

Impact of JNNURM

On water and waste management financings

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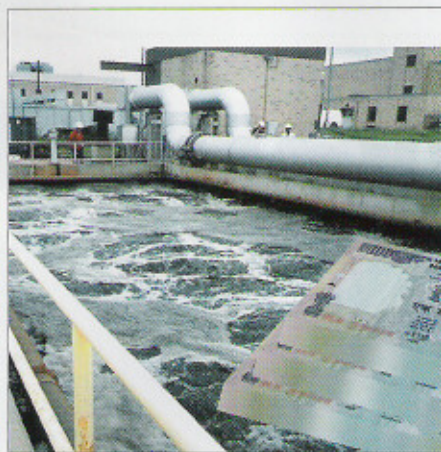
Infrastructure financing, be it water or any other infrastructure sector, requires sound investment frameworks, including an efficient service delivery system and the right levels of tariffs and good infrastructure management. The Jawaharlal Nehru National Urban Renewal Mission (JNNURM) has provided a strong impetus to investments in the sector and incentivised cities to develop sustainable investment frameworks through service delivery reform and cost recovery of services provided.

Cities have done well to seize the opportunities provided by the JNNURM for financing urban infrastructure but they have been slow starters with regard to effecting service delivery reform, or ensuring their financial sustainability. A key area of concern has been the prioritisation of investments in the sector and particularly the water and sewerage sector.

Unlike the power sector reform story in India where the Accelerated Power Development and Reform Programme (APDRP) was a game changer for the sector, the JNNURM has had limited success in prioritising investments within the basic urban services segment. "You need to bill what you generate" is the message that was driven through the APDRP. In water, distribution-side investments need to be given priority.

One of the objectives of the JNNURM is to create sustainable service delivery in Indian cities. Unless project execution is accompanied by service delivery reforms, the need for JNNURM kind of schemes will be felt every now and then.

This article highlights the impact that the JNNURM has had



on investments in water supply (including sewerage) and waste management sectors.

JNNURM – Putting urban infrastructure and reforms high on the agenda

It is evident from the state of our cities that our urban infrastructure investment requirement is significantly large. According to CRISIL Infrastructure Advisory, the investment requirement in the urban infrastructure sector including urban transport over the next 15 years is in excess of Rs 5,000 billion. Of this, the water supply (including sewerage) and solid waste management

(SWM) sector will require investments in excess of Rs 1,500 billion. The JNNURM was launched in December 2005 as an incentive fund to bridge the investment gap to a certain extent in urban infrastructure.

As a first step, cities were expected to prepare a city development plan (CDP), which was supposed to be a strategic document for the integrated development of a city over a longer time-frame. The launch of the mission had triggered the preparation and completion of 63 CDPs within a span of about 24-30 months from the time of the launch. The CDPs for the first time gave a first-hand assessment of the urban infrastructure status and service levels for all urban services including water supply, sewerage and SWM in their respective cities.

The cities were then required to sign a memorandum of agreement (MoA) with the Ministry of Urban Development (MoUD) to be able to access funds under the JNNURM framework. The MoA contained detailed reform milestones from e-governance to building by-laws. In the user charges module, the MoA introduced key elements of service delivery reform for water supply, sewerage and SWM services. These reform elements included:

- Universal coverage of services
- Door-to-door collection in the case of solid waste
- 100 per cent recovery of user charges
- Non-revenue water (NRW)/unaccounted-for water (UFW) reduction
- 100 per cent consumer metering with volumetric tariffs
- Water recycle and reuse
- Exploration of public-private partnership (PPP) options



The mission prioritised investments in basic urban services like water supply, sewerage and SWM over urban transport infrastructure like roads and bridges. As a result, we observe that 66 per cent of the total investments under the JNNURM approved and sanctioned belong to these three priority sectors.

Sector performance still below par after four years of the JNNURM

The JNNURM has jump-started investments in urban infrastructure like no other urban development programme has done before. However, service levels in most JNNURM cities continue to be poor.

