

## **24X7 Urban Water Supply- A PPP Attempt in Karnataka**

### **Project Details**

Ensuring 24x7 water supply in select zones of Belgaum, Dharwad, Gulbarga, Hubli (Karnataka) through a structure of systems improvements under the aegis of an 'Operator - Consultant.'

### **Name of the Company**

Karnataka Urban Infrastructure Development & Finance Corporation (KUIDFC), as the nodal agency of the State Government under the World Bank sponsored Karnataka Urban Water and Sanitation Improvement Program (KUWASIP). The Operator Consultant is M/s Compagnie Generale Des Eaux-Seureca JV.

### **Background**

The urban water supply situation in Karnataka has a lot of scope for improvement, since just about 50% households have direct access to drinking water within their premises, with about 14% having access away from the premises. About 78% urban households in Karnataka have tap water source while remaining households are served with wells, ponds, etc.

### **Project**

Karnataka Urban Water and Sanitation Improvement Programme (KUWASIP) was initiated under the aegis of the World Bank. KUWASIP had a component for carrying out technical studies in the cities of Belgaum, Gulbarga and Hubli-Dharwad. Following the study, the process envisaged the selection of an operator consultant (a private party) who would be responsible for making improvements to the existing distribution systems within few zones (known as demo zones) within the municipal wards in these cities, supply continuous drinking water 1 twenty four hours a day on all seven days of the week. Karnataka Urban Infrastructure Development & Finance Corporation (KUIDFC), acted as the nodal agency of the State Government to undertake multilateral assisted and financed infrastructure projects. The Karnataka Urban Water Supply & Drainage Board (IUWSDB). a statutory entity of the State is also a party to this contract and is responsible to supply bulk water at the entry points to these demo zones. Project concept also includes monitoring of the contract by an independent entity known as the Technical Auditor. The demo zones for 24x7 water supply were:

City	Zone No.	Ward Nos.
Belgaum	9 (South) VI (North)	3, 4, 5, 6, 7 (part) & 8 (part), 44, 45, 46 (part) & 48 (part)
Dharwad	-	8, 9, 10 & 11
Gulbarga	27	6 (part), 17, 19 (part), 23, 24 (part), 32, 33 (part), 42 (part), 43 (Part) 44, & 49 (part)
Hubli	-	27, 28, 29 (part) & 32 (part)

Source: Brochure on continuous water supply (KUWIASIP) circulated by KUIDFC, Regional Office, Dharwad

The zones were selected after a feasibility study which considered possibility of measurement of water and wastewater at single entry and exit points. The zones were also selected to ensure a cross-section of economic strata, including economically weaker sections. The zones represented at least 10% of total households in the city.

Details on number of connections (as on the date of commencement of the project) and the proposed new connections are given in the table below

#### Number of existing and proposed water connections

City	Total No. of wards selected	Wards No	Population coverage (2001 Census)	Properties	Existing water connections	Proposed new connections
Hubli-Dharwad	08	8,9,10,11,27,28 Part 29,32	82337	12327	9458	1767
Belgaum	10	3,4,5,6,44,45 Part 7,8,46,48	74361	7518	4918	2163
Gulbarga	11	17,23,33,44, Part 6,19,24,32, 42,43,49	62982	3810	1996	2014
<b>Total</b>	<b>29</b>		<b>219680</b>	<b>23655</b>	<b>16372</b>	<b>5944</b>

Source: Brochure on continuous water supply (KUWASIP) circulated by KUIDFC, Regional Office, Dharwad

## **Operator Consultant**

Following the feasibility studies and selection of demo zones, procurement activities were commenced to select a water operator who had experience in rehabilitating of water supply system and efficiently managing similar facilities elsewhere in the world. Competitive global tenders were invited for this purpose. After a two stage tender process, an international water operator known as Mis Compagnie General Des Eaux Seureca JV was selected. The contract was entered into on March 7, 2005 between 'KLJIDFC, KUWSDB and three ULBs<sup>2</sup>, The term of the contract is three years and nine months.

## **Key Aspects of the Contract**

During this period, the private company (the "Operator") is required to carry out Improvement to the existing water system in the selected zones to supply 24x7 water.

