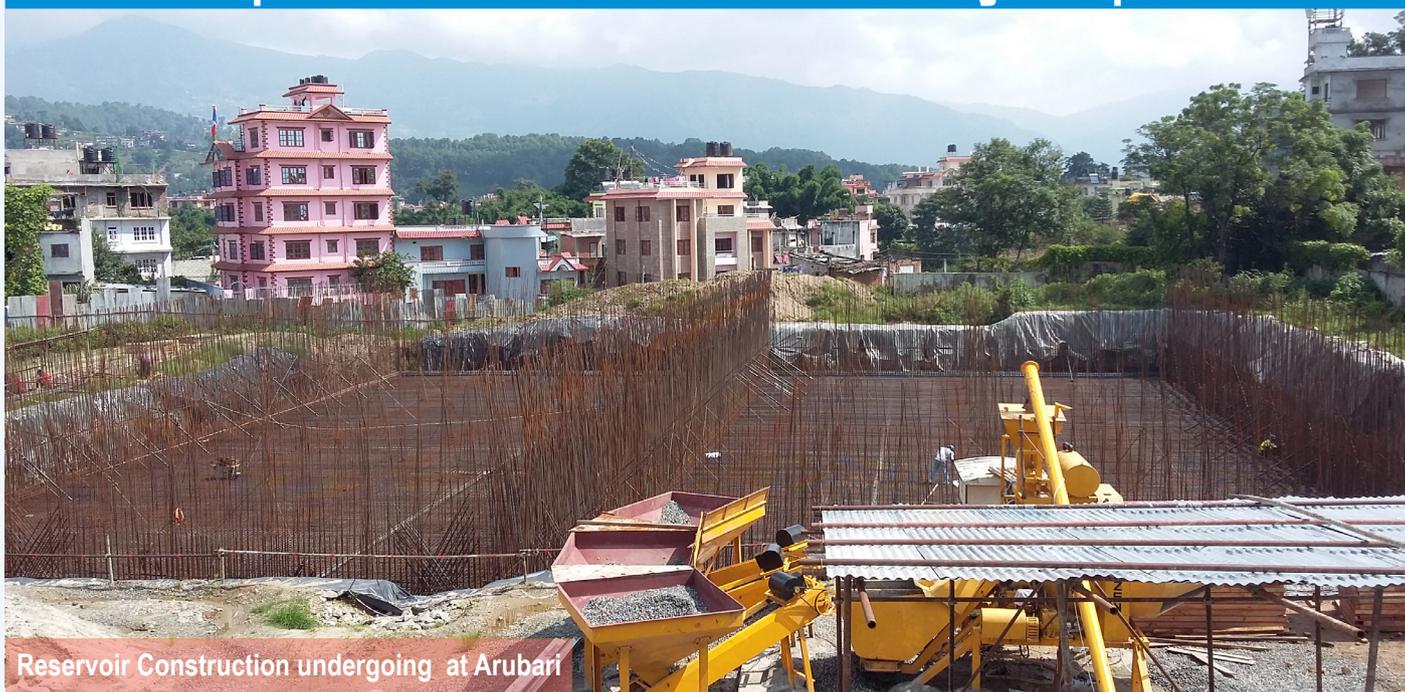


## Government of Nepal, Melamchi Sub-Project 2 Project Implementation Directorate Kathmandu Upatyaka Khanepani Limited

*Improvements in water, sanitation and sewerage management  
Lay the base for a developed society; make a city beautiful and efficient*

