



KATHMANDU UPATYAKA KHANEPANI LIMITED

Annual Report

Twelfth Anniversary

**Kathmandu
2076 Falgun**

On the occasion of
Twelfth 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.

Water is essence of life, do not waste a drop of it.

A significant amount of money is spent on production and distribution of potable water, please use it sparingly.

Please make regular payments of the water bills to avoid fine and penalties.

Water infrastructure is communal property, let's help to make it sustainable.

Please Contact KUKL for Following Services

1. Water Supply and Sanitation Services.
2. Water Tanker Service
3. Sewer Cleaning Service
4. Water Quality Test Service
5. Water Meter Test Service

मा. बीना मगर
मन्त्री
खानेपानी मन्त्रालय
Hon. Bina Magar
Minister
Ministry of Water Supply

नेपाल सरकार
Government of Nepal

सिंहदरबार, काठमाडौं, नेपाल
Singha Durbar, Kathmandu, Nepal



मिति:
Date:

Date: 9 February, 2020

पसं: ०७६/७७
च.नं:

Message from Hon. Minister of Water Supply

I take my great pleasure to submit the message of felicitation on the occasion of 12th anniversary of Kathmandu Upatyaka Khanepani Limited (KUKL).

The country has set the target of leaving no one behind in terms of access to quality water services which is a fundamental right as mandated by the constitution. Furthermore, our international commitments in achieving Sustainable Development Goals (SDGs) have highlighted our roles in national development and prosperity. I wish KUKL would be able to achieve its mandated responsibility as a service provider inside the Kathmandu Valley more efficiently and people of Kathmandu would be able to enjoy their rights of safe water and sanitation as envisioned in the constitution.

I personally know about the various adversities under which KUKL is operating now such as old water supply and sewer systems, increase in demand and delay in construction of Melamchi Water Supply Project (MWSP). However, as the MWSP is gaining momentum in construction works, I am assured that KUKL's efficiency and the performance indicators of KUKL will increase in leaps post MWSP.

I take this opportunity to wish KUKL all the best in providing quality water supply and sanitation services inside Kathmandu valley.

Hon. Bina Magar
Minister of Water Supply

फोन नं.: ०१-४२९९५६५, फ्याक्स : ०१-४२००५९७



Government of Nepal
MINISTRY OF WATER SUPPLY

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Ref. No.: 2076-077



10th February, 2020

Message from Secretary, Ministry of Water Supply

It is my pleasure to congratulate and wish all the entire team at Kathmandu Upatyaka Khanepani Limited (KUKL) on the occasion of 12th anniversary. In the last 12 years, KUKL has relentlessly worked to make sure the Kathmandu Valley does not succumb to the water stress. I would like to take this opportunity to appreciate their admirable efforts in managing water supply by meticulously zoning and scheduling water distribution despite the supply deficit.

The future looks different for Kathmandu Valley. As Melamchi Sub Projects 1 and 2 approaches completion, with the construction of tunnel, water treatment plants, reservoir, pipelines, and other ancillaries in place, Kathmandu Valley will soon see 170 million liters per day. Upon completion, the entire infrastructures will be handed over to KUKL (the Operator) through Kathmandu Valley Water Supply Management Board (the Asset Owner). KUKL has already shown readiness for the takeover by forming Melamchi Water Distribution Preparation Committee.

We are confident that given the rich experiences of the KUKL, all possible consequences in water supply and sanitation management, will be dealt with diligence. We are also confident that KUKL will be able to provide better water supply and sanitation services in near future with Melamchi water.

Furthermore, we appreciate that KUKL is introducing information and communication technology in finance, human resource, inventory, customer care, etc. We will support in capacity building of KUKL to provide effective and efficient services to customers. We encourage continuing necessary trainings and recruiting necessary human resources.

As a major shareholder of KUKL, we would like to uplift financial status of KUKL so that the company can invest more in operation and maintenance for better quality services. On behalf of Ministry of Water Supply and myself, wish KUKL more successes in providing better services to customers in the valley. We are thankful to Asian Development Bank, Japan International Cooperation and other development partners for their continuous support to KUKL.


Er. Madhav Belbase,
Secretary, Ministry of Water Supply



Government of Nepal
KATHMANDU VALLEY WATER SUPPLY MANAGEMENT BOARD

Sainbu, Bhaisepati, Lalitpur



Message of Best Wishes

It is our immense pleasure to congratulate Kathmandu Upateyaka Khanepani Limited (KUKL) for its 12th anniversary. Established on 13th February, 2008 with 30 years lease license agreement with Kathmandu Valley Water Supply Management Board (KVWSMB), KUKL is working untiringly to ensure equitable water supply to residents of Kathmandu Valley.

The factors like urbanization, rapidly growing population, depleting surface source, and climate change have contributed in escalating difference between demand and supply of potable water in Kathmandu Valley. Assigned with the responsibility of water production, treatment and distribution within the valley, KUKL has the sole responsibility of overcoming the challenges of this disparity.

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.

Upcoming Melamchi Water Supply Project is about to bring new challenges and opportunities at the same time. I hope that KUKL will be able to formulate adequate strategy with necessary legal, technical and HR preparations so that Melamchi water will be distributed equitably to the valley residents.

Finally, I would like to convey my best wishes, for the advancement and prosperity of KUKL on this occasion of twelfth anniversary, with a genuine faith that KUKL will be able to upgrade its service delivery significantly in coming days as anticipated by valley denizens through establishment of a cordial relation with all stakeholders.

Dr. Sanjeev Bickram Rana
Executive Director

Lalitpur Metropolitan City, Ward No.-18, Sainbu, Bhaisepati, Lalitpur
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Message from Chairman of Board of Directors



On the auspicious occasion of twelfth anniversary of Kathmandu Upatyaka Khanepani Limited (KUKL), I would like to deliver sincere appreciation to our precise customers for their support, cooperation and demonstration of solidarity to face the threat occurred during the provision of service and create positive environment to inspire the employees for their unbroken dedication toward customer services. Likewise, the entire employees of KUKL are also unquestionably recipient for gratefulness for hardworking and dedication for promotion of performance of the company in terms of customer service regardless of the limited resources.

The institutional history of urban water and sanitation goes back to the formation of Government owned public water system in 1893 and the series of institutional reform is appeared as present structure in the name of KUKL. KUKL as an autonomous company formed on the PPP model is committed to provide the quality drinking water and sewerage services through the collaboration of two diverse development actors i.e. public and private sectors for the purpose of operation and maintenance of water supply and sanitation system of Kathmandu valley after the completion of Melamchi water supply project. Melamchi water supply project divided into two sub projects is on the verge of completion. Melamchi as hope as well as sustainable source of water supply for Kathmandu valley embedded both challenges and opportunity to KUKL. As a chairperson of KUKL BOD, I want to disclose that KUKL is strengthening it's capacity to convert these challenges into the opportunity in new environment.

The constitution of Nepal ensured as fundamental right to every citizen for access to clean drinking water and sanitation. KUKL is always committed to guarantee the constitutional right of every citizen through the partnership with local, provincial and federal government, donor agencies, Kathmandu Valley water supply management board, private sectors and other stakeholders. KUKL is also planning for extension of it's service area to respond the additional demand of drinking water and sewerage facilities which is extended with the expansion of urbanization.

At last, on behalf of KUKL board of directors and me, I would like to acknowledge the constant support from Government of Nepal, local government, Asian Development Bank, Japan cooperation agency, Katmandu valley water supply Management Board, all stakeholders and KUKL management and employees. Past twelve years of KUKL, as an utility operator, will be benchmark for further management of urban water supply and sanitation of the country. In my conviction this anniversary will provide inspiration to KUKL Board, management and all employees to perpetuate their hard work, high morale and enthusiasm to fulfill the professional as well as social accountability and responsibility through provision of efficient drinking water and waste water management in Kathmandu valley.

Er. Rama Kanta Duwadi
Chairman
KUKL, BOD



Best Wishes from KUKL-PID



First of all, we offer our best wishes to Kathmandu Upatyaka Khanepani Limited (KUKL) on the occasion of its 12th anniversary. We hope that KUKL will be able to achieve progress and prosperity in coming days too by taking goodwill and satisfaction of customers as its most valuable asset and addressing challenges that lie ahead.

It will be relevant to inform through this platform that we at Kathmandu Upatyaka Khanepani Limited, Project Implementation Directorate (KUKL-PID) have been working relentlessly for the construction of infrastructure necessary to supply Melamchi water to households in the Kathmandu Valley once Melamchi water arrives at Sundarjal. So far, we have installed 75 km of the Bulk Distribution (BDS) pipeline out of 77 km. Flushing and testing of 70 km BDS pipeline is now complete. At the same time, we have already installed 1100 km Distribution Network Improvement (DNI) pipeline out of 1132 km, while flushing and testing of 100 km DNI pipeline is also over. We have also completed the construction of nine out of 10 service reservoir tanks (SRTs) with total storage capacity of 74.5 million litres of water per day (MLD).

Summing up, KUKL-PID is in the last stage of constructing and ensuring full functionality of the infrastructure required to supply 170 MLD of water to be obtained from Phase I of the Melamchi Project. It gives us immense pleasure to share that KUKL-PID stands ready to ensure sustainable management of resources required for KUKL.

On the occasion of its 12th anniversary, we wish KUKL an era of unprecedented success.

(Er. Bhoj Bikram Thapa)
Project Director
KUKL-PID



Commitment from Chief Executive Officer



On the occasion of the 12th anniversary of Kathmandu Upatyaka Khanepani Limited (KUKL), first of all I would like to take this opportunity to thank all who have contributed a lot in strengthening our company and being with us as valuable stakeholders. Also I would like to felicitate our employees and customers who have shown cordial understanding on our constraints and consequences occurred due to insufficient water source in Kathmandu valley. I would like to honour them for their continued trust on us.

KUKL as an operator company (registered in the Company Registrar's Office under Company Act, 2063) is operating the water supply and sanitation system in Kathmandu valley since B.S. 2064 Falgun 1 under the 30 years' lease and license from the asset owner, Kathmandu Valley Water Supply Management Board (KVWSMB).

Our shareholders the central Government of Nepal (Ministry of Water Supply), the local Governments (Kathmandu and Lalitpur Metropolitans & other 16 municipalities) of Kathmandu valley and private sector (4 institutions) have increased the issued share capital to Rs. 1 Arab and made provision to issue shares to public and the employees of KUKL.

Our company is subjected to pay lease license fees to KVWSMB, regulation fees to Water Supply Tariff Fixation Commission, income tax to Government, bonus and profits to the shareholders, and bear all operation and maintenance costs. All these are to be recovered by providing water and sanitation services to our customers and collecting revenues from them.

We are hopeful that the present 5 to 10 alternate days' water supply can be made daily supply with availability of Melamchi water in Kathmandu valley.

To provide smart services, we are in water operator partnership and sharing knowledge and experience with Water Services Association of Australia and Dhaka Water Supply & Sewerage Authority of Bangladesh. We are also providing necessary trainings to our employees.

