

**ICRIER's Program on Capacity Building and Knowledge Dissemination on Urbanization
in India: *Preparing for the Urban Challenges of the 21st Century***

Chandigarh Workshop

February 20, 2013

Summary of the Proceedings

Participating states: 5, Delhi, Haryana, Punjab, Uttar Pradesh, Chandigarh

Focus: Service Delivery of Water and Sanitation

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Haryana Chief Minister Shri. Bhupinder Singh Hooda in his inaugural address stated that successfully meeting the challenge of urbanisation was critical to sustained economic growth and development of India. Lack of adequate urban infrastructure and civic services coupled with social inequalities were main challenges leading to urban crisis. Haryana Government was fully aware of it. Transport connecting Faridabad and Gurgaon to Delhi was important. He was considering other alternative modes of intra-city transport such as autopod used in London, Heathrow. He re-enforced his commitment to innovate, learn and move ahead. For Punjab and Haryana states, he stated that water was an issue that they had tackled by promoting drip irrigation, sprinkler irrigation and organic farming- that enhanced farmers' incomes substantially. In cities water conservation was compulsory. Models from Israel for water usage were very impressive and may be applied here. He stated water tariffs were negotiable. He was confident that the workshop would generate useful ideas and conveyed his best wishes.

Mr. Malvinder Mohan Singh Chairperson CII Chandigarh agreed that urbanization was an extremely important subject for all, as India continues to develop and grow and with growth people wanting to move to urban cities and townships. The challenge was to develop newer cities, new townships and make them far more eco-friendly in terms of the environment. Cities created for the future that would be transiting and evolving today. Increased population only compounded complexity of existing gaps and challenges. Mr. Vikram Hans CII-NR thanked the participants.

Professor Meenu Tewari, HUDCO Chair Professor, ICRIER said that next two sessions covered water and sanitation as they were quintessential challenges for us in the 21st Century. India was already called water-stressed in this 2012, assessment by the FAO. Much of it was due to the unplanned growth of cities. India was going to be growing from 31% urban to double that in 2031. This was the time to lay the infrastructure for sites and invest in the resources so that those

resources would last for a long time, would be productive, and would serve the needs. But ULBs weren't able to conserve water, lot of water was wasted during supply and there was problem of the drainage system and the sewage system. Dhaka, Bangladesh had achieved 24 hours of water supply in the cities and it had done a number of other things to improve connections across the board, all this was not just about money.

Mr. Kartik Mishra, ICRIER, Delhi.

1. He listed challenges of rapid urban growth, leading to greater demand for water, and rising incomes created higher expectations for the quality of water. Increased investment in networks, replacement of existing systems and making delivery mechanisms more efficient would solve urban water issue. The challenge was to do this in a way that was environmentally and financially sustainable.
2. Stress points in the system were, financial stress, which comes from rising energy costs and unwillingness to raise user charges. And environmental stress from inadequate investment in sewage treatment and neglect of solid waste management.
3. Critical dimensions of a well-run utility were autonomy, accountability, and market orientation. How do Indian urban service providers compare against these benchmarks? Haryana and Punjab on an average get five to six hours per day and 95% - 100% of population was covered with 70 LPCD in Haryana, against 128 for Punjab. Piped network for water supply was 74% in Haryana while it was 68% for Punjab. In Haryana water was from Yamuna and very few houses were metered similar to Punjab, which got it water from Sutlaj and Bias. Sewerage system covered 49% of houses and 90% of people with 17 sewage treatment plants in Haryana while Punjab had 64% sewerage coverage and 95 treatment plants.
4. Financial losses are huge due to subsidy and falling water tables. Institutional structure of utilities with a dedicated cadre and accountable officers, performance of leakage-based contracts, as in Ho Chi Minh City with private partners and public-private partnership of Manila were success stories quoted. He suggested that they think of new models for provisions for all our cities as size of city does not matter.