- Prepare an Investment Plan for approval by KUIDFC:
  - There is a condition that the assessment of investment on these works should not exceed Rs. 42 Crores excluding the Operator's remuneration and bonus, which is to be paid separately. If estimated investment is beyond Rs. 42 Crores, KUIDFC retains the right to continue with the contract or to discontinue.
  - If the plan is satisfactory, then the parties agree on a by which the Operator takes over the water supply system within the demo zones.
  - There is a 'Transition Team' set up, which is given access to the existing water supply system within the demo zones by the respective ULBs.
- Preparatory works during implementation period which is about 53 weeks from the date of execution of the contract.
  - The Operator would prepare documents to tender so as to appoint Sub - Contractors to undertake requisite infrastructure improvement works in the demo zones.
  - The operator also carries out the tender for the award of works to establish the pilot zones within the ULBs.
  - Obtain all permissions from the relevant authorities to undertake the works related to the project.

The Operator will also be responsible for the water supply works

- On expiry of implementation period, the operation and maintenance period (O&M period) commences which is about 104 weeks from the end of implementation period.
  - The employees of the Corporations are to be deputed to the Operator so as to assist the Operator in performing its obligations under the contract. This arrangement also enables the ULB to understand the key learning during the contract period is retained even after expiry of the contract and they could train other ULB employees in effective maintenance of water distribution system. To enable Government employees reporting to a private operator, the Government brought specific deputation rules giving details therein as regards the reporting mechanism and other service conditions. Salary and allowances of the deputed employees are paid by HDMC.
  - Payments for the works carried out by the Operator during this period is made by KUIDFC after due scrutiny of bills and in the manner set out in the contract.
- Procurement of goods, works and consulting services through subcontractors, is to be carried out by the Operator in accordance with the World Bank's Guidelines for Procurement.
- All works carried out by the Operator is under monitoring of the KUIOFC.

## **Key issues encountered in the Project**

### **Need for IEC**

As of March 2008, the Preparatory Period was coming to a close, subsequent to which O&M Period would commence. There was a perception that French Company had 'taken over' the entire water system in their area, and that Government has privatized water services. There were fears that this would lead to higher water tariff. To address these perception issues, an NGO, Rural & Urban Development Agency (RUDA) was appointed to carry out IEC activities. The NGO regularly interacted with people and were successful in bringing awareness on the benefits of the project. Gradually, people started realizing the benefits of getting continuous water supply as earlier they used to spend considerable time in waiting for the supply of water in public taps.

### **Technology Improvement**

By virtue of prior experience in various countries, the Operator is able to provide better technological solutions with superior quality pipes, fittings, other equipment,

control and monitoring systems. These systems were not available with KUWSDB. While the contract envisaged various types of connections and renewals, since the entire system is not renewed, there are problems of compatibility of the connections, and leakages.

### **Sub-contracting**

The Operator is responsible for procurement of services & goods from sub-contractors; and the contract envisages strict control by KUIDFC over the procurement by Operator. The Operator has to comply with World Bank procurement guidelines. This arrangement resulted in delays in procurement and implementation of the project. Timelines prescribed were not met by Operator. Wherever the sub-consultants were not performing properly or delaying completion of works, the Operator made KUIDFC responsible for the delay stating that the sub-consultants were appointed after obtaining consent of KUIDFC, therefore, the Operator should not be held responsible because Operator was not given a free hand to select contractors of his choice.

### **Employees on Deputation to Operator**

In Uubli-Dharwad demo zones, some employees have been deputed to work with the Operator. The contract does not envisage any penalty/punishment in case of failure of performance by deputed employees. Therefore, even if the deputed employees are working for the Operator, they are not accountable in case of non-performance. The Operator is not in a position to seek replacement of non-performing employees.

### **Metering**

In some areas, consumers were handed over meters without it being installed. Wherever it was found that older pipes at consumer point cannot be used for installation of meters, the Operator has installed a new pipe, fitted the meter thereon. Since the contract was not clear whether to close the existing pipe connections of the consumers while installing new pipes and meter, the Operator has not disconnected or put a stop valve on the old pipelines within a household. This has resulted in water getting into the old pipelines after it has passed through household meters and continued till it has reached a nearby locality. There has also been theft of water meters in some zones.

