KATHMANDU UPATYAKA KHANEPANI LIMITED

Annual Report

Thirteenth Anniversary

Kathmandu

2077 Falgun

On the occasion of

Thirteenth 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, lets 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. मणिचन्द्र थापा
मन्त्री
खानेपानी मन्त्रालय
Hon. Mani Chandra Thapa
Minister
Ministry of Water Supply

नेपाल सरकार
Government of Nepal

स्वकीय सचिवालय
Personal Secretariat

मिति:.....
Date:.....

प.सं:
च.नं:

Message from Hon. Minister of Water Supply

It is my immense pleasure to congratulate Kathmandu Upathyaka Khanepani Limited (KUKL) on its successful completion of 13th years of rendering services in Kathmandu valley.

Access to clean and safe drinking water and sanitation is one of the fundamental rights of every Nepalese citizen. As mandated by our constitution, providing quality drinking water and sanitation to every citizen in every corner of our country has always been our topmost priority. We are also trying our best to play key role in overall national development and achieving fundamental rights of safe and clean drinking water by committing to sustainable development and protection of environment while achieving goal of national prosperity through water and wastewater services.

In comparison to past, the improvement in the water and wastewater services in Kathmandu valley can be easily perceived now. Obviously, this would not have been possible without the tireless efforts from KUKL. Kathmandu being one of the oldest and thriving cities, keeping the pace to meet the growing demand of the city with our limited resources and depleting water sources has always been a challenge. I, personally and on behalf of the Ministry, would like to thank KUKL for its continuous efforts to address drinking water and sanitation related problems within Kathmandu valley. Managing with our archaic network in itself is a huge challenge. Further, I also take this opportunity to thank KUKL team for adapting and responding promptly in the initial days of COVID-19 pandemic. The KUKL's response and effort for minimizing the spread of transmission and remain performing during these challenging days of global pandemic is praiseworthy.

With the completion of Melamchi Water Supply Project, Kathmandu valley will receive 170 MLD of drinking water which will definitely meet the growing water demand and address the wastewater problems. I am confident that KUKL will play efficient role and undertake maximum efforts in the days ahead for the smooth operation of Melamchi water supply, making our Kathmandu valley more clean, healthy and vibrant.

I wish KUKL all the very best in its future days.

Hon. Mani Chandra Thapa

Minister of Water Supply

मा. मणिचन्द्र थापा
मन्त्री

फोन नं.: ०१-४२११५६५, फ्याक्स : ०१-४२००५९७

Government of Nepal
MINISTRY OF WATER SUPPLY

Phone : 4211693
Fax : 977-1-4211433
Singhadurbar,
Kathmandu, Nepal

Ref. No.:-

Government of Nepal
Ministry of Water Supply
Singhadurbar, Kathmandu

Message from Secretary, Ministry of Water Supply

It is my great pleasure to extend my warmest congratulations to the entire team of Kathmandu Upatyaka Khanepani Limited (KUKL) on this auspicious occasion of 13th anniversary. In these thirteen years, KUKL has shown great dedication to ameliorate the chronic water stress in Kathmandu Valley. KUKL's diligent efforts of stewarding the available sources to respond the growing demand of water and waste water services in the Valley is laudable.

With the overall completion of infrastructure development under Melamchi Subprojects 1 and 2, Kathmandu Valley is on the verge of receiving 170 MLD of drinking water which will definitely contribute alleviating the water scarcity of the valley. KUKL has shown appreciable enthusiasm and readiness in preparation for the operation of the system constructed under Melamchi Water Supply Project. With the handover of the entire infrastructure to KUKL through the Kathmandu Valley Water Supply Management Board, KUKl will soon be operating Melamchi water in Kathmandu Valley. Being the water company working relentlessly over these 13 years within Katmandu valley, we are very much confident that with all its rich experience, KUKL will efficiently tackle all the possible complications that might originate while distributing Melamchi water. Also I believe, with Melamchi Water, KUKL can serve to meet the demand of drinking water and waste water management in the valley more efficiently in coming days. I would also like to take this opportunity to deeply appreciate KUKL's prompt response to the bedlam in initial days due to COVID-19 pandemic. Correspondingly, KUKL's contribution in helping to minimize the transmission of COVID-19 through enabling self-meter-reading system and introducing portable wash basin, is commendable.

Being one of the major associates of KUKL, we appreciate KUKL contributions for making the valley more livable and its efforts for continually improving customer services through introduction of information and communication technology in finance, human resources, inventory, customer care etc. I also would like to provide assurance that we will support KUKL as before in coming days by helping build its capacity and financial status to achieve its goal of becoming one of the leading water company in the world. We are very thankful to Asian Development Bank, Japan International Corporation Association and other development partners for their continuous support to KUKL.

On behalf of Ministry of Water Supply and myself, I would like to wish KUKL for more successes in coming days.

Er. Madhav Belbase

Secretary, Ministry of Water Supply

Madhav Belbase
Secretary

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 13th 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.

Nearabout completion of Melamchi Water Supply Project will bring big paradigm shift in water availability scenarios of Kathmandu Valley. Within couple of months, KUKL will shift from no water situation to enough water. I hope, KUKL will be able to reinforce its technical capacity and focus on system operation with systematic integration of the existing and new Melamchi system.

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.

Date : 2077/11/1

Dr. Sanjeev Bickram Rana
Executive Director

Message from Chairman of Board of Directors

I am very glad to say here that KUKL has been able to successfully complete 13 years of it's service in serving the population of Kathmandu Valley. Supplying water and managing wastewater services in Kathmandu valley has for the past few years become a very challenging task due to factors like rapidly increasing population, fast urbanization and increase in water demand due to changes in living standards of the Valley residents. Shortage of reliable sources of inside the Valley and the weak infrastructure inherited since a long past by KUKL has made it doubly difficult for us to serve the customers. I also take this opportunity to express my gratitude to our customers, who despite the serious shortages in service, have so far put their trust on us and provided us their continuous support.

KUKL is an autonomous company, which was formed in 2007 is a unique utility under a Public-Private Partnership concept. The company was formed with shareholding by the national government, the five municipalities existing inside the Valley at it's time of formation and FNCCI and NCC as organized private sector entities.

KUKL is now is expecting a change in this situation with the signs of long awaited Melamchi water diversion about to be realized soon. This is expected to add 170 MLD of water daily to the system, which will more than double KUKL's current supply capacity. As the newly appointed chairperson, I am confident of KUKL's capacity to professionally and efficiently manage this additional water and wish to call upon all KUKL staff to embrace this new challenge to equitably deliver water received from Melamchi to consumer taps, as soon as possible. KUKL board will work with the Ministry of Water Supply, Kathmandu Valley Water Supply Management Board, Melamchi Water Supply Project and Project Implementation Directorate to generate necessary downstream infrastructure to effectively manage the supply at the earliest and build KUKL's own capacity to do so.

This year KUKL was further pressured by the global COVID 19 pandemic, with increasing

expectations for maintaining good supply and the water quality. KUKL has attempted it's best to live up to this added challenge within it's capacity and resources, and it has successfully maintained the supply of the essential water and wastewater services in the time of pandemic to it's customers.

On this 13th anniversary, I would like to thank government of Nepal (GON), Asian Development Bank (ADB), Japan International Corporation Agency (JICA), Kathmandu valley water supply and management board (KVWSMB) for their unwavering support and trust on KUKL. Also, I would like to assure our shareholders and customers towards our commitment for our continuous efforts and investment to increase KUKL's technical capacity, human resources availability and skills and financing for controlling of leakages, modernization of the infrastructure, maintaining water quality standards, improving wastewater systems infrastructure. I take this opportunity to express our commitments to better services in water and wastewater services to our customers in Kathmandu valley in the coming days by our consistent efforts towards improvement of infrastructure, providing additional human capacity and skills, appropriate business strategies, improved maintenance, augmented financing and consumer-oriented service. I request the support from all our staff as well as our esteemed clients and customers towards achieving this objective.

Thank you

Er. Tiresh Prasad Khatri
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 13th 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 Sundarijal. So far, we have installed 76.58 km of the Bulk Distribution (BDS) pipeline out of 77.58 km. Flushing and testing of 70 km BDS pipeline is now complete. At the same time, we have already installed 1095 km Distribution Network Improvement (DNI) pipeline out of 1132 km, while flushing and testing of 200 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.

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 13th anniversary, we wish KUKL an era of unprecedented success.

Er. Kamal Raj Shrestha
Project Director
KUKL-PID

Commitment from Chief Executive Officer

On the occasion of the 13th anniversary of Kathmandu Upatyaka Khanepani Limited (KUKL), I would like to congratulate our employees and honor our customers.

As the available water is not sufficient to fulfill the growing demand in Kathmandu valley, we are supplying water in schedule of certain days' gap. During pandemic COVID-19, we had provided water supply and sewer services without any interruption despite some of our staffs were infected. Our staffs were blessed to recover and supported with COVID insurance.

Our expenses include lease license fees to the asset owner Kathmandu Valley Water Supply Management Board, regulation fees to Water Supply Tariff Fixation Commission and income tax to Government, operation and maintenance of all pipelines, reservoirs, treatment plants, etc. We supply tanker to water dry areas tanker without any charge. All those expenses are to be recovered with revenues from our customers.

When Melamchi water will be available in Kathmandu valley, it will be supplied into the existing pipelines and new pipelines also will be tested. A committee led by CEO of KUKL with members of MoWS, Melamchi Project, KVWSMB, PID, KUKL and various sub committees have identified the possible risk/problems and solutions for ensuring supply to each consumer connection. Recently, we have organized seminar on "KUKL's preparation to supply Melamchi water" in presence of the stakeholders and experts. For effective service delivery, we are focusing mainly on the following:

- Daily water supply, prompt water leakage and sewer blockage maintenance
- Review on KUKL organization structure, employee regulation and hiring required staffs
- Training and knowledge transfer of Melamchi project to staffs
- Upgradation of computerized services
- Monitoring of service delivery
- Coordination with MoWS, KVWSMB, Melamchi Project, PID and other stakeholders

On behalf of KUKL, I would like to express our commitment for better services to customers and thank Ministry of Water Supply, Water Supply Tariff Fixation Commission, Kathmandu Valley Water Supply Management Board, Shareholders and Directors of KUKL Board, Asian Development Bank, Japan International Cooperation Agency, customers and other good wishers for their remarkable supports.

