

Private Water Supply Augmentation Project
in
SHIVPURI



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February 2013

This report is part of Manthan's efforts to study the trend of Public-Private Partnership projects in water sector, especially in small and medium towns and their socio-economic-cultural impacts on local people, financial health of municipal bodies, local water resources, governance issues and contractual conditions under PPP contracts. We would like to thank the local people and organisations in Shivpuri for extending their support during the field trips and in gathering the information about the project.

Manthan Adhyayan Kendra

Manthan Adhyayan Kendra was set up in year 2002 to research, analyse and monitor water and energy related issues, with a special focus on the developments resulting from the liberalisation, globalisation and privatisation of the economy.

In last several decades, resource use and developmental activities have given rise to fierce debates and intense struggles raising issues of social justice, equity, environmental sustainability, human rights. Serious concerns have been raised about the efficacy in delivering benefits of the existing developmental paradigm. In recent years, enormous transformations in the global and national economic and financial structures have made these concerns even more relevant.

It is necessary, for those working in the public interest and public policy arena to fully understand these transformations, along with the concerns of equity, human rights, environment and so on. Yet, most information, information sources and analytical capacity remain with governments, international financial agencies or private corporate sector.

There is a critical need for independent groups committed to public interest that can carry out high quality research and analysis. Manthan has been set up as an attempt to address this need.

The studies carried out so far include a comprehensive post facto evaluation of the Bhakra Nangal dam project and ongoing monitoring of privatisation and commercialisation in the water sector.

Manthan raises resources from people and institutions that share its political and ethical vision.

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About Shivpuri District

Shivpuri town is the district head-quarter of district Shivpuri in Gwalior division in north-ern parts of Madhya Pradesh. The average altitude of the town is 468 meters above MSL. The town had a population of 1,46,859 as per census 2001. It is estimated that in 2010 the population would grow to 1,80,000. The main business in the district is agriculture. The town is surrounded by dense forests, which is a recognised National Park of India known as Madhav National Park. The town has been summer resort of Sindhiya State, with historic buildings/ places and has become a tourist destination. A tourist village has been established for this purpose.

The town is located on Gwalior - Indore broad gauge railway line and is well connected to all major cities of India. It is also an important town on NH 3, Agra Mumbai road and is well connected by road to Mumbai, Delhi, Gwalior, Guna and other major towns.¹

Rivers and Drainage

There are four main rivers namely Parwati, Sindh, Kuno and Betwa, which pass through the district. Parwati is a tributary of Sindh River and joins it near Pawaya in Gwalior district. It is perennial but not navigable. Sindh enters from Guna district and flowing north for a while, than towards east forming the boundary between Gwalior and Datia districts and finally flows through Bhind to join the Chambal river. Kuno is a tributary of the Chambal. It flows north from Shivpuri district to Morena and joins the Chambal. Betwa rises in Raisen district and flows through Raisen, Vidisha, Guna, Shivpuri and Jhansi districts.²

Existing Water Supply in the Town

The total capacity of supply developed for town is 9 mld. Out of this supply of 5 mld capacity scheme based on surface source - Madhav Sagar Lake, balance 4 mld is supposed to be supplied by tubewells through electric pumps and hand pumps. The quantity of water supplied through tubewells is only estimation and many tubewells go dry in summer months or their yield is highly reduced, resulting in very less supply.

1. Shivpuri Water Supply Augmentation Scheme, for Chief Municipal Officer, Nagar Palika Parishad, Shivpuri, by RY Khandwe, Consulting Engineer, Indore, Page - 3

2. Source URL - <http://shivpuri.nic.in/aboutshivpuri.htm#top>

Shivpuri Town Map



The information received from Nagar Palika Parishad Shivpuri states that - "there are 3 filter plants located in Shivpuri town, the capacity of two filter plants is 1.1 mld each and of the third is 2.8 mld. The total 5 mld water from these filter plants is being used to supply approximately 50% population of the town, once in 3 days. There are 219 tubewells operating in the town, these are used to supply 4 mld water to the remaining 50% population on alternative days. In April 2007, around 100 tubewells out of 219 went dry. Water supply from tubewells dropped to around 2 mld."

It further says that - "Power cuts also lead to decrease in water supply from the filter plants. The 2.8 mld filter plant suffers from leakage and therefore the water supply does not reach the overhead tanks in full capacity. In place of this filter plant we expect to complete a new filter plant".³

Existing Water Resources

Madhav Sagar Lake

The main source of water supply to the town at present is Madhav Sagar lake situated at a distance of 8 km from the town. The lake is fed by Chandpatha tank which is located on the eastern side of the town. The natural drainage of the town is towards this tank and all the waste water of the town flows into this lake. Originally, Chandpatha tank itself was the main source of supply. However, the intake well, was shifted on the banks of Madhav Sagar lake after problems of pollution and dirty water was faced at the Chandpatha tank due to dumping of sewage and municipal waste in the tank. The salient features of Chandpatha tank are given in Annexure-I.