### **Tariff and Billing**

Government of Karnataka revised the water tariff for supply of continuous water in the demo zones. This revision was based on a report submitted by

consultants. Prior to KUWASIP every household who were not served with water on volumetric basis were required to pay Rs. 1000 per annum irrespective of volume of water supplied. After continuous water supply, they are required to pay according to actual water consumed As per the Government Order the minimum charge per connection for a domestic consumer who consumes a maximum of 8 KL each month is Rs. 48 per month. It is estimated that monthly consumption of 10% consumers in the demo zone is between 10KL to 20 KL, 30% is less than 10 KL and nearly 60% consume more than 25 KL per month. Whereas, a domestic consumer in non-demo zone who is not served with volumetric basis water supply is required to pay a minimum amount of Rs. 90 per 111011th. It was learnt that some consumers (especially small families) in the demo zone due to less consumption of water (about 8KL) receive Rs. 48 per month as water charges when compared to a similar family in non-demo zone who is paying Rs. 90 per month that too for receiving water once in three days. Therefore, some consumers in non-demo zones feel that the KUWSDB is discriminating them by charging dual rates and are opposing the idea. There is apprehension of a case being filed in the court to redress this grievance.

While the risk of collection against water bills is that of KUWS&DB billing is carried out by the Operator. However, there are complaints that this activity is not being carried out properly. In a cluster of houses, there is disparity in billing inasmuch as a particular house if billed at Rs. 90 per month, the neighboring house is billed at Rs. 2000 per month. It is learnt that billing was done based on four month old meter reading, consumption has been assumed and units have been indicated in the bill and bills sent to consumers. This matter is being taken up in the review meetings with the Operator. The contract does not address envisage penalty or damage on Operator for such lapses. From the Operator perspective, billing activity has not been well received by the consumers because as instructed by KUWSDB, the bill includes old arrears not paid by some consumers, therefore, by adding the arrears the amount payable becomes higher than the actual usage of water during the previous month. Usually people resist making payments of old dues especially to a private operator because they may assume that the money collected would remain with the Operator, as is the apprehension in Hubli and Dharwad demo zones. It was felt that where billing responsibility of water charges are given to private sector, it may be ensured that the responsibility of old dues are not vested to the private operator and the same are separately billed by the Government agency. In order to address these problems, a Committee has been set up to look into the reasons for high billing.

### **Grievance Redressal**

The Operator has set up a Grievance Redressal Cell however the same is said to

be working ineffectively. The staff posted at the cell is not cordial with the customers.

### **Common grievances of parties**

- (A) Amongst other obligations of the Operator, the Operator is required to carry out basic plumbing and to replace illegal water connection with regular connections. This is done with the approval of property owners and subject to an authorisation by the Municipal Corporation. The Operator was not able to meet the timelines prescribed under the contract for the following reasons:
- I. Due to lack of database of the existing number of connections within the ULB, it was difficult for the Operator to assess the number of households that would be needed to be connected.
  - II. There were delays in granting approval by the ULB authorising the Operator to connect, disconnect and re-connect the households within the demo zones.
  - III. In addition to this reason, delays in meeting the timeline is attributed to multiplicity of agencies in demo zones such as other utility lines criss-crossing the demo areas and approvals from agencies like electricity supply company, KUWSDB, ULE3 etc., needs to be obtained before household connections are given to the consumers.
- (B) Bulk supply of water being under the control of a Government agency (KUWSDB) and Operator being responsible for continuous supply of water to the consumers is entirely dependent on availability and supply of bulk water so as to achieve the performance standards. This becomes crucial since Operator performance is linked to incentives and penalties.
- (C) Government should bring in uniform policy for usage of pipelines such a specific standard like HOPE to be used by all developers. Since there are a number of developers in housing area such as KHB, HUOA, Slum Clearance Board, private developers etc. If each one uses his own type of pipe like CI or PVC it may be difficult later to connect to a single network.
- (D) There are managerial issues in the fulfilment of obligations of the Operator. In nearly 281 house connections wrong reading of meters has been carried out resulting in financial loss to the ULB. The locally based Operator representative does not take any responsibility in doing things and shifts the same on the head office at Bangalore. Unless a matter is decided by head office the local representative of the Operator is not able to take decisions on

important matters The local office is equipped with inadequate staff and therefore it becomes difficult for the ULB to deal with public grievances unless efficient redressal system is not put in place by the Operator.

