

# A Critique on Need of Private Sector Participation to Enhance Solid Waste Management Practices in India

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**Abstract:** *Solid waste management (SWM) is a mandatory duty of all municipal authorities in the country. They spend a significant proportion of their total budget on it, yet service is very poorly performed, with treatment and disposal getting the least attention. Improper and non-scientific handling cause environmental degradation and health hazards to inhabitants. Lack of funds and necessary resources are cited as major constraints. The pathetic situation makes it necessary for the municipal authorities to seriously consider solutions that are outside-the-box to improve services. Privatisation is the best option to improve an efficiency of municipal solid waste management as experienced in many developing countries. This paper deals with an overview of the opportunities and challenges of the private sector participation (PSP) in solid waste management and predominantly the needs of private sector participation to enhance the solid waste management practices in India.*

**Keywords:** Degradation, Disposal, Privatisation, Segregation, Solid Waste Management.

## 1. Introduction

Rapid urbanization, rising incomes, changing consumption patterns and a shift from recycling to a throw-away society (NIUA, 2005) leads to continuous increase in the amount of Solid waste generation in urban India. In urban areas the problem of solid waste management (SWM) is very dreadful due to dense development and congestion. Municipal solid waste management is an obligatory function of urban local bodies (ULBs<sup>1</sup>) in India. Most ULBs are unable to cope with the challenging task of collection, transportation, recovery and disposal of solid waste. SWM generally consumes a significant proportion of municipal budgets and revenue from the services like collection of user fee from residents and/or hotels and marriage halls, waste management tax, etc are negligible (FICCI Report, 2007). In 1997-98, on national level, average per capita per annum revenue receipt from SWM services varied from Rs. 2.8 to Rs.10.2 and average per capita expenditure on SWM varied between Rs. 85.99 to 121.21. Thus, there is a huge gap between revenue and expenditure in SWM in India (NIUA, 2005). Solid waste management constitutes from 10 to 50 percent of municipal budget expenditure, depending on the income sources of the municipal authorities. The main expenditure categories under SWM head are salaries and allowances of workers; consumables like brooms; infrastructural development such as purchasing of vehicles, community bins etc; vehicle repair and maintenance; contingencies and others. In India, it is estimated that the ULBs spend about Rs. 500/ ton on solid waste collection, transport and disposal which may rise to Rs. 1500/ton in some instances (Ghose et al., 2006). Several ULBs have received financial assistances from Government in terms of grants, loans or subsidies under various schemes like JNNURM, 12th Finance Commission etc. for SWM. In general, the level of solid waste services in India appears very poor (Zhu et al, 2008).

Private sector has started cooperating in solid waste management in significant ways. A FICCI (2007) report

revealed that 23 cities out of 25 cities surveyed have already engaged private sector companies in their waste management activities. However, in most cases the extent of privatization is only partial and privatization has been implemented only in few zones of the city. Even if the service is provided by private companies, the responsibility for the collection and disposal of solid wastes remains with the government. Government remains responsible to ensure that the service is provided, and it meets required standards in terms of reliability, efficiency, customer relations and environmental protection.

### Private Sector and Solid Waste Management

Indian Constitution puts SWM within the purview of the state government. The activities involved are said as local ones and are entrusted to urban local bodies (ULBs) through state legislation. Because these activities are nonexclusive, non-rival and essential, the responsibility lies within the public domain. ULBs accordingly undertake the task of SWM. However, for most of the times, the management of solid waste has not been undertaken on serious scientific lines it deserves. Old and inappropriate vehicles and tools for collection, inefficient transport system and unscientific disposal not only make the process unsatisfactory, but also cause unhygienic working conditions and severely affect the environment. Productivity is very low, resulting in a high unit cost of service. In general, collection coverage ranges between 50 to 70 percent in most of the cities.

The poor performance of municipal authorities led to the filing of public interest litigation in the Supreme Court of India. The Supreme Court constituted an expert committee to look into all aspects of SWM and directed all municipal authorities to follow the committee's recommendations. MSWM refers to the entire process chain, comprising seven steps: (1) waste segregation and storage at source, (2) primary collection, (3) street sweeping, (4) secondary waste storage, (5) transport of waste, (6) treatment and recycling options for solid waste, and (7) final disposal. The Ministry of Environment and Forests (MoEF) directed all municipal

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authorities in the country to take all the seven essential steps to provide SWM services in an efficient and environmentally acceptable manner. None of the 4,378 municipal authorities in the country has yet implemented all seven steps within the set time frame (Zhu et al., 2008).

The range of activities and scale of operations in MSW are very large and private sector can be involved in many ways. In general, private sector managers have better control over their workforce and the group/ company is less restricted by bureaucratic procedures. It concentrates resources where needed and thus provides a more efficient and cost-effective service. Also, the private sector often has better access to capital financing and so it is able to use more efficient equipment and specialist skills. Companies can form joint ventures with international specialized firms as well. Sandra and Coad (2000) noted that the private sector can be involved in SWM activities where government is facing problems on any of the three basic fronts. First, where existing public service delivery is either too costly or inadequate, private sector participation offers a means of enhancing efficiency and lowering costs through the introduction of commercial principles and greater attention to customer satisfaction. Secondly, in situations where local public funds for investment are chronically in short supply, the private sector may be able to mobilize needed investment funds. Finally, the private sector is well placed to draw on local and international experience in the waste management field and introduce proven and cost effective technologies along with management expertise.