With best regards,

Er. Milan Kumar Shakya

CEO, KUKL

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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 waste water related service in Kathmandu valley. After the formation of government owned public water system in 1893, series of institutional reform has led the formation of KUKL.

KUKL's root goes back to February 2008, when KUKL officially started to render drinking water and waste water 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 a productive manner, enhancing the welfare of our employees. KUKL is also responsible for 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.

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.

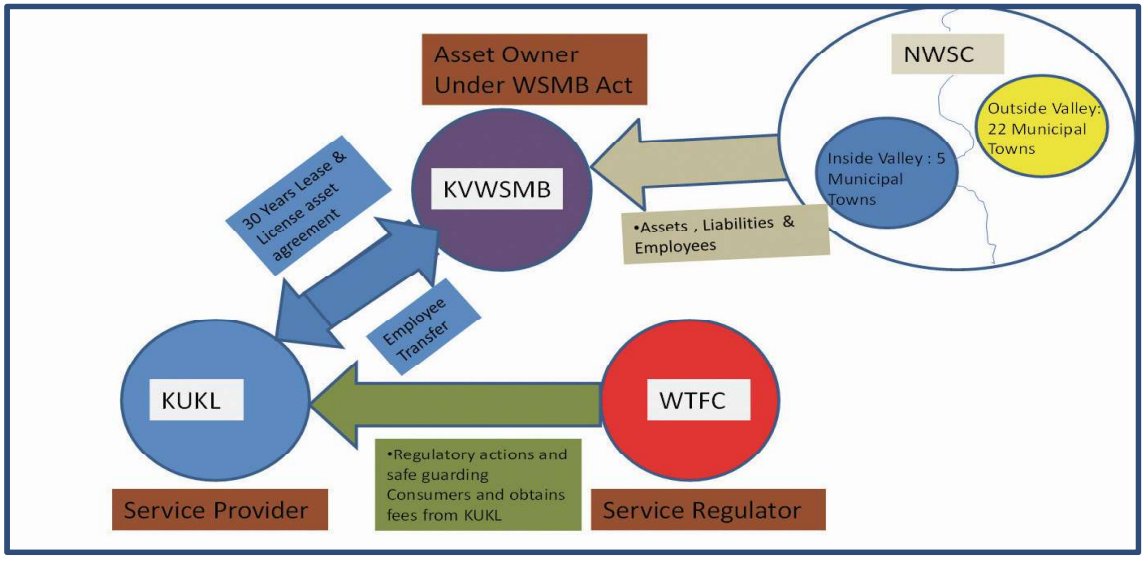
A change in institutional setup of water supply and management agency of Kathmandu valley was envisaged and was proposed through Ninth and tenth Five-year plan (1997) of then GoN which suggested a policy of involvement of local governments and private sectors for water supply and wastewater system management. 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. KUKL's Values

4. 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**

5. 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. Suresh Kumar Basnet	Nepal Chamber of Commerce	2063/11/20 to 2073/12/03	2074/4/27
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

6. Executive Chiefs of KUKL

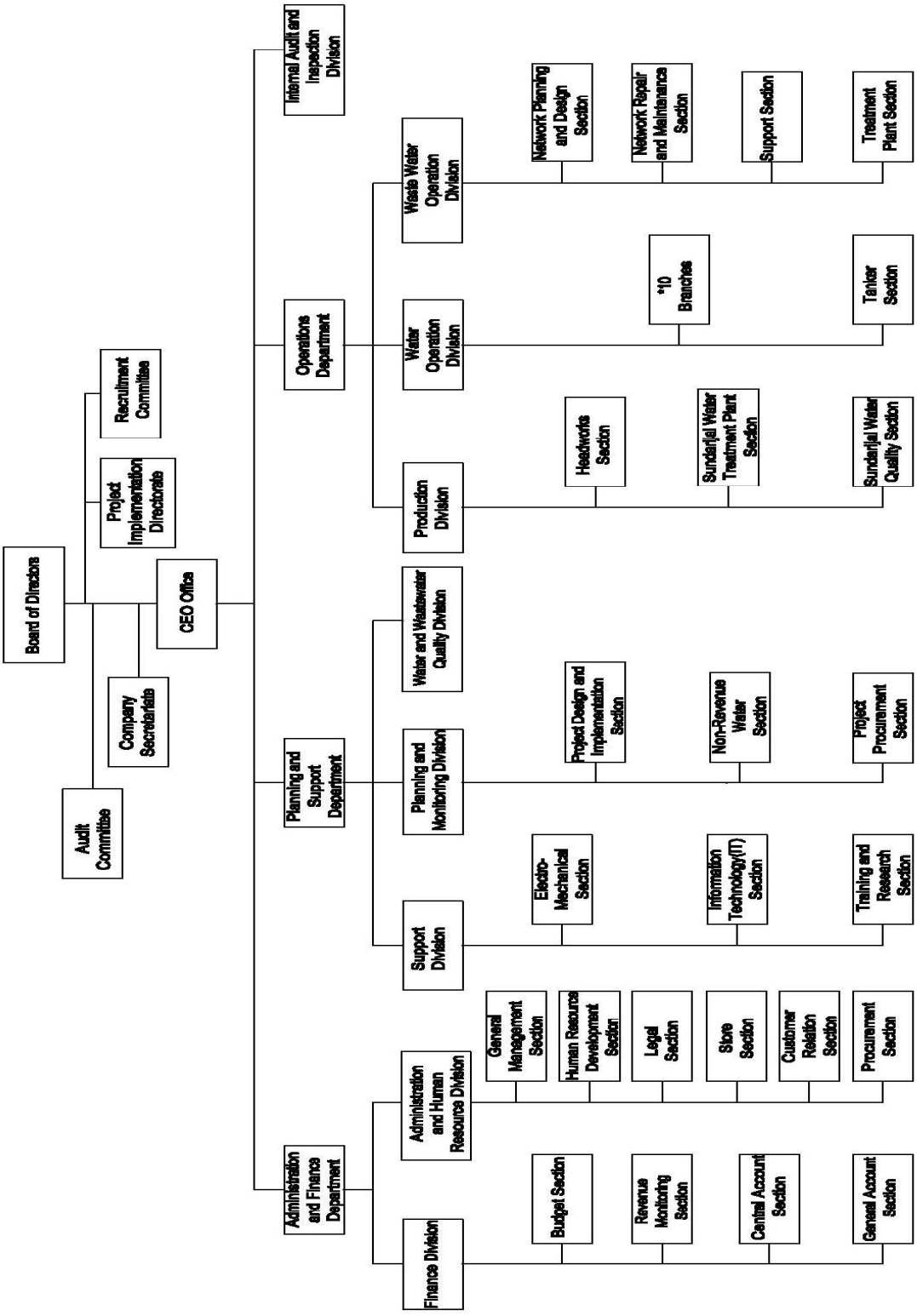
NAME	DESIGNATION	APPOINTMENT
Er. Mr. Gyanesh Nanda Bajracharya	Deputy General Manager	2064-11-01
Mr. Richard Austin	General Manager	2064-11-30
Er. Mr. Rudra Prasad Gautam	Managing Director	2065-12-14
Er. Mr. Kiran Prakash Amatya	Acting General Manager	2068-02-27
Mr. Kalyan Singh Thapa	Acting General 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	2076-06-09
Er. Mr. Milan Kumar Shakya	Chief Executive Officer	2077-05-08 till date

7. Directors of KUKL Board

S.N.	NAME OF DIRECTORS	POSITION	REPRESENTATIONFROM
1.	**Er. Mr. Tiresh Prasad Khatri**	Chairman	Ministry of Water Supply, GoN
2.	**Mr. Basant Acharya**	Member	Kathmandu Metropolitan City
3	**Mr. Bishnu Prasad Koirala**	Member	Lalitpur Metropolitan City
4.	**Mr. Guna Raj Shrestha**	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. Purushotam Sapkota**	Member	Mahalaxmi Municipality

8. Organizational Structure and Human Resource Information

8.1 Organizational Structure



8.2 Human Resource Status

SN	Level/ Position	Service	Approved Positions	Presently fulfilled (as of Paush 2077)	Mandatory Retirement Status				
					Within Asadh 2078	F/Y 2078/2079	F/Y 2079/2080	F/Y 2080/2081	F/Y 2081/2082
1	CEO		1	1					
2	11 Deputy CEO	Technical	2						
		Non-Technical	1						
3	10 Manager	Technical	7	2		1			
		Non-Technical	3	1				1	
4	9 Deputy Manager	Technical	13	6					
		Non-Technical	6	2		1			
5	8 Asst. Manager	Technical	15	5					
		Non-Technical	7	7				1	
6	7 Officer	Technical	45	29		2			
		Non-Technical	20	14		1	2	1	1
7	6 Asst. Officer	Technical	29	17		4	1	1	2
		Non-Technical	55	39		7	4	5	3
8	5 Senior Assistant	Technical	92	55	2	2	1	4	3
		Non-Technical	117	96	3	8	6	7	13
9	4 Assistant	Technical	89	53	3	3	2	5	2
		Non-Technical	131	159		3	6	6	10
10	3 Junior Assistant	Technical	207	98	3	7	11	9	9
		Non-Technical	130	1				1	
11	2 Helper	Technical	21	4		1			
		Non-Technical							
12	1	Technical	239	87	2	3	6	5	5
		Non-Technical	154	78	4	5	5	5	5
		Total	**1384**	**754**	**17**	**48**	**44**	**51**	**53**

9. KUKL Service Area

9.1 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	9,10,29,30,31,32	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	9, 10	Syuchatar VDC Sitapaila VDC	1 - 9 1 – 4
Maharajgunj	Kathmandu	1,2, 3, 16, 26, 27, 28	Kathmandu	1,2, 3, 16, 29, 30, 31
	Tokha	1 -15	Dhapasi VDC Gangabu VDC Tokha (Chandehwori)VDC Tokha Saraswoti VDC	1 - 9 1 - 9 1 - 9 1 - 9
	Tarkeshwor	1 -21	Sangla VDC Kabhresthali VDC Jitpur VDC Goldhunga VDC Dharmasthali VDC Phutung VDC Manamaiju VDC	4 – 6 1 – 9 1, 4, 6 1 – 9 1 – 9 1 – 9 1 – 9

