supply of water once operational arrangements are finalized.

I also take this opportunity to thank field engineers, contractors, and KUKL staff for the cooperation extended to PID during the commissioning of the bulk distribution system and new service reservoirs with Melamchi Water in November 2022 to date. I also extend my best wishes to KUKL for the successful operation of the newly developed network, which is currently waiting for the handover process.

Finally, I also would like to assure every possible support to KUKL during the operation of the newly developed system in near future.

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Er. Rajendra Sapkota
Project Director
KUKL-PID

Er. Rajendra Sapkota
Project Director

Anamnagar, Kathmandu Tel.: 977-1-5705916 / 5705771, 5705148 www.kuklpid.org.np
Fax: 977-1-5705057, Email: pidmail@kuklpid.org.np

Commitment from Executive Chief

As we mark the 15th anniversary of Kathmandu Upatyaka Khanepani Limited (KUKL), I'd like to express my appreciation to all who have supported us in building a strong company. Additionally, I'd like to acknowledge and commend our employees for their invaluable contribution during periods of water scarcity in the Kathmandu valley as well as customers for their cooperative and understanding nature.

KUKL is anticipating a transformation in water supply with the arrival of the Melamchi water in December 2022, which is expected to provide a constant water supply until the next rainy season. This time addition of 150 MLD of treated water daily to the KUKL system, in top of the water from existing sources, is for considerably longer period of time and will contribute significantly to relieve the water shortage. KUKL is making every effort to ensure equitable distribution of this augmented quantity of water to its customers, thanks to the unwavering contributions of its employees. The challenge of minimizing leaks has become increasingly important, and KUKL is committed to reducing the leaks that have marred the aesthetic of the city. Similarly, KUKL is also prioritizing the efforts for operation of the Bulk Distribution System and Melamchi Water Treatment Plant.

Furthermore, KUKL was successful in holding elections for the first time after it's establishment to select an officially recognized Union, and it is expected that this will assist in the improvement in relationship between Union and Management.

I also want to take this opportunity to extend my thanks to the Ministry of Water Supply, the Water Supply Tariff Fixation Commission, the Kathmandu Valley Water Supply Management Board, the Shareholders and Directors of the KUKL Board, the Asian Development Bank, the Japan International Cooperation Agency, our customers, and all other supporters who have contributed to our success.

With best regards,
Gyanendra Bahadur Karki
Executive Chief, KUKL

Table of Contents

1. Introduction

Kathmandu Upatyaka Khanepani Limited (KUKL) is the water utility operator of the Kathmandu valley. KUKL is an autonomous water company established under the Public Private Partnership (PPP) model which is registered under the Nepal Government's Company Act 2063. KUKL is the only water company which provides all drinking water and wastewater related service in Kathmandu valley. After the formation of the government owned public water system in 1893, a series of institutional reform led to the formation of KUKL.

KUKL's roots go back to February 2008, when KUKL officially started to render drinking water and wastewater services in Kathmandu Valley. Similar to Kathmandu Valley, we have grown considerably since then, and are constantly looking for new ways to solve water stress in Kathmandu valley. KUKL is committed to being a well-organized employer that operates in a productive manner, enhancing the welfare of our employees. KUKL is also responsible for the operation and management of Melamchi Drinking Water Project with its availability in Kathmandu valley.

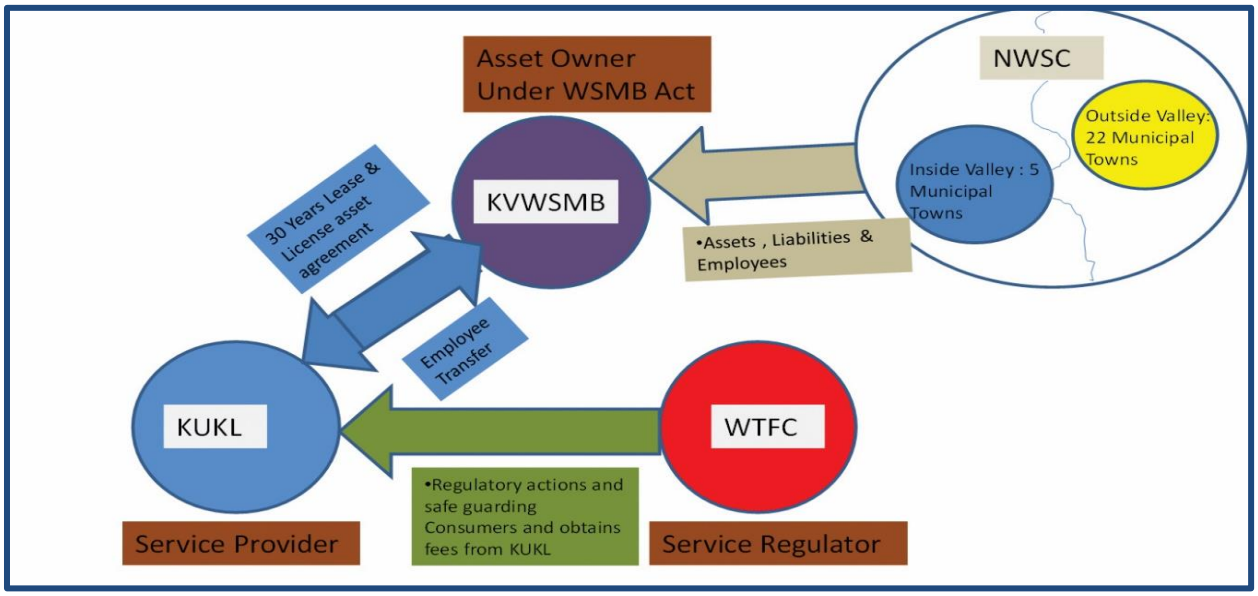
From the beginning, KUKL has always prioritized quality service within its service area along with mitigating the water crisis in Kathmandu valley. KUKL is augmenting its service areas and is building the water resilience capabilities to ensure sustainable water future for Kathmandu valley.

KUKL Head Office

2. Institutional Transition for providing Water Supply and Sanitation Services in Kathmandu Valley

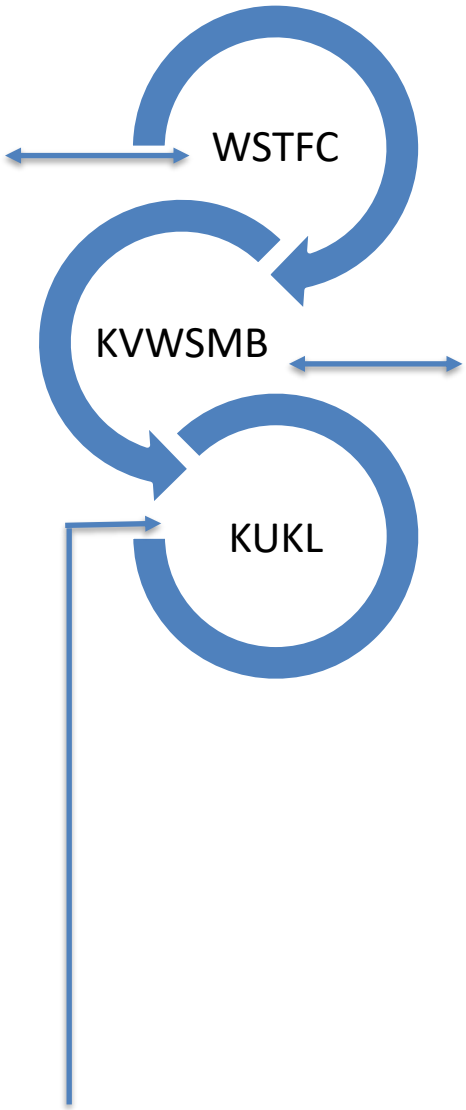
Looking back into history, the public water supply system was initiated in Kathmandu valley way back in 1893 AD. Before February of 2008, the water supply and wastewater management of Kathmandu valley had been managed by different institution at different periods of time as formed by Government of Nepal (GoN). Pani Adda, Pani Goswara, Water Supply and Sewerage Management Board and Nepal Water Supply Corporation were the organization which worked as water utility operator of Kathmandu valley till then.

A change in institutional setup of water supply and management agency of Kathmandu valley was envisaged and was proposed through Ninth and Tenth Five-year Plan (1997) of then GoN which suggested a policy of involvement of local governments and private sectors for water supply and wastewater system management. GoN conceptualized the formation of Kathmandu Valley Water Supply Authority in 2000 to initiate operation of water supply services through corporate/private setup. Later, the GoN established three key entities for institutional reforms in the water sector of Kathmandu Valley. This institutional reform aimed in representation of municipalities and private sectors at a policy level with a target to safeguard operating company from bureaucratic and political intrusion in management and operational decisions. This reform also meant to implement cost recovery-based tariff structures, commercial operation of the company, implement capacity development and technology transfer in this sector. This new institutional framework for water supply and sanitation facilities in Kathmandu Valley hence separated into three basic functions of ownership (planning and investment), operation (day-to-day operational activities) and regulation (fixing tariff).



Institutional Reformation of Water Utility Operator of Kathmandu Valley

WSTFC is responsible for the economic regulation of the water supply sector of Nepal. The commission is established as per Water Tariff Commission Act to determine water tariff based on commercial principles and set scientific criteria. The commission functions as an independent regulator of tariffs for water supply and wastewater services. KUKL at regular interval submits proposals for tariff fixation to the Commission together with its documentary evidence and upon scrutiny the commission approves the tariff with amendments, if necessary. The commission also facilitates in resolution of customer complaints by providing a mediator service to which customers can appeal against performance of the service provider.



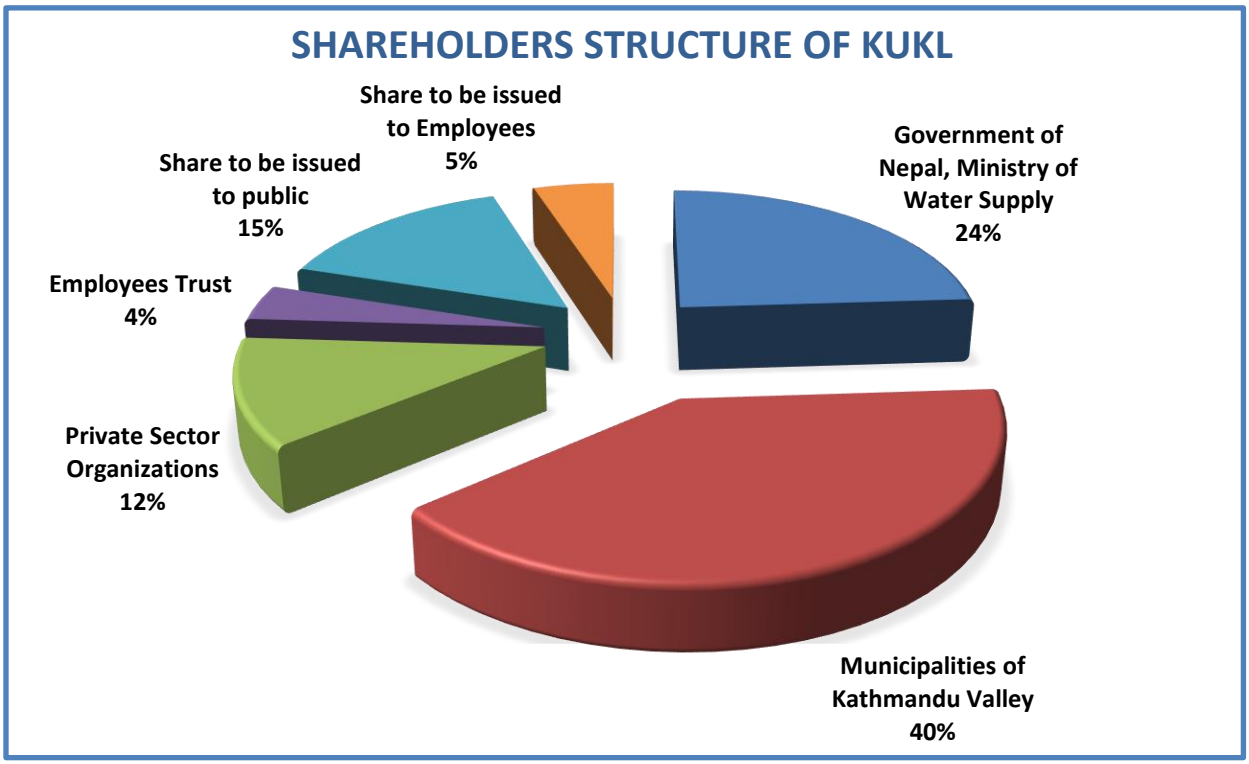
KVWSMB is the asset owner of water and wastewater infrastructure within the Kathmandu valley. It is the organization responsible for developing and overseeing policies regarding water and wastewater system development and operation. KVWSMB was established under Water Supply Management Board Act, 2063 and is accountable for overall planning of maintenance, service improvement and additional investment. However, the board cannot involve directly in the operation of the services, implementation of the works and fixation of water tariff.

As mentioned earlier, KUKL is a utility operator responsible for operation and maintenance of drinking water supply and sewerage system of the Kathmandu valley and is operating the system under the license granted by KVWSMB for 30 years. The official operation of the water and wastewater system of Kathmandu valley by KUKL commenced in February 2008.

