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PUBLIC PRIVATE PARTNERSHIP IN MUNICIPAL SOLID WASTE MANAGEMENT IN INDIA: A VIEW

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Abstract
Solid Waste Management is one among the basic essential services provided by municipal authorities to keep the urban centres clean. However, it is among the most poorly rendered services in the basket--the systems applied are unscientific, outdated and inefficient; population coverage is low; and the poor are marginalized. The private sector already successfully plays a major role in waste management in many industrialized nations since they have more efficient administration, good infrastructure facilities, financial capabilities, technical expertise etc., Public private partnership is a long or medium term arrangement between the public and private sectors whereby public sector transfers part of its responsibilities to the private sector. Therefore this paper views on public private partnership in Municipal solid waste management in India.

1.1 INTRODUCTION

The share of urban population in India has been increased from 25.5 per cent to 30.01 per cent in the last three decades, 1991 and 2011 respectively. Similarly the population density has been increased from 285.7 in 1991 to 411.9 in 2011. As per 2011 census, 285.35 million people living in urban areas in the country and which accounts for 27.78 per cent of India's population. The urban population in India has gone up five times in the last six decades. The higher urbanization pattern is due to urban sprawl. The urban sector is being increasingly recognised as a critical growth driver for the Indian economy. The share of population residing in urban areas is also witnessing a rapid growth from 28 per cent in 2001; it is projected to rise to 38 per cent by the year 2026. Basic service levels, however, remain well below desired levels. Investment in infrastructure has not always resulted in commensurate outcomes. The increased urban population increases the demand for basic services such as Water Supply, Housing, Sanitation and Solid Waste Management and so on.

With the 74th amendment of the Constitution of India in 1992, Municipal Authorities in India has recognized as a third tier of the Government. The 12th Schedule of the Constitution of India has laid down the functions envisaged to be performed by the municipal authorities one among those functions is Solid Waste Management. It is an obligatory duty of municipal authorities in the country to keep cities/towns clean and provide a good quality of life to the citizens.

1.2 Municipal Solid Waste Management

The growth in population, increasing urbanization and rising standards of living have contributed to an increase in the quantity of Municipal Solid Waste (MSW) generation in the country. India produces around 70 Million tons of MSW annually, of which at present less than 5 per cent is processed scientifically. Given the scarcity of urban land for scientific waste disposal there is the common prevailing practice of open dumping with most of the dumpsites overflowing in our cities. Due to this practice, waste continues to be one of the biggest public health, environmental, and land use challenges in urban India.

Municipal Solid Waste includes household garbage and rubbish, street sweeping, construction and demolition debris, sanitation residues, trade and industrial refuse and bio-medical solid waste (CPCB, 2000). Solid waste management (SWM) has four basic components, namely, collection, transportation, processing and disposal. The objective of SWM is to reduce the quantity of solid waste disposed of on land by recovery of materials and energy from solid waste in a cost effective and environment friendly manner.

Solid Waste Management is a science associated with the control of generation, storage, collection, transfer and transport, processing and disposal of solid waste in a manner that is in accord with the best principles of public

health, economics, engineering, conservation, aesthetics and other environmental conditions. Solid Waste Management includes all administrative, financial, legal, planning and engineering functions involved in solutions to all problems of solid waste.

1.3 Solid Waste Management and regulatory framework

Solid Waste Management (SWM) includes collection of the waste, segregation, storage, transport, processing, and recycling / reuse or disposal. Management of MSW is the mandatory function of all Urban Local Body's (ULB's). The regulatory framework is laid out in the 'Municipal Solid Waste (Management and Handling) Rules, 2000'. The Rules emphasize the principle of 3 R's – to Reduce, Reuse and Recycle in municipal solid waste management.

Domestic, commercial and variety of toxic and domestic hazardous wastes are generally disposed of by the citizens on the streets, drains, open spaces, water bodies, etc., causing serious problems of health and environment. Problems of solid waste management are growing with rapid urbanization and change in the lifestyle of the people.

The quality and quantity of MSW generated by a particular community will vary according to their socio-economic status, cultural habits, urban structure, population and commercial activities.