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

Branch Office	Present		Previous	
	Municipality	Ward Number	Municipality/ VDC	Ward Number
Bhaktapur	Bhaktapur	1-17		
	Anantaligeshwor	14	Gundu VDC	5
	Suryabinayk	1,4,5	Katunje VDC	6,8,9
	Mahamanjushree-Nagarkot	8	Bageshwori VDC	1,2,3
	ChaunguNarayan	3,12	Chhaling VDC Duwakot VDC	5, 6 1
Madhyapur Thimi	MadhyapurThimi	1-17		
	Changunarayan	1	Duwakot VDC	7, 8, 9
Kirtipur	Kirtipur	1 -10	Kirtipur	1 to 19
	Dakshinkaaii	1 - 9	Chalnakhel VDC Setidevi VDC Shesnarayan VDC Dakshinkaali VDC	1 – 9 1 – 9 1 – 9 1 – 9

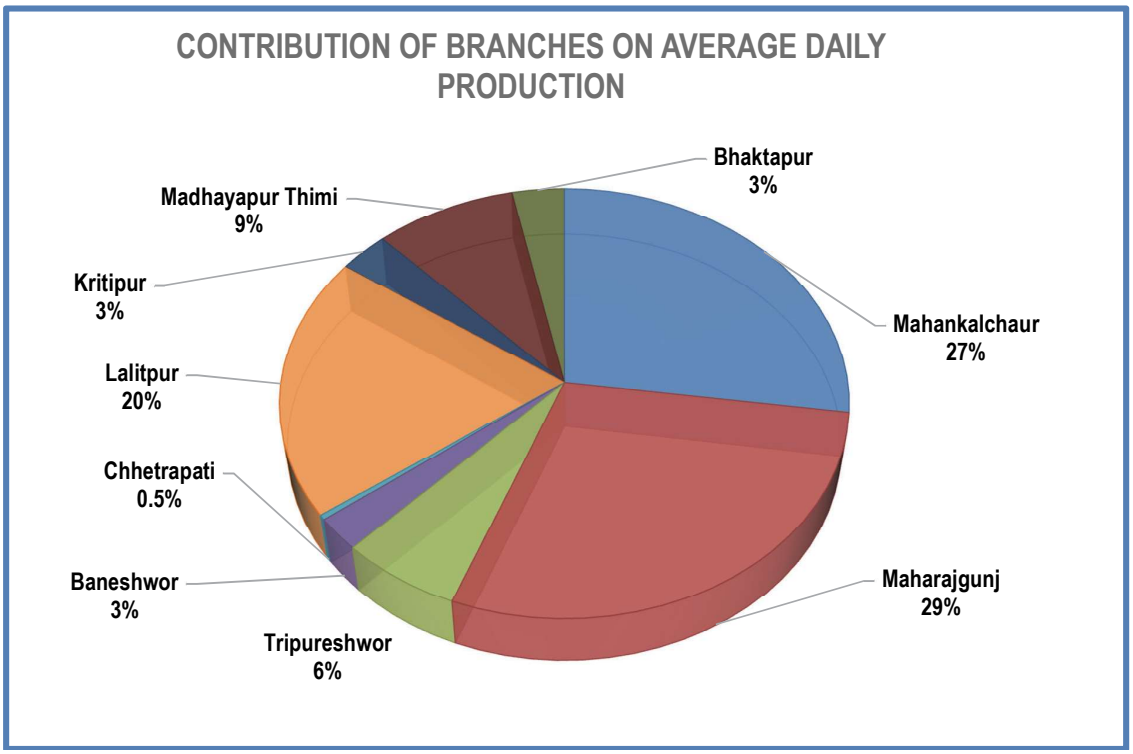
9.2 KUKL Service Area for Wastewater Services

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

10. Water Production and Distribution Status

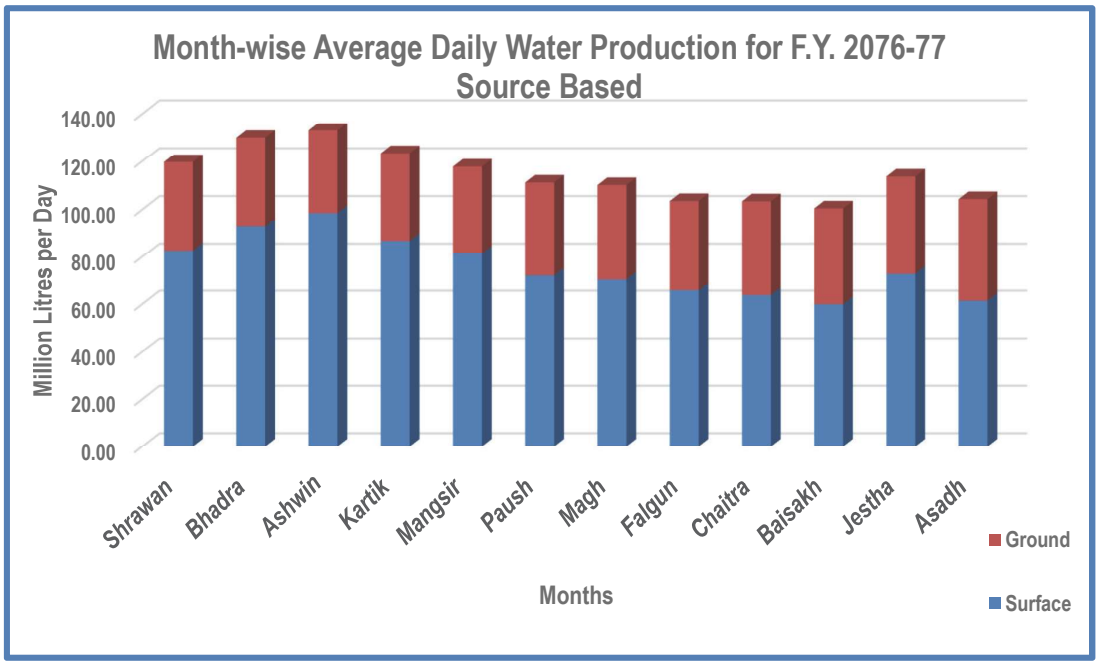
10.1 Water Production and Distribution Details (2076/77)

S.N.	DESCRIPTION	QUANTITY (Million Liters Per Day)
1.	**Demand**	470.0
2.	**Production**	
A.	Minimum Production	100.0
B.	Maximum Production	133.0
C.	Average Production	114.0
3.	**Supply (considering 20% real losses)**	
A.	During month of Minimum Production	80.0
B.	During month of Maximum Production	106.0
C.	Average Supply	91.0



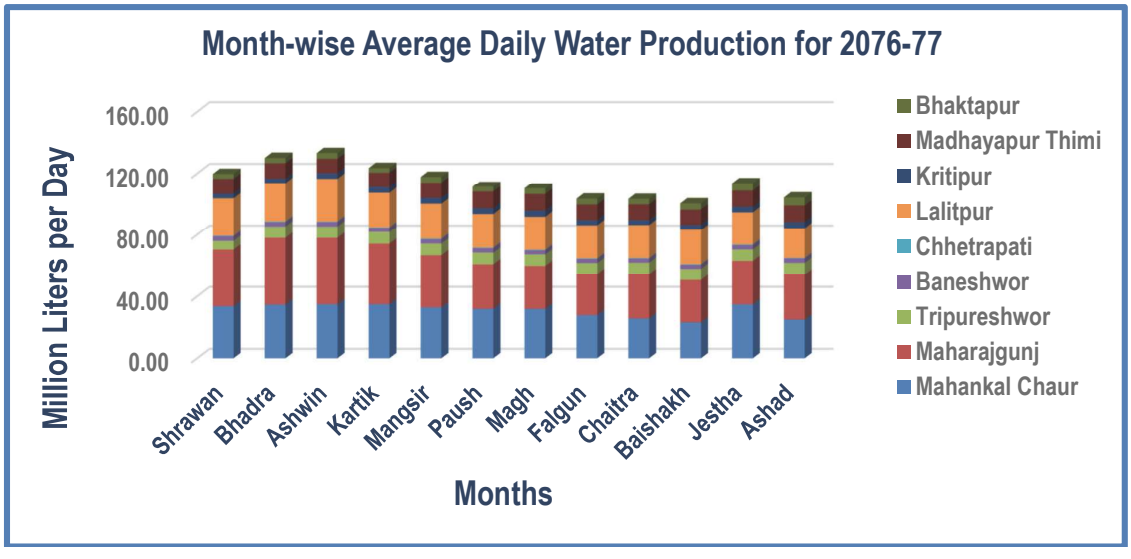
10.2 Month-wise Average Daily Water Production (Source Based) for F.Y. 2076/77 (Million Liters per Day)

Months	Surface	Ground	Total
Shrawan	82.59	37.07	**119.66**
Bhadra	92.62	37.24	**129.85**
Ashwin	98.45	34.51	**132.96**
Kartik	86.60	36.79	**123.39**
Mangsir	81.27	36.47	**117.73**
Paush	72.22	38.99	**111.21**
Magh	70.57	39.59	**110.16**
Falgun	65.62	37.83	**103.45**
Chaitra	63.69	39.66	**103.34**
Baisakh	59.89	40.55	**100.44**
Jestha	72.93	40.74	**113.67**
Asadh	61.39	42.83	**104.23**
Average Production	**75.65**	**38.52**	**114.17**



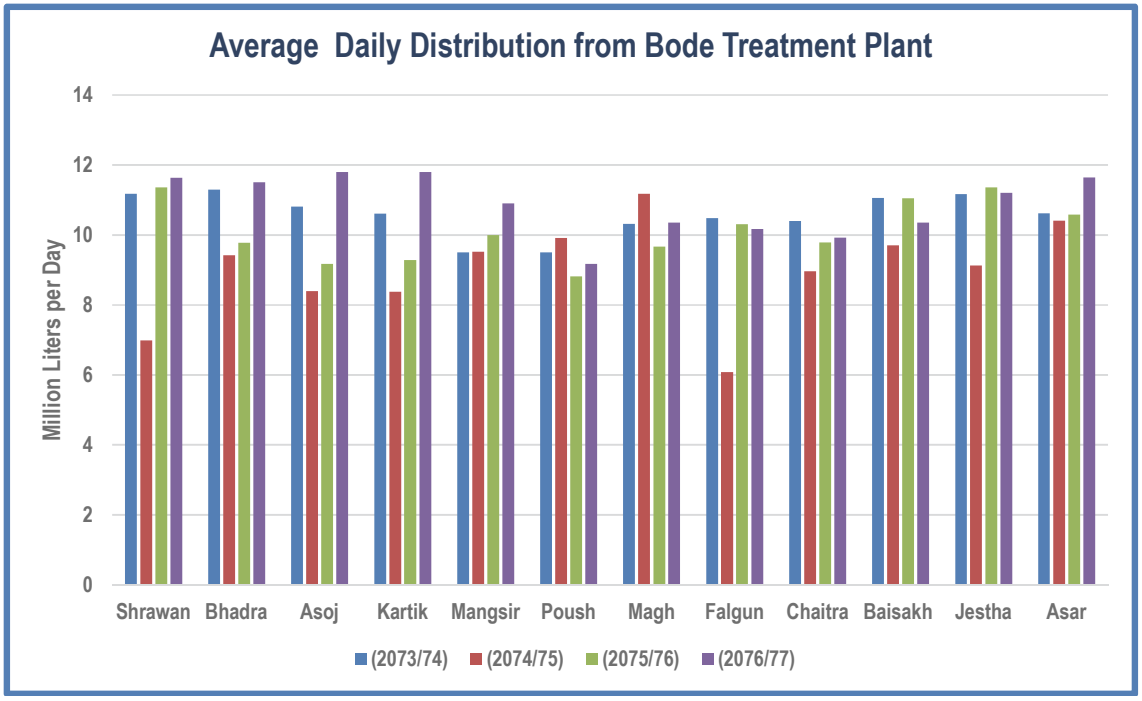
10.3 Month-wise Average Daily Water Production (Branch Based) for F.Y. 2076/77 (Million Liters per Day)