Tubewells

The other major source of domestic water supply to the town is through the tubewells. It is stated that tubewell water is supplied to around 50% of the population that is not covered by the current distribution through overhead tanks. During field-visits to the town it was observed that more than half the population of the town depends on tubewells for domestic water supply. A large number of the population is forced to carry small water canes to these tubewells in their localities to fill these up for domestic consumption. In the recent years, the number of tubewells has proliferated hugely due to Nagar Palika Parishad Shivpuri's 'Jan Bhagidari' scheme to install tubewells in localities where water supply is poor. Under this scheme the installation of tubewells is done by the municipal body and the operations and maintenance of the tubewells for water supply is handed over to the community including the electricity charges borne by the community.

3. Derived from a letter to Executive Engineer, Urban Administration and Development Department, Gwalior (MP) from Chief Municipal Officer, Shivpuri Municipal Council, Shivpuri Dated - 15.03.2007, Annexure-4 of Shivpuri Water Supply Augmentation Scheme Report

Despite the fact that the tubewells are deep the water level is going down every year. The supply from almost 50% of the tubewells goes to zero during peak summer months. There are around 177 handpumps in the town, but majority of these also go dry during the summer months.



Existing water sources - *Jadhav Sagar and Madhav Sagar*

The water supplied from tubewells is through direct pumping, there is no storage capacity that has been built for supply through tubewells. The power pumps which are based on tubewells run on electric power, when available. Due to frequent power cuts, these pumps are incapable to supply water during such periods.

Water Treatment and Distribution System

Water Treatment Plants and Storage Tanks

At the present the town is supplied treated water through water treatment plants with rapid sand gravity filters with a total available capacity of 5 mld. The information received from Nagar Palika Parishad Shivpuri states that - "there are 3 filter plants located in Shivpuri town, the capacity of two filter plants is 1.1 mld and of the third is 2.8 mld. The total 5 mld water from these filter plants is being used to supply approximately 50% population of the town, once in 3 days. The power cuts also lead to decrease in water supply from the filter plants. The 2.8 mld filter plant suffers from leakage and therefore the water supply does not reach the overhead tanks in full capacity. In place of this filter plant we expect to complete a new filter plant soon".⁴ The new filter plant under construction would have the capacity of 2.27 mld.⁵

It further states that, there are six service tanks in the town. All the tanks except one are in good condition and would keep serving the town in the near future. The total capacity of the

4. Derived from a letter to Executive Engineer, Urban Administration and Development Department, Gwalior (MP) from Chief Municipal Officer, Shivpuri Municipal Council, Shivpuri Dated - 15.03.2007, Annexure-4 of Shivpuri Water Supply Augmentation Scheme Report

5. Shivpuri Water Supply Augmentation Scheme, for Chief Municipal Officer, Nagar Palika Parishad, Shivpuri, by RY Khandwe, Consulting Engineer, Indore, Page - 11

service tanks is 2731 KL. However with one tank not in use, due to poor physical condition, the net capacity has been reduced to 2504 KL.

Distribution System and Water Supply Timings

The water distribution lines in the town exist only in the old town areas and people living in newly developed colonies face problems with water supply due to lack of distribution network. Water supplied through piped arrangement in mostly old areas using the overhead tanks while newly developed colonies and areas outside the city are provided with supply using direct pumping from tubewells. Other remaining areas are provided with handpumps. Water is supplied zone wise and most connections get water supply for a maximum period of 30 minutes every alternate day in winters. The supply in summers is once in 3-4 days.



Existing water sources - *Tubewell in Shivpuri*

The DPR of the project states that around 9 mld water is supplied everyday to the present population of the town estimated to be around 1,80,000. This works out to 50 liters per capita per day water supply. Water supply from water treatment plants is around 5 mld, and water supply from tubewells is estimated to be around 4 mld. However, there is no clear record of supply from tubewells and this figure is based on estimation.

Water Supply Charges

The NPPS municipal council approved the hikes in water tariffs to be applicable in the town from January 2002. The NPPS General Assembly proposal no. - 52, dated - 29.11.2001, of the municipal council provides some details of the income and expenditure of water supply services in the town.

The proposal states that as of year 2001, the electricity expenses per month for water supply is Rs 8.5 lakhs, the expenses on other maintenance works like motor pump, pipeline, filter plant repairs, purchase of chlorine, bleaching powder for water treatment cost around Rs 4 lakh per month. The total expense for water supply per month comes to around Rs 12.5 lakhs. The

recovery on water charges per month for NPPS is around Rs 4.05 lakh per month, which means a deficit of Rs 8 lakh per month. It further states that with the impending increase in electricity charges the deficit is set to increase up to Rs 13 lakh per month.

The General Assembly Proposal also notes the approved water charges hiked from 1st January 2002, for the domestic un-metered and metered water connections from Rs 40 to Rs 70 per month and Rs 1.50/ KL to 2.75/ KL. Commercial charges were raised from Rs 120 to Rs 200 per month for un-metered and from Rs 4.50/ KL to Rs 7.50/ KL for metered connections.