As per report (May 2000) of Ministry of Urban Development (MoUD), Government of India, that 1,00,000 MT of Municipal Solid Waste was generated daily in the country. During the year 2004-05, Central Pollution Control Board (CPCB) through National Environmental Engineering Research Institute (NEERI), Nagpur conducted survey in 59 cities (35 Metro cities and 24 State Capitals) and estimated 39,031 Tons per day MSW generation in these 59 cities / towns. The survey conducted by the Central Institute of Plastics Engineering and Technology (CIPET) at the instance of CPCB has reported generation of 50,592 tonnes of MSW per day in the year 2010-11 in same 59 cities. As per the information received from State Pollution Control Boards/ Pollution Control Committees (in between the year 2009-12), 1, 27,486 TPD (Tons per day) of municipal solid waste is generated in the country during 2011-12. Out of which, 89,334 TPD (70%) of MSW is collected and 15,881 TPD (12.45%) is processed or treated.

1.4 Institutional and financial capability

Constrained by lack of institutional and financial capability, the Urban Local Bodies are dependent on budgetary sources of revenues from the State or the Centre. The budgetary allocation by municipalities for SWM is between 20-40 per cent of their total budgets, out of which 70-80 per cent is spent on collection and 20-25 per cent on transportation and a negligible amount on processing or disposal. Out of the total municipal waste collected, on an average 94 per cent is dumped on land and 5 per cent is composted. The socio-economic structure of our society not only makes per capita generation of waste much less compared to that of the western societies, it has also brought in a system of waste recycling and reusing not common in developed societies, though these systems are fast losing ground. A substantial amount of MSW is recycled and reused through the primary intervention of rag pickers and second-hand markets, though there are problems like the health hazard to the rag pickers and the degradation and devaluation of the recyclables Till date forty (40) SWM projects have been sanctioned under JNNURM with a total outlay of Rs. 2186 crores. Most of these resources have gone towards creating capital assets with insufficient emphasis on Operations and Management (O&M).

1.5 Solid Waste Management systems in India: The challenges

Garbage management was not a major headache for the home or for the civic authorities till the 1980's. But the changing life styles, loss of the organic nature of waste, growing population of towns and cities and urbanization of villages have all been reasons for this growing waste menace and today no town is devoid of the heaps of garbage piled up on street corners and road sides and the total hygiene of the people and the environment has been mindlessly compromised.

Municipal Solid Waste Management is an obligatory function of every Urban Local Bodies in India, which is closely associated with urban environmental conditions. As per the Municipal Solid Waste (Management& Handling) Rules, 2000, the responsibility of collection, transportation, processing and final disposal of solid waste generated in the towns and cities vested with the Urban Local Body(Municipalities and Corporations). The Urban Local Body remains responsible to ensure that a service is provided, and that it meets required standards in terms of reliability, efficiency, customer relations and environmental protection.

The increasing pace of urbanization coupled with an increase in per capita waste generation driven by changing urban consumption patterns in view of economic growth and improved living standards is exerting significant additional pressures on already stretched Municipal Solid Waste Management (MSWM) systems across cities in India. This challenge is further aggravated by the lack of adequate capacity, institutional, financial capabilities and skilled resources in collection, transportation, processing and final disposal.

Solid Waste Management is one among the basic essential services provided by municipal authorities to keep the urban centres clean. However, it is among the most poorly rendered services in the basket--the systems applied are unscientific, outdated and inefficient; population coverage is low; and the poor are marginalized. Waste is littered all over leading to insanitary living conditions. Municipal laws governing the urban local bodies do not have adequate provisions to deal effectively with ever-growing problem of solid waste management.

The 74th Constitutional amendment gives constitutional recognition for local self-Government institutions specifying the powers and responsibilities. Very few ULBs in the country have prepared long-term action plans for effective SWM in their respective cities. For obtaining a long-term economic solution, planning of the system on long term sustainable basis is very essential. The Ministry of Environment and Forest (MOEF), GOI, has notified Municipal Solid Waste (Management and Handling) Rules, 2000 to tackle this problem. The increase in quantity of Municipal solid Waste generation with increase in urban population is quite obvious. Efforts towards waste recycle, reuse, and resource recovery for reduction in waste and adoption of more advanced technological measures for effective and economical disposal of municipal solid waste has been carried out to handle the solid waste generated in India.