Components of Institutional Reform and their description

3. Present Shareholders Structure of KUKL

S.N.	SHAREHOLDER	SHARE AMOUNT(NRs)	SHARE (%)
1	**Government of Nepal, Ministry of Water Supply**	**24 Crore**	**24**
2	**Municipalities of Kathmandu Valley**	**40 Crore**	**40**
	Kathmandu Metropolitan city	24 Crore	24
	Lalitpur Metropolitan city	8 Crore	8
	Other 16 Municipalities of Kathmandu Valley	8 Crore	8
3	**Private Sector Organizations**	**12 Crore**	**12**
	Nepal Chamber of Commerce	7.2 Crore	7.2
	Federation of Nepal Chamber of Commerce & Industry	2.4 Crore	2.4
	Lalitpur Chamber of Commerce	1.2 Crore	1.2
	Bhaktapur Chamber of Commerce	1.2 Crore	1.2
4	**Employees Trust**	**4 Crore**	**4**
5	**Share to be issued to Public**	**15 Crore**	**15**
6	**Share to be issued to Employees**	**5 Crore**	**5**
	Total	**1 Arab**	**100**



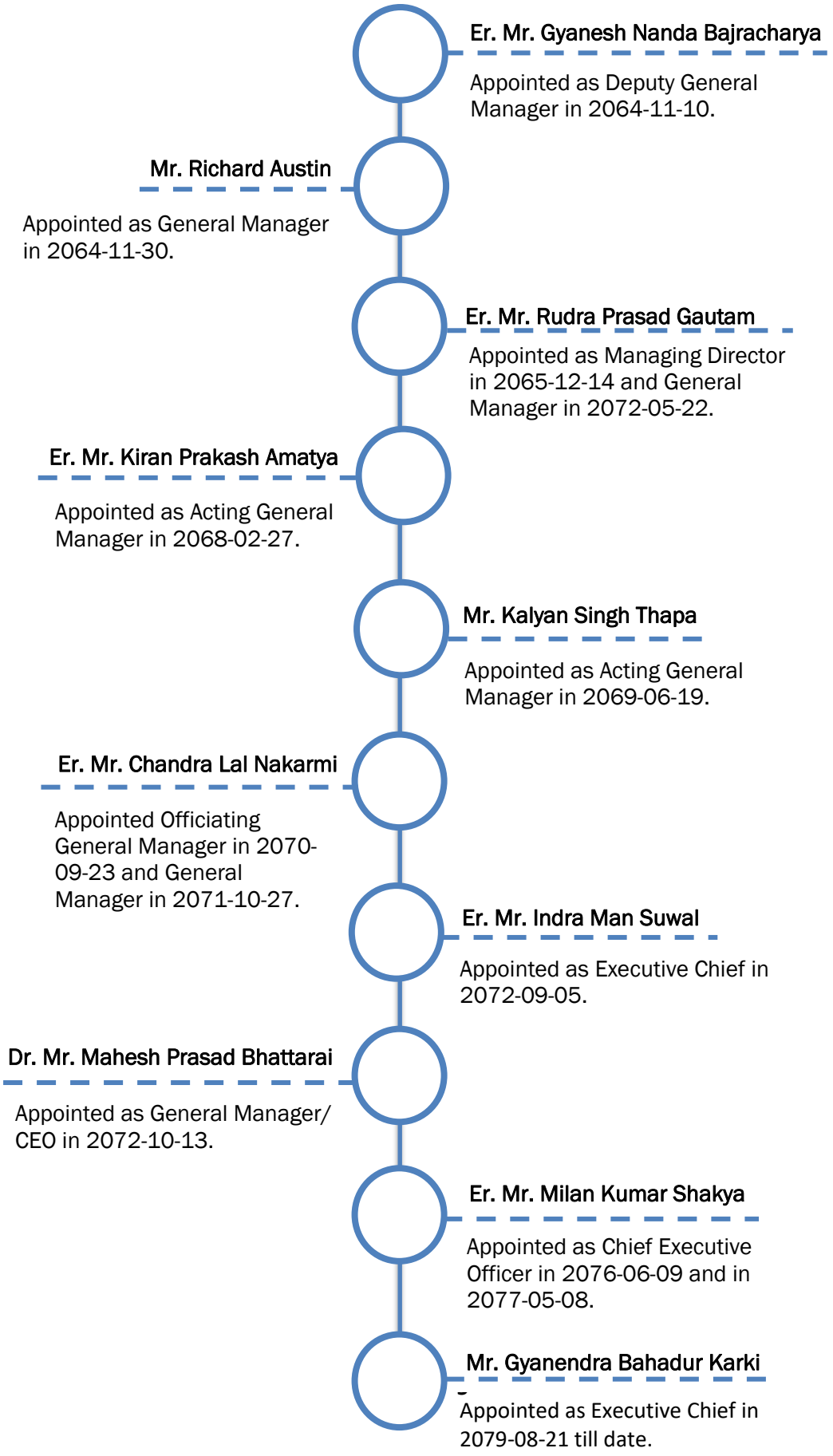
4. List of Chairman of Board of Directors in KUKL till date:

NAME	REPRESENTATION FROM	PRESENCE IN BOD	SELECTED AS CHAIRMAN
Mr. Birendra Man Shakya	Representative, GON	2063/11/29 to 2064/09/26	2063/11/29
Mr. Suresh Kumar Basnet	Nepal Chamber of Commerce	2063/11/20 to 2073/12/03	2071/3/3
Dr. Janak Raj Shah	Ministry of Physical Infrastructure and Transport	2064/05/27 to 2064/09/26	2064/08/24
Mr. Timila Thapa Yami	Ministry of Physical Infrastructure and Transport	2064/09/27 to 2067/11/28	2064/10/22
Mr. Dhruba Bahadur Shrestha	Independent Director	2064/01/05 to 2067/04/01	2065/10/20
Mr. Prayag Lal Joshi	Independent Director	2068/02/25 to 2069/08/20	2068/10/08
Mr. Sanjay Raj Upadhyaya	Kathmandu Metropolitan City	2070/06/01 to 2071/04/18	2069/12/11
Mr. Ghanashyam Bhattarai	Ministry of Water Supply	2072/10/05 to 2073/12/28	2073/12/03
Mr. Dhaniram Sharma	Kathmandu Metropolitan City	2074/05/16 to 2075-01-25	2074/09/07
Mr. Surya Raj Kadel	Ministry of Water Supply	2075/01/26 to 2076/7/17	2075/03/04
Mr. Rama Kanta Duwadi	Ministry of Water Supply	2076/7/17 to 2077/10/10	2076/08/04
Mr. Tiresh Prasad Khatri	Ministry of Water Supply	2077/10/11 to till date	2077/10/27

5. Directors of KUKL Board

S.N.	NAME OF DIRECTORS	POSITION	REPRESENTATION FROM
1.	Er. Mr. Tiresh Prasad Khatri	Chairman	Ministry of Water Supply. GoN
2.	Er. Mr. Ram Bahadur Thapa	Member	Kathmandu Metropolitan City
3.	Mr. Bashistha Ghimire	Member	Ministry of Water Supply. GoN
4.	Mr. Basanta Aacharya	Member	Kathmandu Metropolitan City
5.	Mr Kamalesh Kumar Agrawal	Member	Nepal Chamber of Commerce
6.	Mr. Roshan Gyawali	Member	Mahalaxmi Municipality

6. Timeline of Executive Chiefs of KUKL



7. Organizational Structure and Human Resource Information

7.1 Organizational Structure Human Resource Status

1	Level/ Position	Service	Approved Positions	Presently fulfilled Permanent Staff (as of Magh 2079)	Mandatory Retirement Status				
					2078 Falgun to 2079 Asadh	F/Y 2080/2081	F/Y 2081/2082	F/Y 2082/2083	F/Y 2083/2084
1	CEO		1	1					
2	11	Technical	2	1				1	
	Deputy CEO	Non-Technical	1						
3	10	Technical	7						
	Manager	Non-Technical	3	2		1			
4	9	Technical	13	6					2
	Deputy Manager	Non-Technical	6						2
5	8	Technical	15	8					1
	Asst. Manager	Non-Technical	7	7		1			1
6	7	Technical	45	19					
	Officer	Non-Technical	20	13		1	1	3	2
7	6	Technical	29	16		1	1	5	
	Asst. Officer	Non-Technical	55	27	1	5	3	1	2
8	5	Technical	92	53	1	5	3	2	1
	Senior Assistant	Non-Technical	117	87	3	7	13	6	10
9	4	Technical	89	44	1	4	2	3	
	Assistant	Non-Technical	131	143	2	6	9	6	
10	3	Technical	207	75	5	10	9	14	11
	Junior Assistant	Non-Technical	130						
11	2	Technical	21	1					
	Helper	Non-Technical							
12	1	Technical	239	79	3	5	5	7	5
		Non-Technical	154	66	2	4	5	2	4
		Total	1384	648	18	50	51	50	41

8. KUKL Service Area

8.1 KUKL Service Area for Water Supply

KUKL has 10 Branch Offices for the production and operation of water supply components. After the re-structuring of the Local Bodies within the Kathmandu valley, the revised details of the service areas of the KUKL are as given in the table below.

Chhetrapati Branch Office	Kathmandu Metropolitan City	Ward No. 15, 17, 18, 19, 24, 25, 26, 27, 28

Tripureshwor Branch Office	Kathmandu Metropolitan City	Ward No. 11,12,13,14,20,21,22,23
	Naagarjun Municipality	Ward No. 9, 10
Maharajgunj Branch Office	Kathmandu Metropolitan City	Ward No. 1,2, 3, 16, 26, 27, 28
	Tokha Municipality	Ward No. 1 -15
	Tarkeshwor Municipality	Ward No. 1 -21

Mahankalchour Branch Office	Kathmandu Metropolitan City	Ward No. 4, 5, 6, 7, 8
	Gokarneshwor Municipality	Ward No. 1 - 9
	Budhanilkantha Municipality	Ward No. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11,12,
	Kaageshwori – Manohara Municipaliity	Ward No. 6, 7
	Shankharapur Municipality	-

Kirtipur Branch Office	Kirtipur Municipality	Ward No. 1 -10
	Dakshinkaaii Municipality	Ward No. 1 - 9

Lalitpur Branch Office	Lalitpur Sub-Metropolitan City	Ward No. 1 - 27
	Kaaryabinayak Municipality	Ward No. 1 - 13
	Mahalaxmi Municipality	Ward No. 16,18
	Godawari Municipality	Ward No. 6,10, 11, 12, 13

Bhaktapur Branch Office	Bhaktapur Municipality	Ward No. 1-17
	Anantaligeshwor Municipality	Ward No. 14
	Suryabinayak Municipality	Ward No. 1,4,5
	Mahamanjushree-Nagarkot Municipality	Ward No. 8
	ChaunguNarayan Municipality	Ward No. 3,12

Madhyapur Thimi Branch Office	Madhyapur Thimi Municipality	Ward No. 1-17
	Changunarayan Municipality	Ward No. 1

Baneshwor Branch Office	Kathmandu Metropolitan City	Ward No. 9,10,29,30,31,32

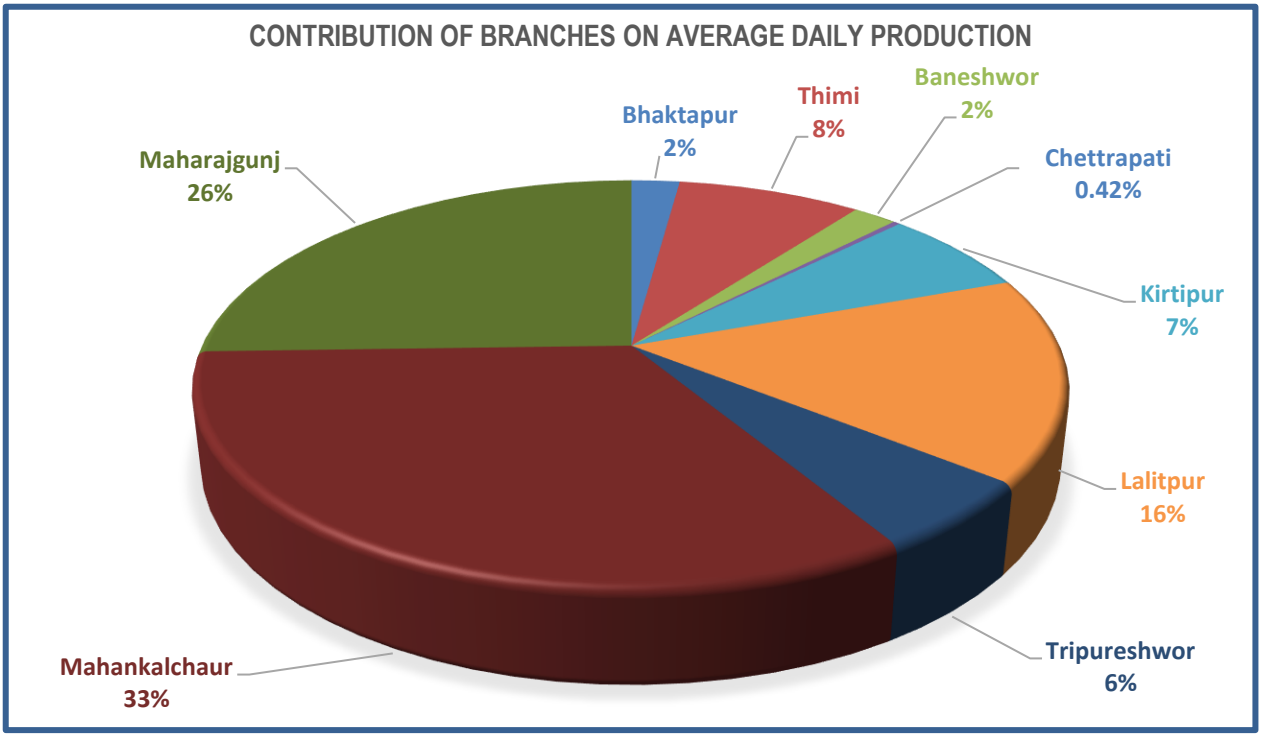
8.2 KUKL Service Area for Wastewater Services

KUKL Provides wastewater services to whole area covered by all water supply branch offices of KUKL.