Private Water Supply Augmentation Project

The new private water supply scheme has been planned, arguing that the existing water resources i.e. Chandpatha tank and Madhav Sagar lake are too contaminated to supply drinking water and most of the tubewells that supply 50% of the water depend on fast depleting ground water sources. The water supplied per capita is less compared to the standard supply laid down under CPEEHO manuals. It is stated that the new scheme has been planned keeping these factors in mind.

This new private water supply project costing Rs 80.71 crores (revised project cost) is being executed under UIDSSMT (Urban Infrastructure Development Scheme in Small and Medium Towns) supported by the Government of India and the Government of Madhya Pradesh. In the current situation, it is understood that urban water supply systems require enormous capital injection to improve water services. But this is not possible for many Urban Local Bodies (ULBs), because of their poor financial condition, to invest funds from their own sources. However, for the last few years (200 -2012) funds are being made available through JNNURM (Jawaharlal Nehru National Urban Renewal Mission), a countrywide central government scheme for infrastructure development in the urban areas. The grants sanctioned under this scheme have the central and state share of 80% and 10% maximum respectively, depending on the population of the ULB, remaining 10% (or more depending on the size) of the funds are ULB contribution.

A similar scheme for small and medium towns is also going on simultaneously, namely UIDSSMT. In this scheme the share of the grants from the central and the state government has been fixed at 80% and 10% respectively. The share of ULB is the remaining 10%. The Private Water Supply Augmentation Project in Khandwa is also been approved under UIDSSMT and implemented through PPP (Public Private Partnership) mode.

UIDSSMT carries forward water sector reforms in small and medium towns. The objective of this scheme is to make the ULBs financially sustainable and attractive for PPP projects. According to the reforms agenda attached to the funds, ULBs and state governments would have to agree to the reforms agenda of the scheme. Reforms largely mean financial sustainability, full cost recovery, user charges and private participation in urban municipal services and have been categorised in two parts - (1) Mandatory and (2) Optional.

Mandatory reforms have to be implemented as accepted in the tripartite Memorandum of Understanding (MoU) between the ULB, state and the central government. The ULBs can implement optional reforms as per their convenience, but within a time-period of 7 years. This condition of putting a cap of 7 years for implementing the optional reforms shows that there isn't much to differentiate between the mandatory and optional reforms apart from the period given for implementation. The Mandatory and Optional Reforms are given under **Annexure-II**.

Scope of Work

1. Development of Independent Water Supply Project - This includes financing, detailed planning, designing, engineering, construction, procurement, commissioning of water supply scheme comprising of intake works (excluding civil construction work of intake well and jank well), 42 mld capacity pumping machinery upgradable to 63 mld capacity in phase II, approximately 15 km raw water rising main (RWRM) for 61 mld flow, water treatment plant (WTP) of 40 mld with clear water pumping machinery for 40 mld capacity, both upgradable to 61 mld capacity in phase II, electric sub stations with 33 kv power transmission lines, clear water rising main (CWRM) for 61 mld net flow of about 15 km length, laying of new distribution network (approx. 63 km long), rehabilitation/ replacement of existing distribution network of approx. 87 km, construction of elevated service reservoirs (ESR) of varying capacity 12 in nos. and installation of required number of bulk flow meters at beginning of RWRM and CWRM and at the outlet of every ESR and wherever desired and installation of water meters of specified standard for every retail consumer and bulk flow meters for every bulk consumer at the cost of NPPS on rates specified in Schedule I.

2. Operation and Maintenance - The operation and maintenance of the project includes all the components of water supply project assets described earlier on sustainable basis during the concession period excluding 33 kv power transmission line. In addition to above the concessionaire shall also operate and maintain existing ESRs, existing distribution network, extension of distribution network and additional ESRs constructed by NPPS in future. Further the operation and maintenance shall also include -

- i) Deployment of adequate operations and maintenance staff
- ii) Maintenance of minimum average water supply level of including 35 lpcd with due pressure and required quality for the duration of 24/7
- iii) Achieving 100% metering in phased manner
- iv) Manage requests for new connections including connection, reconnection, repairs, etc. Approval for new connection will be given by NPPS on deposition of connection fees by consumer
- v) Manage the regularisation of illegal connections with assistance from NPPS

The new project proposes to use GRP (Glass Reinforced Plastic) pipes for raw water rising main and clear water rising main pipelines. It is stated that, it seems that these pipes are very good from strength, durability and adoptability points of view. The 'C' value of 150 which gives better flow characteristics than DI. It is also stated that the GRP pipes are being used in Dewas Industrial Water Supply Scheme to bring water for Dewas Industrial area and also some other water projects in Madhya Pradesh.

Under this project a new treatment plant is proposed to be constructed for the entire demand as per the augmentation scheme. Construction of a conventional treatment plant of 43 mld capacity is included in this scheme. It is expected that this capacity would be sufficient till 2025. However, additional capacity can be added after 15 years when the demand grows. The scheme proposes to supply water for 1.5 hrs in the morning and 1.5 hrs in the evening, the capacity of service reservoirs should be such that at least half the demand is stored both times prior to opening of supply valves. The general practice is to provide service storage equal to 25 - 40% of the daily demand. The service storage should be provided for 15 year design period.