`Months	Branch Name									Total
	Mahankalchaur	Maharajgunj	Tripureshwor	Baneshwor	Chhetrapati	Lalitpur	Kritipur	Madhayapur Thimi	Bhaktapur	
Shrawan	33.73	36.69	5.55	2.96	0.36	24.41	3.00	9.86	3.10	**119.66**
Bhadra	34.82	43.23	7.41	2.91	0.44	24.99	2.96	9.78	3.32	**129.85**
Ashwin	34.97	43.06	7.42	2.90	0.43	27.81	3.59	9.17	3.61	**132.96**
Kartik	34.97	39.29	7.42	2.97	0.42	22.19	3.75	9.46	2.92	**123.39**
Mangsir	32.97	33.85	7.42	2.80	0.43	22.77	3.82	9.94	3.74	**117.73**
Paush	32.04	28.93	7.42	2.89	0.43	21.91	3.83	10.72	3.06	**111.21**
Magh	32.04	27.82	7.42	2.65	0.42	21.47	4.05	10.67	3.62	**110.16**
Falgun	28.03	26.56	7.10	2.73	0.41	21.47	3.43	10.02	3.70	**103.45**
Chaitra	25.97	28.59	7.33	2.71	0.42	21.47	3.20	10.17	3.47	**103.34**
Baishakh	23.19	27.35	7.33	2.71	0.40	22.19	3.37	9.92	3.97	**100.44**
Jestha	34.92	28.18	7.33	2.81	0.39	21.03	3.68	10.35	4.97	**113.67**
Ashad	25.13	29.09	7.57	2.90	0.42	19.31	3.99	10.69	5.13	**104.23**
Average Production	**31.06**	**32.72**	**7.23**	**2.83**	**0.41**	**22.59**	**3.56**	**10.06**	**3.72**	**114.17**



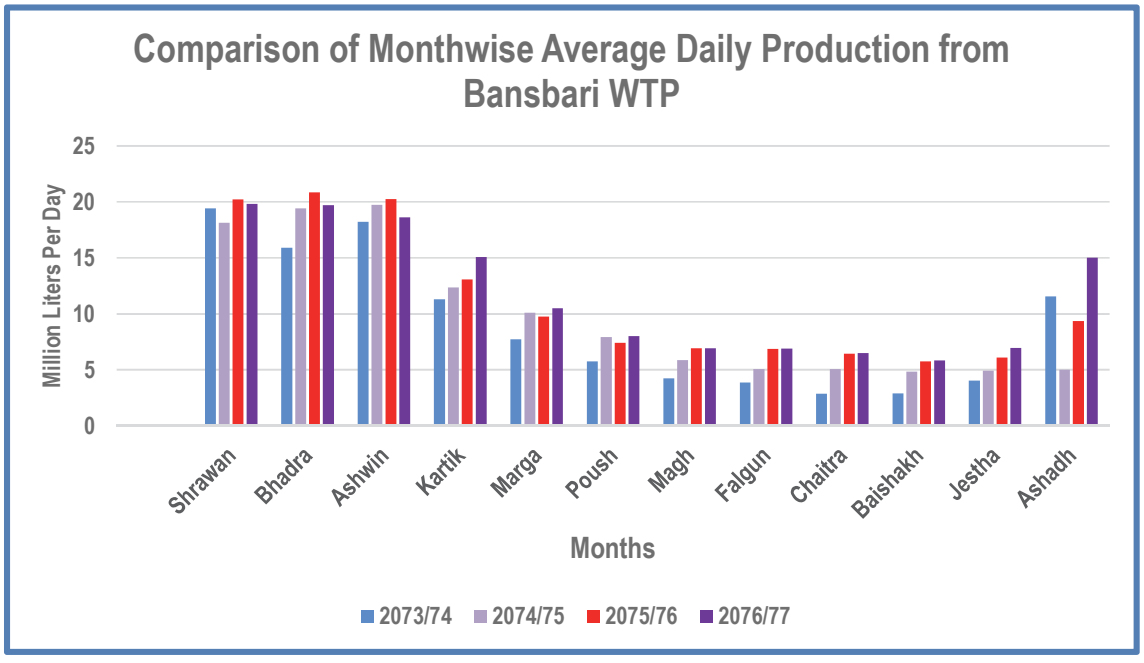
10.4 Average Daily Distribution from Bode Treatment Plant (Million Liters per Day)

Month/Year	(2073/74)	(2074/75)	(2075/76)	(2076/77)
Shrawan	11.18	6.98	11.36	11.63
Bhadra	11.3	9.42	9.78	11.50
Ashwin	10.81	8.39	9.17	11.80
Kartik	10.61	8.38	9.28	11.80
Mangsir	9.5	9.52	10.00	10.90
Paush	9.5	9.91	8.82	9.17
Magh	10.32	11.18	9.67	10.35
Falgun	10.48	6.08	10.31	10.17
Chaitra	10.4	8.97	9.79	9.92
Baishakh	11.06	9.70	11.05	10.35
Jestha	11.17	9.13	11.36	11.20
Ashad	10.62	10.41	10.58	11.64
Daily Average	**10.57**	**9.01**	**10.09**	**10.87**



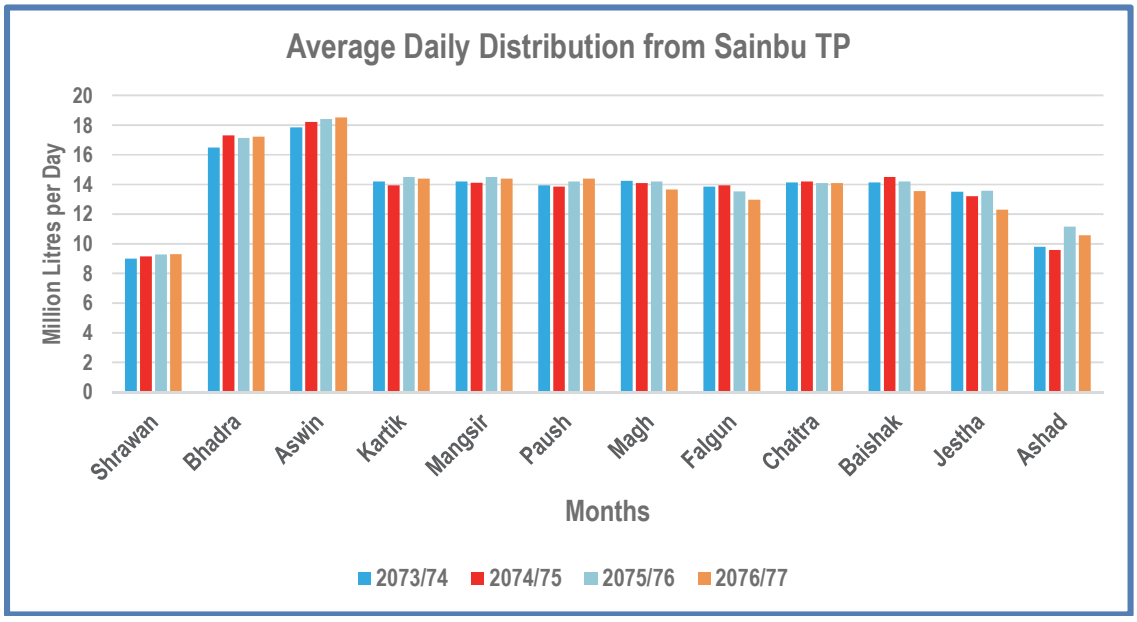
10.5 Average Daily Production from Bansbari Treatment Plant (Million Liters per Day)

Month/ Fiscal Year	2073/74	2074/75	2075/76	2076/77
Shrawan	19.40	18.13	20.21	19.83
Bhadra	15.89	19.40	20.85	19.71
Ashwin	18.22	19.73	20.25	18.61
Kartik	11.30	12.35	13.07	15.09
Marga	7.73	10.10	9.76	10.50
Paush	5.73	7.91	7.41	8.01
Magh	4.22	5.87	6.92	6.93
Falgun	3.87	5.07	6.87	6.89
Chaitra	2.86	5.05	6.43	6.50
Baishakh	2.90	4.84	5.77	5.84
Jestha	4.03	4.93	6.10	6.94
Ashadh	11.57	5.01	9.36	15.01
Daily Average	**8.97**	**9.87**	**11.08**	**11.66**