A non-satisfactory situation in SWM has forced the planners and managers alike to rethink the whole strategy and seriously consider new concepts and approaches for improving services. Private sector participation is an interesting option for boosting performance, whereby the municipal authorities change their role from service provider to regulator and service facilitator. There are many forms of private sector involvement, varying from reduced government control to complete private sector ownership. They can be included through contracting, franchise, public subscription (or open competition) and concession. Different forms of collaboration with the private sector can be envisaged, involving different types of agreements and preconditions of partnership. Enabling improvements through the participation of the private sector depends on the political will for change, clear agreements and contracts, the public authority's ability to regulate the service, monitor performance, and enforce the terms of agreement, financial capacities, and mutual trust between all partners (Zhu et al., 2008)).

#### **Factors contributing to poor service delivery:**

Urban Local Body's lack of commitment, poor financial health, untrained or inadequately trained work force and equipment shortage are the main reasons for the incomplete coverage and unscientific processing & disposal of waste in Indian cities and towns. However, with an increasing urban population and a changing socio-economic demographic profile, there is growing pressure on the ULBs to deliver quality services to its citizens. This requires increasing the capacity of the ULBs for betterment of MSW management in their localities. Different segments of the MSW value

chain are beset by different set of problems that render management of MSW ineffective, inadequate and inefficient.

Improper collaboration by the ULBs, with all the stakeholders, particularly, households, rag-pickers, non-governmental organizations, private waste management companies, households, environmentalists and local leaders, in devising possible solutions to the waste menace of the respective localities is an important factor that hinders the application of a concerted effort for MSW management. Awarenesslackage about the importance of good SWM practices especially about waste segregation and the absence of any clear mandate that fixes the responsibility of waste segregation on waste generators result in mixing of all kinds of wastes by people.

Further, most ULBs depend on central and state government grants for funds that are oftendeficient, as the bulk of funds are absorbed by administrative expenses. Inadequate financial resources from the ULB's internal sources, incapable and untrained staff, obsolete or incommensurate equipment and lack of sufficient motivation to provide quality and timely services to people make the delivery of reliable and affordable waste management services all the more complex. The resource gap for the Operations and Maintenance (O&M) of municipal services alone was estimated to be around 32,143 crore for the period 2005-10.(25). The various factors affecting performance across the value chain of solid waste management.

#### **Factors contributing to Poor Waste Segregation System:**

- Lack of public awareness about the need for waste segregation.
- Lack of accountability for waste segregation.

#### **Factors contributing to Poor Collection & Transportation (C&T) System:**

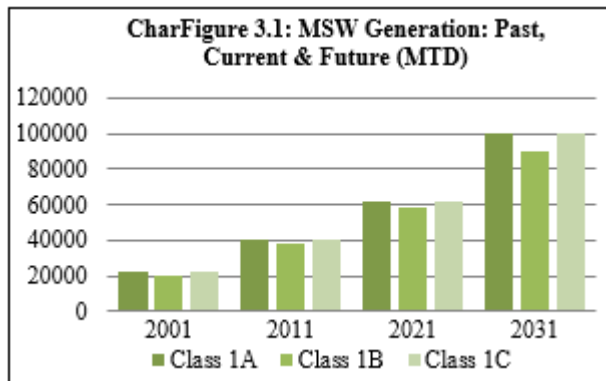
- Unplanned and variable city features.
- Inadequate equipment and inappropriate technology.
- Inefficient and untrained staff.
- Non-integration of informal workers.

#### **Factors contributing to Poor Processing & Disposal (P&D) System:**

- Insufficient fund allocation to processing and disposal.
- Unproven technologies.

#### **Need for private sector participation in MSWM in India:**

India's annual waste generation is projected to increase to approximately 260 MT by 2047 from the present 42 MT.29 Fig. 3.1 displays the anticipated waste quantities for Class I cities for the next two decades. There is an imminent need to address the service backlog (Fig. 2.2) as waste generation in India will increase manifold in the coming years with increasing population, industrial activity, income levels and urbanization. Class IA, IB and IC Cities will continue to account for the bulk of the waste generated in the country. Therefore, waste management and handling capacity in these cities must be enhanced.



The land required for disposing waste is also set to increase in response to the increase in waste generation. Fig. 3.2 shows that the land requirement for landfills has increased by 75% in a span of just 3 years from 2007 to 2010 and is further estimated to increase by 285% by 2030 if prudent waste management practices are not adopted at the earliest.

While there is scope for reducing the land required for landfills by adopting suitable waste processing technologies like composting, palletisation and bio-methanation, application of technologies other than composting requires stringent implementation and monitoring mechanisms and the choice of such techniques should be made keeping economic and environmental costs, if any, in consideration.