The project aims to provide 35% of daily demand of year 2025, ie 43 ML. Hence, the required service storage is 15.05 MLD. In addition to this 527 KL is also provided for fire-fighting demands of the population. The total storage capacity required comes to 15.577 MLD. The town already has existing storage capacity of 2504 KL, therefore the required additional storage capacity comes to 13 MLD approximately. The project plans to provide this required additional storage capacity through 12 newly constructed overhead tanks.

The following **table No.-1** derived from the Detailed Project Report gives the population forecast and the water demand of Shivpuri in the coming future.

The DPR states that the existing distribution system though old is working satisfactorily and all the connections are from the existing system. Further almost all the lanes of the town have cement-concrete pavement. If new lines are to be laid, the whole concrete pavement needs to be dug out and it will be very difficult and costly to do the same. It has been decided that the existing lines should be used as far as possible and no lines should be replaced. New lines, however would be laid, where due to technical reasons, this becomes unavoidable.

The newly developed areas and new colonies around the city will be provided with a well designed network. The new tanks will have their independent distribution network. The outer areas are not fully developed at present but more and more houses are being constructed every year. The areas will develop and need for laying more pipelines will be felt very soon. Therefore, provision has been made for this over and above the length designed.

On Unaccounted For Water (UFW) the DPR states that - a part of UFW comprises of water

used for public services such as public gardens, supply to large public gatherings, street washing, etc. However, major part is lost due to leakage and theft including illegal connections. UFW also includes the water supplied through public stand posts. Leakages, illegal connections and supply through public stand posts can be reduced to a large extent by proper management and strict checking and control. The number of public stand posts should be reduced to a minimum.

Table No-1
Population Forecast and Water Demand

Design Year	Population	DemandMLD				Adopted for Scheme MLD
		@135 lpcd	15% for UFW	10% Additional*	Total	
2007	1,67,000	22.55	3.38	2.26	28.19	28
2010	1,80,000	24.30	3.65	2.43	30.38	30
2025	2,55,000	34.43	5.16	3.44	43.03	43
2040	3,60,000	48.60	7.29	4.86	60.75	61
2060	5,80,000	81.00	12.15	8.10	101.25	101

*for large establishments institutional needs and floating population (MLD)

**Similar population forecast figures and demand for future years are also used in Schedule Q of the Draft Concession Agreement for water supply and water tariffs.

DPR attempts to quantify UFW between point to point, for this purpose it proposes to install water meters on important locations such as - after the intake well, after water treatment plant, on Circular Road - AB road junction on each of three branches and on inlet to each service reservoir. These meters will indicate quantity of loss in different sections up to service reservoirs. Loss in further distribution system can be ascertained by installing water meters on important locations to be selected after commissioning of supply.

DPR also proposed the total cost of the project estimated at Rs 6185 lakhs (61.85 crores). The estimated operations and maintenance cost of the project is Rs 1229.20 lakhs per annum (12.292 crore per annum) with the targeted production of 61 mld water.

DPR gives the time schedule of the project as - the total construction period of 2.5 years after sanction of project and allotment of funds. It is expected that the formalities of sanction should be completed by end of October 2007. In such case the project can be completed and commissioned by March 2010. However, the contract agreement for the project was signed on 10th September 2009 and the construction phase is ongoing till date due to slow progress of work by the private concessionaire and delays in execution.

Financial Aspects of Private Water Supply Project

As mentioned earlier the initial estimated total cost of the project was Rs 61.85 crores according to the DPR prepared for the project. However, on current estimates this has risen to Rs 80.71 crores approximately. Out this current estimated project cost Rs 53.68 crores are being provided by NPPS as Central and State government share under UIDSSMT.

The remaining share of the total project cost Rs 27.03 crore to be borne by NPPS in principle is now being provided by the project concessionaire and hence the project has been awarded in PPP mode to the private concessionaire Doshion Limited on the basis of the bidding parameter of lowest retail water charges to be collected from consumers per kilo liter for the base year. In lieu of this part funding of the project Doshion Limited has been given the concession to build, operate, maintain, bill, charge and collect water tariffs from the residents of Shivpuri to recover its own investment and profits from this project for the next 25 years including construction period of 24 months.

The internal rate of return that the company has estimated from this project is 16.6% per annum. The original base price fixed for retail clear water supply is Rs 15.40/ KL to be collected from the consumers, to begin with. According to the concession contract, the concessionaire and NPPS agree and acknowledge that the fixing of initial price - water tariff under this provision has been carried out on the basis that they are commercially expedient. It also states that, the initial price - water tariff charges offered to be levied by the concessionaire is considered as recovery rate required for recovery of concessionaire's capital investment and expenditures thereon, over the concession period.