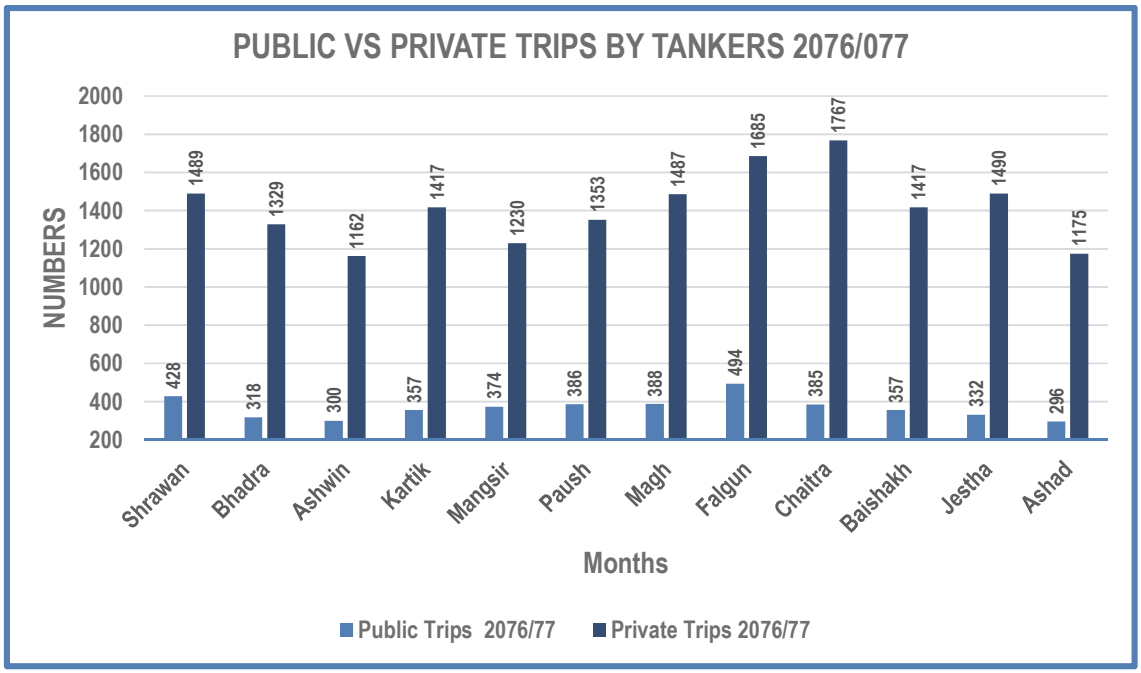
10.6 Average Daily Distribution from Sainbu Treatment Plant (Million Liters per Day)

Month/ Fiscal Year	2073/74	2074/75	2075/76	2076/77
Shrawan	9.00	9.15	9.29	9.31
Bhadra	16.50	17.32	17.15	17.23
Ashwin	17.85	18.20	18.40	18.52
Kartik	14.20	13.95	14.50	14.41
Marga	14.20	14.12	14.50	14.41
Paush	13.95	13.85	14.21	14.41
Magh	14.25	14.10	14.20	13.67
Falgun	13.85	13.95	13.52	12.97
Chaitra	14.15	14.20	14.10	14.11
Baishakh	14.15	14.50	14.20	13.54
Jestha	13.50	13.20	13.58	12.31
Ashadh	9.80	9.58	11.15	10.58
Daily Average	**13.78**	**13.84**	**14.06**	**13.79**



10.7 Distribution of Water by Tankers

Month	Public Trips				Private Trips			
	2073/74	2074/75	2075/76	2076/77	2073/74	2074/75	2075/76	2076/77
Shrawan	329	399	391	428	1339	1545	1575	1489
Bhadra	271	341	339	318	1271	1514	1364	1329
Ashwin	208	272	339	300	1146	1313	1674	1162
Kartik	177	284	260	357	1198	1326	1408	1417
Mangsir	256	287	302	374	1370	1162	1409	1230
Paush	283	311	329	386	1273	1298	1506	1353
Magh	302	338	308	388	1393	1401	1327	1487
Falgun	386	379	370	494	1558	1559	1516	1685
Chaitra	440	534	408	385	1745	1790	1595	1767
Baishakh	508	333	328	357	1729	1691	1509	1417
Jestha	560	386	383	332	1866	1930	1949	1490
Ashad	500	409	309	296	1625	1793	1836	1175
Total	**4220**	**4273**	**4066**	**4415**	**17513**	**18322**	**18668**	**17001**



11. 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

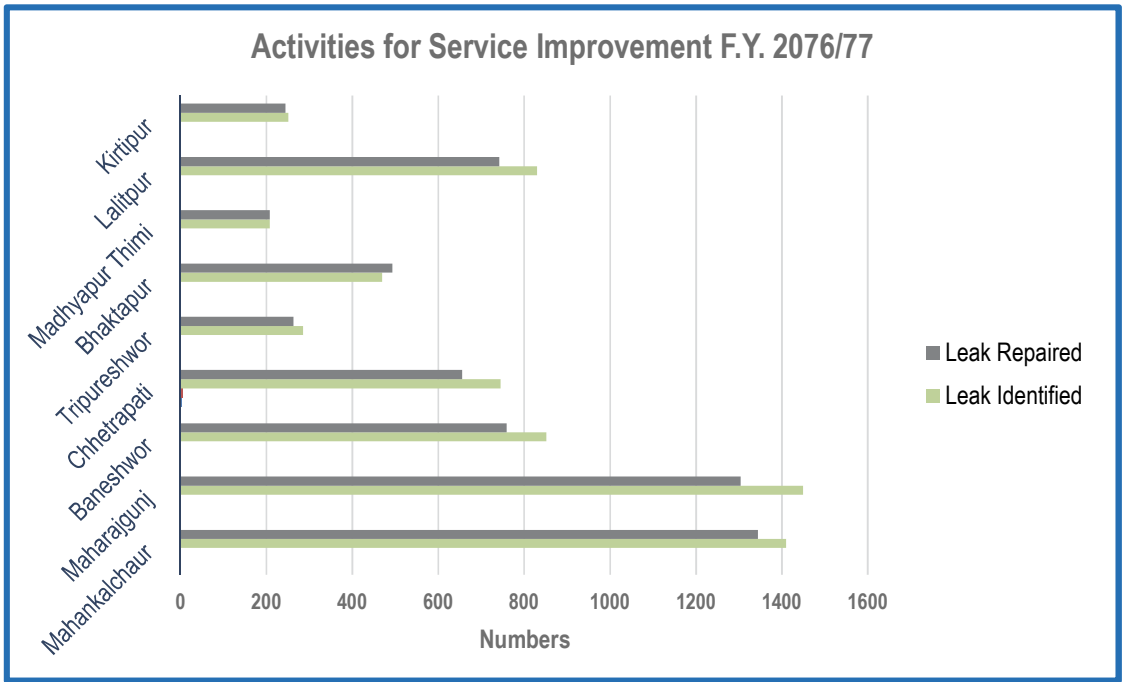
SN	PROJECT	SIZE (mm)	MATERIAL	AGE (Years)	APPROXIMATE LENGTH (Km.)
1	BASE	50-600	CI, GI, Steel, PVC	Upto115	300
2	FIRST PROJECT (IDA)	100-400	CI, GI	40	120
3	SECOND PROJECT (IDA)	100-400	CI,GI, DI	35	150
4	THIRD PROJECT (IDA)	100-800	DI,GI	25	150
5	NWSC	75-300	DI,GI	21	345
6	KUKL	25-400	CI,GI	7	329
7	PID	90-1400	DI, UPVC	3	1170
	TOTAL				2564

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

12. Maintenance and Pipeline Works

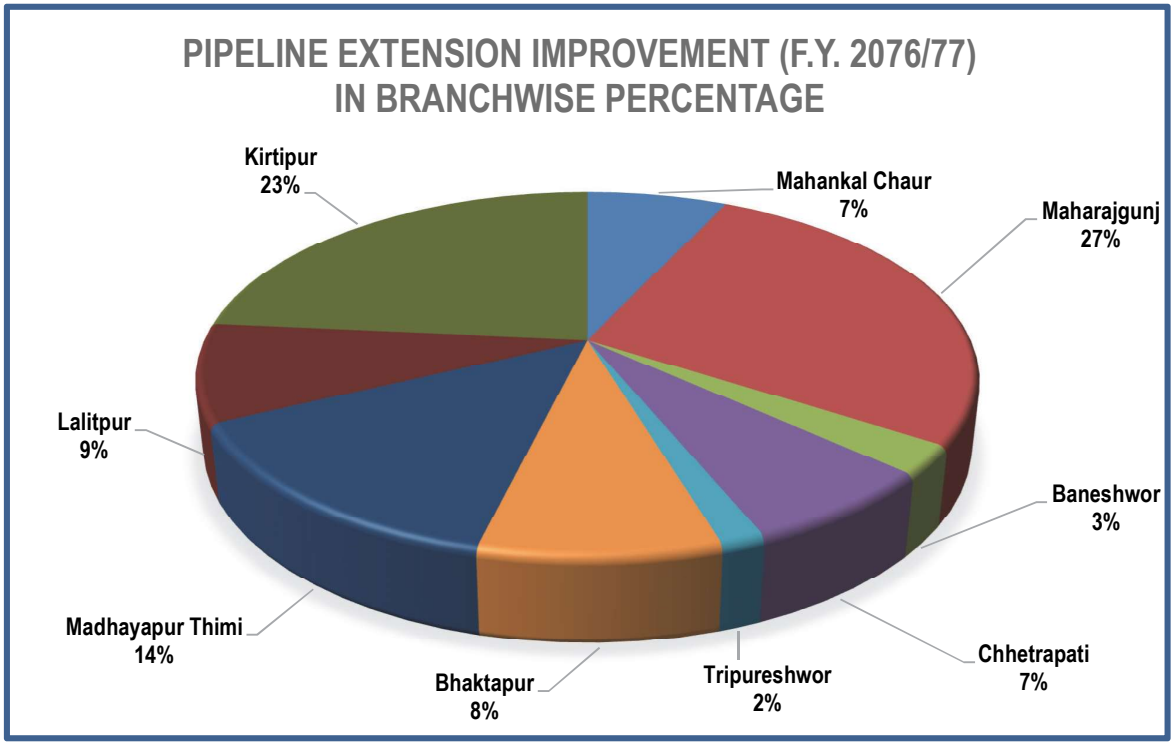
A. Activities for Service Improvement

S.N.	Branch Name	Injection Points	Installation of Polythene Tanks	Leak Identified	Leak Repaired	Installation of New Water Meters	Meter Repaired
		Nos.					
1	Mahankalchaur	0	0	1409	1344	969	814
2	Maharajgunj	0	0	1449	1304	1486	109
3	Baneshwor	0	0	851	759	287	236
4	Chhetrapati	4	6	745	656	66	15
5	Tripureshwor	0	0	285	263	163	101
6	Bhaktapur	0	0	469	493	235	118
7	Madhyapur Thimi	0	0	208	208	160	433
8	Lalitpur	0	0	830	742	990	173
9	Kirtipur	0	0	251	244	180	10
	Total	4	6	6497	6013	4536	2009



