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**PUBLIC-PRIVATE PARTNERSHIP IN MUNICIPAL SOLID
WASTE MANAGEMENT IN AIZAWL**

**Dissertation Submitted in Partial Fulfillment for the Award of the Degree of
MASTER OF PHILOSOPHY IN PUBLIC ADMINISTRATION**

By

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AIZAWL, MIZORAM

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Questionnaires

A. Questionnaires for Officials

1. Do you think that the Public-Private Partnership (PPP) mode used in Municipal Solid Waste Management (MSWM) in Aizawl is similar or different to the ones used in other Indian cities or towns? Give reasons.

2. What are the reasons for carrying out PPP in MSWM in Aizawl?

3. Do you think that the financial contribution that the Government makes towards MSWM is reasonable with the services and quality provided through PPP? Give reasons.

4. Do you think that the financial contribution that you make every month towards MSWM is reasonable with the services and quality provided through PPP? Give reasons.

5. What are the problems that you face in MSWM after the implementation of PPP? Cite the problems, if any.

6. What are the suggestions or solutions towards overcoming the inadequacies in PPP in MSWM in Aizawl?

Confidential

Name:

(Locality/Local Council/Designation):

B. Questionnaires for Beneficiaries

1. Do you think that the present system of Municipal Solid Waste Management (MSWM) through Public-Private Partnership (PPP) mode is better than the previous system, wherein the Government handled MSWM? Give reasons.
2. Do you think that the financial contribution that the Government makes towards MSWM is reasonable with the services and quality provided through PPP? Give reasons.
3. Do you think that the financial contribution that you make every month towards MSWM is reasonable with the services and quality provided through PPP? Give reasons.
4. What are the problems that you face in MSWM after the implementation of PPP? Cite the problems, if any.
5. What are the suggestions or solutions towards overcoming the inadequacies in PPP in MSWM in Aizawl?

Confidential

Name:

(Locality/Local Council/Designation):

Appendix 2

List of Respondents

A. Official Respondents

1. Director, Urban Development and Poverty Alleviation, Government of Mizoram.
2. Joint Director, Urban Development and Poverty Alleviation, Government of Mizoram.
3. Chairman, Aizawl Municipal Council.
4. Executive Member (Sanitation), Aizawl Municipal Council.
5. Chief Executive Officer, Aizawl Municipal Council.
6. Sanitation Officer, Aizawl Municipal Council.
7. Sanitation Supervisor, Aizawl Municipal Council.
8. Chairman, Dawrpui Local Council (Market Area)
9. Chairman, Ramhlun North Local Council (Ward III)
10. Chairman, Ramhlun Sports Complex Local Council (Ward III)
11. Chairman, Laipuitlang Local Council (Ward III)
12. Chairman, Electric Local Council (Ward IV)
13. Chairman, Chanmari Local Council (Ward IV)
14. Chairman, Zarkawt Local Council (Ward IV)
15. Chairman, Luangmual Local Council (Ward IX)
16. Chairman, Tanhril Local Council (Ward IX)

17. Chairman, Tuivamint Local Council (Ward IX)
18. Chairman, Kulikawn Local Council (Ward XIX)
19. Chairman, Tlangnuam Local Council (Ward XIX)
20. Chairman, Saikhamakawn Local Council (Ward XIX)

B. Beneficiary Respondents

- | | |
|----------------|-------------------------------|
| 1. Ward I | Durtlang, Zuangtui |
| 2. Ward II | Bawngkawn, Chaltlang |
| 3. Ward IV | Ramhlun South, Ramthar |
| 4. Ward VI | Chanmari West, Hunthar |
| 5. Ward VII | Zemabawk, Thuampui |
| 6. Ward VIII | Armed Veng, Chite |
| 7. Ward IX | Saron, Chhinga Veng |
| 8. Ward X | Zotlang, Government Complex |
| 9. Ward XII | Tuikual, Dinthar |
| 10. Ward XIII | Dawrpui Vengthar, Kanan |
| 11. Ward XIV | Mission Vengthlang, Khatla |
| 12. Ward XV | Nursery, Maubawk |
| 13. Ward XVI | Bethlehem, College Veng |
| 14. Ward XVII | Venghlui, Republic Vengthlang |
| 15. Ward XVIII | Venghnuai, Tuikhuahtlang |

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CERTIFICATE

This is to certify that **Ms. Janet Vanlahlimpuii** has prepared a Dissertation under my Supervision on the topic **Public-Private Partnership in Municipal Solid Waste Management in Aizawl**, in partial fulfillment for the award of the Degree of Master of Philosophy (M.Phil) in the Department of Public Administration, Mizoram University, Aizawl.

This Dissertation has been the outcome of her original research work on a virgin field and it does not form a part of any other dissertations submitted for the award of any other degrees.

She is duly permitted to submit her dissertation for examination.