9. Water Production and Distribution Status

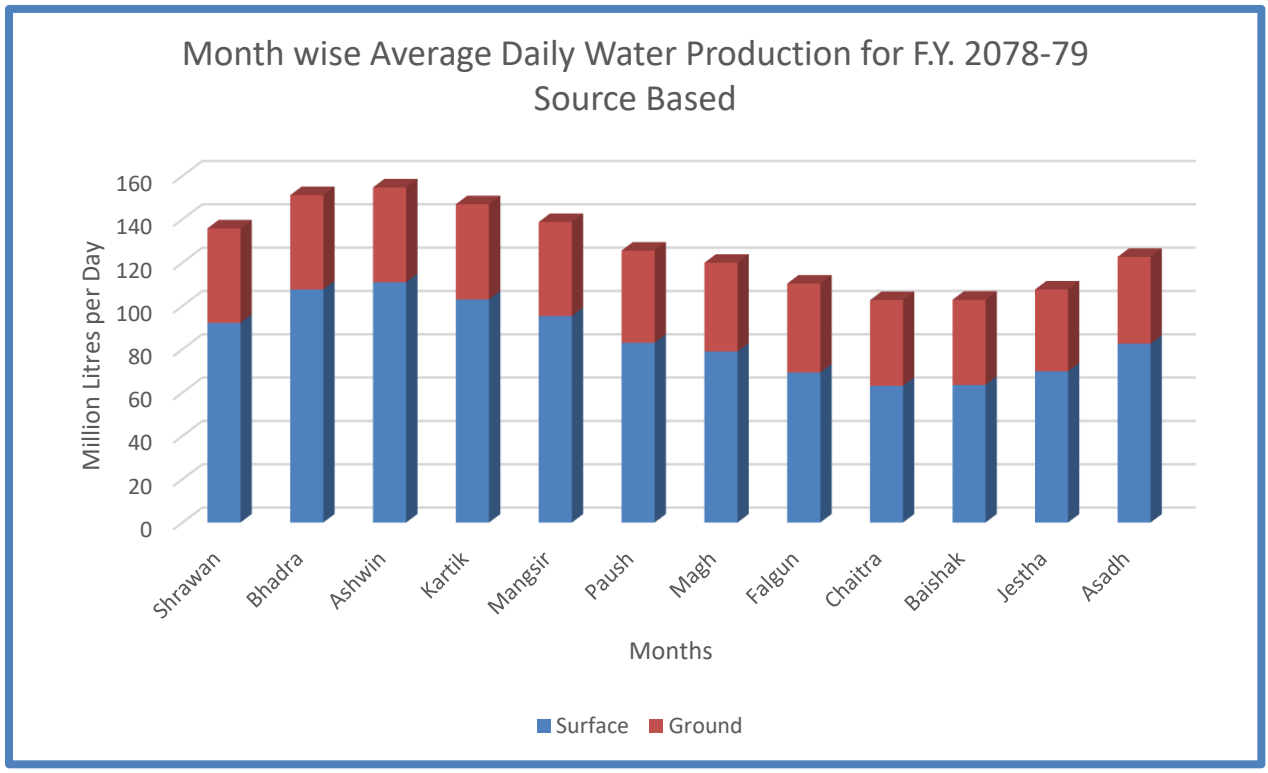
9.1 Water Production and Distribution Details (2078/79)

S.N.	DESCRIPTION	QUANTITY (Million Litres Per Day)
1.	Demand	472.00
2.	Production	
A.	Minimum Production	102.66
B.	Maximum Production	154.68
C.	Average Production	126.55
3.	Supply (considering 20% real losses)	
A.	During month of Minimum Production	82.13
B.	During month of Maximum Production	123.74
C.	Average Supply	101.24



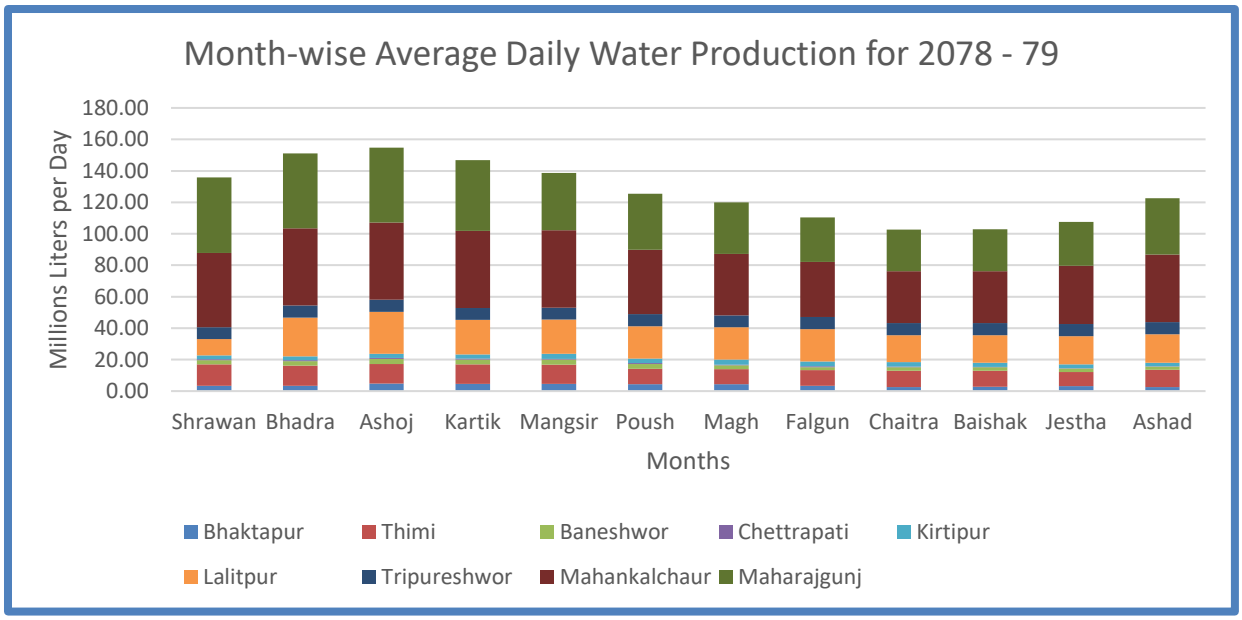
9.2 Month-wise Average Daily Water Production (Source Based) for F.Y. 2078/79 (Million Liters per Day)

Month	Surface	Ground	Total
Shrawan	92.15	43.63	135.78
Bhadra	107.58	43.54	151.12
Ashwin	110.94	43.74	154.68
Kartik	102.96	43.96	146.92
Mangsir	95.31	43.42	138.73
Paush	83	42.52	125.52
Magh	78.92	40.97	119.89
Falgun	69.28	41.03	110.31
Chaitra	63.1	39.56	102.66
Baishak	63.52	39.31	102.83
Jestha	69.79	37.8	107.59
Asadh	82.56	40.06	122.62
Average Production	84.93	41.63	126.55



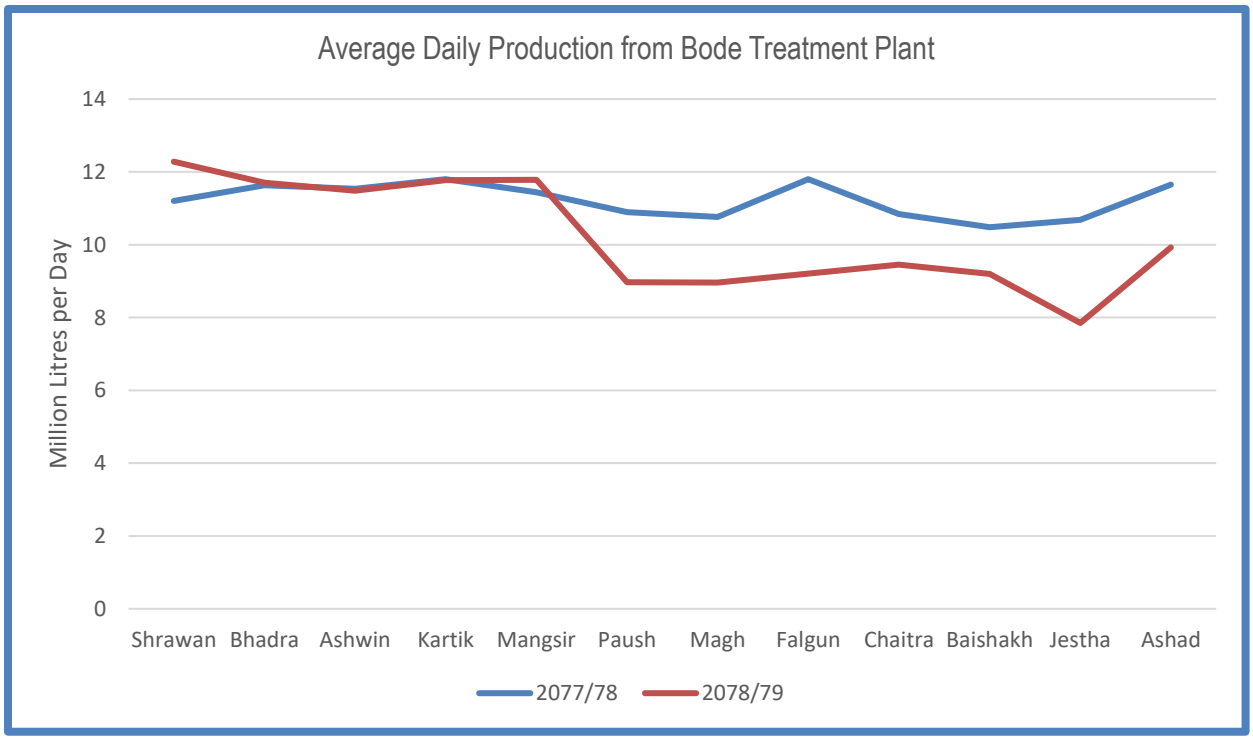
9.3 Month-wise Average Daily Water Production (Branch Based) for F.Y. 2078/79 (Million Liters per Day)

Months	Branch Name									
	Bhaktapur	Thimi	Baneshwor	Chettrapati	Kirtipur	Lalitpur	Tripureshwor	Mahankalchaur	Maharajgunj	Total
Shrawan	3.29	13.61	2.68	0.62	2.43	10.39	7.65	47.04	48.07	**135.78**
Bhadra	3.39	12.71	2.96	0.60	2.42	24.71	7.65	49.04	47.64	**151.12**
Ashwin	4.80	12.50	3.12	0.59	2.63	26.73	7.65	49.04	47.62	**154.68**
Kartik	4.55	12.48	3.07	0.57	2.73	21.85	7.65	49.04	44.98	**146.92**
Mangsir	4.55	12.15	3.28	0.55	3.10	21.84	7.65	49.04	36.57	**138.73**
Paush	4.39	9.84	2.95	0.57	3.00	20.45	7.65	41.04	35.63	**125.52**
Magh	4.37	9.54	2.43	0.55	3.10	20.52	7.65	39.04	32.69	**119.89**
Falgun	3.33	10.06	1.88	0.53	3.00	20.68	7.65	35.04	28.14	**110.31**
Chaitra	2.61	10.30	2.20	0.51	2.90	17.00	7.65	33.04	26.45	**102.66**
Baishakh	2.69	10.29	2.14	0.22	2.66	17.50	7.65	33.04	26.64	**102.83**
Jestha	3.20	8.97	2.13	0.22	2.40	18.00	7.65	37.04	27.98	**107.59**
Ashad	2.58	10.95	1.97	0.31	2.30	18.00	7.65	43.04	35.82	**122.62**
Average Production	3.65	11.12	2.57	0.49	2.72	19.81	7.65	42.04	36.52	**126.55**