Based on the lessons from the past 12 years, we are committed to perform the following for the improvement of our services:

1. Preparation for distribution of upcoming Melamchi water

- Melamchi Water Distribution Preparation Committee is formed with Coordinator: CEO of KUKL; Members: representative of MoWS, representative of KVWSMB, Deputy Project



- Director of PID, Information Officer of KUKL; and Member Secretary: Operation Department Chief of KUKL
- Collection of GIS, as-built drawing, operation manual, etc of Sundarijal water treatment plant, reservoirs, pipelines, etc constructed by the Melamchi Sub Projects - 1 & 2
 - Management of man, machine, money for maintenance of possible leaks during Melamchi water supply
 - Plan for daily water supply
 - Review of Organizational Structure and expand service area
- 2. Capacity building of employees and branch offices**
- Recruitment in vacant posts and hiring necessary human resources
 - Training and knowledge transfer on infrastructures built by the Melamchi Sub Projects – 1 & 2
- 3. Strengthening of Financial status**
- Collection of revenue arrears
 - Economization of expenses
 - Submission of tariff review proposal
 - Marketing of water quality testing, Meter Testing, tanker and jetting services
- 4. Application of information and communication technology**
- Customer friendly Leak/ No Water Reporting App
 - Online Customer Care/Grievance Reporting System
 - Reservoir Water Level Telemetric Monitoring System
 - Tube Well Pump Remote Switching Feedback System
 - Up gradation of computerized billing, human resource, inventory, etc
- 5. Coordination with Stakeholders**
- Meeting, interaction and sharing of information

On behalf of KUKL, I would like to commit for better services to our customers and good relation with stakeholders. I would like to thank Ministry of Water Supply, Kathmandu Valley Water Supply Management Board, Water Supply Tariff Fixation Commission and Directors of KUKL Board for continuous guidance and support. Also I would like to appreciate cooperation of Asian Development Bank and Japan International Cooperation Agency.

With best regards,

Er. Milan Kumar Shakya
CEO, KUKL



Table of Contents

1. Introduction	1
2. Institutional Transition for providing Water Supply and Sanitation Services in Kathmandu Valley	1
3. Present Shareholders Structure of KUKL	3
4. List of Chairman of Board of Directors till date	3
5. Executive Chiefs in KUKL till date	4
6. Directors of KUKL Board	4
7. Organizational Structure and Human Resource Information	5
7.1 Organizational Structure	
7.2 Human Resource Status	
8. KUKL Service Area	7
9. Water Production and Distribution Status	10
9.1 Water Production and Distribution details (F.Y. 2075/76)	
9.2 Month-wise Average Daily Water Production (Source Based) for F.Y. 2075/76	
9.2 Month-wise Average Daily Water Production (Branch Based) for F.Y. 2075/76	
9.4 Average Daily Production from Bode Treatment Plant	
9.5 Average Daily Production from Bansbari Treatment Plant	
9.6 Distribution of Water by Tankers	
10. Water Transmission and Distribution System	16
11. Maintenance and Pipeline Works	17
12. Consumer Water Connections	19
13. Major Activities of Division/Branch/Section/Unit/Project in F.Y. 2075/76	20
14. Activities of Project Implementation Directorate	31
15. Tariffs	35
16. Major Water Production Infrastructure of KUKL	36
17. Distinguished Honorable Personalities in KUKL	39
18. Additional Photographs	40
19. KUKL Management Team and Organizing Committee	44

1. Introduction

Kathmandu Upatyaka Khanepani Limited (KUKL) is the water utility operator of the Kathmandu valley. It is the company responsible for water and wastewater system operation in Kathmandu valley. It is a public company registered under the Nepal Government's Company Act 2063 and operates under the Public Private Partnership (PPP) modality. According to KUKL's Articles of Association, the company has the objective to undertake and manage the water supply and sanitation system of the Kathmandu valley previously operated by Nepal Water Supply Corporation (NWSC) and to provide a quantitative, qualitative and reliable service to its customers at an affordable price.

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

Looking back into the history, 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 three basic functions of ownership (planning and investment), operation (day-to-day operational activities) and regulation (fixing tariff).

These three key entities established are:

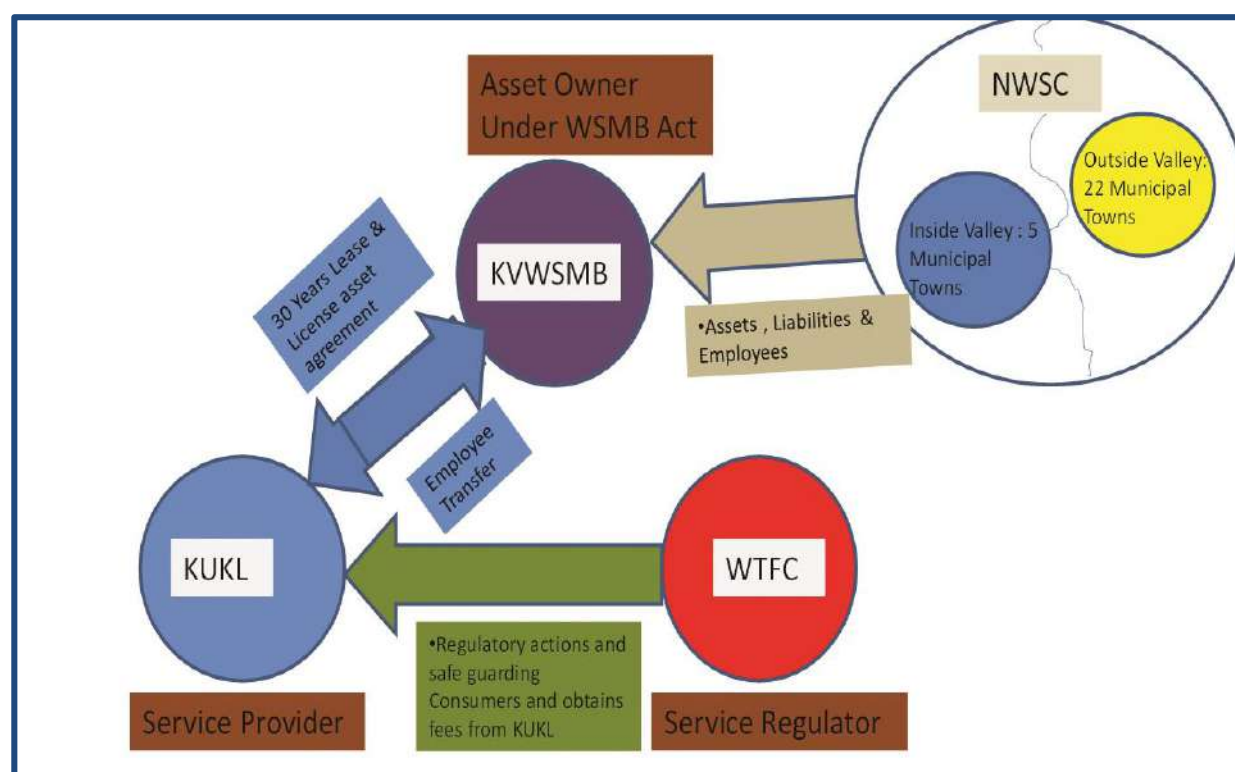
I. Kathmandu Valley Water Supply Management Board (KVWSMB): KVWSMB is the asset owner of water and waste water infrastructure within the Kathmandu valley. It is the organization responsible for developing and overseeing policies regarding water and wastewater system development and operation. KVWSMB 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.

II. Water Supply Tariff Fixation Commission (WSTFC): 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.

III. Kathmandu Upatyaka Khanepani Limited (KUKL): 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.



Institutional Reformation of Water Utility Operator of Kathmandu Valley



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	2074/04/27
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. Suresh Kumar Basnet	Nepal Chamber of Commerce	2063/11/20 to 2073/12/03	2071/3/3
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. Ramakanta Duwadi	Ministry of Water Supply	2076/7/17 to till date	2076/8/4



5. Executive Chiefs of KUKL

NAME	DESIGNATION	APPOINTMENT
Er. Mr. Gyanesh Nanda Bajracharya	Deputy General Manager	2064-11-01
Mr. Richard Austin	General Manager	2064-11-30
Er. Mr. Rudra Prasad Gautam	Managing Director	2065-12-14
Er. Mr. Kiran Prakash Amatya	Acting General Manager	2068-02-27
Mr. Kalyan Singh Thapa	Acting General Manager	2069-06-19
Er. Mr. Chandra Lal Nakarmi	Officiating General Manager	2070-09-23
Er. Mr. Chandra Lal Nakarmi	General Manager	2071-10-27
Er. Mr. Rudra Prasad Gautam	General Manager	2072-05-22
Er. Mr. Indra Man Suwal	Executive Chief	2072-09-05
Dr. Mr. Mahesh Prasad Bhattarai	General Manager/ CEO	2072-10-13
Er. Mr. Milan Kumar Shakya	Chief Executive Officer	2076-6-09 till date

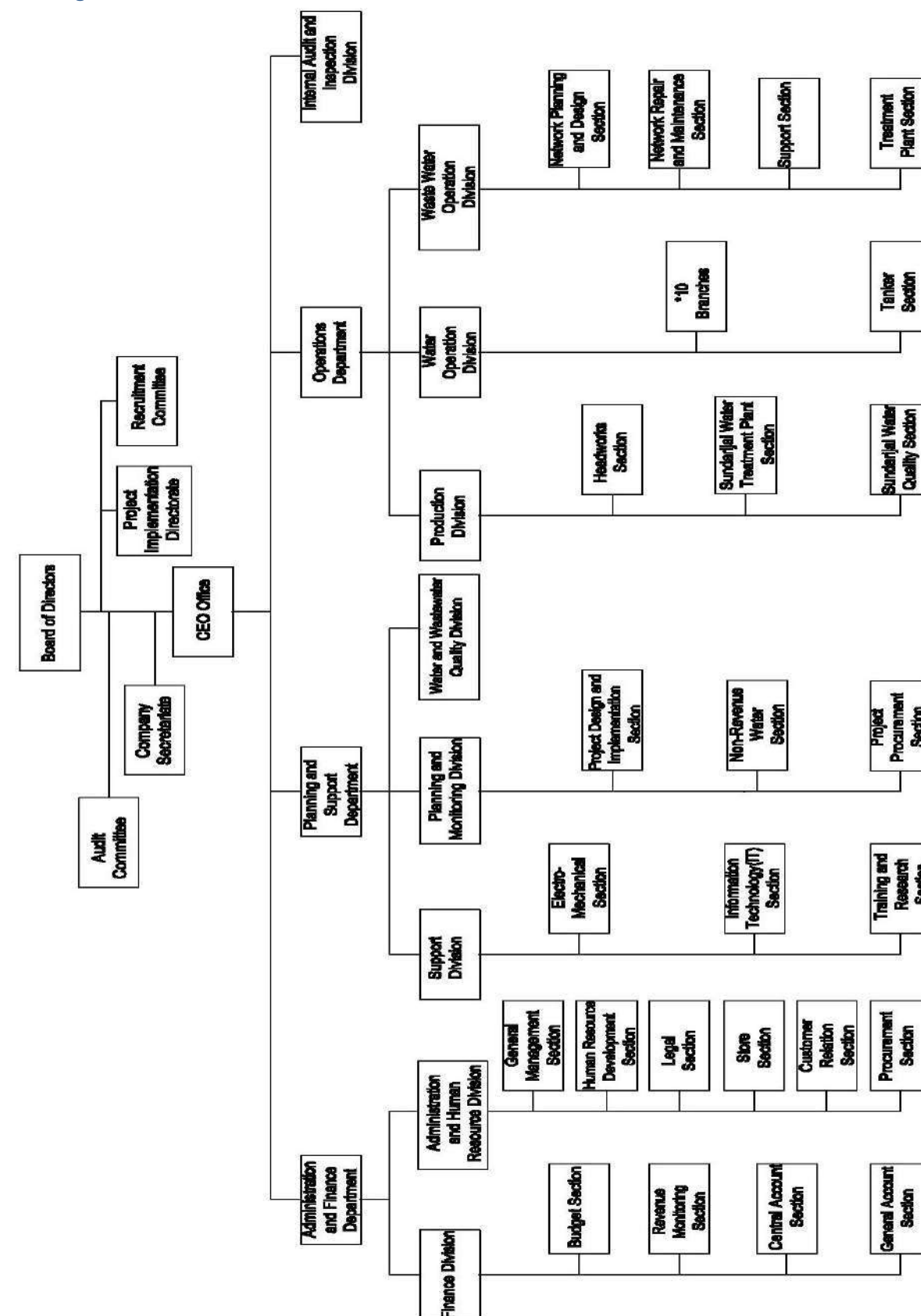
6. Directors of KUKL Board

S.N.	NAME OF DIRECTORS	POSITION	REPRESENTATION FROM
1.	Er. Mr. Ramkanta Duwadi	Chairperson	Ministry of Water Supply, GoN
2.	Mr. Basant Acharya	Member	Kathmandu Metropolitan City
3.	Mr. Prem Prasad Bhattarai	Member	Lalitpur Metropolitan City
4.	Mr. Tolraj Upadhyaya	Member	Ministry of Water Supply, GoN
5.	Mr. Mahesh Kumar Kafle	Member	Kathmandu Metropolitan City
6.	Mr. Rajendra Malla	Member	Nepal Chamber of Commerce
7.	Mr. Maheshwar Bhakta Shrestha	Member	Independent
8.	Mr. Hari Gopal Shrestha	Member	Independent