### Pipeline extension and reservoir construction gather speed



Reservoir Construction undergoing at Arubari

The Project Implementation Directorate (PID), under the Melamchi Sub-Project 2, has accelerated the construction of Bulk Distribution System (BDS), reservoirs and distribution network improvement at different parts of the Kathmandu Valley. The 25 April 2015 earthquake impacted the activities of the project, although there has been no human casualty and physical damage. Frequent aftershocks of the devastating earthquake obstructed the pipeline extension work for one and a half months. Thanks to the cooperation from the residents of the valley and their thirst for Melamchi water, the works resumed. Notwithstanding the disturbance caused due to earthquake, the PID was able to complete more than 40% of pipeline extension and 22% of reservoir construction work by mid-August 2015. Under the first phase contract, 52 kilometres

of BDS, 6 reservoirs, and 670 kilometres distribution network improvement work are being carried out swiftly. Going by the progress made so far, the PID has set a target of completing the construction of BDS and reservoirs before mid-April 2016. The PID has planned to complete 80% of distribution system improvement work. It is expected that upon the completion of the 27.5-kilometre tunnel and the water treatment plant being constructed under the Melamchi Sub-project 1, the extension of pipeline and the construction of reservoir under Melamchi Sub-project 2 is completed; the problems related to dearth of water, proportional distribution and leakage (about 40%) will be resolved. With this, the residents of the valley would have timely access to pure and clean drinking water.

### Pipeline extension and simultaneous road resurfacing

The PID, in coordination with the stakeholders, has been laying pipelines along the roads for which it has obtained permission. Generally pipes are laid within 24 to 72 hours of digging a trench. Immediately after laying the pipe, the trench is filled with earth and resurfaced temporarily in order to ease the pedestrians and the vehicular movement. Soon after the pressure test is done in order to ascertain that the pipes do not leak. If leakage is found, it is repaired and the pipes are joined again. After carrying out the technical test of those pipes, the road dug for laying pipes are resurfaced or brought back to the previous condition. Till date, all the roads, where pipes have been laid, have been resurfaced temporarily and about 100 kilometres of road have been resurfaced permanently, except black topping. Those roads will be black-topped once the rainy season is over. Efforts are being made



Part of temporarily resurfaced road at the Mahankal-Arubari section

to manage resources for resurfacing the entire breadth of the road where pipelines have been laid instead of resurfacing the trench alone.

## On-going activities under the Project Implementation Directorate

The PID, with the support of the Government of Nepal and the Asian Development Bank is implementing 'Kathmandu Valley Drinking Water and Sanitation Project', 'Kathmandu Valley Drinking Water Improvement Project', and 'Kathmandu Valley Sewerage Management Project'. It has been carrying out pipelines extension, construction of reservoirs and other infrastructures for drinking water, capacity enhancement, rehabilitation, improvement and construction of waste water treatment plants in the Kathmandu Valley.

### The progress of BDS and reservoir construction works

The water received from the Melamchi River will be treated first at Sundarijal Water Treatment Plant and then collected in the reservoirs which are being constructed at various places of the valley through BDS before supplying it to the consumers. In order to supply the water, 52-kilometer long big pipelines (main supply pipelines) are being laid in and around the Ring Road and reservoirs are being constructed at 6 different locations of the valley. The construction works of the BDS has been accelerated by contracting it out in five different packages. Under the 0 package, 9 kilometres out of 9.6 kilometres pipeline has been laid from Sundarijal to



Pipeline being laid at the Mahankalchaur-Arubari road section

Mahankalchaur via Nayapati and Arubari by mid-August 2015. Under package 1, pipeline of various sizes are being laid from Sukedhara to Maharajgunj via Dhumbarahichok, from Talchikhel to Ekantakuna and Balkhuchok. Likewise, the constructions of 8,500, 8,000 and 9,500 cubic metre-reservoirs are being constructed at Arubari, Mahankalchaur and Bansbari respectively under package 1.

Similarly, under package 2, pipelines of various sizes are being laid from Gwarkochok to Balkumarichok, and a reservoir with 7,500 cubic metres capacity at Maharajgunj and one with 9,500 cubic metres capacity at Khumaltar are under construction.

Under package 3, the pipeline laying from Balajuchok to Lainchaur through Sorhakhutte has been completed and the



Pipelines being extended at Koteswar-Balkumari road section



A reservoir under construction at Bansbari

construction of a reservoir with 7,000 cubic metres at Balaju is going on at a high speed.