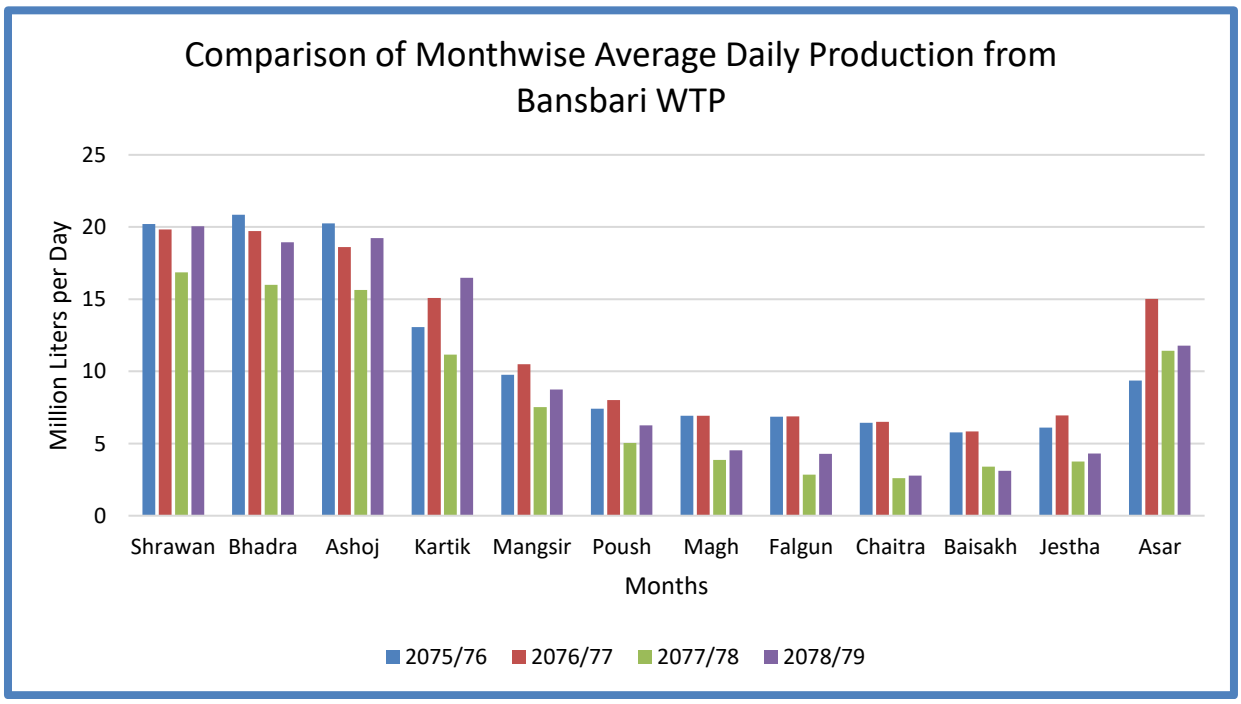
9.4 Average Daily Production from Bode Treatment Plant (Million Liters per Day)

Month/Year	(2075/76)	(2076/77)	(2077/78)	(2078/79)
Shrawan	11.36	11.63	11.2	12.28
Bhadra	9.78	11.50	11.63	11.7
Ashwin	9.17	11.80	11.54	11.48
Kartik	9.28	11.80	11.8	11.77
Mangsir	10.00	10.90	11.44	11.78
Paush	8.82	9.17	10.89	8.97
Magh	9.67	10.35	10.76	8.96
Falgun	10.31	10.17	11.8	9.21
Chaitra	9.79	9.92	10.84	9.45
Baishakh	11.05	10.35	10.48	9.2
Jestha	11.36	11.20	10.68	7.85
Ashad	10.58	11.64	11.65	9.93
Daily Average	**10.09**	**10.87**	**11.25**	**10.215**



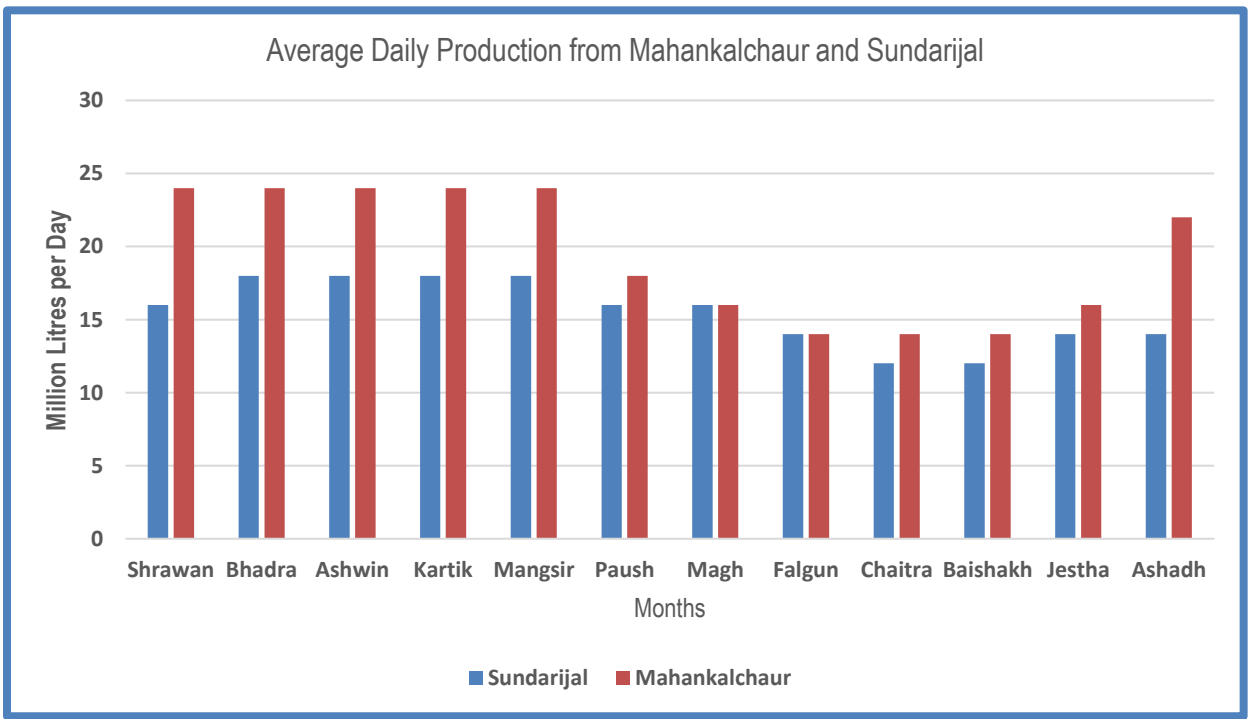
9.5 Average Daily Production from Bansbari Treatment Plant (Million Liters per Day)

Month/ Fiscal Year	2075/76	2076/77	2077/78	2078/79
Shrawan	20.21	19.83	16.85	20.05
Bhadra	20.85	19.71	16.00	18.95
Ashwin	20.25	18.61	15.64	19.24
Kartik	13.07	15.09	11.17	16.48
Marga	9.76	10.50	7.52	8.75
Paush	7.41	8.01	5.04	6.26
Magh	6.92	6.93	3.87	4.52
Falgun	6.87	6.89	2.84	4.28
Chaitra	6.43	6.50	2.60	2.79
Baishakh	5.77	5.84	3.41	3.11
Jestha	6.10	6.94	3.76	4.3
Ashadh	9.36	15.01	11.43	11.78
Daily Average	**11.08**	**11.66**	**8.35**	**10.04**



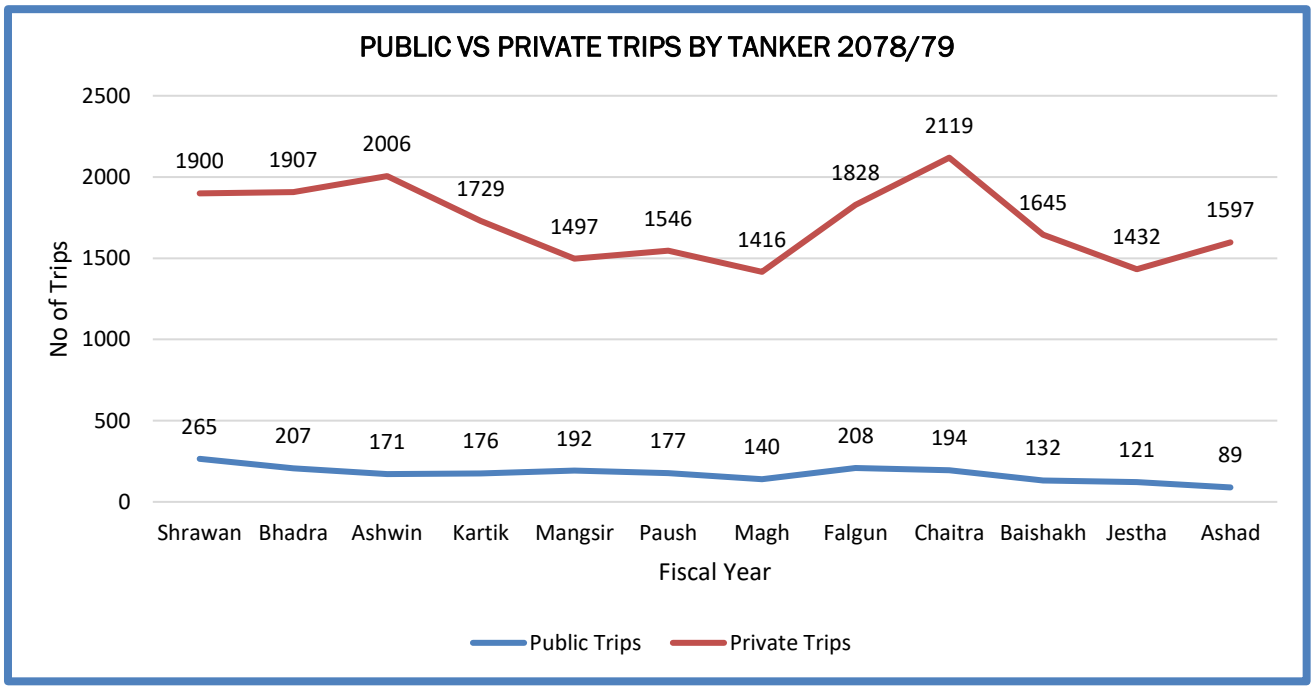
9.6 Average Daily Production from Sundarijal and Mahankalchaur for F.Y. 2077-78 (Million Liters per Day)

Month/ Fiscal Year	Sundarijal	Mahankalchaur
Shrawan	16	24
Bhadra	18	24
Ashwin	18	24
Kartik	18	24
Mangsir	18	24
Paush	16	18
Magh	16	16
Falgun	14	14
Chaitra	12	14
Baishakh	12	14
Jestha	14	16
Ashadh	14	22
Daily Average	15.50	19.50



9.7 Distribution of Water by Tankers

Month	Public Trips				Private Trips			
	2075/76	2076/77	2077/78	2078/79	2075/76	2076/77	2077/78	2078/79
Shrawan	391	428	339	265	1575	1489	1270	1900
Bhadra	339	318	335	207	1364	1329	1187	1907
Ashwin	339	300	366	171	1674	1162	1230	2006
Kartik	260	357	366	176	1408	1417	1295	1729
Mangsir	302	374	358	192	1409	1230	1530	1497
Paush	329	386	377	177	1506	1353	1498	1546
Magh	308	388	316	140	1327	1487	1501	1416
Falgun	370	494	316	208	1516	1685	1648	1828
Chaitra	408	385	343	194	1595	1767	1893	2119
Baishakh	328	357	253	132	1509	1417	1468	1645
Jestha	383	332	178	121	1949	1490	1319	1432
Ashad	309	296	257	89	1836	1175	1735	1597
Total	4066	4415	3804	2072	18668	17001	17574	20622



10. Water Transmission and Distribution System

A. Water Transmission Mains

SN	System	SIZE (mm)	MATERIAL	AGE (Years)	APPROXIMATE LENGTH (Km.)
1	BALAJU	100-400	CI, AC, Steel, DI,PVC	Up to 80	45
2	BANSBARI / MAHARAJGUNJ	100-400	CI,DI,PVC	Upto115	70
3	SUNDARIJAL	100-600	CI,DI,HDPE	Up to 45	62
4	PHARPING	200-500	CI, Steel, DI	Up to 35	29
5	KIRTIPUR	100-200	CI,PVC	Upto110	38
6	NAKHU	400	DI	Up to10	6
7	BHAKTAPUR	100-400	CI, DI	Upto115	10
8	CHAPAGAON	125-200	CI,DI,HDPE	Up to34	20
9	BODE	100-350	CI,DI,PVC	Up to45	16
10	OTHERS	50-100	CI,GI,PVC	.	10
	TOTAL				306

B. Water Distribution Main

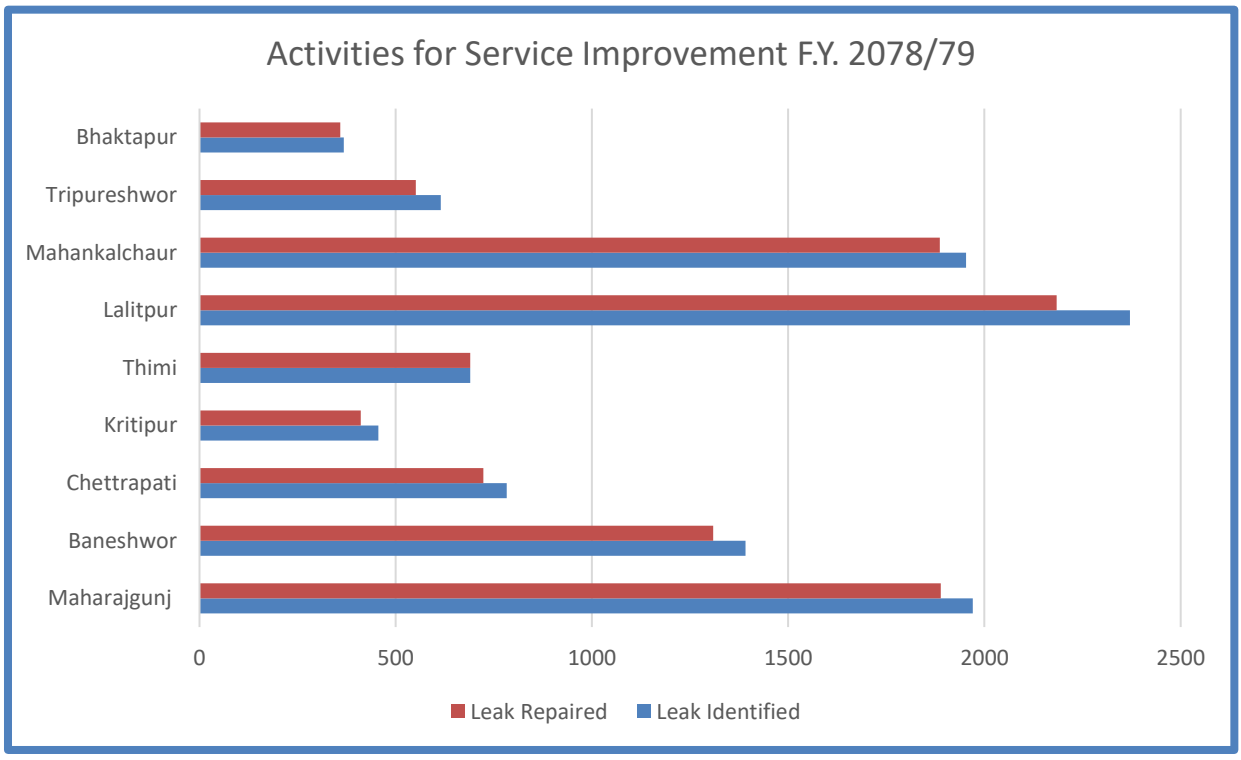
SN	PROJECT	SIZE (mm)	MATERIAL	AGE (Years)	APPROXIMATE LENGTH (Km.)
1	BASE	50-600	CI, GI, Steel, PVC	Upto115	300
2	FIRST PROJECT (IDA)	100-400	CI, GI	40	120
3	SECOND PROJECT (IDA)	100-400	CI,GI, DI	35	150
4	THIRD PROJECT (IDA)	100-800	DI,GI	25	150
5	NWSC	75-300	DI,GI	21	345
6	KUKL	25-400	CI,GI	7	499
7	PID	90-1400	DI, UPVC	3	1500
	TOTAL				2564

Note: The Pipeline by PID is for distribution of water from Melamchi soon.