7. Organizational Structure and Human Resource Information

7.1 Organizational Structure





7.2 Human Resource Status

SN	Level/ Position	Service	Approved Positions	Presently fulfilled (as of Magh 2076)	Mandatory Retirement Status				
					Within Asadh 2077	F/Y 2077/2078	F/Y 2078/2079	F/Y 2079/2080	F/Y 2080/2081
1	CEO		1	1					
2	11 Deputy CEO	Technical	2						
		Non-Technical	1						
3	10 Manager	Technical	7	1					
		Non-Technical	3	2		1			1
4	9 Deputy Manager	Technical	13	7		1	1		
		Non-Technical	6	3		1	1		
5	8 Asst Manager	Technical	15	4					
		Non-Technical	7	5					1
6	7 Officer	Technical	45	33			2		
		Non-Technical	20	14		1		3	1
7	6 Asst. Officer	Technical	29	14		2	4	1	1
		Non-Technical	55	39	3	1	8	4	4
8	5 Senior Assistant	Technical	92	55	4	5	2	1	3
		Non-Technical	117	95		7	8	5	8
9	4 Assistant	Technical	89	63	3	8	3	2	6
		Non-Technical	131	106		1	3	4	4
10	3 Junior Assistant	Technical	207	114		6	7	13	9
		Non-Technical	130	77				2	3
11	2 Helper	Technical	21	13			1		
		Non-Technical							
12	1	Technical	239	91		4	3	6	5
		Non-Technical	154	90	4	9	6	7	6
		Total	1384	827	14	47	49	48	52



8. KUKL Service Area

8.1 KUKL Service Area for Water Supply

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

Branch Office	Present		Previous	
	Municipality	Ward Number	Municipality/ VDC	Ward Number
Baneshwor	Kathmandu	9, 10,32,33,34,35		
Chhetrapati	Kathmandu	15, 17, 18, 19, 24, 25, 26, 27, 28		
Tripureshwor	Kathmandu	11, 12, 13, 14, 20, 21, 22, 23		
	Naagarjun	4, 5, 12, 13, 14	Syuchatar VDC Sitapaila VDC	1-9 1-4
Maharajgunj	Kathmandu	1,2, 3, 16, 29, 30, 31		
	Tokha	3,4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15	Dhapasi VDC	1-9
			Gangabu VDC	1-9
			Tokha (Chandehwori) VDC Tokha Saraswoti VDC	1-9 1-9
Tarkeshwor		2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21	Sangla VDC	4-6
			Kabhresthali VDC	1-9
			Jitpur VDC	1, 4, 6
			Goldhunga VDC	1-9
			Dharmasthali VDC	1-9
			Phutung VDC	1-9
			Manamaiju VDC	1-9



Branch Office	Present		Previous	
	Municipality	Ward Number	Municipality/ VDC	Ward Number
Mahankalchour	Kathmandu	4, 5, 6, 7, 8		
	Gokarneshwor	3, 4, 5, 9, 10, 11, 12, 13, 14, 15, 16,	Sundarijal VDC Nayapati VDC Gokarneshwor VDC Jorpati VDC (1 to 9)	9 1, 2, 4, 5 1 – 9 1 - 9
	Budhanilkantha	2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17,	ChapaliBhadrakali VDC Bishnu VDC KhdakaBhadrakali VDC, Mahakal VDC Kapan VDC Chunikhel VDC	6, 1 – 8 1 – 9 1 – 9 1 – 9 1 - 9
	Kaageshwori - Manahara	8, 9, 10, 11, 12, 13,	Mulpani VDC Gothatar VDC	1 – 9 1 - 9
	Shankharapur	8, 9, 10, 11, 12, 13,	Suntol VDC Pukhulachhi VDC Bajrayogni VDC	1, 2, 6 1 – 9 1 - 9
Lalitpur	Lalitpur Sub-Metropolitan City	1 - 27	Dhapakhel VDC Sunakothi VDC	Ward no. 23- 25 and ward no 26, 27 Of LSMC were previously in Dhapalhel and
	Kaaryabinayak	1,2,3,4,5,6,7,8,9, 10, 11, 12, 13,	Sainbu VDC Khokana VDC Bungmati VD	1 – 9 1 – 9 9
	Mahalaxmi	16,18	Imadol VDC	5, 6
	Goidawari	3,4,7,8,9,10	Chapagaun VDC Thecho VDC Jharuwarshi VDC	All wards



Branch Office	Present		Previous	
	Municipality	Ward Number	Municipality/ VDC	Ward Number
Bhaktapur	Bhaktapur	1 to 17		
	Anantaligeshwor	14	Gundu VDC	5
	Suryabinayk	1,4,5	Katunje VDC	6, 8, 9
	Mahamanjushree- Nagarkot	8	Bageshwori VDC	1,2, 3
	Chaungu Narayan	3,12	Chhaling VDC Duwakot VDC	5, 6 1
Madhyapur Thimi	Madhyapur Thimi	1 - 17		
	Changunarayan	15 , 16	Duwakot VDC	7, 8, 9
Kirtipur	Kirtipur	1 - 19		
	Dakshinkaaii	1,2,3,4,5,6,7,8,9, 10	Chalnakhel VDC Setidevi VDC Shesnarayan VDC Dakshinkaali VDC	1 – 9 1 – 9 1 – 9 1 – 9
	Chandragiri	13, 14,22, 23	Machhegaun VDC Tinthana VDC	1 – 9 1, 2, 5, 6, 7, 8, 9

8.2 KUKL Service Area for Wastewater Services

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

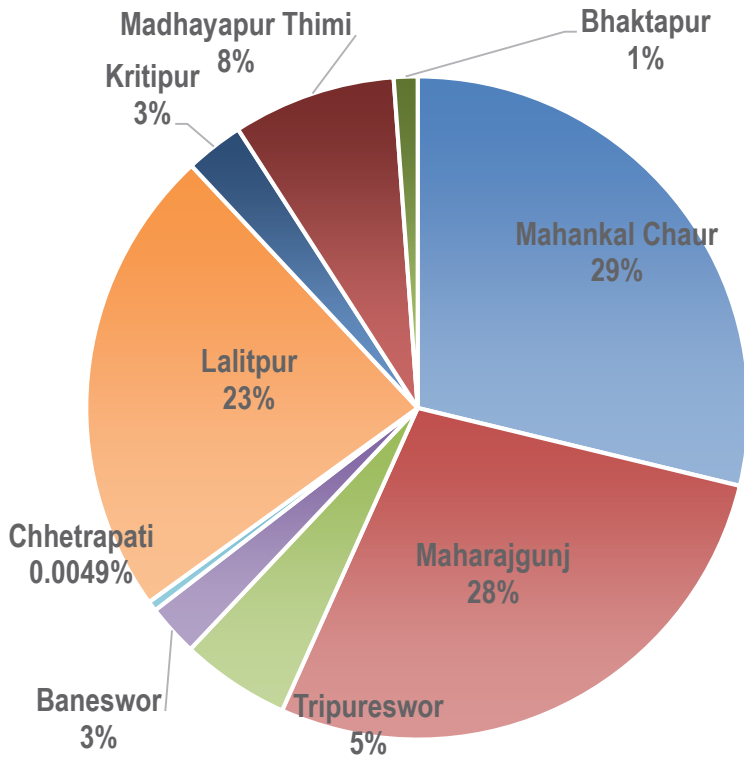


9. Water Production and Distribution Status

9.1 Water Production and Distribution Details (2075/76)

S.N.	DESCRIPTION	QUANTITY (Million Liters Per Day)
1	Demand	430
2	Production	
A	Minimum Production	95
B	Maximum Production	196
C	Average Production	129
3	Supply (considering 20% real losses)	
A	During Month of Minimum Production	76
B	During Month of Maximum Production	157
C	Average Supply	103

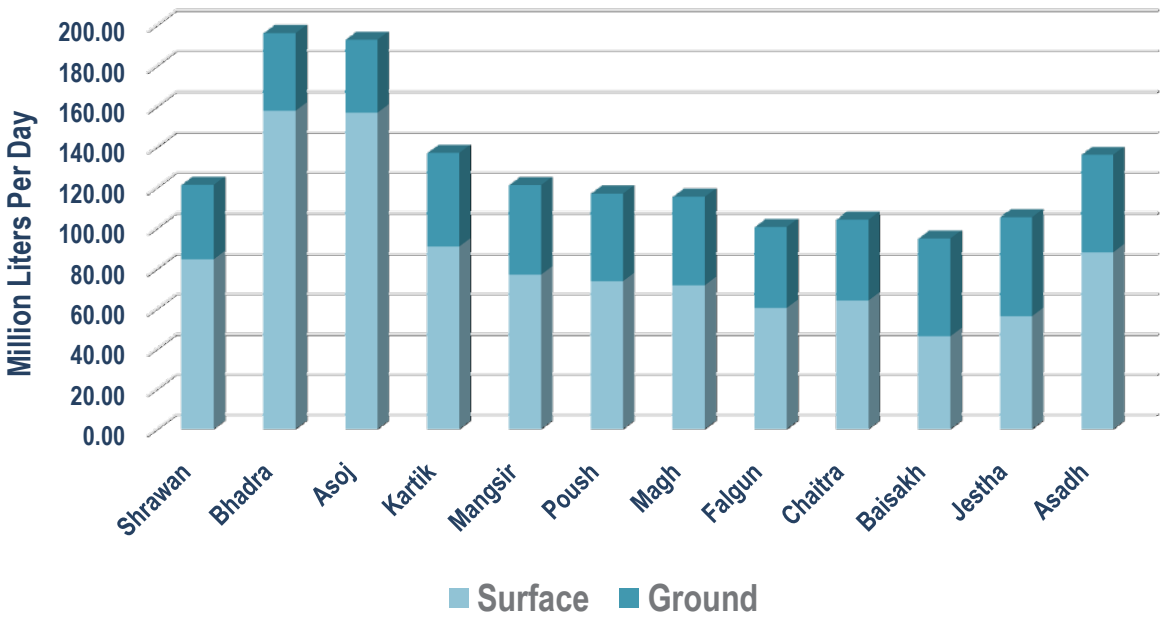
Contribution of Branches In Average Daily Production