A reservoir with the storing capacity of 3,000 cubic metres at Tigani in Bhaktapur and two with 6,000 cubic metres each at Katunje and Kirtipur shall be constructed under the package 4. A contract with the Asian Development Bank shall be signed soon as per the agreement reached between the Bank for an additional loan in order to construct the three reservoirs and to lay the 15-kilometer pipeline from Gokarna to Katunje in Bhaktapur and from Sita Petrol Pump to Kirtipur. Under the BDS, 16-kilometer ductile iron (DI) pipeline ranging from 400mm to 1,400mm has been laid and 22% of reservoir construction has been completed so far. The PID has targeted to complete the construction of these reservoirs before mid-April 2016.

### Distribution Network Improvement (DNI) works going on in Kathmandu

The PID has simultaneously commenced the DNI works in order to distribute the water brought from Melamchi and collected in reservoirs constructed at different places to the doorsteps of the residents of the valley in an accessible, leakage-free and equitable manner. The DNI has been divided into three packages and 11 service areas. As per the agreement signed with contractors for three different packages for laying 670 kilometres pipeline along the Ring Road and the major city areas, by mid-August 2015, 270 kilometres pipelines has been extended and about 20,000 households have been readied for fitting taps once the extension works are completed. So far the DNI works have been completed at Gyaneshwar, Sinamangal, Handigaon, Kalopul, Ratopul Maitidevi, Dilli Bazaar, Ghattekulo, Anamnagar, Old Baneshwar, Koteswar, Gaushala, Babar Mahal, Sorhakhutte, Banasthali, Shova Bhagabati, Chamati planning, Man Bhavan, and Lagankhel.



Pipeline being laid at Balaju under the DNI

For the improvement in the distribution network, Ductile Iron (DI) pipes ranging from 150 to 300mm and High Density Polythene Pipe (HDPE 100) ranging from 75 to 110mm have been laid according to the population density and the condition of the road. Polythene pipes have been used to supply water to the houses of customers. An agreement has been made with the Asian Development Bank in order to lay more than 200 kilometres of pipeline at Sitapaila, Lazimpat, Samakhushi, Gongaboo, Maharajgunj, Baluwatar, Dhumbarahi inside the Ring Road and some places in Bhaktapur and Kirtipur, which are not encompassed by the DNI at present. The DNI works have been carried out on the basis of District Metering Areas (DMA) and one DNI has been divided into at least two DMAs. This is the smallest service area unit in the distribution network improvement activity by which standard, performance and functioning of the distribution network may be monitored and evaluated.

### Tube well boring in the Kathmandu Valley

As a temporary measure of water crunch in the valley until the water from the Melamchi River is supplied to the people, the PID has been boring tube wells into underground aquifers at different places in order to supply water to the consumers by improving and utilizing underground water.

- During the first phase, 6.5 million litres of water made available daily to the Valley's distribution system by commissioning of 5 tube wells.
- Drilling for 14 tube wells has been completed under the second phase. Out of them 8 tube wells are operational which contribute 10.5 million litres of water to the distribution system daily.
- During the third phase, 20 deep tube wells have been targeted to commission and drilling for 8 tube wells is expected to be completed soon by adding 10 million litres of water a day to the distribution system.

### Works for sewerage management commence

Considering the possible difficulties in waste water management due to the increment in water supplied from Melamchi, the PID accelerated the capacity enhancement, rehabilitation and construction of wastewater treatment plants in the valley with a priority. In order to select the contractor for upgrading the waste water treatment plant at Guheshwari, the PID is preparing to forward the technical evaluation report to ADB for approval. The treatment plant at present can treat 16 million litres of water. The PID has set a target of doubling the capacity of the plant to treat 32 million litres of water. Similarly, bids will be invited from the bidders for construction of water treatment plants at Sal-laghari in Bhaktapur, Balkumari and Dhobighat in Lalitpur. PID has also initiated the process of acquiring about 40 hectare of land at Khokana for the construction of a new treatment plant as per the plan. Likewise, tender has been called for construction of about 25-kilometre long interceptor on either side of the Hanumante River, a tributary of the Bagmati River. A contractor will be selected soon for the construction of the interceptor. Necessary engineering design of an interceptor along the Manohara River, another tributary of the Bagmati River. A study is going on for improvement of the existing sewerage system and extending the new one in the Kathmandu Valley.