11. Maintenance and Pipeline Works

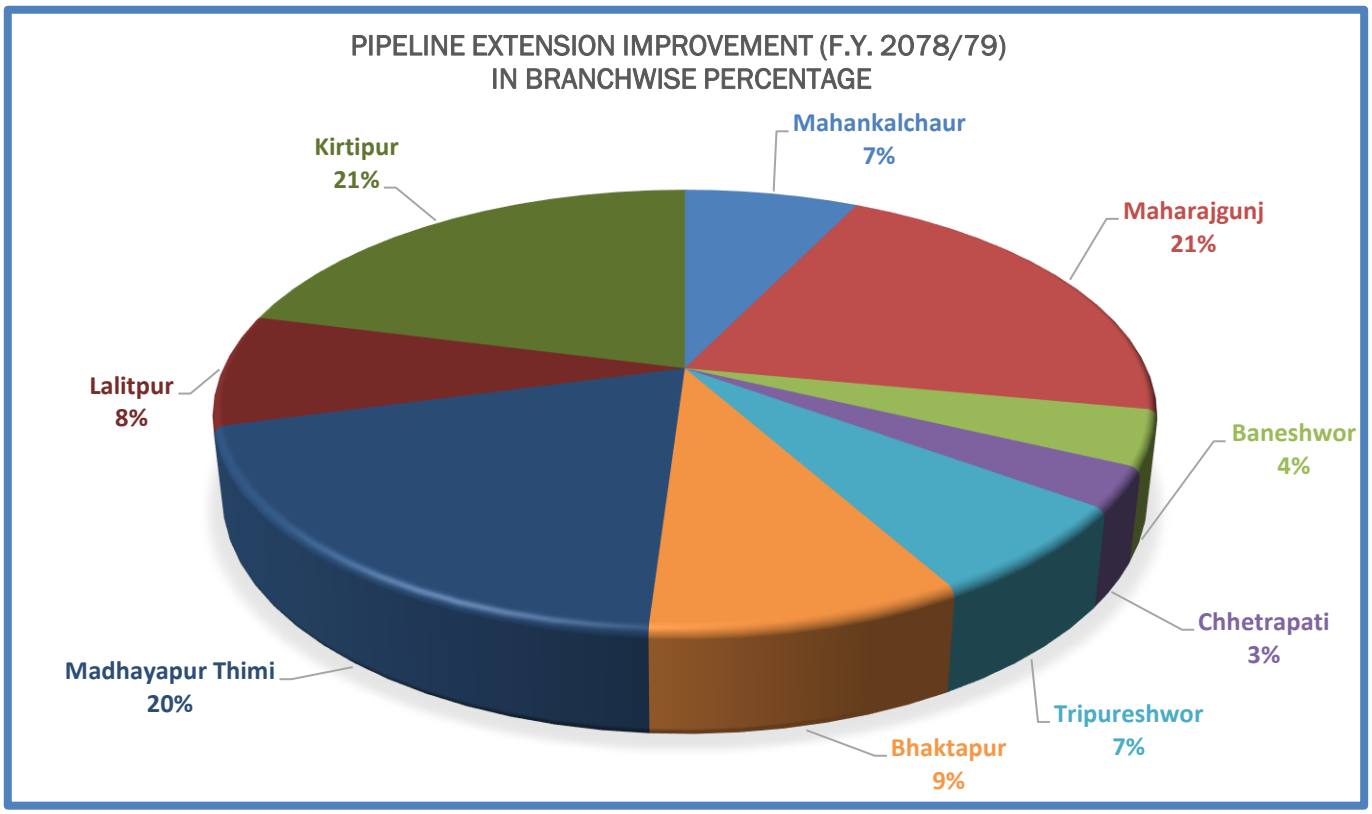
A. Activities for Service Improvement

S.N.	Branch Name	Injection Points	Installation of Polythene Tanks	Leak Identified	Leak Repaired	Installation of New Water Meters	Meter Repaired
		Nos.					
1	Mahankalchaur	8	0	1953	1886	2880	1248
2	Maharajgunj	0	`3	1970	1889	965	79
3	Baneshwor	2	1	1391	1309	289	234
4	Chhetrapati	7	4	783	723	570	63
5	Tripureshwor	6	0	615	551	1027	270
6	Bhaktapur	2	1	368	359	721	154
7	Madhyapur Thimi	0	0	690	690	1155	772
8	Lalitpur	0	0	2371	2184	2372	384
9	Kirtipur	0	3	456	411	282	143
	Total	**17**	**11**	**9206**	**8693**	**9972**	**3113**



B. Pipeline Installation for Distribution Improvement (F.Y.2078/79)

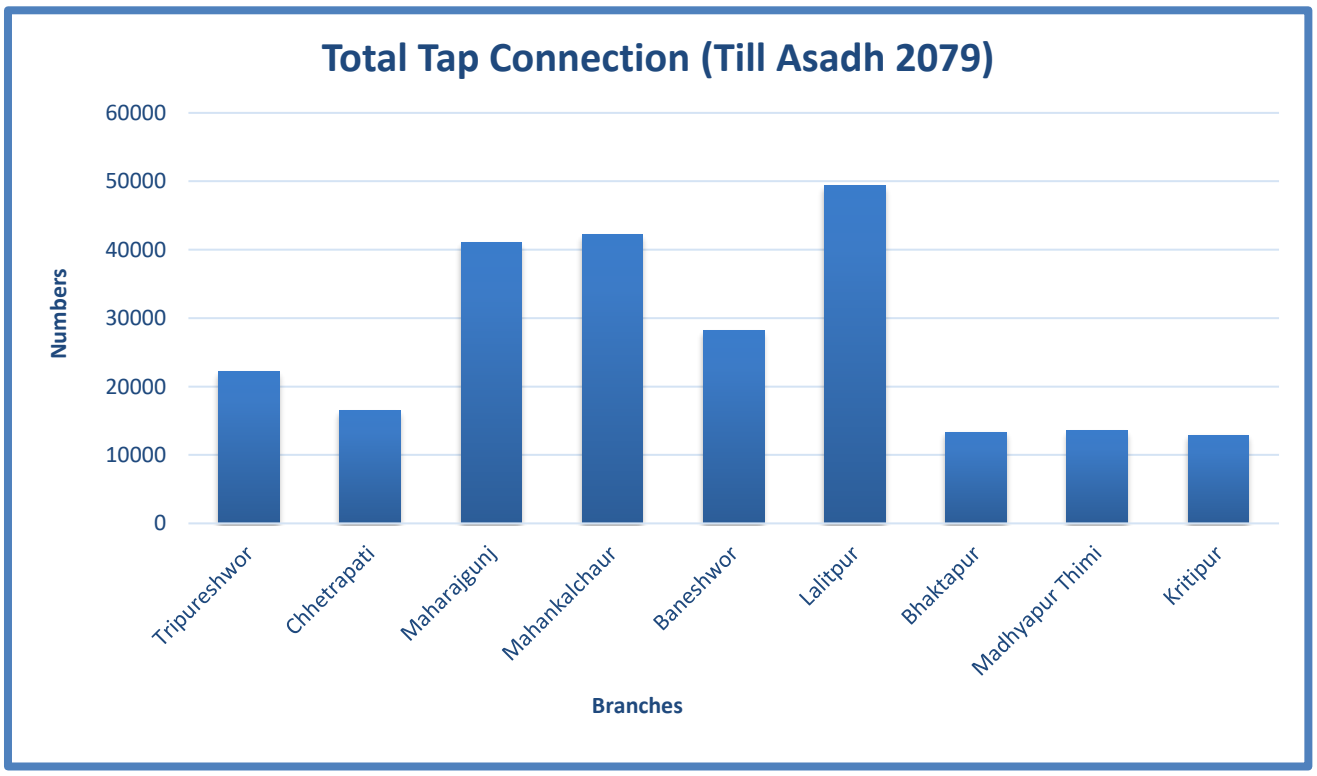
Branch	Size in mm														Total (M.)
	20 & 25	40	50	63	80	90	100	110	150	160	200	250	300	400	
Mahankalchaur	140	0	-	1650	0	160	0	2150	0	500	0	0	70	-	**4670**
Maharajgunj	-	-	-	2175	-	3034	-	1745	1138	-	5420	-	-	50	**13562**
Baneshwor	45			1030		1609									**2639**
Chhetrapati	-	-	-	-	-	305	-	955	-	680	-	-	-	-	**1940**
Tripureshwor	-	-	-	417	5	3648	-	180	-	-	178	-	-	7.5	**4435.5**
Bhaktapur	-	-	300	2000	250	1254	90	-	-	-	2060	-	-	-	**5954**
Madhyapur Thimi	-	-	-	3240	-	5055	-	3275	-	1295	-	-	-	-	**12865**
Lalitpur	110	9	-	1887	-	1432	-	1893	-	7	122	6	-	-	**5356**
Kirtipur	426	-	1050	4827	18	3877	-	2226	-	1639	-	-	12	-	**13649**
Total	**676**	**9**	**1350**	**16196**	**273**	**18765**	**90**	**12424**	**1138**	**4121**	**7780**	**6**	**82**	**57.5**	**62431.5**



12. Consumer Water Connections

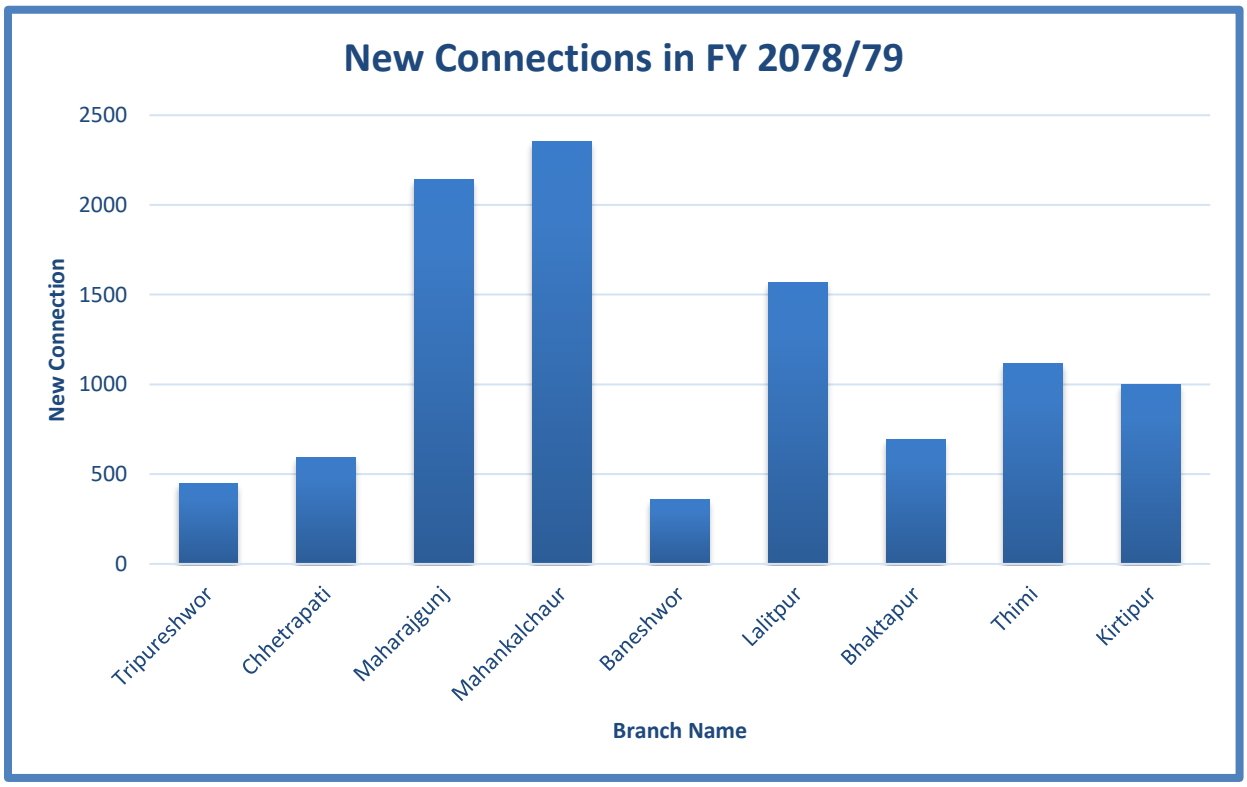
A. Total Connections till end of F.Y. 2078/79