9.2 Month-wise Average Daily Water Production (Source Based) for F.Y. 2075/76 (Million Liters per Day)

Months	Surface	Ground	Total
Shrawan	84.39	36.74	121.13
Bhadra	157.63	38.29	195.92
Asoj	156.68	36.01	192.69
Kartik	90.69	46.22	136.90
Mangsir	76.84	44.15	121.00
Poush	73.58	43.21	116.79
Magh	71.60	43.67	115.27
Falgun	60.35	40.02	100.36
Chaitra	64.05	39.92	103.97
Baisakh	46.17	48.52	94.69
Jestha	56.20	48.94	105.14
Asadh	87.82	48.16	135.98
Average Production	85.50	42.82	128.32

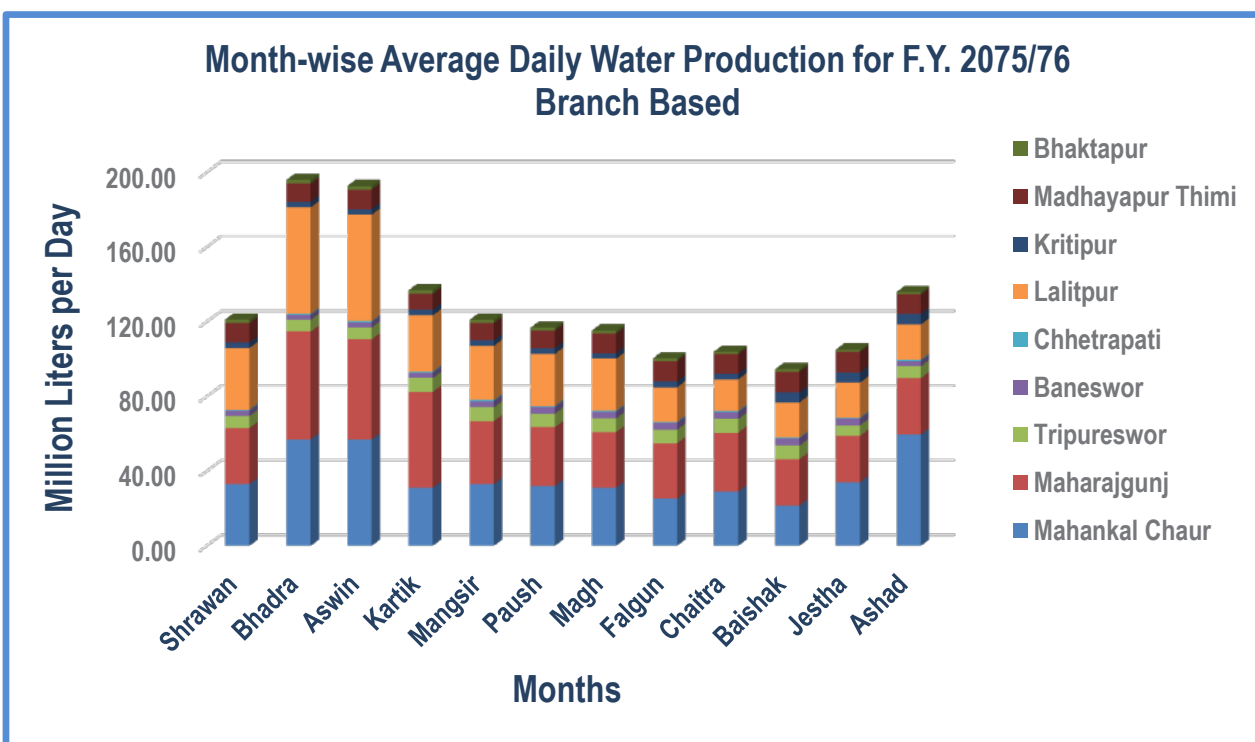
Month-wise Average Daily Water Production F.Y. 2075/76
Source Based





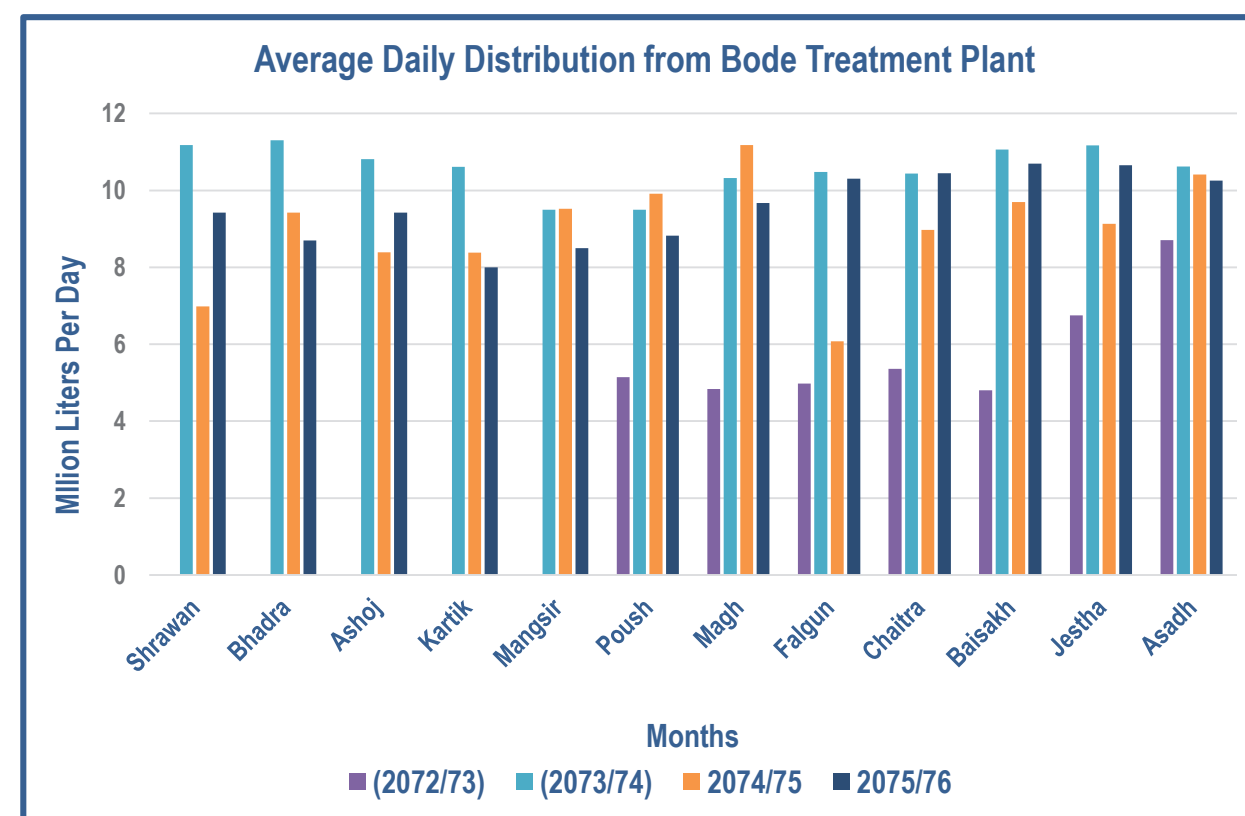
9.3 Month-wise Average Daily Water Production (Branch Based) for F.Y. 2075/76 (Million Liters per Day)

Month	Branch Name									Total
	Mahankal chaur	Maharajgunj	Tripureswor	Baneswor	Chhetrapati	Lalitpur	Kirtipur	Madhayapur Thimi	Bhaktapur	
Shrawan	33.00	30.12	6.39	2.83	0.60	33.00	3.01	10.42	1.76	121.13
Bhadra	57.00	57.72	6.24	2.76	0.58	57.00	3.05	9.69	1.88	195.92
Aswin	57.00	53.55	6.26	2.97	0.60	57.00	3.08	10.42	1.81	192.69
Kartik	31.00	51.61	7.33	2.83	0.64	30.15	2.97	8.66	1.72	136.91
Mangsir	33.00	33.89	7.33	3.20	0.65	29.18	2.90	9.20	1.65	121.00
Paush	32.00	31.54	7.27	3.47	0.64	27.95	3.00	9.52	1.40	116.79
Magh	31.00	29.97	7.27	3.51	0.65	27.87	3.05	10.50	1.45	115.27
Falgun	25.15	29.81	7.27	3.53	0.64	18.63	3.00	11.01	1.31	100.36
Chaitra	28.93	31.73	7.27	3.67	0.65	17.01	2.82	10.73	1.16	103.97
Baishak	21.48	24.99	7.27	3.68	0.64	18.76	5.61	10.95	1.30	94.69
Jestha	33.98	24.98	5.65	3.49	0.66	18.76	5.52	10.90	1.19	105.14
Ashad	59.60	30.25	6.40	2.89	0.58	18.76	5.79	10.50	1.21	135.98
Average Production	36.93	35.85	6.83	3.24	0.63	29.51	3.65	10.21	1.49	128.32



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

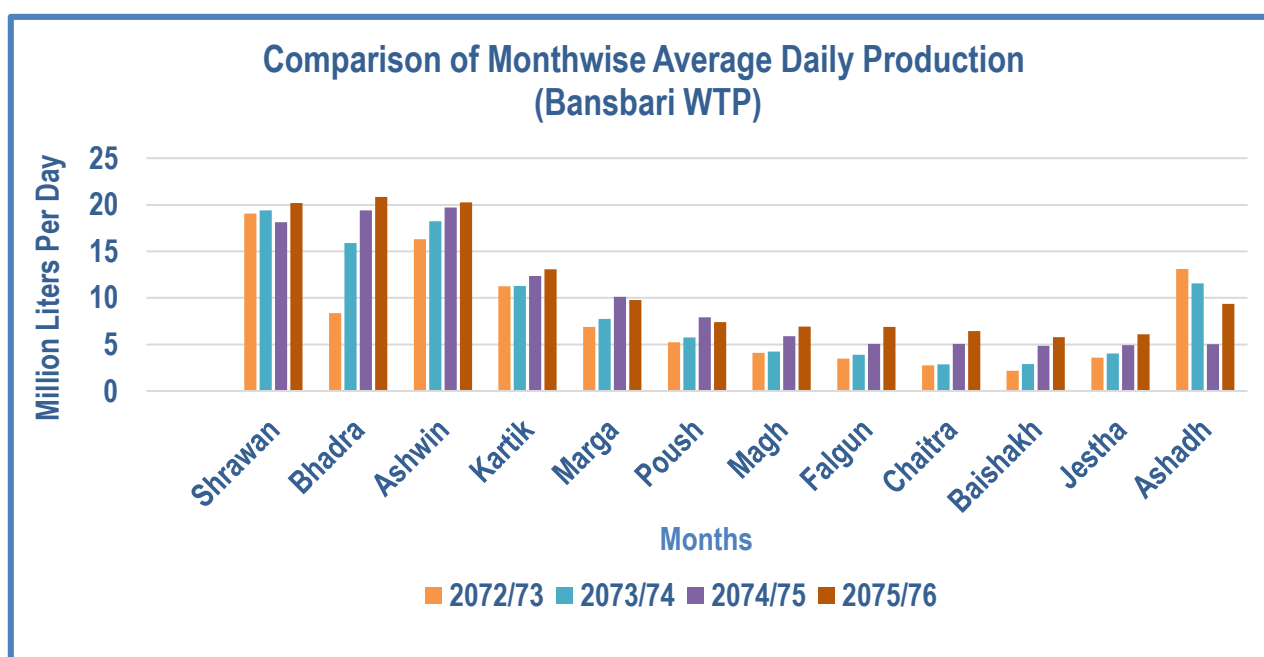
Month/Year	(2072/73)	(2073/74)	(2074/75)	(2075/76)
Shrawan	0	11.18	6.98	9.42
Bhadra	0	11.3	9.42	8.698
Aswin	0	10.81	8.39	9.421
Kartik	0	10.61	8.38	7.995
Mangsir	0	9.5	9.52	8.5
Paush	5.14	9.5	9.91	8.82
Magh	4.84	10.32	11.18	9.672
Falgun	4.98	10.48	6.08	10.308
Chaitra	5.36	10.44	8.97	10.442
Baishak	4.8	11.06	9.70	10.694
Jestha	6.75	11.17	9.13	10.65
Ashad	8.71	10.62	10.41	10.25





