



## Public Private Partnership in Municipal Solid Waste Management in Tamilnadu: An Assessment

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**ABSTRACT**

[Provision of public services and infrastructure has traditionally been the exclusive domain of the government. However, with increasing population pressures, urbanisation and other developmental trends, the government’s ability to adequately address the public needs through traditional means has been constrained. This has led the Government’s across the world to increasingly look at the private sector to supplement public investments and provide public services through Public Private Partnerships. Therefore, the objective of this paper assesses Public private partnership in Municipal Solid Waste Management in Tamilnadu.]

**KEYWORDS**

Disability, social welfare, right based society, safe guarding

**1.1 Introduction**

**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.

Development of infrastructure and provision of basis civic services has always been considered as a very important public sector activity for the following reasons:

- Governments have recognised the crucial role of infrastructure in fostering economic growth and reducing poverty.
- Because of its ‘public good’ and ‘essential’ nature, Governments have attempted to ensure availability of basic civic services irrespective of market conditions.
- For a number of economic, social and political reasons, private sector involvement in these important areas was slow to develop and thus uneven.

Provision of public services and infrastructure has traditionally been the exclusive domain of the government. However, with increasing population pressures, urbanisation and other developmental trends, the government’s ability to adequately address the public needs through traditional means has been constrained. This has led the Government’s across the world to increasingly look at the private sector to supplement public investments and provide public services through Public Private Partnerships.

**1.2 Solid waste management in cities in the developing countries**

Due to increasing problem of municipal solid waste management in most cities in the developing countries, private sector participation in providing solid waste services started as a response to major failures of service delivery by the public sector. In order to overcome the technical and financial deficiencies associated with the current system, state and local governments in India are increasingly resorting to the use of private contractors for collection, transportation and disposal and private capital to supplement the mechanization/improvisation process.

It is often believed and proposed that private sector participation in providing municipal services could be the best possible way to solve the current waste problems in developing countries and in particular public private partnership is seen as a potential alternative to the traditional service delivery system fully controlled by the public sector, more importantly public private partnership is believed to provide the services that the public sector neither have the resources nor the expertise to supply alone. According to UNESCAP public private partnership itself is not a solution option for the service delivery problems but rather a viable project implementation mechanism for a desired solution option.

Public private partnership arrangements pave the way to both the public and private sectors to share the responsibilities in providing the services. Public private arrangements can have many forms, but the common distinguishing characteristic is a shared governance structure and decision-making process. Such a partnership, combines the private sector’s dynamism with the public sector’s responsibility of public interest which makes it work better.

Furthermore, a third party—the people—can also play a considerable role in public private partnership. Citizens can contribute significantly to service delivery for instance they can support private sector participation with payment of service charges and also they can play an active role in accountability improvement and service quality of both public and private sector. These kinds of arrangements turn the people’s role from passive service receivers to active service partners that in return lead to high quality and efficiency of work.

**1.3 PPP in Municipal Solid Waste Management in Tamil Nadu**

Tamil Nadu is one of the pioneering states in the country in experimenting innovating methods in infrastructure projects implementation. Implementation of infrastructure under Public Private Participation mode is not new to the State, for example it earlier had this experience in taking and implemented Under Ground Sewerage Project in one ULB. Alandur UGSS project became a model and it is studied by Academicians, Policy makers, ULB officials of different states and countries, elected representative of Urban Local bodies of various state and countries. Similarly the state extended PPP into the Solid Waste Management Sector.

During 1990s, the Tiruppur Municipal Corporation (TMC)

started facing difficulties in managing the municipal waste generated in the area due to the increasing quantity of solid waste generation. The total waste produced by the town can be broadly categorized into three types: bio-degradable, non-biodegradable and recyclable. The Tamil Nadu Urban Development Fund (TNUDF) suggested that TMC should develop a composting plant on a PPP basis to treat the biodegradable waste. In 1999, IVR Infrastructures and Projects Ltd. was selected through a competitive bidding process to finance, construct and operate the plant on a Build-Own-Operate-Transfer (BOOT) mode for a period of 20 years.

A specially designed 'windrow compost' yard having a 50 day life cycle piles was set up on a seven acre land. This land was taken on lease by the private concessionaire from the TMC at Rs.1.75 lakh per annum. The concessionaire has set up equipments and machineries worth Rs.55 crore. The entire project cost was borne by the concessionaire.