S.N.	Branch	Govt. Connection (Metered)	Private Connection (Metered)	Govt. connection (Non Metered)	Private Connection (Non Metered)	Stand post	Total
1	Tripureshwor	195	20438	110	1319	138	**22200**
2	Chhetrapati	42	14809	9	1452	174	**16486**
3	Maharajgunj	114	39662	35	1277		**41088**
4	Mahankalchaur	82	40054	46	2064		**42246**
5	Baneshwor	142	27165	16	801	32	**28156**
6	Lalitpur	292	48317	26	799		**49434**
7	Bhaktapur	37	12777	11	349	174	**13348**
8	Madhyapur Thimi	18	13335	7	82	82	**13524**
9	Kritipur	2	12679	11	222		**12914**
	Total	**924**	**229236**	**271**	**8365**	**600**	239396



B. New Connections in F.Y. 2078/79

S.N.	Branch	Govt. Connection (Metered)	Private Connection (Metered)	Govt. Connection (Non-Metered)	Private Connection (Non-Metered)	Stand Post	Total
1	Tripureshwor	3	444	-	-	-	447
2	Chhetrapati	-	594	-	-	-	594
3	Maharajgunj	2	1958	-	183	-	2143
4	Mahankalchaur	-	2353	-	-	-	2353
5	Baneshwor	-	358	-	-	-	358
6	Lalitpur	-	1546	-	23	-	1569
7	Bhaktapur	-	393	-	301	-	694
8	Thimi	-	1117	-	-	-	1117
9	Kirtipur	2	888	-	110	-	1000
	Total	4	9481	0	761	0	10275



13. Activities in F.Y. 2078/79

13.1 Main Office

A. Supply of Melamchi Water

KUKL was tasked with distributing the 170 MLD of extra water from Melamchi in an efficient manner. With the help of its dedicated employees, KUKL successfully supplied water to valley residents every other day in most areas. The company made significant investments in improving its infrastructure, technology, and manpower to achieve this, and remains ready for when the Melamchi Water Supply Project resumes raw water supply through the tunnel. From Chaitra 2078 to Jestha 2079, KUKL efficiently distributed water from both Melamchi and internal sources within the Kathmandu valley. Now, starting from Mangsir 2079, KUKL is once again handling the distribution of Melamchi water along with water from valley sources.

B. JICA Capacity Development Program

Recognizing that the various challenges faced by KUKL for providing the water supply service can be solved not only through financial support, technical support is also required. Government of Nepal and JICA agreed to implement the technical co-operation named “The Project on Capacity Development of KUKL to Improve Overall Water Supply Service in Kathmandu Valley”.

On 20th July 2021, the Joint Coordination Committee (JCC) of the project was formed under Joint Secretary of Ministry of Water Supply (MoWS) as chairman, and CEO of KUKL, as Project Director, Manager of Mahankalchaur Branch, as Project Manager, followed by Executive Director of KVWSMB as an advisory member and Engineer of KVWSMB as a member.

This project is being implemented in three terms as shown below.

In the first term, the baseline surveys, the basic training, and good relationship-building with C/P have been conducted as the project start-up step (March 2021 to March 2022).

In the second term, the full-scale training (OJT and TOT) is being implemented to develop the capacity for KUKL in response to the activities of the first term (April 2022 to January 2024).

In the third term, KUKL is expected to establish an internal training system and carry out practical training so that the skills acquired through OJT and TOT can be horizontally expanded within KUKL. In addition, KUKL will establish the acquired skills and create a system that KUKL itself to operate and maintain even after the project is completed (February 2024 to March 2026).

The activities of the project are implemented through five outputs namely.

Output 1: Enhancement of the capacity of water distribution management utilizing GIS.

Output 2: Enhancement of the capacity of NRW reduction measure

Output 3: Enhancement of the capacity of operation and maintenance of WTPs and water quality control

Output 4: Enhancement of the capacity of customer service management

Output 5: Improvement of the implementation capacity of KUKL's internal training

Presently Mr. Umesh Babu Marhatta is the Project Manager for this project from KUKL side and Mr. Koji Naito is the Team Leader from JICA side. The major activities of the project during FY 2078/79 are as follows.

Output Number	Training Area	Trainings Area Information	Total No. of Participants for Trainings
1	5	Basic GIS, Basics of Hydraulic Analysis, Operation of Ultrasonic flow meter, Basics of Flow Measurement	110
3	22	Explanation of details of Output-3 Activities and Work Plan, Basic theory of explanation of the Water Treatment Plant, Basic Orientation program about Water Quality, Basic parameters of water quality monitoring, Basic concept of Water Source and Water Treatment, Basic step involves in water treatment process, Relationship between water quality parameters and WTP operation, Basic concept of Disinfection, Basic concept of Sedimentation, Lecture on Water Quality Standard Operation Procedure (SOPs), Basic concept of Filtration, Basic theory of SOPs Management System, Major Water Treatment Process and Facility of Filtration, Basic theory of improvement of WTP SOPs, Basic concept for the selection of sampling monitoring points, Trial on Jar test to the staffs of central laboratory of Mahankalchaur, Training on Jar-test for WTP and Others lab staffs, Demonstration of Jar test and chlorine demand test to the WTP Chief, and major staff, Prepare and trial / training new chlorine demand test, prepare SOP of new chlorine demand test, OJT on Water Treatment Process for Mahankalchaur Staffs, OJT on Water Treatment Process for Bansbari Staffs, OJT on Water Treatment Process for Bode Staffs	354
4	4	Explanation of details of Output-4 Activities and Work Plan, Basic concept of water supply Management System, OJT Provided on Database Software, Basic concept provided to the Meter reader-In charge and customer care staffs for collection of casebook and training manual	67
5	3	Explanation of details of Output-5 Activities and Work Plan Basic lecture on Internal Training Management System and Training Manual Basic tips provided for the internal Training system	22

T-Shirt and Cap designed and distributed to customer care staffs under Output 4

Output 2 NRW core team meeting

Output 4 OJT on database software

Output 3 Certificate Distribution

GIS Training under Output 1

Output 5: Discussion on internal Training Management system with the Action Team members.

C. Australian Water Partnership Program

The Australian Water Operators Partnership was established in April 2017 between KUKL and Australian water utilities with the aim of enhancing water and sanitation services through sharing knowledge. The Australian Water Partnership is the key organization involved, while KUKL has formed partnerships with Hunter Water Corporation and Logan City Council. These two organizations have provided KUKL with the necessary skills and expertise over the past three years to develop a robust asset management system for managing pipes, treatment plants, and wells. Currently, the focus of the partnership is on reducing Non-Revenue Water and providing training programs for staff.

13.2 Maharajgunj Branch

A. Improvement of Existing Bansbari Water Treatment Plant an Balaju Water Treatment Plant

It includes removal of debris and accumulated sludge in sedimentation, Flocculation and Reservoir Tank. It increases the storage capacity of Sedimentation Tank and Reservoir. Epoxy painting works improve the aesthetic Appearance of Treatment Plant and improve the water quality and efficiency of water treatment plant.

Sludge Removal Works from Sedimentation Tank

Epoxy Painting Works at Sedimentation Tank

B. Cluster Removal Work in Different Tube well station for Reliable Water Supply in different area of Tokha Municipality:

It includes the management of distribution pipeline for local area supply. It helps to reduce the confusion of pipeline and gain better aesthetic appearance. It also helps to increase working space within the tube well area.

C. Improvement of different Surface Source Intake (Shivapuri , Bishnumati, Boude,Bhandare,Chahare Alley and Panchmane)

It includes Removal of debris and accumulated sludge in different intake. It increases the storage capacity of the intake and withdraws greater amounts of water convey to treatment plant. It also helps to increase the water quality and reduce the load in water treatment plant.

D. Pipeline extension works at different area of Maharajgunj Branch

It includes extension and improvement of pipeline in different area of maharajgunj Branch. It increases the service area of KUKL and helps to increase new connections. It also increases the water quality and assures a reliable water supply in different areas.

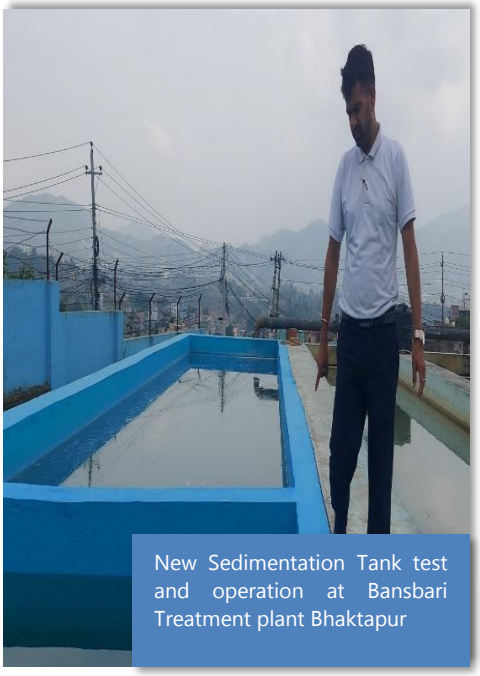
Pipeline extension works at Gongabu

E. Leakage Control works.

It includes the Repair and maintenance of pipe, valve, and other fittings to reduce NRW and prevent pollution in water supply. It helps to maintain water quality and reduces the chances of water pollution.

Leak Repair works

13.3 Bhaktapur Branch



New Sedimentation Tank test and operation at Bansbari Treatment plant Bhaktapur

8" dia. DI Pipeline extension & improvement at Kamalbinayak to Tripura sundari area

14"dia. DI Trunk Pipeline Repairing at Sallagari chowk

Intake Improvement works at Mahadev khola muhan Nagarkot phedi

13.4 Tripureshwor Branch

Pipeline Extension work Newroad basantapur

Pipeline Extension work at kholaprabesh marg

13.5 Lalitpur Branch

Construction of Truss Bridge for 400mm dia DI Transmission Main Crossing at Bagmati River, Khokana Lalitpur

Periodic and regular maintenance of Jwagal Pump Station at UN park kupondole

250 mm dia DI Transmission Main Protection Work at Nallu River Crossing

13.6 Electro-Mechanical Section

The major activities by Electromechanical Branch in FY 2078/79 is as following;

- Drilling of new deep tube well at 11 different places of Kathmandu Valley by increasing 10 MLD water production (Tokha, Tarkeshwor, Narephat, Madhyapur Thimi, Lokanthali, Sanepa, Buddhanilkantha-1, Changunarayan, Lalitpur-18, Jholungepool, Mahalaxmi Municipality-4).
- Well development/ Rehabilitation of different 19 Old deep tube wells at Kathmandu Valley which results increment of 2 MLD of water to the total production.
- Repair and maintenance of 10 different water treatment Plants with dosing systems of Kathmandu valley.

In total there are 104 total deep tube wells in operation at Kathmandu Valley. The total contribution of ground water is around 54 MLD.

13.7 Information Technology (IT) Section:

The IT section is responsible for managing Information Technology (IT) related activities of KUKL. Various applications of ICT are being Implemented by KUKL which is being managed by the IT Section. Some ICT related applications are already in implementation phase, and some are under the development phase which are shown in tables below.

Table 13.4 A: ICT modules currently being operated.

ICT Module	Achieved Improvements
Billing Application	Old manual records are computerized and can pay their bill removing the hassle of turning over old records file. Billing related data of all new and old customers are managed through this system.
New Connection Application	The new connection taking process of the company is digitized using new connection application
Account Application	Accounting software is currently used in the branches. This software digitized the accounting process
Self-Meter Reading Software	Customer can record their meter reading information through web-based application.
Ledger Management System	Manual ledgers of customer of tanker section are digitized and managed through this system.
E- Attendance Device (Piloting)	E – Attendance Device is implemented as a pilot phase across most of the branches of the offices to maintain the record of attendance of the employees.
Grievance Handling System	Queries from customer or people related to facilities of water maintenance, administration services provided by the KUKL can be done through this application. Customers can view the status of their complaints through mobile numbers/compliant number.
Online Payment System	KUKL has implemented online payment system, through which the customers can pay their bills using internet through selected banks and mobile wallet service providers.