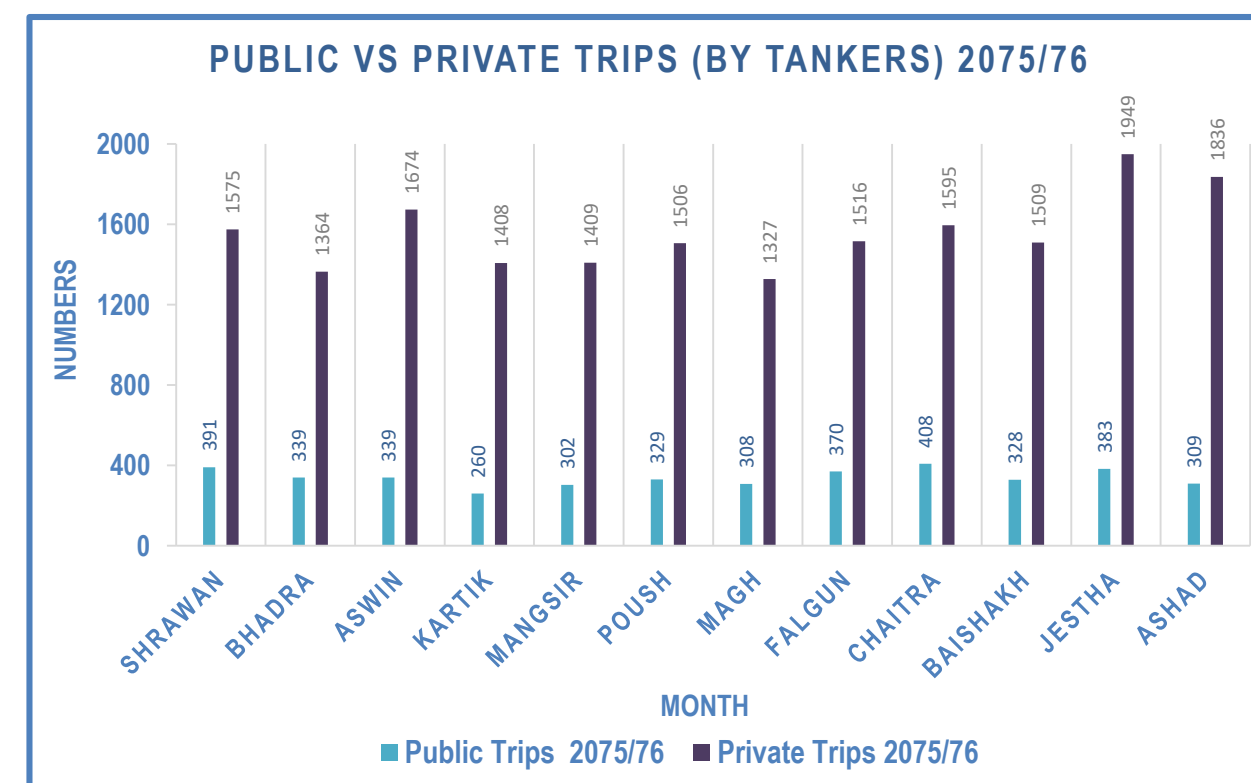
9.5 Average Daily Production from Bansbari Treatment Plant (Million Liters per Day)

Month/ Fiscal Year	2072/73	2073/74	2074/75	2075/76
Shrawan	19.07	19.4	18.13	20.21
Bhadra	8.36	15.89	19.40	20.85
Ashwin	16.32	18.22	19.73	20.25
Kartik	11.24	11.3	12.35	13.07
Marga	6.87	7.73	10.10	9.76
Poush	5.23	5.73	7.91	7.41
Magh	4.08	4.22	5.87	6.92
Falgun	3.48	3.87	5.07	6.87
Chaitra	2.75	2.86	5.05	6.43
Baishakh	2.15	2.9	4.84	5.77
Jestha	3.59	4.03	4.93	6.1
Ashadh	13.11	11.57	5.01	9.36
Daily Average	9.79	9.10	9.81	8.02



9.6 Distribution of Water by Tankers

Month	Public Trips				Private Trips			
	2072/73	2073/74	2074/75	2075/76	2072/73	2073/74	2074/75	2075/76
Shrawan	386	329	399	391	1436	1339	1545	1575
Bhadra	328	271	341	339	1256	1271	1514	1364
Aswin	228	208	272	339	1014	1146	1313	1674
Kartik	285	177	284	260	1103	1198	1326	1408
Marga	238	256	287	302	1301	1370	1162	1409
Poush	297	283	311	329	1175	1273	1298	1506
Magh	333	302	338	308	1332	1393	1401	1327
Falgun	398	386	379	370	1459	1558	1559	1516
Chaitra	509	440	534	408	1550	1745	1790	1595
Baishakh	1085	508	333	328	1390	1729	1691	1509
Jestha	1445	560	386	383	1415	1866	1930	1949
Ashad	972	500	409	309	1499	1625	1793	1836
Total	6504	4220	4273	4066	15930	17513	18322	18668





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	Up to 115	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	Up to 110	38
6	NAKHU	200-300	PVC	Up to 20	14
7	BHAKTAPUR	100-400	CI, DI	Up to 115	10
8	CHAPAGAON	125-200	CI, DI, HDPE	Up to 34	20
9	BODE	100-350	CI, DI, PVC	Up to 45	16
10	OTHERS	50-100	CI, GI, PVC	.	10
	TOTAL				314

B. Water Distribution Main

SN	PROJECT	SIZE (mm)	MATERIAL	AGE (Years)	APPROXIMATE LENGTH (Km.)
1	BASE	50-600	CI, GI, Steel, PVC	Up to 115	300
2	FIRST PROJECT (IDA)	100-400	CI, GI	40	120
3	SECOND PROJECT (IDA)	100-400	CI, GI, DI	35	150
4	TIRD PROJECT (IDA)	100-800	DI, GI	25	150
5	NWSC	75-300	DI, GI	21	345
6	KUKL	25-400	CI, GI	7	184
7	PID	90-1400	DI, UPVC	3	1100
	TOTAL				2349

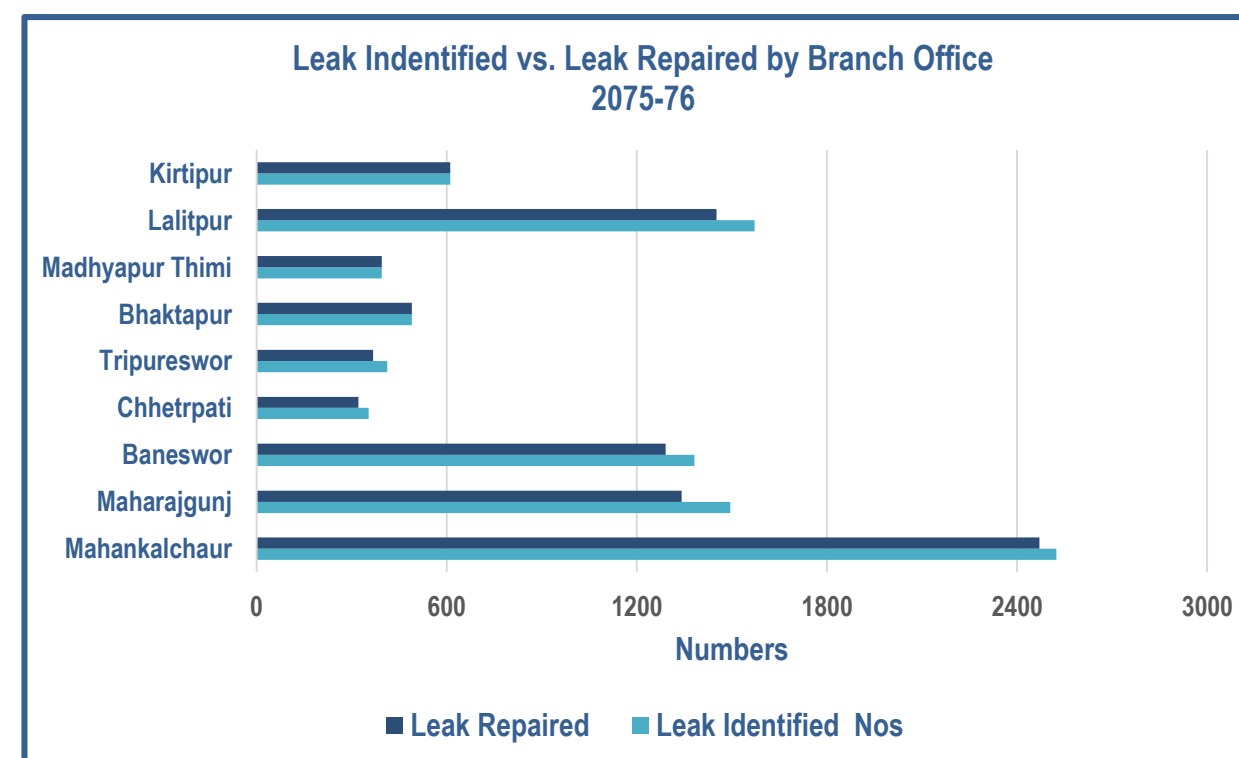
Note: The Pipeline by PID is for distribution of water from Melamchi in near future.



