



Urban waste management privatisation

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SOLID WASTE MANAGEMENT in India has become a complex and intricate matter due to rapid growth of urban population, improvement in living standards of people and indiscriminate and fast industrial growth. There is also conspicuous increase in the per capita generation of waste due to better living standards.

During mid seventies, the per capita solid waste ranged between 150-350 gms/day for various India cities, whereas in the late eighties, it ranged from 320 - 530 gms/day. The current urban population of 218 million is estimated to be around 330 million by turn of the century. Taking an average per capita waste generation of 425 gms/day, total solid waste estimated to be generated per day by 2001 in urban areas alone will be over 140,000 tonnes per day which is mammoth volume by all standards.

Urban solid waste collection system

In the present system of waste collection, municipal scavengers sweep the streets and bring the waste to prefixed collection points which could be unconfined open spaces as well as confined masonry enclosures or replaceable steel bins. Besides this, private scavengers also bring the waste from premises to collection sites. The waste is generally loaded manually or through front end loaders into open body trucks or tipper trucks. Some of the major cities have introduced mechanisation by use of the following equipment:

- pay loaders
- tractor drawn carrier containers
- refuse collectors
- dumper placers

But it is invariably seen that the equipment is not put to optimum use and most of time collection and transport equipment remain off-road. It is seen in Delhi that on an average 30-35 per cent of vehicles are off-road and in Calcutta only about 55 per cent, vehicles are available for use. The position in other metropolitan cities is no better. With the result that the cost of waste collection and transportation is very high, e.g. The Calcutta Municipal Corporation is incurring about Rs.800/- per tonne and Delhi Municipal Corporation is spending over Rs.1000/- per metric tonne. It is seen that 80-85 per cent of the budget is spent in collection of waste in 12-20 per cent on transportation. Low equipment operating efficiency and high costs of garbage handling are attributed to lack of initiative and concern on part of concerned authorities and vested interests and administrative hurdles.

Inadequacies of Present System

In India, waste is being handled by municipal bodies by themselves in more than 98 per cent cities and only a few municipal bodies have switched over to partial privatisation. Immense problems are being faced by local bodies in managing the city wastes due to various reasons. It is estimated that efficiency of collection of waste in the urban areas varies from 59-82 per cent. This shows that a substantial quantum of solid wastes is left behind and remains uncollected. Collection of waste presents peculiar problems, as these (wastes) are thrown indiscriminately, not collected properly and transportation is also far from satisfactory. All these problems are attributable to the following:

- weak infrastructure;
- poor financial status of municipal bodies;
- use of improper equipment for collection and transportation;
- heavy absenteeism of workers and vested interests;
- lack of political and bureaucratic will;
- waste of labour in rehandling of refuse;
- poor motivation of workers.

Privatisation experience of Calcutta

At least in one metropolitan city, i.e., Calcutta, more than 40 per cent of waste is being handled by private operators. Although, in Calcutta private operators are loading waste manually and transporting it through open body trucks, still operating efficiency of contractors is around 90-95 per cent.

Private agencies engaged in waste management certainly have higher operating efficiency because, firstly, they are free from bureaucratic hurdles and upkeep of their equipment is excellent. Good condition of vehicles - equipment ensures not only trouble free operation but results into higher output and profitability for them.

Modern equipment, trouble free operation and motivated work force can only ensure efficient waste management and hence the need for privatisation.

Role of private sector

The benefit from present level of efficiency can be enhanced, by following better methods of collection, efficient transportation, use of appropriate technology, better management practices and motivation of supervisory staff and workers to achieve the above objective. The other option available is to increase the role of private

sector in this area. It is felt that while collection of waste from the streets and individual premises may continue as at present, the transportation of the waste from the collection sites to the dumping site and recycling of waste could be entrusted to the private sector. This paper, however, deals with the role of private sector only for transportation of waste.

Present experience of Calcutta

The Calcutta Municipal Corporation has been engaging private contractors for loading and transportation of waste for more than three years. The waste is brought to prefixed collection points through hand carts and the same is off-loaded on to ground by turning the hand carts up side down. The waste is loaded into the open body trucks by the contractors labour by using hand shovels and the basket. The manner in which waste is loaded is not only hazardous for the workers, but is environmentally unfriendly for the people around and by passers. Since the garbage is carried in low body open trucks, the waste flies off and litters enroute on the way to the dumping site. The system is an eyesore and the stench of the waste spreads around and is unbearable and unhygienic. But this arrangement is an improvement over the earlier system when private contractors were not engaged, The removal of waste is regular and effective. Now, the ugly sight of waste dumps on the roads is no longer a common sight.

New strategy

Calcutta Municipal Corporation has not stopped there and are on the march towards further improvement. They have taken bold initiative to mechanise. The waste management by deploying modern equipment and involvement of professional private agency to ensure that the waste is managed professionally, scientifically and in a hygienic manner over coming this inadequacies of the system already in vogue.

The system being introduced now, comprises of improvised hand carts for direct transfer of waste to steel containers of 7 cu.m capacity closed.

A number of 7 cu.m capacity containers are placed at different pre-fixed collection points for receiving daily waste. For primary collection, special purpose wheelbar-

rows are used. The wheelbarrow body is made of fibreglass and is self loading type having a capacity of 0.30 cu.m, divided into two compartments for easy handling. The wheel barrow facilitates direct transfer of garbage into 7.0 cu.m capacity closed top containers. No garbage touches the ground once it is collected from residential areas or commercial establishments.

Once the 7.0 cu.m container is fully loaded, the dumper placer picks it up hydraulically on to the chassis of a 16 tonne GVW in less than a minute. With the dumper placer system the container is firmly held for transportation to the dumping ground. At the dumping ground refuse is discharged through hydraulic tipping action. This empty container is left at some other collection point and a loaded one is picked up for further handing. Thus the cycle continues.

The system avoids double handling of garbage, no refuse touches the ground once it is collected from the source of generation. Waste is transported in closed top covered containers in a hygienic fashion. There is reduction in the work force and above all the system is cost effective. I ace Off

The above system has been introduced on a pilot scale and awarded to Urban Waste Management Ltd., a private sector company for handling the waste of a specified area in central Calcutta generating more than 100 tonnes of waste daily. The cost of waste handling from collection point to dumping ground is Rs.225/- per tonne which is at par with the present going rate being paid to the private contractors deploying open bodied trucks having other inherent short comings as described in fore going paras. Needless to say that the cost of transportation of waste with modern equipment is almost about 25 per cent of the cost incurred by CMC for handling the waste departmentally.

Conclusion

The authors have already discussed the various systems prevalent in the country for handling of waste. It is strongly felt that having regard to the magnitude of the problem facing urban areas and financial and administrative constraints, privatisation is the most practical and appropriate option for waste management.