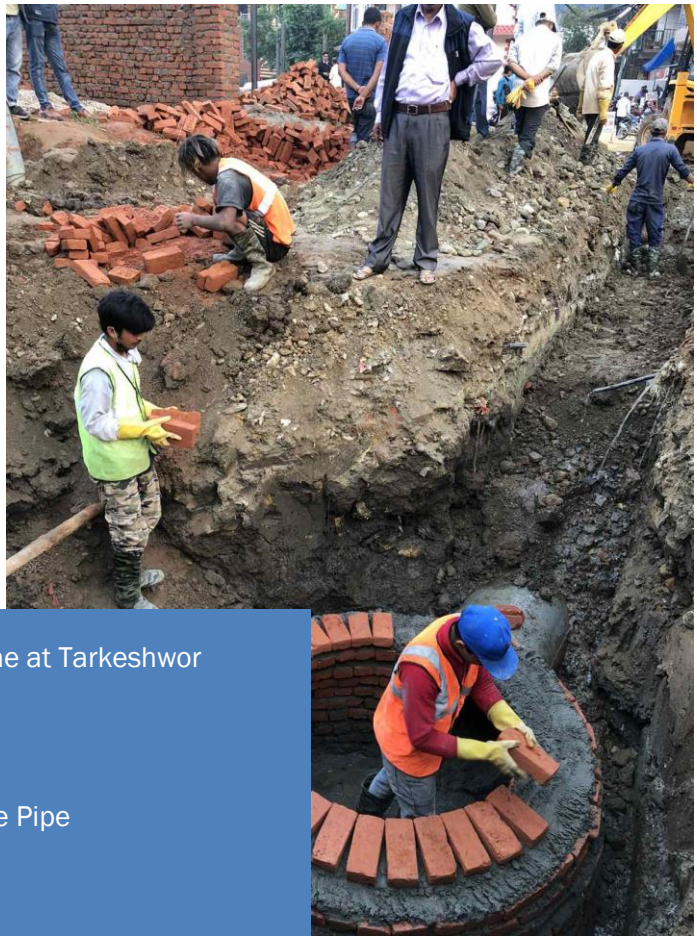
Table 13.4 B: IT Advancements which is going to be implemented in future.

IT Advancements	Expected Change
Inventory and Asset Management System	Captures all records of inventory and assets and digitized all process of these tasks
Human Resource Management System	Digitization of all process and records of employees starting from recruitment to retirement
Handheld Meter Reading Device	Currently we are delivering water bills for a month to customers only in the following month. After implementation of this system, on the spot billing can be done.
Mobile Application for Employee and Customer	Customer can take online services from the company without waiting in queue using internet and employee can view their personal and other information.

13.8 Wastewater Operation Division

Major Works carried out by WOD

S.N.	Description of work	Unit	Kathmandu	Lalitpur	Bhaktapur	Total	Remarks
1	Laying of new sewer pipes lines	Rm	730	5115	1350	7195	
2	Repair & maintenance of sewerage pipes/manholes	No	30	14	7	51	
3	Cleaning of sewer pipes by Jet machine	No				803	
4	Service sewer pipes connection	No				41	



Project Name: Construction of Sewer Line at Tarkeshwor Municipality-5, Goldhunga Area

Total Length Complected = 360.0 R.M

No. of Manhole Constructed = 13.0 nos

Pipe Size = 600mm Dia. NP-2 RCC Hume Pipe

Benefited Household: 150 nos

Project Name: Construction of Sewer Line at Lalitpur-15, Velpa Pragatinagar Area

Total Length Complected = 85.0 R.M

No. of Manhole Constructed = 3.0 nos

Pipe Size = 800mm Dia. NP-2 RCC Hume Pipe

Benefited Household: 50 nos

Project Name: Maintenance of Sewer Line at New Baneshwor infront of Federal Parliament House

13.9 Highlights of Activities of Water/Wastewater Quality Assurance Division

Water/Wastewater Quality Assurance Division under KUKL monitors and controls the quality of water produced and supplied by our company by collaborating with different branches of KUKL. To provide quality water, water samples are collected from various sampling points starting from reservoir to tap representative of whole distribution network. There are three laboratories of Kathmandu Upatyaka Khanepani Limited (KUKL). They are the Central laboratory at Mahankalchaur and other laboratories at Bode and Bansbari. All these laboratories routinely monitor water quality. The following physico-chemical parameters and total coliform count are run on a routine basis.

Total physico-chemical parameters that are tested on routine basis.

S.N.	Parameters	Unit
1	Appearance	-
2	Turbidity	NTU
3	Color	TCU
4	Temperature	°C
5	pH	-
6	Electrical Conductivity	µS/cm
7	Total Alkalinity	mg/l
8	PPH Alkalinity	mg/l
9	Total Hardness	mg/l as CaCO3
10	Calcium Hardness	mg/l
11	Magnesium Hardness	mg/l
12	Calcium	mg/l
13	Magnesium	mg/l
14	Total Iron	mg/l
15	Total Ammonia	mg/l
16	Chloride	mg/l
17	Arsenic	mg/l
18	Free Residual Chlorine	mg/l

Also, water quality reports are uploaded to KUKL's website monthly.

Additionally, the central laboratory assesses the quality of chemicals used in Water Treatment Plants, the quality of water, waste/water on request of public, and also provides platform for learning the water treatment process and water analysis methods by means of field visit in water treatment plant and laboratory. Students from various faculties that have incorporated water treatment facilities and water quality testing in their course work come to visit treatment plants and laboratory facilities. A nominal cost of Rs. 200 per student is collected from the institute as a consultant fee. During fiscal year 2078/79, a total number of 1317 students and in this fiscal year a total of 768 students visited Central Laboratory as well as Water Treatment Plant at Mahankalchaur. In addition, this division also provides laboratory support to students from different institutes for their thesis work and internship.

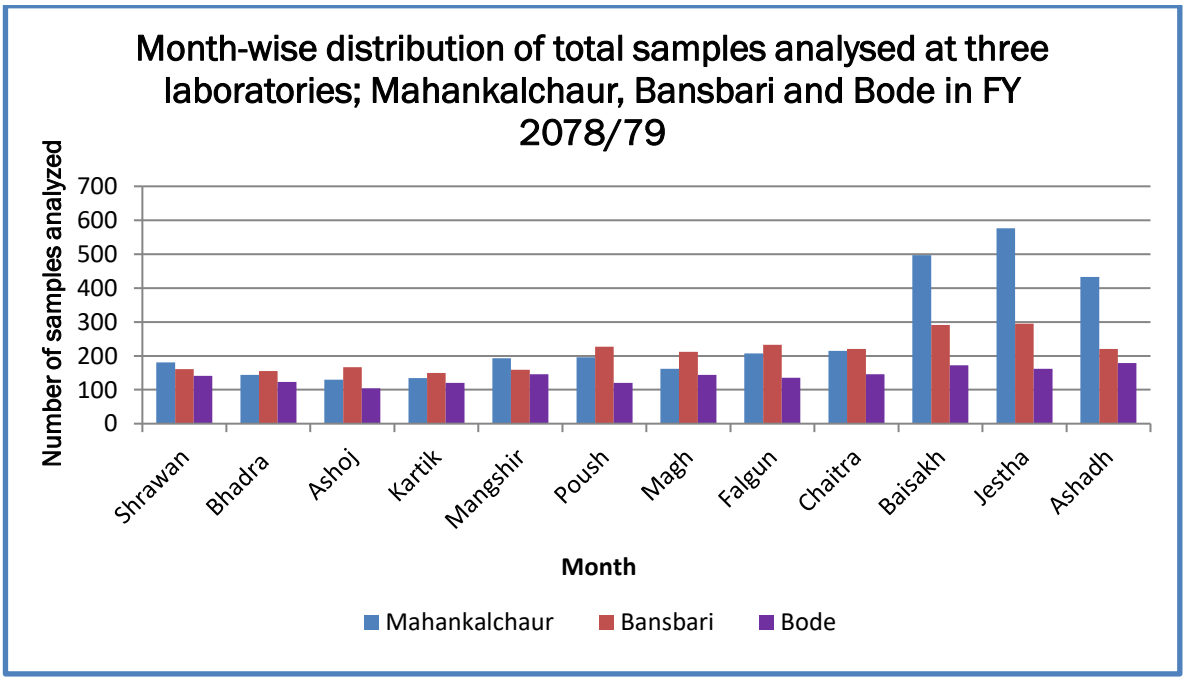
Total Number of Water samples tested at three laboratories.

Year	Total number of client's sample tested at Mahankalchaur	Mahankalchaur	Bansbari	Bode
Shrawan-2078/Ashar 2079	2568	3068	2490	1692
Shrawan 2079/Poush 2079	1086	2402	1138	1058

Soon, we intend to extend the water testing facility at Bansbari and Bode for the public too.

Month wise analysis of Water Quality data at Mahankalchaur, Bansbari and Bode Laboratories

The following figures display the month-wise distribution of total number of water samples analyzed at three laboratories, Mahankalchaur, Bansbari and Bode in the year 2078/79 and 2079/80 respectively.



Other Activities

A. Quality report of Melamchi Water supply

Water/Wastewater Quality Assurance Division monitored the water supplied from New Sundarijal Water Treatment Plant at Service reservoirs during Baisakh to Jestha 2079 and when the supply re-started on Mangsir 25, 2079. Until the end of Poush, a total of 370 samples are collected from 10 different service reservoirs and analyzed for their physiochemical parameters. Out of them, 348 (94.05%) samples were within NDWQS standard.

SN	Date	No. of tested samples	No. of samples within the NDWQS standard
1	2078/12/11 to 2079/2/16	626	481 (76.8%)
2	2079/8/25 to 2079/9/30	370	348 (94.05%)

B. Efforts in controlling cholera.

Cholera outbreak was reported in Kathmandu valley during the last rainy season (2079). Central laboratory of KUKL made some efforts in controlling the outbreak.

a. Activities of Central laboratory, KUKL in controlling cholera:

A total of 430 vials (200ml) of Hypochlorite solution (0.5%) were prepared and distributed to KUKL branches for distributing to different communities. During that period, a total of 1197 drinking water samples were collected from different sources (KUKL supply, consumer's tap, stone spout, well and processed jar water) in Kathmandu valley and tested for microbiological and physiochemical parameters.

A total of 430 vials (200ml) of Hypochlorite solution (0.5%) were prepared and distributed to KUKL branches for distributing to different communities.

14. Activities of Project Implementation Directorate (PID):

Kathmandu Valley Water Supply Management Board (KVWSMB), an autonomous body established under WSMB Act (2006), is responsible for the development and provision of water supply and wastewater services to inhabitants of Kathmandu Valley. As per the Act, KVWSMB owns the assets of water supply and sewerage infrastructure and delivers the services through the service operator in Kathmandu Valley. Project Implementation Directorate (PID) is a project office for the management of ADB funded projects in Kathmandu Valley.

PID is working round the clock with its mission of providing safe drinking water to the residents of the Kathmandu valley. Safe drinking water is a basic need and people's right and PID is now working on multiple aspects of translating people's right to safe drinking water.

PID scope covers development of infrastructures for supply and distribution of clean and safe drinking water and wastewater management in the Kathmandu valley. Kathmandu Valley Water Supply Improvement Projects (KVWSIP) include construction of essential infrastructure for efficient water supply.

A. Water Supply Infrastructure Component

PID scope under Kathmandu Valley Water Supply Improvement Project (KVWSIP) covers development of infrastructure, that includes laying pipelines for bulk water transmission to household connection and meter installation (free of cost to the public). The contracts under ADB funding for bulk distribution system (BDS 1, BDS 2, BDS 3 and BDS 4) are almost complete including final commissioning. Similarly, pipe laying works for distribution network within the Ring Road under the first phase have been completed and testing and commissioning is halfway and likely to be completed and come into operation by mid-July 2023. PID have handed over completed BDS packages to KVWMB for the operation as 170 MLD water is diverted from Melamchi.

The Government of Nepal (GON) has provided financing for the remaining pipe laying works of distribution network improvement within the Ring Road as well as for second transmission bulk line from Sundarijal to Chabhil. The major infrastructure works under GoN financing included construction of (i) additional 10.84 km BDS pipeline from Sundarijal to Chabahil (BDS-05) to augment the present transmission line capacity from 222.5 MLD to 510 MLD, (ii) three SRTs (with 6,000 m3 capacity at Kirtipur, 8,500 cubic meter capacity at Mahankalchaur and 19000m3 (12000+ 5,000) cubic meter capacity at old Balaju Reservoir, and (iii) approximately 800 km of distribution network improvement. The works for BDS, 2 SRTs and DNIs are progressing well whereas procurement of SRTs at old Balaju Reservoir is being initiated.

Supervisory Control and Data Acquisition (SCADA) system with centralized monitoring and control system has been adopted for efficient management of the water supply distribution in the Kathmandu Valley. This is a fully automatic system where water supply networks can be seen, monitored, and controlled by the SCADA system installed in the central control room located in KUKL office, Panipokhari. This system further collects and shares important data and information related to the water supply network in real time.

Major Works performed and their status under the PID are summarized here in the tables:

Major Works Under Water Supply Infrastructure Component

S.N.	Description	Activities
1	**Bulk Distribution System Network (BDS)**	Includes construction of total 77.00 kilometers of D.I. Pipeline aiming to convey water from Sundarijal WTP to 10 newly constructed Service reservoirs located at different places and existing reservoirs in Kathmandu Valley.
2	**Service Reservoirs**	New 10 Service Reservoirs with total capacity of 74500 cubic meters is constructed at 9 locations of Kathmandu Valley to facilitate the supply of water to distribution network.
3	**Distribution Network Improvement (DNI)**	About 1010 Kilometers of Distribution network within Ring Road is constructed based on district metering area (DMA) in the first phase with ADB loan to facilitate the water distribution and reduce the NRW. Contract of Distribution network Improvement for remaining part of Ring Road including Mandikhatar and Kapan area using the government fund for 800km is under construction and 330km pipe laying work is completed.
4	**Consumer connections**	About 110000 consumer connections will be constructed for supplying water to the households.
5	**Automation System (SCADA)**	Automation System (SCADA) installation work is under construction for controlling remotely the major valves in service reservoirs and distribution network.