Environmentally sound waste management must go beyond the mere safe disposal. It should include waste minimization activities, reuse and recycling activities, proper treatment and finally safe disposal. Integrated solid waste management is an approach that uses a range of methods and practices to handle municipal solid waste. It embraces waste avoidance including source reduction and waste minimization methods, reuse and recycling programs, collection of waste from the door steps of every households, transportation of waste, application of suitable treatment methods and disposal in scientific manner.

With rapid urbanization, situation is becoming critical. These fundamental responsibilities are not diminished by any privatization process. The role of the Urban Local Body changes as the private sector becomes more involved. Resources are concentrated towards monitoring and enforcement, but it is still the Urban Local Body that is responsible.

1.6 Public Private Partnership

Public sector refers to ‘public own enterprises and/or institutions’. In Solid Waste Management, the public sector actors include Local Municipal Governments (LMG) or Local Government (LG) or urban authorities or city Corporation (Ahmed & Ali, 2004). Public sectors in SWM get their responsibility by laws and regulations or by policies related to environment protection or health. The urban authorities get their powers and obligations from the central government authority. Public actors are controlled by laws enacted by central government authority. Furthermore in SWM, the public sector do much of their works manually e.g. street sweeping, loading. So, generally a substantial number of people are employ in the public sector.

The part of the economy that is not state controlled, and is run by individuals and companies for profit. The private sector encompasses all for-profit businesses that are not owned or operated by the government. Companies

and corporations that are government run are part of what is known as the public sector, while charities and other nonprofit organizations are part of the voluntary sector.

The Municipal Corporations and City Governments create and maintain assets with funds provided by central and state Grants, funds internally generated by local Governments through taxes and tariffs, capital markets etc. The Central Government should take up the role of a regulator by addressing financial sector and related regulatory issues.

The term "private sector" includes privately owned and formally registered enterprises that provide services as contractors, consultants or suppliers, joint ventures which are partly owned by private individuals or companies and partly owned by government and informal sector enterprises, based on family units or larger in size, which are not legally registered.

The private sector already successfully plays a major role in waste management in many industrialised nations since they have more efficient administration, good infrastructure facilities, financial capabilities, technical expertise etc., Public private partnership is a long or medium term arrangement between the public and private sectors whereby public sector transfers part of its responsibilities to the private sector.

"Public Private Partnership (PPP)" means an arrangement between a public agency and a private sector participant for the provision of infrastructure through investment made or through design, development, construction, maintenance or operation undertaken by the private sector participant, where risks are allocated between them such that the private sector participant takes on the risk beyond the stage of design and construction and the payment for the services are performance linked, in the form of user charges, annuities or unitary payments;

Public Private Partnership refers to arrangements, typically medium and long term, between the public and private sectors whereby some of the services that fall under the responsibilities of the public sector are provided by the private sector, with clear agreement on shared objectives for delivery of public infrastructure and /or public services.

1.7 Conclusion

It could be deducted from above discussion that there are serious barriers to private sector participation in urban Infrastructure as the financial status of ULBs except for a minority, is precarious. Urban sector is seen as a very high-risk sector and also because of institutional complexity due to multiplicity of agencies involved in service delivery. Efforts made by the Urban Local Bodies in developing many waste management facilities failed due to increasing volume of waste, collection of unsegregated mixed waste, lack of suitable processing technologies., which allows disposal of solid waste by open dumping. The existing dumpsites owned by the ULBs are getting filled up with solid waste due to dumping of waste for many years without any processing. The technologies adopted by the ULBs mainly based on the biological process viz., composting and the compost derived out of the waste does not have any market and hence need for introduction of modern technologies. Due to lack of technical expertise in introducing new technologies and financial capacity to make huge investment in implementing modern processing and disposal techniques, the ULBs find very difficult to manage the waste. Further, there is lack of regulatory or policy enabling framework for PPPs barring few exceptions and lack of bankable and financially sustainable projects considering the opportunities and risks involved. There is also a need to rationalize tariff and user charges (GoI). Dwelling on these an attempt has been made to study to explain the factors impediment the success and failures of Public Private Partnership Projects in the Municipal Solid Waste Management Sector.

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