The Format 22 of the Price Offer under the concession contract submitted by the private concessionaire to NPPS gives the break-up of the costs involved in the project for the duration of the concession period. These are -

Table No-2
Project Capital Cost

Sr. No.	Particulars of Sub-Work	Amount (Rs in Lakhs)
1	Civil Engineering	6540.20
2	Electrical and Mechanical Engineering	1196.80
3	Other Costs	334.00
4	Capital Cost of Augmentation in future places	0.00
	Total Capital Cost	8071.00

**Table No-3
O&M Cost and Revenue**

Sr. No.	Particulars of Sub-Work	Amount (Rs in Lakhs)
1	Total Project Operations and Maintenance Cost	26475.00
2	Revenue from Water Tariff	3200.00

The Format 22 of the Price Offer further states - "The Price bid of treated water per kilo liter offered by us shall enable us to recover the total cost of the project excluding the share of GoI and GoMP as per UIDSSMT provision and the return till the completion of the Conservation period. We understand the fact that the Price Offer proposed by us is base price X per kilo liter and the consumption based water charges shall be calculated as per formula given in Schedule K of the Draft Concession Agreement (Volume II) for different types of users as per their consumption and use (domestic, commercial and industrial)."

**Table No-4
Private Water Project - O&M Charges @ Base Tariff**

Design Year	Population	Water Supply MLD	Base Tariff/ KL (Rs)	O&M Exp. @ Base Tariff (Lakh Rs)		
				Per Month	Per Year	@80% off-take
2010	1,80,000	30	15.4	13.86	28.19	28
2025	2,55,000	43	15.4	19.86	30.38	30
2040	3,60,000	61	15.4	28.18	43.03	43

Table No.-4 shows according to the information available in the public domain, a back of the envelope calculation of the O&M charges worked out for the years for which water supply demand has been forecasted based on the population figures for those years @ rate of base tariff quoted by the private concessionaire. For example, for 2010 the O&M charges would be Rs 16.86 crore at the full supply of 30 mld, even for minimum off-take of 80%, the O&M charges would be around 13.49 crore. The increase in O&M charges is huge for the residents of the town and for NPPS, which struggles to recover the present Rs 12.5 lakhs expenses for the current system.

The water connection charges to be collected from the individual connection holders shall be at a flat rate of Rs 150/- (General) and Rs 100/- (BPL) categories in the first year of operation

are fixed as stated under the Proposed Amendments in the Tender Documents already issued to the tenderers, based on discussion and instructions issues by Madhya Pradesh Vikas Pradhiakaran Sangh, Bhopal. On the other hand the DPR suggested water tariffs for domestic connections starting from Rs 200/- onwards per month.

However, there is still some ambiguity on the information available in public domain on water tariffs and their recovery by the private concessionaire. Assuming that the water supply is equal to the demand forecasted in coming years and flat water charges are implemented, then in this scenario the private concessionaire could run the risk of running a deficit on its operations beginning from the first year itself. However, it is not clear if these losses in revenue would be compensated by NPPS in the form of bulk payments or by the residents in the subsequent periods through water tariff hikes.

Table No-5
Water Connections and Revenue

Year	No. Of Water Connections	Charge/connection (Rs)		Revenue (Rs) (B*D)
		Per Month	Per Year (C*12)	
A	B	C	D	E
2010	12,885	150	1800	2,31,93,000
2014	18,000	150	1800	3,24,00,000

Table No.-5 shows an estimate of the revenue from the total number of water connections in the town, in 2010 and 2014, the estimated year when COD begins. The City Development Plan of Shivpuri gives the existing number of water connections at 12,885 and it is estimated that when COD begins the target for 18,000 connections would be achieved by the private concessionaire. The revenue would be for 2010 and 2014 from these connections @ Rs 150/- per month would be around Rs 2.32 crores and Rs 3.24 crores per year at full recovery. But again as shown above O&M charges for 30 mld forecasted water supply at Rs 15.40/ KL is around Rs 16.86 crores per year, a deficit of Rs 13.62 crore. It is not clear how NPPS would cover this deficit and if it would be from its own resources or from the state government support. The revenue from other sources like commercial and industrial is very less in Shivpuri and hence has been considered to be negligible in these calculations.

□

Concession Contract between NPPS and Doshion Limited

The new private water project executed through a concession agreement with Doshion Limited, a private company, which shall execute this project through a Special Purpose Vehicle (SPV) formed for this project named Shivpuri Water Infrastructure Limited (SWIL). The base water tariff quoted by the private company in its bid and agreed upon by Nagar Palika Parishad Shivpuri (NPPS), for supplying water through this project is Rs 15.40 per kilo liter. The internal rate of return quoted by the company for this project is 16.6% per annum.

NPPS has accepted the bid submitted by Doshion Limited for this project and has awarded the project to it for construction and operation and maintenance for the next 25 years, dated 10th September 2009.

Here it is required to point out some of the main features of the concession contract for the benefit of the larger public and for dissemination in public domain. The contract is not too different than some others that have been signed in the water sector to execute water supply projects like in Khandwa and benefits to the private company have been secured, through various clauses incorporated into the concession contract.

We discuss here some of the main features of the contract that need to be looked upon critically in terms of domestic water supply to such a region, where socio-economic strata includes a large number of poor and lower middle class income groups.