Mr. Suresh Kumar Nangia, Principal Secretary Water and Sanitation, Government of Punjab

1. Punjab contrary to common belief was water stressed. The available water in the rivers of Punjab was coming down gradually. Coupled with this, there was the problem of water pollution. 9% - 10% of the samples had heavy water. Reverse Osmosis was immediately available technology we installed in 800 villages and planned for 860 villages.
2. Cities in Punjab were in bad shape, their finances were poor, services and infrastructure were and roads network was weak. Capacity building was an issue.

Mr. Rakesh Verma, Municipal Commissioner, Ludhiana

1. Two issues of water and sanitation and solid waste were covered in his presentation The Punjab Structure Development Board was quoted as an overarching body across the

sectors and the PPP initiatives. Within the department of local government, Punjab Ministry's Infrastructure Development Company had been running such initiatives.

2. Water supply covered 88%, sewerage 63%, sewage treatment plants 38% of population. Capital investment needed to cover gap was Rs. 6000 crore. Urban transport sector covering roads and streets required an estimated Rs.9000 plus. Funding was raised using multiple sources.
3. Cost recovery from the present taxes and revenues were 8% of the operation and maintenance cost. Rest 62% came from state transfers. There were no meters, flat rates were charged and unaccounted water goes waste.
4. Proposed water supply tariff was only at the discussion stage. State had 42 deaths due contaminated water as the sewage pump had not been operated for one year as there was no money to pay for the electricity.
5. Cluster development approach was adopted for solid waste management funded by the World Bank, by dividing the state into 8 clusters for solid waste management with capacity of about 4000 ton per day and the total project cost was 675 crore and were landfills. Cluster of Jullundur, Ludhiana, Batinda, Mahauli, Patankhot, Patiala were functioning and Amritsar was under litigation. They had a long term lease from private infrastructure company and had managed about 1100 metric ton per day over last 7 months.

Mr. S.K Bansal Engineer-in-Chief Public Health Engineering Department Government of Haryana

1. Overall, Haryana had 80 towns where municipal committees, corporations and townships exist. 30 towns had populations of more than 1 lakh. About 60% of Haryana had access to underground water. Dissolved solids are about 1500/2000 milligrams per liter.
2. The Public Health Engineering Department managed sewerage plants and sewage systems in urban areas. It covered more than 75% in 46 towns, 50% in 14 towns, and less than 50% in 7 towns. There were 33 sewerage plants in 24 towns and treated 439 tonnes of waste a day. In 49 towns, 43 plants were under construction. These would cover an additional 340 tonnes in a day. 13 towns were without sewage treatment plants.
3. Haryana, had very low tariff for urban water supply, which was one rupee per kilolitre for domestic users, and 4 rupees per kilolitre for non-domestic users. A flat rate 48 rupees per month per connection for non metered houses.
4. Sewage services had major bottleneck, blocked sewers due to cow dung, polythene, other solid waste, lack of co-ordination between various line partners, disposal of waste, in the low lying areas and tampering with manhole covers.

This ended the first session. Discussion in the session evolved around issues of service delivery in the drinking water supply and especially toward attitude of the staff to consumers. Role of Information technology and its usages were the second issue for sharing and comparing notes among participants.

This was followed by the post lunch session on experience sharing from other states. Dr. Isher Ahluwalia presided over the session.

Mr. R.C. Diwan Superintendent Engineer Chandigarh

1. Presentation was on the status of specially treated water in the city of Chandigarh. Water needs to be conserved by recycling it, and by recycling its waste products.
2. City of Chandigarh with a population of 10.5 crores lakhs, with 3 lakhs floating population had water supply from Babla Mainline Canal and deep tube wells. Generated 70 million gallons per day of sewage was treated to secondary level as per central water pollution control norms.
3. Of this 20 million gallons was treated to the tertiary level, and supply that to the city for irrigation and fresh water was conserved. Treated water impurities were less than 10 milligrams per liter and contained nutrients. Chandigarh would be the first city in India to treat 100% of the sewage it generates. Large green area of the city with 50 green belts, 23 public gardens, and 1600 neighborhood parks and golf course were watered using treated water every day. Nominal tariff was charged for its use. Two 10 Million Gallon Treatment (MGT) plants with underground reservoirs (UGR) were created to take care of this need over 2005- 2008. Tertiary treated (TT) water was extensively used and all of it was used up so much so that the plants work 24*7 with no break.