### Coordination among stakeholders for construction works

With an objective of laying the big and small pipelines with minimal disruption in the use of roads, drinking water, electricity, telephone and sewerage, the PID is taking due care with regard to coordination with the stakeholders before extending the pipelines. If any of those services are disrupted, the concerned authorities like Nepal Electricity Authority, Nepal Telecom and the KUKL in coordination with the PID resume the services by immediately repairing them. With regard to the inconvenience caused to vehicular movement and the pedestrians, the PID has been coordinating with the Metropolitan Traffic Police Division and has been regularly holding interactions between other stakeholders in order to garner necessary support for extending the pipelines.



A coordination meeting with the stakeholders at Tinchule, Baudha in progress

### Participation of the local people in construction works

While carrying out the construction of the BDS, reservoirs, the DNI, waste water treatment plants and tube wells among others, the PID has ensured the participation and cooperation of local people and the members of water users' groups. PID is fully aware that the support from local people is instrumental for successful completion of the project. Hence, the PID, with the objective of informing the local people on various activities of the project, has been organizing community meetings and interactions. With the aim of addressing and resolving the possible problems related to social, environmental and others and completing the project within the stipulated time in an undisputable manner through the people's participation, the PID has convened 457 community meetings. Out of around 7,000 participants in the meetings, 31% were women, 41% indigenous peoples, 3% Dalits and 56% people from other communities.



An interaction at Mahankalchaur held with the local people on extending pipelines.

### Formation of TLOs in Project Areas

The PID has been facilitating the formation of 'Ward Level Facilitation Mechanism' – TLO, a representative body of the local people with the aim of garnering people's participation in carrying out the BDS, the DNI and the reservoir construction throughout the construction period within the project area. A total of eight TLOs out of 11 under the DNI have been formed in the project area. These groups, comprising representatives from women, Dalits, indigenous nationalities, Muslims, Madhesis and other marginalized communities, have been supporting the operation of the construction works under the project by disseminating information on the technical and social aspects of the project. These eight settlement coordination groups consist of 124 representatives with 35% women, 50% nationalities, 2% Dalits and 48% people from other communities.



A meeting of TLO at Chamati area in progress

### Notice

In order to distribute the water brought from Melamchi to the households in the Kathmandu Valley, the PID would like to inform the general public that the project has been laying pipelines and connecting taps along with meters free of cost to the houses or compounds of private land of those people who reside within the project area and have been regularly paying the drinking water tariff.

The PID requests all the concerned to immediately call at 01 422 4986 with extension number 131, if anybody demands money for extending pipelines or connecting household taps in an unauthorized manner. PID expects and will appreciate this kind of support from the public in controlling such activities.

## The ADB Review Mission monitors the activities of the project

A regular Review Mission of the Asian Development Bank (ADB) visited Nepal from 5-17 August 2015, monitored the activities carried out under the PID and acquired information on the ongoing activities. Ms. Vivian Castro and Ms. Neeta Pokharel, Urban Development Experts and Mr. Ricardo Carlos V Barba, Senior Social Safeguard Expert from ADB Manila interacted with Mr Tej Raj Bhatt, Project Director and Mr Anil Bhadra Khanal, Deputy Director and other officials of the PID including the representatives of the consultants and obtained information on the progress of the project. During the visit, the mission visited Mahankalchaur, Arubari, Khumaltar and other sites and acquired information on the extension of pipeline and reservoir construction.



The representatives of the ADB Review Mission visit the reservoir construction site at Khumaltar, Lalitpur

## Chief Secretary of the Government of Nepal acquires information on the project

Mr Leela Mani Poudyal, Chief Secretary of the Government of Nepal, who recently retired from his post, visited PID on 5 August 2015 and received information on the various activities being carried out by PID which includes the pipelines extension, reservoir construction, and waste-water treatment plants. The PID felicitated him for his leadership in clean Bagmati River campaign, thereby contributing to keeping the Kathmandu Valley clean. Mr. Poudyal expressed his commitment that he will extend necessary support for the operation of the project even after his retirement. Director of the PID Mr Tej Raj Bhatt expressed commitment that the Directorate would continue contributing the river cleaning campaign initiated by the Chief Secretary.