As per the concession agreement, TMC was supposed to provide 100 MT of mixed waste per day to the private concessionaire, of which at least 40 MTD would be bio-degradable waste. The concessionaire would pay Rs.3.5 per ton of waste sold to it. If the municipality defaults in providing the concessionaire the waste, it would compensate the concessionaire by paying it Rs.5.20 per ton of waste not supplied. This meant that the demand risk was completely borne by the TMC. It was responsible for getting the required quantity of a given type of waste, thereby ensuring the sustainability of the project. The waste supplied after composting it into fertilizer would be sold to the farmers. This was the source of revenue for the concessionaire. At present there are about 3 MSWM projects have been implemented directly under PPP mode and 1 project is implemented under BOOT basis. The details are provided in the following tables.

**Table 1: Cost estimates PPP – MSWM project in Tamil Nadu**

Sl.No	Urban Local Bodies (ULB)	Est. Cost (Rs in Cr.)
1	Coimbatore Corporation	96.51
2	Madurai Corporation	74.23
3	Namakkal Municipality	3.58
4	Venkatamangalam Project (Common facility for Alandur*, Pallavapuram and Tambaram)	44.21
4	Salem City Municipal Corporation**	

\*Alandur now excluded from the project as it was merged with Chennai Corporation

\*\* BOOT basis – Establishment of Material Recovery Facility, Compost plant and developing Scientific Sanitary land fill.

The bid documents pertaining to proposed individual facility for Namakkal, Madurai, Venkatamangalam project and Coimbatore Corporation were analysed and the components of the projects as defined in the scope is presented for comparative purpose in the table 5.9 While looking into the table it is understood there were not much difference between Namakkal, Venkatamangalam and Madurai SWM projects whereas the Coimbatore Corporation's project is having wide scope than the rest. In terms of cost estimates the Coimbatore corporation estimate is higher followed by Madurai, and Namakkal.

**Table 2: Scope of Work of ISWM projects implemented in ULBs, Tamil Nadu**

Sl.No	Components	Namakkal	Madurai	Venkatamangalam Project	Coimbatore
1	Developing compost yard	Yes	Yes	Yes	Yes

Sl.No	Components	Namakkal	Madurai	Venkatamangalam Project	Coimbatore
2	Processing of Bio Degradable Waste with aerobic method	Yes	Yes	Yes	Yes
3	Establishing transfer stations	Nil	Nil	Yes. Existing dump yards will be converted as Material Recovery Facilities	Existing Transfer stations.
4	Transportation from source to transfer stations/ compost yard/ Land fill site	Nil	Nil	Yes. From transfer stations to processing plant using Bulk Refuse Carriers	Yes. From transfer stations to processing plant using Bulk Refuse Carriers
5	Transportation from Transfer station	Nil	Nil	Yes	Yes
6	Closure of existing dump site(s)	Nil	Yes, 1 site	Nil	Yes, 3 sites
7	Construction of Sanitary Land Fill including Operation & Maintenance	Yes	Yes	Yes	Yes
8	Construction, Development, O&M Maintenance	Yes	Yes	Yes	Yes
9	Auxiliary facilities-	Yes	Yes	Yes	Yes
10	Term of Concession period	20 years	20 Years	20 years	20 years
11	Obligatory Clause	Compliance to MSW rules	Compliance to MSW rules	Compliance to MSW rules	Compliance to MSW rules
12	Cost Estimate (Rs. in Crores)	3.58	74.23	44.21	96.51

\* Alandur, Pallavaram and Tambaram Municipalities

**Table 3: Various PPP Milestones in ISWM across ULBs, Tamil Nadu**

Item	Namakkal Municipality	Madurai Corporation	Venkatamangalam Project	Coimbatore Corporation
Concession Agreement Signed on	10.3.2008	14.07.2008	30.01.2009	19.11.2007
SPV formed on	27.3.2008	06.03.2008	23.04.2009	16.1.2008
Land Lease Agreement executed on	04.04.2008	20.9.2008	11.6.2009	09.05.2008
Construction Period	12 months	12 months	12 months	12 months
Concession Period	20 years	20 years	20 years	20 years

Various mile stones of ISWM PPP projects are presented in the table 5.10, it is heartening to note that executing land lease agreement takes long time and the time lag between signing of concession agreement and land lease agreement is on an average about 3 months. Particularly for Coimbatore Corporation it almost took 6 months to execute land lease agreement. This may be due to more number of closure stations and transfer stations than the rest of the ULBs. This is a critical issue because the period of construction is 12 months of

which about one third or two fourth of the total time it takes to execute the agreement. It is also important to highlight that the more civil works involved in the land fill site only. Delaying handing over the site will result in other issues such as cost escalation and so on. With the available data it is very difficult to decipher this issue.