- (E) Operator has handed over nearly 20% to 30% of water meters to tile householders without being fitted. The contract is structured so as to favour the private operator rather than protecting the interests of HDMC. There are no penalties or liquidated damages imposed on the Operator for non-performance or slackness in performance of his obligations under the contract.
- (F) There is no clarity in the contract on the distribution connectivity to the network, as it is not indicated upto which point the operator has to lay his pipes. The responsibility of the operator ought to have been fixed till the household point. Now if there is a leakage at this point, the operator absolves himself of such responsibility stating that it is not provided in the contract. As a result due to leakage of pipes inside the consumers' premises after the water has passed through the meters, excessive billing has been seen in many households. This has given room to people complaining that exorbitant bills have come and thus there is no use of the project though they are getting 24 hours water supply.
- (G) The role of KUWSOB is to provide bulk water at the agreed quantities. This is the most crucial aspect of the project, since non-supply or reduced supply of the required quantity of water, may jeopardize the entire project configuration, as 24/7 water supply cannot be ensured. The dispute resolution mechanism involved conciliation and adjudication with the assistance of the technical auditor.

### **Benefits of the Project**

- A. Overall the project has been quite a learning experience with the Operator bringing in the latest technology for pressure testing, HOPE pipes upto the; consumer points which is welded together without any joints. Since it is developed as a single network in a demo zone, there is no need for a valve man to open and close valves as there are no valves in the system. At the beginning of the system which is opened and water supplied at a given pressure which is usually more than 6 meters. There are 6500 connections now and the revenue has gone up from Rs. 3.5 Crores to Rs. 16 Crores.
- B. The present loss in the demo zone is measured at about 3% whereas it is nearly 50% in non-demo zones.
- C. There are more and more applications now being received for water connections. Nearly 3120 new connections have been given in Hubli Dharwad cities in addition

to old connections. Some people are requesting for two connections due to assured water supply. Due to increased pressure, the water reaches upto 20 feet (1 st floor) without need for water to be stored in overhead tanks or to be pumped with electric motors as is usually done in the urban areas elsewhere in the State.

- D. Almost all public stand posts are now removed except a few more for the purpose of usage for non-drinking purpose or for use by cattle etc.
- E. Because of metering and volumetric charging on the water consumed low quantity users like 6000 liters to 10,000 liters per month under Type I have been getting the minimum base water charge of Rs. 48 whereas the Type II users who are using more than 10,000 to 15,000 are getting little higher than Rs. 100, which they have accepted without much problem. However, the Type III users who were the large users and taking water for gardens, washing cars etc., are complaining because of higher bills. Though they realise that it is as per consumption yet earlier their bill was fixed per month of Rs. 48 which has gone upto Rs. 400 to Rs. 600 per month based on the consumption of 15,000 liters and beyond. Such users are slowly realising that this type of billing is based on realistic consumption and therefore are reducing their consumption of water.
- F. Due to availability of water 24 hours all through the week, many people are not storing water any longer. Earlier when there was intermittent supply (once in three days), people used to throwaway stored water when the water supply commenced so as to take fresh water. Now this wastage is not there. With metering and volumetric based billing consumers are not wasting water any longer.
- G. Since most of the public taps are now closed because 100% water connections are given in the demo zones (all old regular water connections have been connected under the project). Many unauthorized connections are authorized now. Many people are coming forward for taking second connection for tenant 01 upper floors.
- H. Volume of water consumption has come down due to the 24 hours water supply as there is no spillage in the demo zones. Due to lower and realistic consumption of water, KUWSDB is saving water and is able to divert the same to other, localities.
- I. Quality being checked on a regular basis indicates that there is greater confidence by the users as they feel there is no need to further filter the water supplied.
- J. Earlier water used to let into an underground sump inside the consumer's premises and later pumped into a rooftop water tank. With 24/7 supply, the energy cost is saved.
- K. Earlier large sumps used to be built while constructing houses, but due to 24/7

assured supply, it is no longer necessary to have a sump and its cost is saved by the consumer.

- L. Earlier more number of vessels was required for water storage but that is n() longer required.
- M. Nearly 12,000 houses are benefited by this system due to assured supply; it has been found that there is less consumption and saving of nearly 50% of water from bulk supply point.