1. Water Tariffs

The base water tariff for water supply to the residents in Shivpuri under the private project has been quoted as Rs 15.40 per kiloliter. It needs to be understood that as mentioned this is the base water tariff, meaning that in future water tariffs would keep increasing beyond Rs 15.40. On the other hand it should not be understood by any chance that water tariffs would remain fixed at Rs 15.40. Since this is just the base tariff and this would increase due to various conditions, as discussed below, under water tariff revision clauses mentioned in the concession contract. The water bills can also include disconnection/ reconnection/ meter-repair charges along with the delayed payment charges. It is also likely that the water tariff would not only include charges for water consumed but also other service charges, surcharges, local taxes and duties further inflating the water bills.

Water tariffs per household under the private project was proposed at flat rates of Rs 200/- per connection per month in the DPR of the project. However, it has been revised to Rs 150/- for the first year of operation under the project. Earlier it was also proposed to charge water consumption at per Kilo Liter rates but this was rejected later in favour of flat rates.

2. Water Tariff Revision

As the concession contract with the private company shows that there are several scenarios which can trigger water tariff revision and price hikes, like mandatory tariff hikes after every three years of 10% or more has been included in the concession contract, water tariffs can also be increased based on increase in raw water and electricity costs - it is common knowledge that electricity charges keep increasing frequently. Additionally if expenditure on water supply increases due to increase in other costs the company can apply for tariff hikes to the Price Review Committee.

Water tariffs under the project can also be increased if the consumption falls short of the demand projections as calculated by the private concessionaire, below 80%. The corrigendum published subsequent to pre-bid meeting on 12th May 2009 states under - "Review of price due to non drawl of water as per anticipated demand (Schedule Q, page 175, Vol II). Schedule Q gives the anticipated population and demand in different design years. The bidder is supposed to interpolate the demand in intermediate years by suitable methods. If the actual demand is below 80% of anticipated demand after 3 (three) years of COD, the matter can be referred to the Price Review Committee for suitable revision of price. The demand will be considered equal to the water released from the WTP."⁶

In all these and some other scenarios the private concessionaire can make submissions to the Price Review Committee to raise water tariffs immediately for the water supplied to the households in the town.

3. Price Review Committee

A Price Review Committee has been proposed to be formed under the concession contract signed with the private concessionaire, Doshion Limited, for reviewing the private company's applications for changes in prevailing water tariffs. Some of the conditions under which these water prices can be reviewed have been mentioned above under Water Tariff Revision. The Price Review Committee would include, as mentioned in the amended concession contract, the Chief Municipal Officer, NPPS; the Deputy Director, Local Fund (Audit) GoMP; the Executive Engineer, UADD, Gwalior; the independent auditor of the project and one representative of the

6. Tender for Work of Construction and Running and Maintenance etc of water supply augmentation scheme on PPP basis (NIT No. - UIDSSMT/WS/117/08 Dated - 17th February 2009), Corrigendum subsequent to Pre-bid Meeting dated - 12th May 2009, Nagar Palika Parishad, Shivpuri

private concessionaire. The committee comprised of these people shall decide upon the applications and submissions of the private concessionaire to raise tariffs. Surprisingly, there is no people's representation on the committee in the form of a public representative, local residents, local organisations, etc. This could create a bias in favour of the private company in the committee whenever price hikes are brought forward for its consideration with no representation of the local people to put their views and opinions in the committee and the impacts that the tariff hike would have on local population.

4. Billing Collection and Payment

Under the concession contract the private concessionaire shall serve the bills to the consumers based on meter readings, water consumed and distributed based on the prevailing water tariffs. Water supply bills shall be issued within 10 days of recording the meter reading and shall have the maximum payment period of 30 days. In the event of any disputes for overcharging, the consumer shall make the payment of the water supply bill under protest and then file a complaint for redressal of his grievance.

There are also clauses included under the individual agreement in the concession contract states that in case of delayed payment or default in payment of water charges NPPS or private concessionaire can force the recovery through District Collector, Shivpuri by deducting the pending water charges from salaries and or by attachment of moveable or immovable property.

5. No Parallel Competing Facility

The concession contract includes a clause named "No Parallel Competing Facility". Under the clause it is noted that "Notwithstanding anything to the contrary contained in this agreement save and except the ongoing works of improvement prior to signing of concession agreement planned under the project, it is agreed that there shall be no commission of any parallel competing facility whether by way of construction of a new facility or augmentation of capacities of existing facilities for a period of 25 years from the appointed date of water supply project".⁷

A Parallel Competing Facility under the concession contract has been defined as - "shall mean any facility being set up by any person (including NPPS, GoMP or any entity claiming through such person) other than the concessionaire for supply of water in municipal limits at any time before termination of this agreement without the consent of the concessionaire".

It also needs to be noted in this regard that under this clause the private company shall have the right to prohibit and ban the use of not only municipal corporation managed, operated, funded water supplies/ resources but also those managed, operated and funded by the state

7. Negotiation and Finalisation Agreement (As per Clause 28 of Volume I (Page 23) of Bid Document), Shivpuri, Dated - 27th August 2009



Local water sources - *being encroached*

government and also the personal systems built by local residents including community based water resources and supplies. Under this clause the private company shall have the right to ban the use of water from personal tubewells, dugwells, handpumps, tanks, etc. This is a step further in securing the rights and more importantly the profits of the private concessionaire at the cost of the lives and livelihoods of the local residents, ignoring and severely impacting the socio-cultural-traditional aspects of the local populace.