The urban local bodies in India are not able to manage the increasing quantity of waste generated in urban cities even though they spend a substantial chunk of their budget on waste management. A United Nations Development Program (UNDP) survey, which covered 151 mayors of cities from around the world in 1997 found that insufficient solid waste disposal is the second most serious problems that city dwellers face after unemployment. Private sector initiatives and community participation have resulted in improved waste management services in several developed and developing countries and presents India n ULBs with an alternative to expensive or inefficient public delivery of MSW services.

The rationale for bringing in private sector participation in this sector is primarily to leverage private sector efficiency, expertise and technology rather than finance, as several government schemes are in place for providing funds to ULBs, although with certain conditions. If the private sector provides higher standards of waste management service at the same cost or provides equivalent service at a lower cost compared to the local administration, then private sector participation should be considered. The private sector has access to a wide range of technological alternatives that can be used for the processing of waste. Asnani (2005), mentions that ULBs in India spend somewhere around 10-50% of their total expenditure on waste management services. Hence the issue is not always the paucity of funds, but a lack of a professional approach to deliver services efficiently and in a cost-effective and reliable manner.

#### Opportunities and Challenges in Private Sector Involvement:

The overall objective of involving the private sector is to achieve an improvement in SWM service and to extend

coverage to the yet un-served. Delegating tasks and responsibilities to the private sector, however, also entails new challenges for all. All critical factors must be taken into account to prevent misuse or failure of private sector participation. The advantages and disadvantages of involving the private sector strongly depend on the manner in which the tasks and service are contracted out and on the way the daily operational procedures of collaboration between public and private sector are handled and ensured.

#### Opportunities:

The advantages include flexibility, increased efficiency, and contestability:

##### Flexibility:

- The private sector can easily hire qualified staff members and pay the salaries those experts demand.
- Salaries and bonuses can be based on staff performance, thus also providing incentives for efficiency and good work.
- Employment is easily terminated when performance is unsatisfactory.
- More effective administration with fewer bureaucratic delays will result.
- Responsibilities will be more clearly defined, with no interdepartmental
- Overlaps and no cross-departmental coordination needs.
- A faster and simpler decision-making process can be implemented.

##### Increased efficiency:

- New equipment or spare parts for equipment maintenance can be easily acquired.
- The private sector has ready access to technology and expertise.
- The private sector has easy access to financial resources for new investments.
- Adapting technology to context and situation will be easier, thus increasing equipment performance.
- Full cost accounting and incentives for the lowest possible unit cost can be implemented.

##### Contestability:

- Performance monitoring is necessary.
- The focus should be on customer satisfaction.
- The service provider must be accountable to the beneficiaries for services rendered.
- Incentives for good performance and efficiency can be offered through competition.
- Less political interference will occur with private sector involvement.

#### Challenges:

Private sector participation in SWM can be a very attractive option. However, if certain conditions cannot be met, the partnership between the public and private entities may face severe risks. It is crucial that the following conditions and the risks they pose be carefully considered and steps taken to avoid them.

No competition:

- If not enough private sector companies are interested in providing this service, choice and performance incentives will be minimized.
- Lack of sufficient capacities and skills to ensure satisfactory performance could reduce competition.
- A very strong private sector and weak municipal capacities could result in an unbalanced partnership.
- Long-term contracts with the private sector (creating a monopoly) could lead to loss of control by the municipality, which would eliminate one means of enforcing performance standards.

Uncertain safety and social benefits for workers:

- The private sector may not provide workers social security benefits, pensions, sick leave, social insurance, regular medical examinations, vaccinations, and so on.
- The private sector may not ensure use of safety and protective equipment.
- The private sector may pay wages for unskilled labour that are minimal or even below minimum wage.

No financial mechanism to ensure timely, regular payment for services:

- Municipal financial means may be inadequate to maintain regular payments to the private sector.
- Municipal bureaucratic and administrative deficiencies may severely delay payments to the private sector, thus endangering cash flow and the sustainability of the service.

Corruption:

- Suspicion of corruption could discourage enterprises from bidding because they do not believe that the most competitive and competent bid will win the tender.
- Lower standards of operation and service would prevail if monitoring inspectors were bribed. Lack of transparency could result in lack of trust between the public (civil society), municipal officials, and the private sector.

Unclear or unstable policy toward private sector participation:

- Fear of reversal of policy and termination of contracts with political change could discourage private sector involvement.

## 2. Conclusion

Management of solid waste has been a major challenge for the local governments. Lack of concerted effort to create awareness about better waste management practice and failure of the ULBs to provide this important municipal service to the public are initial responsible for development of a poor waste management system in the country. Most of the services in SWM can be privatized because now a days private sector or NGO's are playing major role in handling of MSWM related operations in some of the Indian cities. The private sector has been assisting the ULBs to improve the management of waste in some segments of the MSW management. In some instances private sector participation has been able to enhance cost efficiency of delivery of the MSW management services. There is a requisite to take the public private partnerships to the next phase where such

partnerships are based on a mature rationale. Sometimes all the SWM activities are not cost effective, so government needs to accord the support in the form of grant, land or in other way to start the facility for MSWM. Role of informal sector is very important for segregation and reduction of MSW, so there interests should be taken care while planning any waste management system. Thus, private sector participation should be considered in India.

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