B. Pipeline Installation for Distribution Improvement (F.Y.2076/77)

Branch	40 mm	50 mm	63 mm	80 mm	90 mm	100 mm	110 mm	150 mm	200 mm	250 mm	300 mm	400 mm	Total (M.)
Mahankalchaur	350	0	3210	0	1420	100	0	1385	0	0	0	0	**6465**
Maharajgunj	0	0	2025	0	6384	0	6600	8167	728	0	1010	330	**25244**
Baneshwor	0	0	528	0	528	0	1160	0	178	0	0	0	**2394**
Chhetrapati	100	497	0	1740	0	3555	0	650	0	0	0	0	**6542**
Tripureshwor	0	360	0	700	0	303	0	0	0	0	0	83	**1446**
Bhaktapur	0	2034	0	474	0	1200	0	1878	0	2304	0	0	**7890**
Madhayapur Thimi	300	3120	0	1950	0	3090	0	2499	2000	0	0	0	**12959**
Lalitpur	0	0	1355	135	4782	0	1596	83	140	0	0	0	**8091**
Kirtipur	1000	7597	0	9310	0	3770	0	157	0	0	0	0	**21834**
Total	**1750**	**13608**	**7118**	**14309**	**13114**	**12018**	**9356**	**14819**	**3046**	**2304**	**1010**	**413**	**92865**



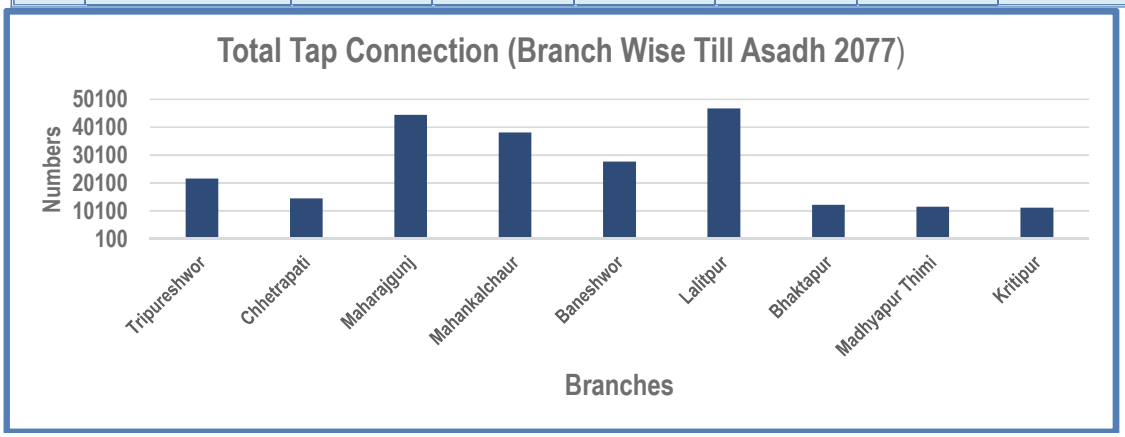
13. Consumer Water Connections

A. Total Connections till end of F.Y. 2076/77

S.N.	Branch	Govt. Connection (Metered)	Private Connection (Metered)	Govt. connection (Non Metered)	Private Connection (Non Metered)	Stand post	Total
1	**Tripureshwor**	192	19713	110	1519	138	**21672**
2	**Chhetrapati**	42	12845	9	1452	174	**14522**
3	**Maharajgunj**	347	42886	97	1335	0	**44500**
4	**Mahankalchaur**	66	37349	46	806	0	**38283**
5	**Baneshwor**	140	26811	16	801	32	**27800**
6	**Lalitpur**	292	45694	25	799	0	**46810**
7	**Bhaktapur**	37	11657	11	341	174	**12220**
8	**Madhyapur Thimi**	18	11500	7	0	82	**11607**
9	**Kritipur**	0	11070	11	112	52	**11245**
	Total	**1150**	**219525**	**332**	**7165**	**652**	**228824**

B. New Connections in F.Y. 2076/77

S.N.	Branch	Govt. Connection (Metered)	Private Connection (Metered)	Govt. Connection (Non-Metered)	Private Connection (Non-Metered)	Stand Post	Total
1	**Tripureshwor**	-	66	-	-	-	66
2	**Chhetrapati**	-	103	-	-	-	103
3	**Maharajgunj**	91	1689	1	84	-	1865
4	**Mahankalchaur**	-	1104	-	5	-	1109
5	**Baneshwor**	-	204	-	-	-	204
6	**Lalitpur**	-	2347	-	-	-	2347
7	**Bhaktapur**	-	372	-	16	-	388
8	**Thimi**	-	619	-	-	-	619
9	**Kirtipur**	-	1007	11	-	-	1018
	Total	**91**	**7511**	**12**	**105**	-	**7719**



14. Major Activities in F.Y. 2076/77

14.1 Main Office

With the overall completion of one of the most awaited water supply project, Melamchi Drinking Water Project, Kathmandu Valley will soon be receiving Melamchi water of amount 170 Million liters each day. As KUKL will be responsible for the operation and maintenance of Melamchi Drinking Water Project upon its commencement, KUKL has put extensive efforts for the improvement of its infrastructures, technology and manpowers. With the purpose to identify the necessary preparations required for future operation and management Melamchi Drinking water, KUKL has formed the Melamchi Water Distribution Preparation Committee. The structures of Melamchi Water Distribution Preparation Committee is as follows.

A. Melamchi Water Distribution Preparation Committee

Committee formed under KUKL Management Committee on 12th Magh 2076.

S.N.	Designation	Representation From
1.	Coordinator	Chief Executive Officer of KUKL
2.	Member	Representative of Ministry of Water Supply
3.	Member	Representative of Melamchi Water Supply Development Board
4.	Member	Representative of KVWSMB
5.	Member	Deputy Project Director of P.I.D.
6.	Member	Information officer of KUKL.
7.	Member Secretary	Chief of Operation Department

Scope of Areas	
a. Risk Management	b. Leak Repair
c. Water Distribution Plan	d. Budget etc.

B. Sub-committee Formation

Melamchi Water Distribution Preparation committee has formed 4 sub-committees with their own scope of areas as tabulated below.

S.N.	Sub Committees	Scope of Areas
1.	Technical and Co-ordination Sub-Committee	a) Leak repair b) Water distribution Planning c) Co-ordination with stakeholders
2.	Arrears Collection Sub-Committee	Facilitate the arrears collection
3.	Technology and Asset Management Sub-Committee	Facilitate the management of asset and new technology
4.	Grievance Management Sub-Committee	Grievance management and related legal work

14.2 Maharajgunj Branch

A. Installation of water tank during Covid-19 Pandemic

In response to the promotion of hand washing practice for prevention of Covid-19 infections by Government of Nepal, KUKL Maharajgunj Branch installed the water tank with hand washing facility in 15 locations of its service area to aid the personnel hygiene of pedestrians.

Preparation of Hand Wash Tank Stand

Final Installation of Hand Wash Station

B. Improvement of Asthetic Appearance of Bansbari and Balaju WTP

Aesthetic appearance of the Bansbari and Balaju WTP had decreased due to deterioration of hand rails and painted surfaces. Similarly, development of excess algae in the wall of the Sedimentation, and filter tank had decreased the quality of treated water. Therefore, improvements in the aesthetic appearance of the water treatment plant was carried out which also contributed in improvement of the quality of the treated water.

Before Painting

After Painting

14.3 Chhetrapati Branch

A. Installation of Hand Wash Station at different places

For the prevention of transmission of COVID -19 virus, KUKL Chhetrapati Branch established hand wash stations at 13 different places for facilitating the hand washing practice in general public.

Installation of Hand Wash Stations at Various Places

B. Rehabilitation of Khusibu Treatment Plant

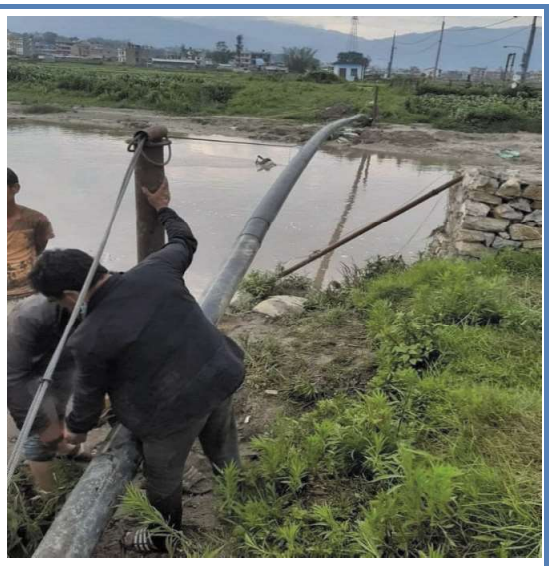
Rehabilitation of WTP under Chhetrapati was carried out in F.Y 2076/77. The WTP consists of Aeration, Sedimentation, Rapid Sand Filter, Clear water reservoir (500 cum). Installation of Aeration Unit, Cleaning of all unit, Replacement of Filter Media,

Flocculation and Aeration Unit

Tube Sedimentation

14.4 Madhyapur Thimi Branch

Production of water was augmented through construction of tubewell, and a semi-underground reservoir of capacity 415 cum distribution was constructed at Lokanthali Treatment Plant premises for improving the distribution.



Intake pipeline maintenance at Manohara River

Base concreting of Rapid sand filter at Lokanthali treatment plant

Under construction of semi underground reservoir at Indrakamal pump house, Lokanthali

14.5 Lalitpur Branch

Rehabilitation of the Jwagal Water treatment plant was completed and the treatment plant was brought back to operation.

Jwagal Water Treatment Plant

A heavy rain fall caused landslide which damaged Ø350 mm DI pipeline at transmission pipeline of Pharping water supply system. The pipeline was reinstated through shifting and piling works.

Landslide on Ø350mm Main Pipe alignment

Protection works at Pharping

Protection of 250 mm diameter DI Transmission Line protection work was carried out during the fiscal year to prevent landslide problems.

	
Before	After

Rehabilitation of Balkumari Water Treatment Plant (Aeration Unit) was also carried out to improve the water quality.

	
Before Rehabilitation	After Rehabilitation

Maintainance of the Tahakhel WTP at Tahakhel, Chapagaou Nayapokhari was also carried out during the fiscal year.