11. Maintenance and Pipeline Works

A. Activities for Service Improvement

S.N.	Branch Name	Installation of Injection Points	Installation of Polythene Tanks	Leak Identified	Leak Repaired	Installation of New Water Meters	Meter Repaired
Nos.							
1	Mahankalchaur	1	-	2524	2471	1507	1125
2	Maharajgunj	2	-	1495	1341	3620	149
3	Baneswor	-	-	1382	1291	548	407
4	Chhetrpati	1	-	354	321	108	75
5	Tripureswor	-	-	412	368	436	173
6	Bhaktapur	-	-	490	490	461	121
7	Madhyapur Thimi	3	-	395	395	872	504
8	Lalitpur	-	2	1572	1452	1285	577
9	Kirtipur	-	-	611	611	486	257
	Total	7	2	9235	8740	9323	3388

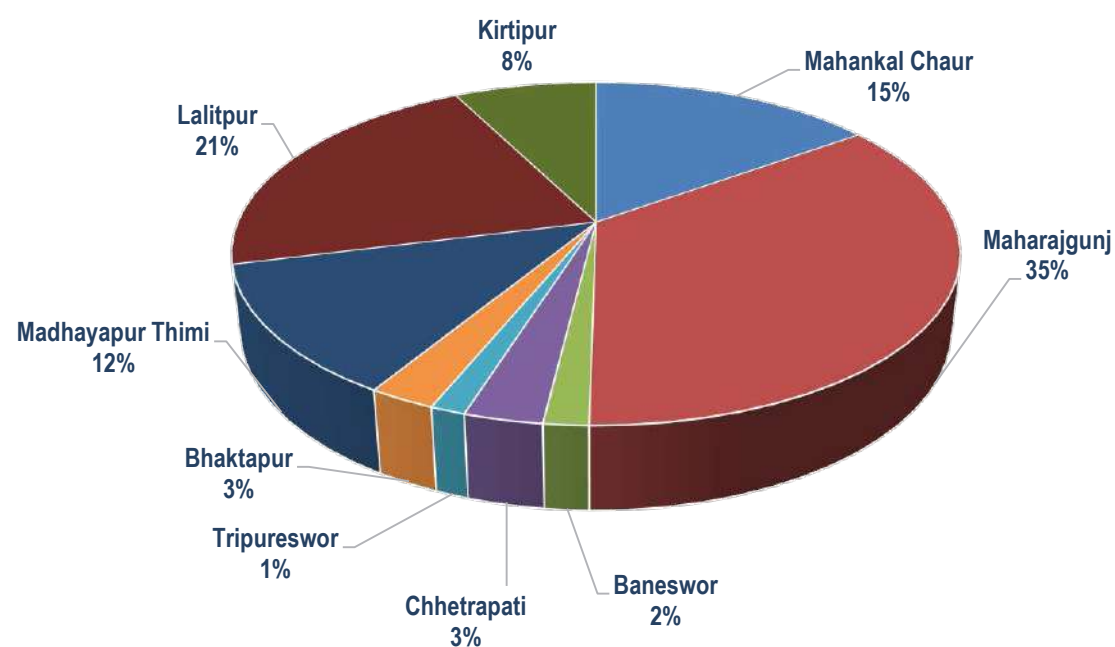




B. Pipeline Installation for Distribution Improvement (F.Y.2075/76)

SN	Branch Name	25 mm	40 mm	50 mm	63 mm	80 mm	90 mm	100 mm	110 mm	150 mm	250 mm	Total (M.)
1	Mahankal Chaur	0	110	1320	0	1890	0	2985	0	1504	0	7809
2	Maharajgunj	0	0	0	3294	0	6910	0	5858	2140	0	18202
3	Baneswor	0	0	0	310	0	130	0	432	0	0	872
4	Chhetrapati	0	0	0	120	0	560	0	850	0	0	1530
5	Tripureswor	0	0	210	0	472	0	0		0	0	682
6	Bhaktapur	0	0	996	0	102	0	0	204	0	0	1302
7	Madhayapur Thimi	0	0	3508	0	1823	0	0	1070	0	0	6401
8	Lalitpur	0	180	138	1760	631	4522	0	2635	0	1197	11063
9	Kirtipur	125	0	0	1345	0	885	0	1670	0	0	3900
	Total	125	290	6172	6829	4918	13007	2985	12719	3644	1197	51761

Pipeline Extension F.Y. 2075/76
(Branchwise Percentage Division)



12. Consumer Water Connections

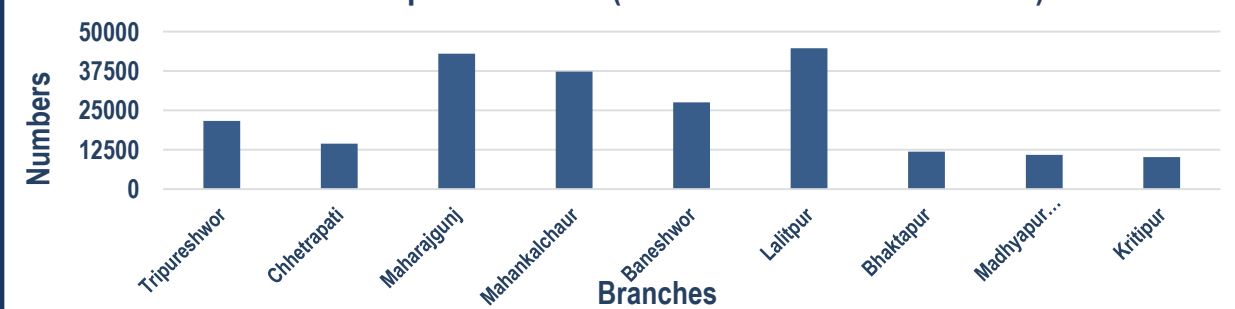
A. Total Connections till end of F.Y. 2075/76

SN.	Branch	Govt. Connection (Metered)	Private Connection (Metered)	Govt. Connection (Non-Metered)	Private Connection (Non-Metered)	Stand Post	Total
1	Tripureswor	192	19647	110	1519	137	21605
2	Chhetrapati	42	12742	9	1452	180	14425
3	Maharajgunj	256	41197	96	1251	193	42993
4	Mahankalchaur	82	36245	46	801	137	37311
5	Baneshwor	140	26607	16	801	32	27596
7	Lalitpur	292	43347	25	799	314	44777
8	Bhaktapur	37	11285	11	325	203	11861
9	Madhyapur Thimi	18	10881	7	0	0	10906
10	Kritipur	0	10063	0	112	0	10175
	Total	1059	212014	320	7060	1196	221649

B. New Connections in F.Y. 2075/76

S.No.	Branch	Govt. Connection (Metered)	Private Connection (Metered)	Govt. Connection (Non-Metered)	Private Connection (Non-Metered)	Stand Post	Total
1	Tripureswor	-	51	-	-	-	51
2	Chhetrapati	-	103	-	1	-	104
3	Maharajgunj	1	1595	-	-	-	1596
4	Mahankalchaur	-	1392	-	-	-	1392
5	Baneshwor	1	172	-	1	-	174
7	Lalitpur	-	1014	-	1	-	1015
8	Bhaktapur	3	480	-	2	-	485
9	Thimi	2	1266	-	-	-	1268
10	Kirtipur	1	500	-	2	-	503
	Total	8	6573	0	7	-	6588

Total Tap Connection (Branch Wise Till Asadh 2076)





13. Major Activities of Division/Branch/Section/Unit/Project in F.Y. 2075/76

13.1 Maharajgunj Branch

A. Construction of Iron Removal Treatment Plant at Residence of Prime Minister

Construction of a water treatment facility of capacity one million liters per day (1 MLD) was carried out at Prime Minister's Residence premises. The major component of the treatment facility is cascade aerator, flocculation tank, sedimentation basin, filtration tank and water storage reservoir.



B. Shifting of Intake at Bishnumati River

The intake structure at Bisnumati River was shifted about 400 m. upstream because of the development of the residence area near the old intake location. The quality and quantity of water has improved significantly after shifting of location of intake structure.



Old Intake Structure



New Intake Structure



C. Improvement of Aesthetic Appearance of Shivapuri Intake , Bansbari Treatment Plant and Tube Well Stations:

The aesthetic appearance of the Shivapuri Intake Structure, Bansbari Treatment Plant and some Tube Well Stations were enhanced by carrying out cleaning and painting works.



Shivapuri Intake



Bansbari WTP

D. Consumer Connection Monitoring work for reducing unaccounted for water

A Consumer Connection Monitoring work for reducing unaccounted for water was carried out in Gongabu and Dhapasi area during F.Y. F.Y. 2075/76. 32 households were found to be engaged in taking water through pipe connected before the water meter and thus were penalized. Total amount of Nepalese Rupees 3,40,105 /- was collected from those consumers as fine.





13.2 Chhetrapati Branch

A. Rehabilitation of Dallu Treatment Plant

Rehabilitation of the Dallu Treatment Plant under Chhetrapati Branch was carried out as the condition of different component of the treatment plant had deteriorated. The treatment plant consists of aeration unit, sedimentation unit, rapid sand filter, and clear water reservoir. It treats the water from the Tubewell which discharge is 5 liters per second and serves about 1000 households around Dallu area. Tiling of the cascade aerator and cleaning and replacement of the filter media of rapid sand filter were the major components of this rehabilitation work.



Cascade Aeration (Before and After)

B. Well Development at Ratnapark & Sitapaila Well Station

The discharge of tubewell at Ratnapark & Sitapaila had decreased over time and current discharge from well was much less than design yield. Water from tube well was highly turbid, due to silt extraction with water, as well. This led to frequent failure of pump and motor. Henceforth well development works to enhance the quantity and quality of water was carried out at both tubewell stations.



Well Development Works at Ratnapark & Sitapaila



13.3 Madhyapur-Thimi Branch

For augmenting the production of water, and distribution around the Loaknathi Area, a tubewell and a semi-underground reservoir of capacity 415 cu.m. was constructed at Lokanthali Treatment Plant premises.



13.4 Bhaktapur Branch

For augmenting the water quantity during the wet season, pipeline of 250 mm diameter from Mahadev Khola intake to the Bansbari Treatment Plant has been initiated and work commenced during F.Y. F.Y. 2075/76 for laying of the the pipeline. Similarly, a deep tubewell and treatment plant of one million liters (1 MLD) capacity has been constructed at Sallaghari to improve the distribution of water. Similarly, cleaning and clearing of mud and debris accumulated in intake structure was also carried out at Mahadev Khola intake.



13.5 Lalitpur Branch

The Major work initiated in F.Y. F.Y. 2075/76 in Lalitpur Branch was the reconstruction of the Nallu, Basuki and Devaki intakes which were heavily damaged by the flash flood. The reconstruction has been completed and the water extraction from the sources has resumed to normal. The photographs below show the situations after the flood and later after the reconstruction.



Basuki -1 Intake



Basuki -2 Intake



Devaki Intake

13.6 Information Technology (IT) Section:

The IT section of KUKL is responsible for managing Information Technology (IT) related activities in KUKL. Various modules of ICT are being implemented by KUKL which is being supervised by the IT section. Some ICT related modules are already completed and are under operation, and some are under planning and procurement process which are shown in tables below.

Table 13.6 A: ICT modules currently being operated/ready to be operated

ICT MODULE	ACHIEVED IMPROVEMENTS
Record Keeping System for Tanker Section	Tedious job of searching Manual ledgers of customer and his pending dues are omitted.
E-recruitment System (Ready for Implementation)	- Attract potential candidates from market through efficient flow of vacancy information. - End of cumbersome form filling process for recruitment candidates. - Easy recruitment processing for HRD.
Operation of File Servers	- File transferring system is current in testing phase. - Employees can transfer or share their electronic files from one branch to another without manual effort.
Network Monitoring Tools	ICT Team can monitor ICT infrastructures and devices used in the branch offices and remotely troubleshoot in case of problems.
Leak Management Android App	- Leak Management Android Application will help the customer to report water leakage in their area. - The mobile application will have a customer complaint section. - Customers can view the status of their complaint about water leakage.
Grievance Handling Software	Query from customer or people related to facilities of water, maintenance, administration services provided by the KUKL is getting problems then they can send e-message through this software.
New Connection Software	If any people want to be the customer of KUKL, He/She can fill the online form through this software.

Table 13.6 B: IT Advancements which is going to be implemented in future

IT ADVANCEMENTS	EXPECTED CHANGE
Handheld Meter Reading Device	Water bills of month is delivered to customers only in the following month. This leads to one-month delay in the collection of revenue. This advancement will bring real time billing system onboard.
Payment Integration	Online payment services, through which the customers can pay their monthly bills using internet payment facilities. This integration of online payment will help collect revenue in timely manner.
Server Colocation	The server colocation will be at high end data center.
Queue Management System	Customers can wait for their turn in waiting areas and proceed to counter when the system calls for their turn to a counter.