6. Water Shortage, Treatment and Supply Suspension Period

The concession contract notes that under the determination by private concessionaire and the certification thereof by the NPPS's engineer, that private concessionaire is unable to draw raw water, as required at the abstraction area, or NPPS notifying the commencement of a lean period due to which private concessionaire is unable to draw required raw water at the abstraction area, the water shortage period would commence. It also notes that during the subsistence of a water shortage period, or when there is failure in electricity supply to the facility or any part thereof. Private concessionaire is entitled to suspend services which are not practicable to be maintained.

Similarly, during the subsistence of water treatment and supply suspension period, the concessionaire shall have the right to suspend services and be relieved of its obligation under the agreement. It shall have the right to suspend supply or supply lesser volume of potable water than that contracted for.

The concession contract includes clauses that address the scenarios and problems faced by the private company and secure its rights and responsibilities under it. However, in case of "No Parallel Competing Facility" being applied on all other sources of water supply in NPPS area during the concession period, the concession contract fails to identify and address the problems that local residents can face when clauses like water shortage period or water supply suspension period are triggered under the concession contract. It also fails to suggest alternatives in case if such emergencies arise and steps that need to be taken when all the other facilities have been rendered useless. It needs to be noted that the above mentioned scenarios for water shortage period also apply to electricity shortage period as well.

7. Disconnection of Water Connections

The concession contract authorises the private concessionaire to disconnect water supply connection of any resident⁸ due to delay in payment of water supply bill beyond 2 months from the due date of payment of bills. The private concessionaire can disconnect water supply of any consumer by intimating the same to NPPS. Disconnection of water supply will be done through an arrears collection team comprising of a bill-collector, fitter and labourers.

The private concessionaire shall submit to NPPS quarterly reports pursuant to the disconnections and reconnections done during the period. The concessionaire shall also submit a list of defaulting consumers to NPPS every year during O&M period. The defaulting consumers would be those whose connection has been disconnected on account of non-payment of water tariff and reconnection has not taken place for more than one year from the date of disconnection. The list shall also state the outstanding arrears pursuant to the list of defaulting consumers. The corrigendum published subsequent to pre-bid meeting on 12th May 2009 states that - "Concessionaire shall prepare and submit the list of defaulting consumers in accordance with the clause 9.1.6(viii) to NPPS every year. NPPS shall reimburse 50% of the said amount due for after every 3 (three) years. The NPPS will assist for recovery of balance amount".

8. NPPS-Consumer Agreement for water connection

According to the concession contract signed between the private concessionaire and NPPS, the residents of Shivpuri town would have to enter into a new individual agreement with NPPS for getting water supply connection from New Private Water Augmentation Project called as "Agreement to be entered into by NPPS and Consumer". This agreement includes 25 clauses that a resident called "consumer" herein should follow in order to keep receiving water from this new private water scheme. There are some notable clauses that need mentioning in this regard -

"3. Any dues on account of water bills if pending with me for a period of 2 months or

8. The concession contract mentions the local residents as consumers while referencing them in the document.

more than the deposits. Nagar Palika Parishad, Shivpuri has right to disconnect my connection without prior intimation and I will be solely responsible for this disconnection.

4. ...hereby agree that Nagar Palika Parishad, Shivpuri/ concessionaire is empowered to impose revenue recovery through District Collector, Shivpuri informing my office for deduction through my pay and salaries and or by attachment of my moveable or immovable property against the pending water bills.
5. ...will not complain for non-supply of water as per schedule fixed by Nagar Palika Parishad, Shivpuri, less water supply, water supply with low pressure or due to any unavoidable reasons/ situations.
6. ...will not complain for non-supply of water due to any force majeure like natural calamities and power supply breakdown or fault in pumping machinery and electrical installations".

These are some of the clauses that have been incorporated as part of the individual agreement under the private water project. These also show that the conditions of water supply are not favourable towards the residents but are highly skewed in favour of the project concessionaire and also abdicate NPPS of its responsibilities of water supply and adequate service levels to the local people.

9. Public Stand Posts and Water Supply to Slums

The concession contract mentions that in the case of public stand posts and in slum areas the following shall be applicable - "All public stand posts shall be disconnected from the Commercial Date of Operation (COD). The affected persons shall be motivated for taking individual/ group connections. Group connections shall be for apartments/ tenants up to 10 households. One of the consumers shall be chosen as the group leader who shall be responsible for



Water supply - from public standposts

payment, for fixing meters and water consumption charges. The tap under group connection shall be a single tap located outside the apartment/ tenants at the ground level in the premises of one of the group members and shall be located so that it is accessible to everyone. The group leader will be responsible for collecting all the dues from group members and making payment to the concessionaire. If the group leader fails to pay for water consumption charges, then the connection is liable for disconnection".