Before

After

Flocculation Unit

Sedimentation Unit (Before)

Sedimentation Unit (After)

14.6 Electro-Mechanical Section

KUKL Electro-Mechanical Branch has been contributing its services in the areas of ground water production and lifting mechanisms. This branch has been facilitating its services to all the branches under KUKL and acting as a quick response team upon requirement.

Currently, KUKL owns more than 107 operating DTWs, 19 Dug wells, 32 Pumping Stations, 3 large treatment plants and various small treatment plants comprising of pressure filter units. Usual works performed by this branch are repair and maintenance of DTWs including regular rehabilitation/ servicing and also periodic repair and maintenance of water treatment plant's accessories.

Branch's contribution areas and improvements works in **F.Y. 2066/077** are listed in following tabular form.

Major Contribution Areas	Major Improvement Works
1. Repair and maintenance of DTWs with rehabilitation and servicing. 2. Installation, repair and maintenance of pump and motor sets at different branches. 3. Electro-Mechanical equipment's repair and maintenance works of different WTP's. 4. Mechanical Workshop 5. Pump motor test unit 6. Meter test bench unit 7. Heavy equipment support	1. Altogether 9 (nine) DTWs drilling works completed and out of them 2 (two) DTWs at BH1 (Bode) and Bode Dug well came into operation, 2. Complete Rehabilitation of Mahankalchaur and Bansbari WTP's, 3. Rehabilitation of 22 DTWs with increment of approx. 6 MLD water during pandemic, 4. Water meter test bench commercially started,

Drilling of New Deep Tubewell

Well Development

Horizontal Split Centrifugal Pump Repair

Blower/Compressor Repair Works

14.7 Baneshwor Branch

In F.Y. 2076/077, Baneshwor Branch was able to shift pipeline at Tinkune with Spaghetti connection as shown in figure to the left. Water supply injection points figure was installed at New Adarsha Marga to supply a small number of household where water supply was not possible from distribution mains.

Spaghetti Connection for Pipeline Shifting at Tinkune

Water Supply Injection point at New Adarsha Marga

14.8 Tripureshwor Branch

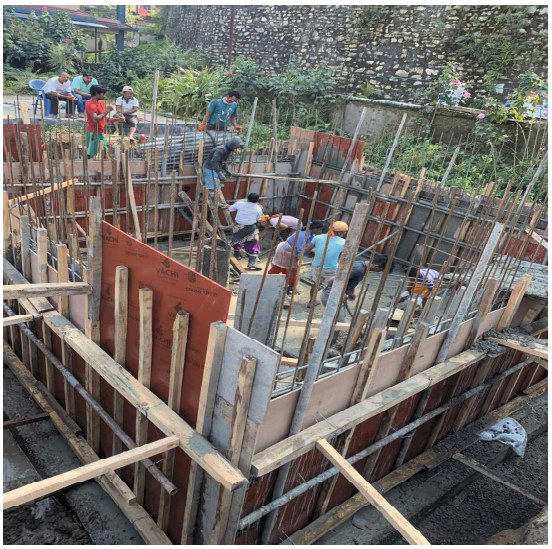
Improvement of Sundharighat Treatment plant under this branch was carried out by converting an existing slow sand filter compartment into sedimentation tank of **415.6 cum** capacity. This unit is utilized for sedimentation of the overflow of raw water from existing running sedimentation tank of Nakkhu Khola with a discharge about **1.0 MLD**.

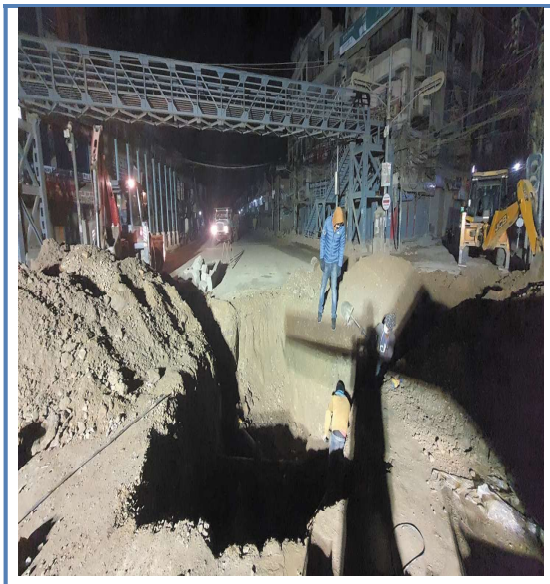
Conversion of Slow Sand filter to Sedimentation Tank

Improvement of Pressure Filter

14.9 Mahankalchaur Branch

Improvement works at Sundarijal Intake system was carried out by constructing retaining wall. A semi underground reservoir (72 cum) at Gokarneshwor-04 was also constructed to improve water distribution.

	
Improvement of Sundarijal Intake System	Semi underground reservoir at Gokarneshwor

	
Retaining wall construction and improvement of Sundarijal Intake System	Under construction semi underground reservoir (72 cum) at Gokarneshwor-04

14.10 Bhaktapur Branch

Likewise other branches, KUKL Bhaktapur Branch was also able to promote hand washing practice for prevention of Covid-19 infections. Beside other usual tasks, it was able to clean the debris/silt deposited at intake of Mahadev Khola which resulted in decrease of chemicals required for treatment.

Handwashing Station Installation

Debris/Silt Cleaning at Flocculation Unit

Debris/Silts Deposition at Intake of Mahadev Khola

Intake of Mahadev Khola after Cleaning

14.11 Training and Research section

Training and Research Section under Planning and Support Department, Head Office provides numerous trainings to employee individuals to enhance employees' capability, morale and skills. Trainings programs provided in F.Y. 2076/77 in collaboration with KVWSMB are listed herein:

Training Programs	Total Participants	Training Duration
Computerized accounting system	21	2076-01-02 to 2076-01-08
Office Management	28	2076-09-07 to 2076-09-14
Electronic Government Procurement	24	2076-09-23 to 2076-10-01
Project Proposal Development	01	2076-10-20 to 2076-10-24

14.12 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 14.12 A: ICT modules currently being operated

ICT MODULE	ACHIEVED IMPROVEMENTS
Billing Application	• Old Manual Records are computerized and are able to pay their bill removing the hassle of turning over old records file
New Connection Application	• The new connection process of the company is automated through the use of new connection application • Hassle of carrying files from one department to another is remove
Account Application	• Account software is currently used in the branches. This software automates the accounting process.
Self-Meter Reading Software	• Customer can record their meter reading information through web-based application
Ledger Management System for Tanker Section	• Tedious job of searching Manual ledgers of customer and his pending dues is omitted
Leak Management Android App	• Leak Management Android Application will help the customer to report water leakage in their area • Customers can view the status of their complaint about water leakage

Table 14.12 B: IT Advancements which is going to be implemented in future

IT ADVANCEMENTS	EXPECTED CHANGE
Grievance Handling System	Query from customer or people related to facilities of water, maintenance, administration services provided by the KUKL can be done through this application.
Inventory and Asset Management System	Captures all records of inventory and assets and automates all process of these tasks
Human Resource Management System	Automate all process and records of employees starting from recruitment to retirement
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
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.
Mobile Application for Employee and Customer	Customer can take online services from the company without waiting in queue using internet.
Datacenter Upgradation	The datacenter devices will be upgraded with the industry standard and efficient devices
Payment Integration	Online payment services, through which the customers can pay their monthly bills using internet payment facilities. Online payment module for tanker services is ready for implementation.

14.13 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/2/21A Lot 3**	Rehabilitation of Deep Tube Well including well development, Electromechanical Work at various location of Kathmandu valley.
2	**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 Sainbu and Pharsidol to Bungmati under Lalitpur branch
3	**Package 2 KUKL/DNI/W/2/21B Lot 2**	Rehabilitation of Treatment plant at Bansbari, Bhaktapur and pipeline work in MadhyapurThimi.
4	**Package 2 KUKL/DNI/W/2/21B Lot 3**	Rehabilitation and Construction Works of Various Treatment Unit and Pipeline works under Lalitpur Branch.
5	**Modernization Package KUKL/W/02/24**	Rehabilitation of Office Buildings, Furniture and Furnishing and Supply of Computer and Printers
6	**KUKL/DNI/W/2/24 Lot 1, Lot 2 & Lot 3**	Repair and maintenance if the Leakage/Breakage of the pipeline network inside the ring road area
7	**KUKL/DNI/W/2/24 Lot 4**	Construction of Reservoir and Rehabilitation of pump houses
8.	**KUKL/G/03/22 Lot 1**	Supply and Installation for Upgradation of Billing and Accounting System
9.	**KUKL/ICB/IT/01**	Computerized Billing and Accounting System

14.14 Wastewater Operation Division

Waste Water Operation Division provides its services to the whole area covered by all water supply branch offices of KUKL. The services delivered by this division are construction/extension 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, and provide permission to connect the household sewer line to the public sewer line.

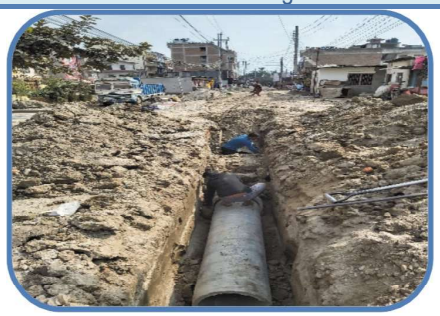
Summary of activities performed by Waste Water Operation Division

S.N.	Description of work	Unit	Quantity of Work		
			F/Y 2074/075	F/Y 2075/076	F/Y 2076/077
1	Laying of new sewer pipes lines	Rm	4752.50	3417.50	5195
2	Repair & maintenance of sewerage pipes/manholes	No	50	65	61
3	Cleaning of sewer pipes by Jet machine	No	1137	1217	917
4	Service sewer pipes connection	No	26	43	19

S.N.	Description of work	Unit	Kathmandu District	Lalitpur District	Bhaktapur District
1	Laying of new sewer pipes lines	Rm	2092	2785	318

Manhole Cleaning Work

Manhole Frame Fixing Work



Sewer Line Construction Works

14.15 Water/Waste Water Quality Assurance Division

A. Analysis and Monitoring of Water Quality

Water/Waste Water Quality Assurance Division of KUKL monitors and controls 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 14.15 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 14.15 A: List of Parameters Analyzed Regularly

S.N.	Parameters	Unit	S.N.	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	PH Alkalinity	mg/l	17	Arsenic	mg/l
9	Total Hardness	mg/l as $CaCO_3$	18	Free Residual Chlorine	mg/l

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. 2076/77, a total number of 724 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.