Progress of Water Supply Infrastructure Component

Distribution Network Improvement Packages under ADB Loan

Package Name/ Number	Contractor	Contract Commencement Date	Contract Completion Date	Length of Pipeline (KM)	Progress %	Included Works
DNI Package 1	Hangzhou-Kalika JV	12 Jul, 2013	14-Apr-23	302.1	95	Primary Pipelines from Service Reservoir, Distribution Pipelines and Reticulation Pipelines, and Consumer Connections.
DNI Package 2	Hangzhou-Sharma JV	6 Nov, 2013	30-Apr-23	304.37	95	
DNI Package 3	Sumec-Lama JV	9 Apr, 2013	14-Mar-23	173.514	97	
DNI Package 4	GIETC-Sharma-Raman JV	10 Jul, 2017	30-Jun-23	228.06	85	

Distribution Network Improvement Packages with Government Fund

Package Name/ Number	Contractor	Contract Commencement Date	Contract Completion Date	Length of Pipeline completed (KM)	Progress %	Included Works
KUKL/DNI/7B: DNI 5	Sharma-Raman JV	4-Oct-20	3-May-23	126.12	27.69	Primary Pipelines from Service Reservoir, Distribution Pipelines and Reticulation Pipelines, and Consumer Connections.
KUKL/DNI/7C: DNI 6	TEAMS-KUMAR-CAB JV	4-Oct-20	8-Apr-23	156.211	27.24	
KUKL/DNI/9a: DNI 7	Tundi Construction Pvt. Ltd	4-Oct-20	7-Apr-23	75.284	26.25	
KUKL/DNI/9a-1: DNI KAPAN	CIPEL-Shailung JV	27-Mar-19	16-Jul-23	70.183	36.15	

Bulk Distribution System Construction Packages under ADB Loan

Package Name/ Number	Contractor	Contract Commencement Date	Contract Completion Date	Length of Pipeline (KM)	Progress %	Included Works
BDS Package 0	CTCE-Kalika JV	23-Dec-11	15-Jul-16	9.579	100	Service Reservoirs and Bulk Water Conveyance pipelines from Sundarijal WTP to the Service Reservoirs
BDS Package 1	JITF	11 Mar, 2014	31 Dec, 2021	11.269	100	
BDS Package 2	JWIL-SCPL JV	06 Aug, 2014	31 Oct, 2021	25.373	100	
BDS Package 3	Tianjin-Raman JV	05 Jun, 2014	31 Dec, 2021	15.062	100	
BDS Package 4	Hangzhau-Ashish JV	23 Dec, 2015	30-Jun-22	14.553	100	

Bulk Distribution System Construction Packages under Government Fund

Package Name/ Number	Contractor	Contract Commencement Date	Contract Completion Date	Length of Pipeline (KM)		Progress %	Included Works
				Total	Completed		
BDS Package 5	Huashui - Kankai JV	4 Oct 2020	8 Apr 2023	10.84	1.393	10	Under Construction

Construction Packages of Service Reservoir Tanks

Package Name/ Number	Contractor	Contract Commencement Date	Contract Completion Date	Progress %	Included Works
SRT 06A	Sharma and Co. pvt Ltd	6 Mar 2022	28 Aug 2023	8.28	Construction of Service Reservoirs Tanks at Mahankal and Kirtipur
SRT 06B	Under Procurement Process				Construction of Service Reservoirs Tanks at Balaju

Testing and Commissioning of Pipelines

Testing and commissioning of the DNI's first phase is progressing after arrival of 170 MLD Melamchi water since December 2022. Among 1010 KM of pipelines laid under the first phase, Short Run Test (SRT) is completed in 550Km of pipeline till January 2023 and planned to complete SRT of remaining pipelines within June 2023. Regular water supply has already been started through the 268 KM of tested pipeline of 8 DMA's.

B. Wastewater Infrastructure Component

Due to rapid and unplanned urbanization in the Kathmandu Valley, Bagmati River and all its tributaries have been heavily polluted and virtually converted to sewers as 60 per cent of the river lengths passes through urban settlements as the sewage collected is being discharged directly into the river without treatment and the rivers are virtually converted into drainage.

Considering the situation, Kathmandu Valley Wastewater Management Project (KVWMP) was initiated in 2013 to revive the beauty of Kathmandu rivers by discharging only treated water into the rivers. PID scope under KVWMP covers construction and rehabilitation of five Wastewater Treatment Plants (WWTP) and two Decentralized Wastewater Treatment Plants (DEWATS) in different locations in the Kathmandu Valley. To realize its scope, PID has prepared 'The Sewer Network Master Plan' under the KVWMP, which includes construction of Intercepting Sewers (IS) along the rivers- Hanumante, Manohara, Khasyang Khusung and Sewer Network rehabilitation in Lalitpur Metropolitan City (LMC), Gokarna Municipality and core city of Kathmandu Metropolitan City.

Regarding the progress status, Guheshwori Wastewater Treatment Plant (32.4 MLD) has been completed and is in operation since October 2020, and others are under construction. Besides that, two small DEWATS; at Gokarna (3 MLD) and Hanumanghaat (1 MLD) are also under implementation.

Major Works Under Wastewater Infrastructure Component

SN	Description	Activities
1	**Wastewater Treatment Plants**	Construction of Wastewater Treatment Plants at Guheswori, Kodku, Sallaghari and Dhobighat with total Treatment capacity of about 138 million litres per day
2	**Interceptors along the Banks of Rivers**	Interceptors along the Manohara, Hanumante and Khasyang-Khusung River/ Stream of length about 30 kilometers is completed aiming to intercept the wastewater disposing directly to the river/stream
3	**Sewer Network Rehabilitation and Construction**	Rehabilitation and construction of sewer networks in Patan and Gokarna, and a storm water network at Baluwatar area is under construction
4	**Decentralized Wastewater Treatment Plants (DEWATS)**	Construction of two DEWATS at Gokarna of Kathmandu and Hanumanghat of Bhaktapur(4 MLD)

Progress of Packages under Wastewater Infrastructure Component

Wastewater Treatment Plant Construction Packages

Package Number	Contractor	Contract Commencement Date	Contract Completion Date	Progress %	Included Works
WWTP Package 1	VA Tech Wabag Ltd.	01 Aug 2016	22 July 2018 EOT-4: 27 Oct 2020	Completed and in Operation	Rehabilitation and Expansion of Guheshwori WWTP (32.4 MLD)
WWTP Package 2	Safbon Water Service (Holding)	07 May 2019	06 Nov 2019 EOT-04: 31-Jul-22	27.10	This contract is terminated due to poor performance of the Contractor and the process of rebidding is initiated for remaining works.

Package Number	Contractor	Contract Commencement Date	Contract Completion Date	Progress %	Included Works
WWTP Package 3	CGCOC-ATAL JV	25 Mar 2018	14 March 2020 EOT-04: 31 Mar 2023	84.4	Construction of Wastewater Treatment Plants at Dhobighat (37 MLD)
DEWATS-01	TEAMS-BCPL JV	3/20/2022	9/11/2023	2.2	Construction of DEWATS at Gokarna of Kathmandu (3 MLD)and Hanumanghat of Bhaktapur(1 MLD)

Inceptors Construction Packages

Package Name/ Number	Contractor	Contract Commencement Date	Contract Completion Date	Progress %	Included Works
Interceptor Package 1	GIETC-Lama-Raman JV	3 May 2016	23 Apr 2018 EOT-04: 09 Oct 2020	47.80	Construction of Interceptor sewer at Hanumante (25.331 Km)
Interceptor Package 2	ZIEC-Sharma-BKOI JV	2 Nov 2016	23 Oct 2018 EOT-04: 27 Nov 2020	47.16	Construction of Interceptor sewers at Manohara (11.363 Km)
Interceptor Package 3	Lama-Raman-Golden Good JV	15 Dec 2017	8 June 2019 EOT 1, 7 Dec 2019	Completed	Construction of Interceptor sewer (7.679 Km)
WW/SN-03	Sharma-Lama Golden Good JV	17 Aug 2020	09 Dec 2021 EOT 03, 6 June 2023	53.9	Sewer line (2.8 KM) at Patan
WW/SW-01	Samantar Nirman Sewa Pvt Ltd	2 Mar 2022	5 June 2023	32.5	Storm Water line (1.22 KM) at Baluwatar
WW/SN-04	Lama-Golden Good JV	Signing of the Agreement is remaining			Sewer line (6.24 KM) at Gokarna

15. Tariffs

15.1 Piped Water Connection

S.N.	Connection Size (inch)	Minimum Consumption (Liters)	Metered		Unmetered	
			Minimum Charge (NRs.)		Additional Charge Per 1000 Liters (NRs.)	Monthly Fixed Charge (NRs.)
1	1/2"	10,000	100	32	785	
2	3/4"	27,000	1,910	71	4,595	
3	1"	56,000	3,960	71	9,540	
4	1 1/2"	1,55,000	10,950	71	26,280	
5	2'	3,20,000	22,600	71	5,42,55	
6	3"	8,81,000	62,240	71	1,49,415	
7	4"	18,10,000	1,27,865	71	3,06,880	
Sewerage service charge					50% of water bill	

15.2 Supply by Tankers

S.N	Quantity of Water (Liters)	Rate (NRs.)
1	5000	1995
2	6000	2300
3	8000	2860
4	9000	3155
5	10000	3435
Payment at Delivery Place		Extra Charge of 10%

15.3 Laboratory Test Rates

S.N.	Analysis Type	Rate (NRs.)
1	Physico-chemical Analysis	495.00
2	Bacteriological Analysis (Total coliform, Fecal coliform, E. coli, Vibrio cholerae, Salmonella and Shigella)	300 each
3	Arsenic Test	300.00

16. Additional Photographs

1.Basic training on Jar Test and Chlorine Demand Test for KUKL Lab staff Practical trainings on jar test (from Feb 1st to 4th, 2022) and chlorine demand test (from Feb 7th to 9th, 2022) were conducted for KUKL staff at the Central Laboratory, Mahankalchaur by Japanese Expert Team (JET). The purpose of this training was to learn to determine the optimal amount of coagulant (PAC) needed to remove turbidity from raw water and to learn how residual chlorine in chlorinated water decreases

2. Training on Water Quality Analysis
Laboratory focal persons from all nine branches of KUKL were trained in water sample collection, turbidity measurement and free residual chlorine monitoring at Central Laboratory, Mahankalchaur by JET, and Laboratory staff.

Rehabilitation of existing BPT at Shikhar Pa Lalitpur

Sludge Removal at Treatment Plant

Construction of Truss Bridge for 400mm dia DI Transmission Main Crossing at Bagmati River, Khokana

17. KUKL Management Team, Organizing Committee and Editorial Sub-Committee

KUKL Management Team

Front Row (From Left to Right): Er. Ujjwal Shrestha (Deputy Manager), Er, Ramesh KC (Deputy Manager), Mr.Bijay Timilsina (Acting Deputy CEO), Mr. Dipendra Bahadur Oli (Assistant Manager), Ms. Chapala Dhakal (Asst. Manager), Er. Umesh Babu Marhatta (Deputy Manager), Mr. Bir Bahadur Chand (Asst. Manager), Mr. Gyanendra Bahadur Karki (Deputy CEO), Mr. Yogendra Bahadur Bam (Asst. Manager), Mr. Durga Bahadur Basnet (Assistant Manager),

Back Row (From Left to Right): Er. Purna Bahadur Kuwar (Asst. Manager), Mr. Prakash Kumar Rai (Manager), Ms. Bina Maharjan (Assistant Manager), Mr. Chet Raj Bajgain (Assistant Manager).

Fifteen Anniversary Organizing Committee

Front Row (From Left to Right): Mr. Ramesh Dhungana (Assistant Admin Officer), Ms. Chapala Dhakal (Asst. Manager), Ms. Manju Manandhar (Admin. Officer), Ms. Suruchi Amatya Shrestha (Asst. Account Officer), Mr. Dipendra Babadur Oli (Asst. Manager), Er. Umesh babu Marhatta (Deputy Manager), Mr. Bir Bahadur Chand (Asst. Manager), Mr. Durga Bahadur Basnet (Assistant Manager), Mr. Nandu Kumar Tandukar (Senior Asst. Account), Er. Bikram Shrestha (Computer Officer)

Back Row (From Left to Right): Er. Ramesh KC (Deputy Manager), Er. Purna Bahadur Kuwar (Asst. Manager), Mr. Yogendra Bahadur Bam (Asst. Manager), Mr. Prakash Kumar Rai (Manager), Mr. Rajendra Prasad Gautam (Asst. Account Officer), Er. Ujjwal Shrestha (Deputy Manager), Er. Akrur Nath Sharma (Engineer)

Annual Report Editorial Sub-Committee

From Left to Right: Ms. Manju Manandhar (Admin Officer), Mr. Ramesh Dhungana (Assistant Admin Officer), **Er. Ujjwal Shrestha - Convener of the Sub-Committee (Deputy Manager),** Er. Akrur Nath Sharma (Engineer), Er. Bikram Shrestha (Computer Officer)

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Lalitpur	5421723	5427268
Bhaktapur	6610235	6610979
Thimi	6635987	5639631
Chettrapati	5352326	5351815
Baneshwor	4790134	4790034
Kritipur	4330545	
Tripureshwor	4101246	4101220
Lab	5210019	5210351
Tanker	5210019	5210351
Electromechanical	4331148	
Wastewater	4332805	4332808

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