Ms. Nandini Palwal Additional CEO, Director Finance and Accounts, Delhi Jal Board Delhi.

1. Biggest challenge for urban sector utilities in India was to manage them equitably and sustainably. Delhi Jal Board was responsible for water utilities for 1.7 crores people in Delhi. We also supply piped water to the New Delhi Municipal Corporation which covers the VVIP area in Delhi, and also the Delhi Cantonment Board. About 75% of households have piped water connections. The rest of Delhi was supplied with water through bore wells and tankers. Only 54% of the total area of Delhi had sewage connections.
2. DJB produced about 850 MGD of water, while demand was about 1100 MGD. It had waste water treatment capacity, 545 MDG, 66% capacity was utilized. Total 11350 km of water pipelines, 7000 km of sewer network, and 18.5 lakh water connections existed last year. DJB was one of the largest water utilities in Asia.
3. Issues related to equitable supply in terms of volume, regional variation, access to slums and time, exists. Most of the command areas for water and sewage were built on other than hydraulic boundaries considerations.
4. Delhi was a water-stressed city-state that bank on neighborhood states for water and there were issues of inter-state co-ordination. Delhi, had concern about water pollution, over-extraction.
5. DJB had experimented with reuse of treated waste water for non-potable uses. They laid intersector sewers along three major drains in Delhi and the idea was that all these would be connected to the main sewer and this would be treated before these drains go to the river, had been mapping all the households of Delhi and had piloted de-centralised facilities in the local areas where there was no physical outfall.
6. PPP models were used to increase water utilities efficiency. Campaigned to promote rainwater harvesting with tariff incentives. Piloted 24/7 water supply model in three pilot

areas of Malviya Nagar, Mehrauli and Nanvar. These three areas comprise 10% of the population of Delhi.

7. DJB had used I.T. interventions to revamp revenue management through billing. Better network management was achieved using I.T. intervention that would generate data on the physical losses, had set up customer care centre where all the calls and complaints were addressed and properly resolved.

Mr. P.K Sinha Chief Engineer, UPJal Nigam, Uttar Pradesh

1. Uttar Pradesh Jal Nigam as an organization created new projects in water supply and sewerage across the state, but local urban bodies had to maintain them. With an urban population of 44.4 million, U.P. had 630 towns. 626 towns had piped drinking water supply, while only 55 towns had sewerage facilities. Total 277 towns collected garbage.
2. Uttar Pradesh had seven cities selected under JNNURM with 34 central projects four of which were complete. These projects were in water supply sewerage solid waste management and waste water treatment. One project was complete.
3. Besides, there were 64 projects in 6 non JNNURM towns. Out of these projects 30 were complete. Total 19 projects on Solid Waste Management were planned for the future with the budget of Rs. 148.34 crores and capacity to handle 2025 tonnes of waste per day.
4. In addition 54 towns have 2585 MLD sewage treatment capacity. The Government of U.P. had decided to go for solid waste management SWM projects in 26 ULB's in the state had 13 projects with a budget of Rs. 41620 lakhs are operational.
5. Drinking water upto 400 million liters per day was also drawn from the two Sarayu and Gomti rivers. Agra water supply scheme budgeted at Rs 2887 crores was to cover the entire population of Agra and Mathura. Since the Yamuna water was polluted there were plans to get Ganga waters through pipes. Finally the sewage treatment plant in Lucknow was supposed to be the largest in Asia.

The session was interrupted with a lot of comments from a rather garrulous audience. They were concerned that all the river action plans do treat sewage from towns but release it back into the rivers and future water scarcity for our cities. Other comments included use of waste to energy projects for these cities and examples from developed cities in Europe and Middle East for better management of water. Dr. Ahluwalia thanked CII and all the participants profusely for such a lively participation and presenters for quality presentations.