It needs to be noted that the removal of public stand posts can have severe impacts on the access to water of urban poor, marginalised sections, tribals, dalits, lower castes, urban immigrants of the society. There are still large sections of these urban poor who would not be able to afford to pay for individual connections and water bills. When these conditions would be applied these sections would be hard pressed to fulfil their needs for drinking and domestic water.

10. Complaint Redressal, Technical and Other Issues

There are various other issues that also need attention with regards to water supply being handed over to private company in the town. Some of these are included in the contract but without providing adequate redressal mechanisms have been left at the disposal of the private operator. The contract for example states that for use of electrical motors would not be allowed to pump water from the main lines so as to keep the pressure constant in all the parts of the distribution system. However, it does not say that in the scenario of persistent low pressure, if people are forced to use motors to pump water then what would happen. No complaint mechanism has been suggested in case inadequate water is supplied to certain parts of the town. Similarly, it states that under the contract to store water underground sumps will have to be constructed to store water by the residents. Water stored in these sumps can then be pumped to individual overhead tanks for later use. However, in crowded and congested urban living conditions and housing, if this is not possible in some parts of the town, no alternative options have been given.

The project documents and the concession contract for this private water project have been drawn up by a private consultancy firm as recommended under the guidelines of UIDSSMT scheme. The contract is quiet similar to the one that is under implementation in Khandwa. There are already reports that the private water project under implementation in Khandwa is facing protests from the local people and a campaign is also undergoing there with regards to the project. Yet, a similar private project for water augmentation has been approved in Shivpuri under similar terms and conditions and favour towards the private concessionaire leaving the voices of the local people unheard.

□

References

1. Contract Agreement between Nagar Palika Parishad, Shivpuri and Doshion Limited and Shivpuri Water Infrastructure Limited, Dated - 10th September 2009
2. Bid Document, Vol I, Instruction to Bidders and Formats, Water Supply Augmentation Scheme under UIDSSMT on Public Private Partnership basis, February 2009
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5. Detailed Project Report, Shivpuri Water Supply Augmentation Scheme, Chief Municipal Officer, Nagar Palika Parishad Shivpuri, Prepared by RY Khandwe, Consulting Engineer, Indore, 2007
6. Tender for work of construction and running and maintenance etc of water supply augmentation scheme on PPP basis (NIT No. - UIDSSMT/WS/117/08, Dated - 17th February 2009)
7. Corrigendum subsequent to Pre-bid Meeting, Dated - 12.05.2009

Annexures

Annexure - I

Salient Features of Chandpatha Tank

Particulars	Details
Catchment Area	72.52 sq. km.
FTL	345.03 M
MWL	345.64 M
TBL	346.86 M
Gross Storage Capacity	7.780 mcm
Live Storage Capacity	7.765 mcm
Dead Storage Capacity	0.015 mcm

Annexure - II

Madikheda Dam salient features

Sr. No.	Particulars	Details
1	River	Sindh
2	FTL	346.25 M
3	MWL	346.85 M
4	TBL	350.00 M
5	Gross Storage Capacity	901.81 mcm
6	Live Storage Capacity	834.83 mcm
7	Dead Storage Capacity	66.98 mcm
8	MDDL (Power Generation)	320.00 M
9	LSL (Irrigation)	309.00 M

Mandatory and Optional Reforms under UIDSSMT

A. Mandatory Reforms

- i) Urban Local Body (ULB) / Parastatal level Reforms: The mandatory reforms at ULB level¹⁸ include adoption of modern accrual-based double entry system of accounting, introduction of system of e-governance, reform of property tax with GIS, levy of reasonable user charges by ULBs/ Parastatals with the objective that full cost of operation and maintenance or recurring costs collected within next seven years, internal earmarking within local body, budgets for basic services to the urban poor, provision of basic services to urban poor including security of tenure at affordable prices, improved housing, water supply, sanitation and ensuring delivery of other already existing universal services of the Government for education, health and social security.
- ii) State Level Reforms : The mandatory reforms at state level¹⁹ include implementation of decentralisation measures as envisaged in 74th Constitution Amendment Act, repeal of urban land ceiling and regulation act, reform of rent control laws balancing the interests of landlords and tenants, rationalisation of stamp duty to bring it down to no more than 5% within next seven years, enactment of public disclosure law, enactment of community participation law to institutionalize citizen participation and introducing the concept of area sabha in urban areas and assigning or associating elected ULBs with city planning function.

B. Optional Reforms

Optional reforms common to State and ULBs/ Para-Statals include revision of bye-laws to streamline the approval process for construction of buildings, development of sites etc., simplification of legal and procedural frameworks for conversion of agricultural land for non-agricultural purposes, introduction of property title certification system in ULBs, earmarking at least 20-25% of developed land in all housing projects (both public and private agencies) for EWS/ LIG category with a system of cross subsidisation, introduction of computerised process of registration of land and property, revision of bye-laws to make rain water harvesting mandatory in all buildings and adoption of water conservation measures, bye-laws for reuse of recycled water, administrative reforms i.e. reduction in establishment by bringing out voluntary retirement schemes, non-filling up of posts falling vacant due to retirement etc. and structural reforms and encouraging public private partnerships.