13.7 Project Management Unit:

Kathmandu Valley Water Supply Improvement Project - Additional Financing (ADB Loan No: 3255-NEP) is working to improve the efficiency and the reliability of the water supply system in Kathmandu Valley through new development and upgradation of existing infrastructures. The project aims to provide water supply facilities not covered by earlier Loans. Small work packages are being implemented by Project Management Unit at KUKL head office. Following table summarize the PMU packages and the activities under those packages.

SN	PACKAGE	ACTIVITIES
1	Package 1 KUKL/DNI/W/2/21 Lot 1	Rehabilitation of reservoir including repair, cleaning, maintenance work, demolition and dismantling and other small works in Mahankal and Sundarijal Area.
2	Package 1 KUKL/DNI/W/2/21A Lot 3	Rehabilitation of Deep Tube Well including well development, Electromechanical works at various locations of Kathmandu Valley
3	Package 1 KUKL/DNI/W/2/21A Lot 1	Laying of pipeline including reinstatement work, cleaning, maintenance work, demolition and dismantling and other small works in Khokhana to Shaibu and Pharsidol to Bungmati under Lalitpur branch
4	Package 2 KUKL/DNI/W/2/21B Lot 1	Rehabilitation of Treatment plant at Bansbari, Bhaktapur and pipeline work in Madhyapur Thimi.
5	Package 2 KUKL/DNI/W/2/21B Lot 3	Rehabilitation and Construction Works of Various Treatment Unit and Pipeline works under Lalitpur Branch.
6	Package 2 KUKL/DNI/W/2/21B Lot 2	Construction of Reservoir, Rehabilitation of pump houses and development of Tube Wells at various locations in Kathmandu Valley.
7	KUKL/C/02/A	Procurement, Configuration, Customization, Implementation, Support and Services of Consumer Billing and Accounting System
8.	Modernization Package	Rehabilitation of Office Buildings, Furniture and Furnishing and Supply of Computer and Printers
9.	Leakage/ Breakage Maintenance Package	Repair and maintenance if the leakages/ breakages of the pipeline network inside the ring road area



Photographs of Activities of PMU



Sedimentation Tank Rehabilitation at Bansbari Bhaktapur



Flocculator at Bansbari Bhaktapur

Guard Quarter At Bangedhara



Raw Water Reservoir at Sundarijal

Sedimentation/Clarifier at Sundarijal



13.8 Wastewater Operation Division

Waste Water Operation Division Office is located in Sundarighat, Kritipur. This division provides its services to the whole area covered by all water supply branch offices of KUKL. The services that are serving by the division are construction of the new sewer line, repair and maintenance of the existing sewer line and manholes, removal of blockages in the sewer line by using jetting machines as well as manually as required, provide permission to connect the household sewer line to the public sewer line.

Summary of activities performed by Waste Water Operation Division

S.N.	Description of work	Unit	Quantity of Work		
			F/Y 2073/074	F/Y 2074/075	F/Y 2075/076
1	Laying of new sewer pipes lines	Rm	3432.50	4752.50	3417.50
2	Repair & maintenance of sewerage pipes/manholes	No	75	50	65
3	Cleaning of sewer pipes by Jet machine	No	1225	1137	1217
4	Service sewer pipes connection	No	36	26	43



Construction of Sewer Line



Removal of Sludge and Jetting Activity



13.9 Water/Waste Water Quality Assurance Division

A. Analysis and Monitoring of Water Quality

Water/Waste Water Quality Assurance Division of KUKL monitors the quality of water produced and distributed by KUKL by collaborating with water production and distribution branches. Water samples from various sampling points from clear water reservoir, a number of points in distribution conveyance system and consumer connections to ensure that water distributed is potable. There are three laboratories in KUKL for analysis of water and wastewater samples. The three laboratories are located at Mahankalchaur, Bode and Bansbari. Water samples are analyzed regularly in these labs to monitor the water quality. Based on the outcome of the analysis conducted in these labs, water quality reports are uploaded in KUKL website on monthly basis. The physicochemical parameters shown in **Table 13.9 A: List of Parameters Analyzed Regularly** along with total coliform count are analyzed regularly to ensure the water distributed complies the water quality regulations.

Table 13.9 A: List of Parameters Analyzed Regularly

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

B. Other Activities of Division

The central laboratory under the division also assesses the quality of chemicals used in water treatment plants. The water samples brought by general public is also analyzed by the laboratory. The analysis of some parameters of samples of waste water is conducted as well. The division also provides educational platform, for gaining knowledge on water treatment process as well as water analysis methods, for interested individuals and institutions through the visit to water treatment plants and laboratories of KUKL. Interested students whose course of study includes water treatment process and water quality analysis can visit treatment plants and laboratory facilities to observe the actual activities. A token cost of NRs. 200 per individual is charged from institutions whose student visit the WTP and lab. In F.Y. 2075/76, a total number of 1863 students have the WTP and Lab for above mentioned purpose. In addition to this, the division also provide support to students from different institutes for their thesis works and internship regarding the analysis of their samples.



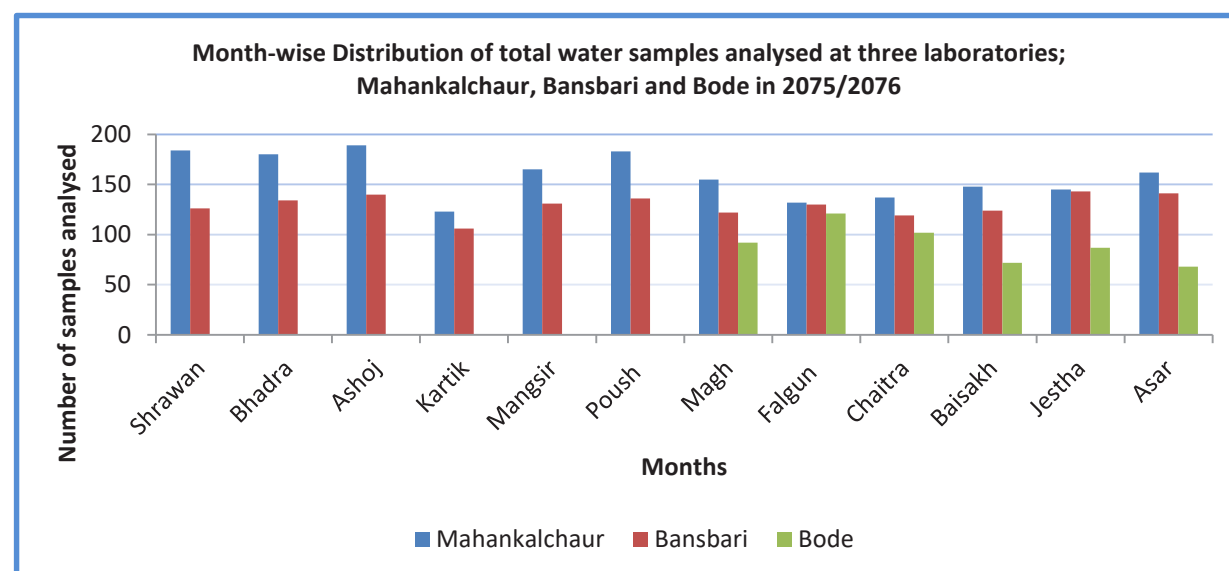
C. Information on Number of Water Samples Analyzed

The total number of water samples analyzed at three laboratories under the division is as shown in **Table 13.9 B**. Similarly, Month-wise Distribution of total water samples analyzed at three laboratories; Mahankalchaur, Bansbari and Bode in 2075/2076 is shown in **Figure 1**.

Table 13.9B: Total Number of Water Samples Analyzed

Duration	Number of Client's Sample Analyzed	Number of Water Samples of KUKL Analyzed		
		Mahankalchaur Lab	Bansbari Lab	Bode Lab
Shrawan-2075/Asar 2076	1511	1903	1552	542
Shrawan-2076/Poush 207	540	889	1044	533

Figure 1: Month-wise Distribution of Water Samples Analyzed in F.Y. F.Y. 2075/76



D. Photographs of Central Laboratory



14. Activities of Project Implementation Directorate (PID):

The Bulk Distribution System (BDS), Distribution Network Improvement (DNI) of the water supply infrastructure as well as works related to wastewater service infrastructure construction works is being implemented by **Project Implementation Directorate (PID) of KUKL**. 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. KUKL is separate water and wastewater operator, for the management of Kathmandu Water as well as ADB financed infrastructure development projects. Project Implementation Directorate (PID) of KUKL is a project office for the management of ADB funded projects.

The crisis in sanitation has increased disease incidence, health risks and associated economic burdens to the residents of Kathmandu Valley due to environmental pollution. Rivers of the Kathmandu Valley are heavily polluted due to unmanaged solid waste and household & industrial wastewater. To improve urban environment in Kathmandu Valley it is necessary to construct and rehabilitate urban wastewater infrastructure. Government of Nepal requested to the Asian Development Bank to finance the wastewater management project of Kathmandu Valley. The BDS and DNI works are in line with ADB's Nepal country partnership strategy. It calls for economically viable, environmentally sustainable, and socially acceptable solutions for the metropolitan Kathmandu sewage management. There are two major components under PID which are explained in detail in following paragraphs

A. Water Supply Infrastructure Component

The objective of this component is mainly towards improvement of water supply, storage and distribution system including improvement of efficiency, service delivery, institutional development and governance in the water sector in Kathmandu Valley.

Formulated on the basis of the PPTA conducted in 2009-2010, this project was designed to complement past and ongoing efforts to develop a reliable, equitable, and sustainable water supply system in Kathmandu Valley.

Accordingly, the project will focus on reducing Non-Revenue Water (NRW) and improving the existing network. To drive efficiencies and introduce best practices, the project is utilizing the district metering areas (DMA) approach for distribution network improvement and NRW reduction. With the completion of Melamchi tunnel, Kathmandu Valley will receive an additional 170 million litres per day (MLD) in first phase, while the current average availability from existing sources is about 120 MLD. For the efficient distribution of this water, distribution network improvement works, bulk distribution system construction along with 10 service reservoir is being constructed by PID.





Major Works Under Water Supply Infrastructure Component

SN	Description	Activities
1	Bulk Distribution System Network (BDS)	Includes construction of total 76 kilometers of D.I. Pipeline aiming to convey water from Sundarijal WTP to 10 Service reservoirs located at different places in Kathmandu Valley.
2	Service Reservoirs	10 Service Reservoirs with total capacity of 74500 cubic meters is being constructed at 9 locations of Kathmandu Valley to facilitate the supply of water to distribution network
3	Distribution Network Improvement (DNI)	About 1132 Kilometers of Distribution network will be constructed based on district metering area (DMA) to facilitate the water distribution and reduce the NRW.
4	Consumer connections	About 110000 consumer connection will be constructed for supplying water to the households.
5	Automation System (SCADA)	Automation System (SCADA) will be installed to remotely control the major valves in service reservoirs and distribution network.