Director and other officials of the PID welcome the Chief Secretary at the PID premises.

## Frequently Asked Questions

❁ Will the construction of necessary infrastructure be completed before 13 April 2016, the date designated for supplying Melamchi water to the Kathmandu Valley?

**Answer:** In the first phase, 60 kilometers of pipelines for BDS will have been laid and 6 reservoirs will have been constructed two months before the designated date i.e. by mid-February 2016. It has been targeted to complete 80 percent of the improvement of the distribution system.

❁ What should the consumers do in order to obtain the Melamchi water at their households?

**Answer:** Customers who are in the KUKL's service area and have been regularly paying their water bills will receive Melamchi water in their house. But houses/plots that do not have a tap connection yet now will need to first get a tap connection by fulfilling prescribed requirements.

❁ Should the consumers pay money for availing the water supply to their doorsteps?

**Answer:** No. Pipelines would be laid to the individual households of the consumers free of cost. However, the PID expects uninterrupted cooperation from the people during the period of pipeline extension.

❁ What types of pipes are being laid in order to distribute the water brought from Melamchi to the Kathmandu Valley?

**Answer:** Ductile Iron (DI) and High-Density Polythene (HDPE 100) pipes are being laid in order to distribute the water. The inner part of the DI pipes are coated with cement and painted with e-poxy, a special paint which protects the pipe from air, water and soil. The DI pipes are manufactured using ultra-modern technology. These are rust-resistant, stronger and more durable compared to other pipes. The DI pipes with 150mm to 1,400mm diameter shall be laid for the BDS and the DNI along the main roads and their branches in Kathmandu and Lalitpur districts depending on the condition of the roads and the population density. Similarly, in order to distribute the water supplied through such DI pipes to the households, HDPE pipes with 75mm to 110mm diameter shall be laid. Such polythene pipes are made from high-quality raw materials and thus have high capacity to endure flow of water and are stronger and more durable in comparison with other pipes.

❁ What strategies has the Directorate adopted for reducing leakage after laying new pipelines in the Kathmandu Valley?

**Answer:** The Directorate has aimed to bring down leakage to 15% by joining the HDPE PE 100 pipelines laid for supplying water to the households of the general public at desired length using electro-fusion technology. In addition, the work of DNI is being carried out on the basis of District Metering Area (DMA) and one DNI has been divided into at least two DMAs. A settlement consisting 2,000 to 2,500 households under each DMA shall have a bulk meter and every household will have a separate meter each. As this system records the actual supply and consumption of water, it helps in assessing the leakage accurately.

❁ What strategies Directorate has adopted in laying the pipelines along the roads of the Kathmandu Valley that are in the process of expansion and construction?

**Answer:** The PID has adopted the following strategies for laying pipelines along the roads of the Kathmandu Valley:

- ❁ Laying of pipelines in the currently expanded roads shall be done in coordination with the Road Expansion and Rehabilitation Project of DoR and as far as possible pipe laying works shall be completed prior to the construction of roads.
- ❁ Pipelines for distribution network will be laid on the footpath as far as possible.
- ❁ In order to render least possible damage to the roads, pipes will be laid on either side of the roads with more than 7-meter width and on one side of the roads having less than 7-meter breadth.
- ❁ Pipes in the recently blacktopped roads will be laid only at the end of the project. The roads will be restored once the laying of pipes is completed.

Implementation of such projects for the benefit of general public is a once in a life time affair. Ministry of Urban Development and Project Implementation Directorate/ Kathmandu Upatyaka Khanepani Limited apologise for any inconvenience caused to the general public, and seek cooperation from all fronts for its smooth and successful completion.

The Directorate has been connecting households with new pipelines for the common people free-of cost. We would like to request you immediately inform the Directorate, if some asked for money to connect pipes at your home, in course of laying pipes in your areas. Lastly, if you have any complaint against the Project or if you require more information about the Project, please contact at the following address.

## Contact Address

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