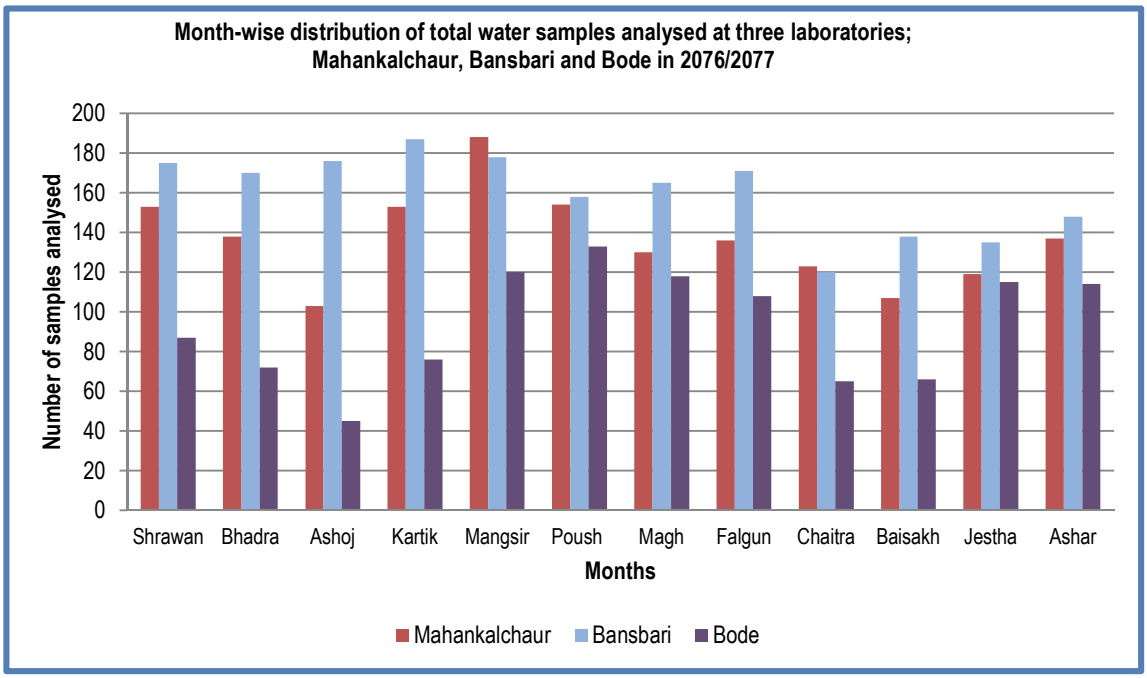
C. Information on Number of Water Samples Analyzed

The total number of water samples analyzed at three laboratories under the division is as shown in **Table 14.15 B**. Similarly, Month-wise Distribution of total water samples analyzed at three laboratories; Mahankalchaur, Bansbari and Bode in 2076/2077 is shown in Figure 1.

Table 14.15 B: 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-2076/Asar 2077	980	1641	1921	1119
Shrawan-2077/Poush 2077	775	725	766	907

Figure 1: Month-wise Distribution of Water Samples Analyzed in F.Y. 2076/77



15. 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

S.N.	Description	Activities
1	**Bulk Distribution System Network (BDS)**	Includes construction of total 77.58 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	26 Feb, 2021	94.78	Primary Pipelines from Service Reservoir, Distribution Pipelines and Reticulation Pipelines, and Consumer Connections.
DNI Package 2	Hangzhou-Sharma JV	6 Nov, 2013	26 Feb, 2021	92.00	
DNI Package 3	Sumec-Lama JV	9 Apr, 2013	26 Feb, 2021	84.40	
DNI Package 4	GIETC-Sharma-Raman JV	10 Jul, 2017	26 Feb, 2021	79.00	

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 Jan, 2021	98.00	Service Reservoirs and Bulk Water Conveyance pipelines from Sundarijal WTP to the Service Reservoirs
BDS Package 2	JWIL-SCPL JV	06 Aug, 2014	31 Jan, 2021	98.50	
BDS Package 3	Tianjin-Raman JV	05 Jun, 2014	31 Jan, 2021	96.30	
BDS Package 4	Hangzhau-Ashish JV	23 Dec, 2015	21 Feb, 2021	78.15	

B.Wastewater Infrastructure Component

The major objective of this component is to improve the wastewater management capacity of Kathmandu Valley, to maximize the efficiency an defective ness of existing waste water sector infrastructure and service provision, through restoration, establishment and extension of wastewater services in KUKL service areas, to strengthen sewerage infrastructure to abolish ingression 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 waste water 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 loan sand 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 systems are proposed to be constructed at Gokarna of Kathmandu and Hanumanghat of Bhaktapur

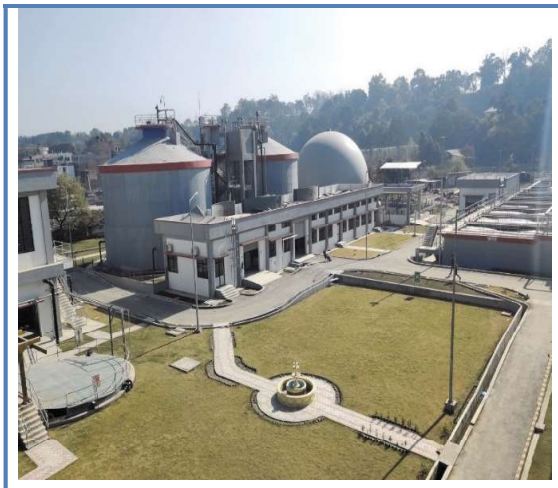
Progress of Packages under Wastewater Infrastructure Component

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 Aug 2016	EOT-04: 27 Sep 2020	Operation Started	Rehabilitation and Expansion of Guheshwori WWTP (32.4 MLD)
WWTP Package 2	Safbon Water Service (Holding)	07 May 2019	EOT-01: 31 Dec 2020	22.26	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 Mar 2018	EOT-01: 14 Sep 2020	26.10	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-04: 09 Oct 2020	47.80	Construction of Interceptor sewer (25.331 Km)
Interceptor Package 1	ZIEC-Sharma-BKOI JV	2 Nov 2016	EOT-04: 11 Nov 2020	47.16	Construction of Interceptor sewers (11.363 Km)
Interceptor Package 1	Lama-Raman-Golden Good JV	15 Dec 2017	07 Dec 2019	Completed	Construction of Interceptor sewer (7.679 Km)
WW/SN-03	Sharma- Lama Golden Good JV	17 Aug 2020	09 Dec 2021	7.00	Sewer line (2.8 KM) at Patan



Guheshwori WWT

16. Tariffs

16.1 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

16.2 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%

16.3 Laboratory Test Rates

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

17. Major Water Production Infrastructure

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

Bansbari Water Treatment Plant	
Construction Year :	2004 AD
Treatment Components:	Bio Filter/ Chemical Dosing Unit/ Coagulation-Flocculation Unit/ Sedimentation Basin, Rapid Sand Filter, Disinfection Unit
Treatment Capacity:	15 MLD
Water Source:	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 :	1966 AD
Treatment Capacity:	21 MLD

Filtration Unit

Flocculation Unit

Primary Sedimentation Unit

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

Other Treatment Plants	
	
Sedimentation Tank At Sundarighat WTP	Sainbu TP At Sainbu, Lalitpur

18. Additional Photographs

Meeting with Honorable Minister at Ministry of Water Supply

Presentation on Dry Season Water Management at Ministry of Water Supply

Workshop Program on KUKL's Preparation for Distribution of Melamchi Water

KUKL Board of Directors Melamchi Tunnel Visit

Site Visit with Mayor of KMC

Welcome program of New CEO

Workshop Program on KUKL's Preparation for Distribution of Melamchi Water

Monitoring Work By ED of KVWSMB and CEO of KUKL

Filling of Water Tank at Dry area for Distribution of Water

Aeration and Sedimentation Tank at Ratnapark WTP

Pump Replacement in Tubewells

New Tubewell Drilling Works

19. Management Team, Organizing Committee & Editorial Sub-committee

KUKL Management Team

From Left to Right - Er. Satish Kumar Dutta (Manager), Mr. Durga Bahadur Basnet (Assistant Manager), Mr. Bishnu Prasad Aryal (Legal Officer), Mr. Gyanendra Bahadur Karki (Manager), Er. Ujjwal Shrestha (Deputy Manager), Ms. Chapala Dhakal (Asst. Manager) **Er. Milan Kumar Shakya (Chief Executive Officer)**, Ms. Mangala Shrestha (Account Officer), Mr. Bir Bahadur Chand (Asst. Manager), Er. Purna Bahadur Kuwar (Asst. Manager), Mr. Bijay Timilsina (Manager), Mr. Dipendra Bahadur Oli (Asst. Manager), Mr. Yogendra Bahadur Bam (Asst. Manager), Mr. Cheta Raj Bajgain (Asst. Manager), Mr. Prakash Kumar Rai (Deputy Manager),

Thirteenth Anniversary Organizing Committee

From Left to Right – Mr. Jeevan Shrestha (Asst. Admin. Officer), Mr. Shankar Thapa (Engineer), Mr. Rajendra Prasad Gautam (Asst. Account Officer), Ms. Manju Manandhar (Admin. Officer), Mr. Puskar Nath Nepal (Asst. Account Officer), Ms. Chapala Dhakal (Asst. Manager), Mr. Bashant Kumar Pal (Senior Lab Technician), Er. Ujjwal Shrestha (Deputy Manager), Mr. Prem Raj Tripathi (Senior Meter Reader), **Er. Milan Kumar Shakya (Chief Executive Officer)**, Mr. Dipendra Babadur Oli (Asst. Manager), Er. Purna Bahadur Kuwar (Asst. Manager), **Mr. Prakash Kumar Rai (Deputy Manager)- Convener of the Committee**, Mr. Yogendra Bahadur Bam (Asst. Manager), Mr. Cheta Raj Bajgain (Asst. Manager), Ms. Rachana Adhikari (Engineer), Mr. Nandu Kumar Tandukar (Senior Asst. Account)

Annual Report Editorial Sub-Committee

From Left to Right- Mr. Shankar Thapa (Engineer), Mr. Cheta Raj Bajgain (Asst. Manager), Er. **Ujjwal Shrestha (Deputy Manager)-Convener of the Sub-Committee**, Er. Purna Bahadur Kuwar (Asst. Manager), Ms. Rachana Adhikari (Engineer)

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Baneshwor 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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