The analysis of data from 28 cities, which formed part of the service level benchmarking exercise launched by the MoUD, shows that service levels continue to be poor. In the case of water supply and sewerage, coverage is still significantly below 100 per cent. About 41 per cent of the water produced does not generate any revenue. Only four of the 28 cities have metered water supply. In the absence of metering, the NRW data is often misleading – it may be higher than actually reported. The daily hours of supply, instead of 24 hours, is a low 4.5 hours on an average. The cost recovery and revenue collection efficiency ratios on an average are 69 per cent and 68 per cent respectively.

In the case of sewerage, the coverage is only 61 per cent. The treatment capacity is also observed to be inadequate for the quantity of sewage generated. Only four of the 28 cities are recycling and reusing wastewater. In these cities, the extent of recycling is about 16 per cent of the total water produced. Only about 61 per cent of the cost of providing the services is recovered.

In the case of SWM, door-to-door collection applies to only 49 per cent of the households. In only one of the 28 cities is waste disposed of in a scientific manner. The extent of cost recovery is 22 per cent on an average.

Cities need to demonstrate efficiency gains

Projects sanctioned under the JNNURM

Sector	No. of projects	Value (Rs billion)
Water supply	143	190.36
Sewerage	105	131.42
SWM	40	21.86
All sectors	478	520.53

Efficiency indicators – Water supply

indicators	Current status
Coverage	63%
Non-revenue water	41%
Metering (>90%)	4 out of 28 cities
Daily hours of supply	4.5
Cost recovery	69%
Collection efficiency	68%

Source: Ministry of Urban Development

Efficiency indicators – Sewerage

indicators	Current status
Coverage	61%
Waste water recycling	16%
Cost recovery	61%

Source: Ministry of Urban Development

Efficiency indicators – SWM

indicators	Current status
Household coverage	49%
Segregation of waste	23%
Scientific	1 out of 28 cities
Cost recovery	22%

Source: Ministry of Urban Development

for investments to be sustainable

Cities need to prioritise investments, which can result in service delivery outcomes and efficiency gains. The investments need to be prioritised in the distribution segment or simultaneously be undertaken along with investments in bulk supply. This will ensure that once the new capacity comes onstream, the distribution system would have been revamped

to supply water in an efficient manner.

Some of the interventions in the distribution segment can increase revenues without a lot of investment. Low-cost interventions like increasing the connections base in network areas, correct categorisation of customers, improving billing and collection efficiency, valve checking programmes, and the implementation of energy audit studies can

yield substantial additional revenues. It has been CRISIL's experience in working with a city with a million-plus population that such interventions can yield additional revenues of Rs 220 million from water supply, which is significantly more than the current revenues of Rs 140 million.