Progress of Water Supply Infrastructure Component Distribution Network Improvement Packages

Package Name/ Number	Contractor	Contract Commencement Date	Contract Completion Date	Progress %	Included Works
DNI Package 1	Hangzhou-Kalika JV	12 Jul, 2013	19 Jul, 2020	83.49	Primary Pipelines from Service Reservoir, Distribution Pipelines and Reticulation Pipelines, and Consumer Connections.
DNI Package 2	Hangzhou-Sharma JV	6 Nov, 2013	19 Jul, 2019	91	
DNI Package 3	Sumec-Lama JV	9 Apr, 2013	26 Jun, 2020	84.40	
DNI Package 4	GIETC-Sharma-Raman JV	10 Jul, 2017	19 Jan, 2020	67	



Bulk Distribution System Construction Packages

Package Name/ Number	Contractor	Contract Commencement Date	Contract Completion Date	Progress %	Included Works
BDS Package 1	JITF	11 Mar, 2014	31 Dec, 2019	94.9	Service Reservoirs and Bulk Water Conveyance pipelines from Sundarijal WTP to the Service Reservoirs
BDS Package 2	JWIL-SCPL JV	06 Aug, 2014	31 Dec, 2019	97.79	
BDS Package 3	Tianjin-Raman JV	05 Jun, 2014	31 Dec, 2019	96.27	
BDS Package 4	Hangzhou-Ashish JV	23 Dec, 2015	31 Oct, 2019	72.05	

B. Wastewater Infrastructure Component

The major objective of this component is to improve the wastewater management capacity of Kathmandu Valley, to maximize the efficiency and effectiveness of existing wastewater sector infrastructure and service provision, through restoration, establishment and extension of wastewater services in KUKL service areas, to strengthen sewerage infrastructure to abolish ingress of foul water into water supply line and help to eradicate pollution of drinking water and to improve water quality in urban rivers and tributaries and their ecosystem.

The major expected outcome of this component will be the improved access to efficient and reliable delivery of wastewater services to the residents of Kathmandu Valley, including poor women and men. This component focuses on investment in infrastructure that maximizes the efficiency, effectiveness and utility of infrastructure and services planned under the on-going ADB loans and will prioritize the underserved areas and the poor sections of population in Kathmandu Valley. This component will also support and further consolidate the continuing efforts of the government and ADB in institutional development and improvement of governance in the wastewater sector.

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 45 kilometers aiming to intercept the wastewater disposal into the river/stream
3	Sewer Network Rehabilitation and Construction	Rehabilitation and construction of sewer networks in Kathmandu Valley is being implemented under this part
4	Decentralized Wastewater Treatment Plants (DEWATS)	Presently two DEWAT system are proposed to be constructed at Gokarna of Kathmandu and Hanumanghat of Bhaktapur



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 August 2016	EOT-03: Recommended for 15 May 2020	98.9	Rehabilitation and Expansion of Guheshwori WWTP (32.4 MLD)
WWTP Package 2	Safbon Water Service (Holding)	07 May 2019	EoT-01: recommended up to 31 Dec 2020	19.5	Construction of Wastewater Treatment Plants at Sallaghari (14.2 MLD), Kodku (17.5 MLD) and Dhobighat (37 MLD)
WWTP Package 3	CGCOC-ATAL JV	25 March 2018	EoT-01: recommended up to 23 May 2020	11.81	Construction of Wastewater Treatment Plants at Dhobighat (37 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	EOT-03: Recommended until 12 April 2020/ 25 December 2020	42.5	Construction of Interceptor sewer (25.331 Km)
Interceptor Package 1	ZIEC-Sharma-BKOI JV	2 November 2016	EOT-03: Recommended until 30 May 2020/10 December 2020	42	Construction of Interceptor sewers (11.363 Km)
Interceptor Package 1	Lama-Raman-Golden Good JV	15 December 2017	EoT -01: 7 Dec 2019	97 substantially completed	Construction of Interceptor sewer (7.679 Km)



Guheshwori Treatment Plant (Aeration Tank)



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
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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

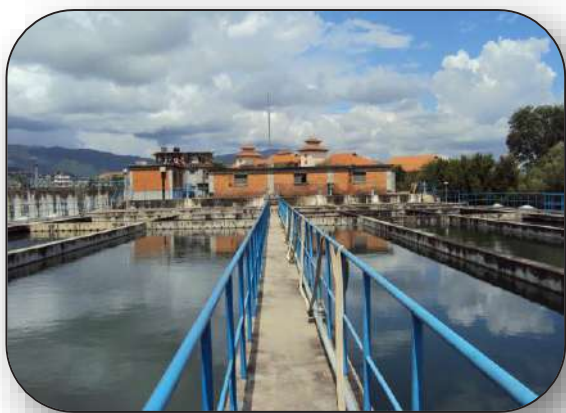
Payment at Delivery Place	Extra Charge of 10%
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15.3 Laboratory Test Rates

S.N.	Analysis Type	Rate (NRs.)
1	Chemical Analysis	495.00
2	Bacteriological Analysis	300.00
3	Arsenic Test	300.00

16. Major Water Production Infrastructure

Mahankalchour Water Treatment Plant	
Construction Year : Treatment Components:	1992 AD Bio Filter/ Chemical Dosing Unit/ Coagulation-Flocculation Unit/ Sedimentation Basin, Rapid Sand Filter, Disinfection Unit
Treatment Capacity: Water Source:	26 MLD Bagmati River, Tubewell in Dhobi Khola, Gokarna and Manohara Well Fields
Reservoir Capacity: Funded by:	3 Reservoirs with total 9500 cubic meters JICA
Branch:	Mahankalchour Branch
	
Sedimentation Basins	Rapid Sand Filters



Bansbari Water Treatment Plant	
Construction Year : Treatment Components:	2004 AD Bio Filter/ Chemical Dosing Unit/ Coagulation-Flocculation Unit/ Sedimentation Basin, Rapid Sand Filter, Disinfection Unit
Treatment Capacity: Water Source:	15 MLD Bishnumati River, Shivapuri surface water source and Bansbari tube wells
Reservoir Capacity:	2 Reservoirs with total 3000 cubic meters
	
Rapid Sand Filters	Coagulation/Flocculation Unit

Sundarijal Water Treatment Plant		
Construction Year : Treatment Capacity:	1966 AD 21 MLD	
		
Filtration Unit	Flocculation Unit	Primary Sedimentation Unit

Bode Water Treatment Plant	
Construction Year : Treatment Components:	2004 AD Chemical Dosing Unit/ Coagulation-Flocculation Unit/ Sedimentation Basin, Rapid Sand Filter, Disinfection Unit/ Sludge Drying Beds
Treatment Capacity: Water Source: Reservoir Capacity:	20 MLD Manohara Dug Well and Bode Tube Wells 1 Reservoir of 1000 cubic meters
	
Coagulation Unit / Sedimentation Basins	Rapid Sand Filters

Other Treatment Plants	
	
Sipradi WTP at Kalanki	Sedimentation Tank At Sundarighat WTP

17. Distinguished Honorable Personalities in KUKL



Honorable Prime Minister KP Sharma Oli Addressing the Foundation Laying Ceremony of the Wastewater Treatment Plant at Balkumari on January 3, 2019



Observation Visit of Honorable Water Supply Minister to the Guheswori Wastewater Treatment Plant



18. Additional Photographs



Appointment of New CEO by
KUKL Board of Directors



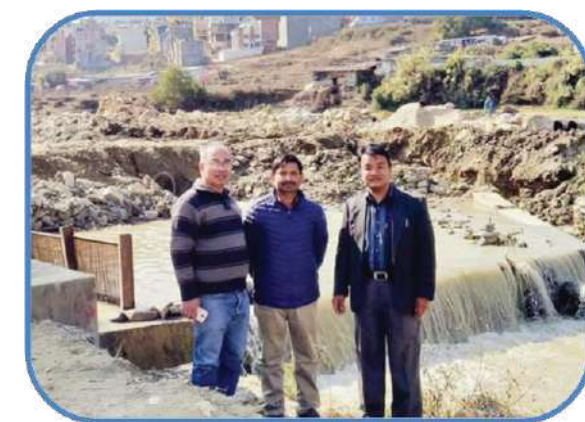
Welcome of New CEO



Executive Management Committee, KUKL



Joint Secretary, MOWS and CEO, KUKL
attending ADB Seminar



Nakhu Intake Site Visit



Futsal Tournament on the Occasion of
Twelfth Anniversary



Meter Testing Bench at
Electromechanical Section



Leak Repair Works by PMU



Deep Tubewell Drilling Work



Water Treatment Plant at Singhadurbar



Visit to Public Service Commission



Seventh Annual General Meeting of KUKL



Participants of Office Management Training Organized by KVWSMB



Wastewater Treatment Plant Construction Works - PID



Cascade Aeration- Sukedhara WTP



Devdhoka System- Kirtipur



Asset Management Tasks Team under Water Utility Operators Partnership Program



19. KUKL Management Team and Organizing Committee



KUKL Management Team

From Left to Right - *Er. Satish Kumar Datta (Acting Manager)*, *Mr. Durga Basnet (Assistant Manager)*, *Mr. Sundar Babu Aryal (Acting Manager)*, *Mr. Muman Singh Karki (Acting Deputy CEO)*, *Er. Ujjwal Shrestha (Assistant Manager)*, *Er. Milan Kumar Shakya (Chief Executive Officer)*, *Mr. Laxman Basnet (Deputy Manager)*, *Mr. Chetraj Bajgain (Assistant Manager)*, *Mr. Prakash Kumar Rai (Deputy Manager)*, *Mr. Yogendra Bahadur Bam (Assistant Manager)*, *Er. Purna Bahadur Kunwar (Assistant Manager)* and *Mr. Dipendra Bahadur Oli (Assistant Manager)*
Other Members of KUKL Management Team (Main Office) not in Photograph: *Mr. Gyanendra Bahadur Karki (Acting Deputy CEO)*, *Mr. Bijay Timilsina (Manager)*, *Er. Narendra Kumar Shrestha (Deputy Manager)*



Twelfth Anniversary Organizing Committee

From Left to Right — *Mr. Jeevan Shrestha (Asst. Administrative Officer)*, *Er. Ujjwal Shrestha (Assistant Manager)*, *Mr. Laxman Basnet (Deputy Manager)*, *Mr. Om Dhakal (Senior Administrative Assistant)*, *Mr. Dipendra Bahadur Oli (Assistant Manager)*, *Er. Purna Bahadur Kunwar (Assistant Manager)*, *Mr. Prakash Kumar Rai (Deputy Manager) - Convener of the Committee*, *Mr. Ramesh Nepal (Administrative Officer)*, *Mr. Chetraj Bajgain (Assistant Manager)*, *Mr. Durga Basnet (Assistant Manager)*, *Mr. Rajendra Prasad Gautam (Asst. Account Officer)*, *Mr. Poshan Rajaure (Asst. Administrative Officer)* and *Mrs. Manju Manandhar (Administrative Officer)*
Other Members of Organizing Committee not in Photograph: *Mr. Chirag Man Singh Kunwar (Assistant Administrative Officer)*, *Mr. Prem Tripathi (Meter Reader)*

Annual Report Editorial Sub-Committee: *Er. Ujjwal Shrestha (Assistant Manager)- Convener of the Sub-Committee*, *Mr. Durga Basnet (Assistant Manager)*, *Er. Purna Bahadur Kunwar (Assistant Manager)*, *Mrs. Manju Manandhar (Administrative Officer)*, *Ms. Shalini Jha (Engineer)*

Contact Numbers of Division/Branch/Section

Office	Telephone Numbers	
Wastewater Operation Division	4332808	
Water and Wastewater Quality Assurance Division	5210534	5210538
Baneswor Branch	4107195	
Bhaktapur Branch	6610979	6610235
Chhetrapati Branch	4252326	4251815
Kirtipur Branch	4332855	4330545
Lalitpur Branch	5527268	5521723
Madhyapur Thimi Branch	6636918	
Mahankalchaur Branch	5210357	5210335
Maharajgunj Branch	4422368	4418793
Tripureshwor Branch	4101246	4101006
Central Store	4331773	
Electro-Mechanical Section	4331148	4332115
Tanker Section	5210019	5210351

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