**Table 4: ISWM PPP projects Tipping Fee across ULBS, Tamil Nadu**

ULB		Transfer Station	Processing Plant	Landfill
Namakkal Municipality	%		(75)	(25)
	Rs/MT		125	135
Madurai Corporation	%		(75)	(25)
	Rs/MT		110	350
Venkatamangalam Project*	%		(80)	(20)
	Rs/MT		30	0
Coimbatore Corporation	%	100	(75)	(25)
	Rs/MT	440	185	171.5

Note: % percentage of waste and Rs/MT is tipping fee

\*Concession Agreement was terminated and new operator was identified with new technology for Venkatamangalam project

Tipping fee and assured quantity of waste is provided in the Table 5.11. It is interesting to note that for Coimbatore Corporation the Tipping fee is very high and this may be due to 4 transfer stations and 3 scientific closure of existing dumpsites are in the project scope. And for Madurai Corporation is concerned the Quantity of waste to be handled is about 450 MT, it doesn't have transfer station, and this project involves closure of only one site. Namakkal has added advantage that the 100 % source segregation is already achieved, extent and quantity of waste handled by this ULB is very less. In addition it also got 90 % of the project cost as grant from GOI and GoTN and ULBs contribution is only 10%. Local operator already engaged in collection and transportation is the concessionaire.

**1.5 Conclusion**

It could be deducted from discussion that a systematic assessment of the PPP Projects in urban services in general and MSWM sector in particular. Further the case studies on the MSWM PPP projects across Urban Local Bodies in India revealed that the that the Tipping fee shall be base variable and a sustainable model which is also highlighted in the SWM po-

sition paper [GoI, 2000], secondly consortium (joint Venture, Associations) shall be permitted for the integrated municipal solid waste management projects with relaxed qualification criteria and different set of criteria for various stages of project implementation, thirdly the investment risk is for the private player and it is 100 %. The project implementation got delayed in some projects due to labour unrest, land related issues. It is also felt by going through the literature, quantity generation is the base for PPP projects and effective and realistic base line quantification to be done which will reduce the risk for the private operator in particular sustainability of the project in general. The first set of MSWM projects implemented in the State of Tamil Nadu and its performance in general is not scalable and replicable. The second set of PPP projects on Integrated Municipal Solid Waste Management Projects in Coimbatore and Madurai is very successful. With these find that this study further focus on developing a PPP project by taking Tambaram Municipality as the case study and for replicating elsewhere.

**REFERENCES**

Greg Arling, Shelley Hagan, Harald Buhaug, The Feasibility of a Public-Private Long-Term Care Financing Plan Medical Care, Vol. 30, No. 8 (Aug., 1992), pp. 699-717 Published by: Lippincott Williams & Wilkins | | Mukul D Asher , Deepa Vasudevan, Unconventional Method of Financing Urban Development: The Role of Public-Private Partnership(PPP), (2008). | | Operational Guidance for World Bank Group Staff, Public and Private Sector Roles in Water Supply and Sanitation Services, The World Bank, Washington DC.(2004) | Agarwal,V.S. and Gupta, N. (2008), "Models for Solid Waste Management in India", in Chapter 7, Section 7.3, India Infrastructure Report 2008. | | India: Addressing Infrastructure Needs of the Poor—The Tamil Nadu Experience with Public Private Partnerships – Case study Summary in Shangai Poverty Conference (2006). | | Policy Documents, Municipal Administration and Water Supply, Government of Tamil Nadu. | | Ready Reckoner on Municipal Solid Waste Management for Urban Local Bodies, Commissionerate of Municipal Administration, Government of Tamil Nadu. | Paul Shrivastava Source., Environmental Technologies and Competitive Advantage, Strategic Management Journal, Vol. 16, Special Issue: Technological Transformation and the New Competitive Landscape (Summer, 1995), pp. 183-200 | | William S. Woodside, The Future of Public-Private Partnerships, Proceedings of the Academy of Political Science, Vol. 36, No. 2, Public-Private Partnerships: Improving Urban Life (1986), pp. 150-154 Published by: The Academy of Political Science | | Timothy Besley and Maitreesh Ghatak, Government versus Private Ownership of Public Goods, The Quarterly Journal of Economics, Vol. 116, No. 4 (Nov., 2001), pp. 1343-1372