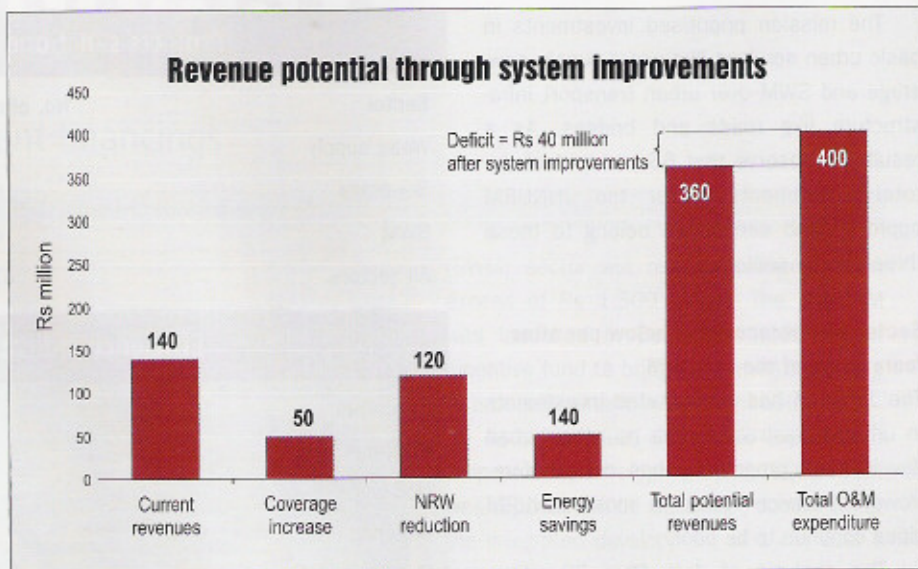
High cost and time over-runs

Of the Rs 247 billion of the central assistance committed towards the JNNURM-approved projects, about Rs 97 billion has been disbursed so far. The extent of utilisation of the amount disbursed will be still lower. The long project execution cycles are adversely impacting the overall project cost. On an average, cities are facing 40-50 per cent escalation in the approved project cost by the JNNURM. The increased cost needs to be funded by the city on its own. This is weakening the financial position of cities further. Earlier, financial capacity was considered a constraint in urban infrastructure investments but now the ability of cities to execute projects is also proving to be an equally serious constraint.

PPP as an option

One of the reform milestones the cities need to achieve is to explore the PPP option in improving service delivery. The private sector's expertise can be used for bridging the capacity gap – technical, financial or managerial – that cities are experiencing. It is recognised that in most Indian cities there is a technical capacity gap that cities need to bridge. For instance, none of the cities provide water supply on a 24x7 basis despite that being the original system design.

The lack of technical capacity has allowed the system to degenerate into an intermittent one. There is no sanitary landfill which disposes of 100 per cent of the solid waste in a scientific manner amongst the 28 cities forming part of the benchmarking exercise. This is also true of most of the other cities in India. There is no experience in the exciting municipal set-up to develop and operate a sanitary landfill facility. The PPP model allows the city to seek



private sector expertise in project execution and achieving service delivery outcomes.

Of the Rs 500 billion of projects approved and sanctioned by the JNNURM, Rs 70 billion worth are being developed on the PPP model. Many of these projects are in the SWM sector and a few in the water and sewerage sector. The Mysore and Salt Lake, Kolkata, water supply projects have been developed using the PPP model.

JNNURM makes PPP a viable option

The Government of India has several windows open for cities to seek finance for infrastructure projects, one of them being the viability gap funding (VGF) mechanism. As of date, several infrastructure projects have been funded using the VGF mechanism. But none in the water supply and sewerage sector have been funded using the VGF window. The reason is that VGF funding is limited to 40 per cent of the project cost. But it is our experience that water PPP projects become viable only when the grant funding is higher, at around 70-75 per cent. This assumes no major tariff revisions.

For 58 cities out of the 65 JNNURM cities, the JNNURM framework provides at least 70 per cent of the project cost as grant. In the case of the Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT), the grant funding is to the

extent of 90 per cent of the project cost. Khandwa in Madhya Pradesh has been successfully developed leveraging the UIDSSMT grant. Similar attempts are under way in Kolhapur (sewage treatment plant) and Aurangabad (water supply).

Conclusion

The JNNURM has beyond doubt given a considerable fillip to urban infrastructure investments. Cities have come forward and benefited immensely under this programme. But for the JNNURM to make a lasting positive impact, it needs to increase the pressure on cities for compliance to reform commitments. Unless the desired service delivery outcomes and financial sustainability of investments is ensured, the JNNURM impact will be negatively felt in the coming years. The assets created under the JNNURM can become liabilities if not managed properly.

The mission's objective should be to break the vicious circle of poor cost recovery-low investments-poor service delivery. The intent is there in the JNNURM reform agenda but results on the ground are yet to be seen. A PPP approach to accelerating investments and improving service delivery has the potential to become a powerful mechanism for solving the urban infrastructure woes that plague cities in India. ▶