Dated Aizawl,

(Prof. LALRINTLUANGA)

the _____December 2013

DECLARATION

I, **Janet Vanlalhlimpuii**, do hereby declare that the dissertation entitled, **Public-Private Partnership in Municipal Solid Waste Management in Aizawl** being submitted to the Mizoram University for the award of the degree of Master of Philosophy in Public Administration, is a record of work carried out by me, under the supervision and guidance of Dr. Lalrintluanga, Professor, Head, Department of Public Administration, Mizoram University, Aizawl and that the contents of this dissertation do not conform basis of the award of any previous degree to me or to the best of my knowledge, to anyone else, and that the dissertation has not been submitted by me for any research degree in any other University or Institute.

Date : (JANET VANLALHLIMPUII)

Place :

ACKNOWLEDGEMENT

I thank the Almighty God for showering me with abundance of blessings to enable me to complete the study.

I am deeply obliged to my Supervisor, Dr. Lalrintluanga, Professor, Head, Department of Public Administration, Mizoram University, Aizawl, for his constant support, invaluable guidance, meticulous direction and encouragement without which the work would not have been completed.

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I appreciate the unfailing support and encouragement of Dr. Laithanzauva, Principal, and the faculty members of the Department of Public Administration, Government Aizawl West College, Aizawl.

Above all, I am forever indebted to my family for their love, moral support and countless prayers.

Date : (JANET VANLALHLIMPUII)

Place :

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CHAPTER-I

INTRODUCTION

I. Background of the Study

Chapter *one* is an introduction to the study. It provides an insight into urbanization and its impact with a view to understanding the intervention of Public-Private Partnership in Municipal Solid Waste Management in Aizawl. It also presents the survey of literature, statement of the problem, scope and objectives of the study, research questions and the methodology applied in the study.

Public-Private Partnership (PPP) is a suitable method of delivering most services commonly provided by Local Government and is characterized by the sharing of investment, risk, responsibility and reward between the *two* partners. The type of services that would be provided through PPP would vary from Local Government to Local Government depending on the policies of the government from time to time. Most Local Governments would enter into an agreement with private sector for provision and delivery of basic services like housing, recreation facilities; solid and liquid waste management etc.

‘Municipal Solid Waste Management (MSWM)’ refers to a systematic process that comprises of waste segregation and storage at source, primary collection, secondary storage, transportation, secondary segregation, resource recovery, processing, treatment, and final disposal of solid waste.¹

¹ Government of India, *Toolkit for Solid Waste Management, JnNURM*, Ministry of Urban Development, November 2012, p.2.

Solid waste is *one* of the important obligatory functions of the Urban Local Bodies (ULBs) in India. However, they have fallen short of this role owing to scarcity of financial resources, including reduced plan funds from the state and the central government. As a result urban hygiene continues to be a really neglected and un-attended space. Therefore, in order to improve the situation, alternative institutional arrangements have to be explored.

II. Profile of Mizoram

Mizoram the *twenty-third* State of the Indian Union is situated in the North Eastern part of the country. It has a geographical area of 21,081 square kilometres and lies approximately between 92.15 to 93.29 degrees east longitude and 21.58 to 24.35 degrees north latitude.² The Tropic of Cancer passes by Aizawl, the capital city of Mizoram. The length of the State from north to South is 277 kilometres and at the broadest from east to west, it is 121 kilometres. Mizoram has an inter-state border with Cachar District of Assam on the North, Manipur on the East and Tripura on the West. The length of its borders with these states extends over 123 kilometres, 95 kilometres and 66 kilometres respectively. It is strategically located having international boundaries with Myanmar in the east and south, Bangladesh in the west. The border length of Mizoram with the Chin Hills and Northern Arakans of Myanmar extends to about 404 kilometres and that of the Chittagong Hill tracts of Bangladesh spans about 318 kilometres.³

The topography of Mizoram consists predominantly of mountainous terrain of tertiary rocks. The mountain ranges run from north to south direction and largely taper from the middle of the state

² Government of Mizoram, *Statistical Handbook, Mizoram 2012*, Directorate of Economics and Statistics, p. xvii.

³ L.T. Pudaite, *Mizoram and Look East Policy*, New Delhi, Akansha Publishing House, 2010, p. 1.

towards the north, the west and the south.⁴ These ranges are separated from *one* another by narrow and deep river valley with only a few and small patches of flat lands lying in between them. The terrain of Mizoram is young and most of the landforms are of erosion in nature.

Mizoram has a number of rivers, streams and brooks which originate in the central part of the State and flow towards either south or north influenced by the north-south trending ridges. The important rivers flowing northwards are Tlawng, Tuirial, Tuivai, Tuivawl while Tiau, Chhimtuipui, and Khawthlangtuipui flow southwards.⁵

Since the Tropic of Cancer runs through the State, Mizoram enjoys a moderate climate. It falls under the direct influence of the south-west monsoons and therefore, receives adequate rainfall. The average rainfall in Mizoram is 2111 millimetre per year.⁶ Winter starts from November and usually last till February. There is little rain during this period and the temperature is between 11 degrees centigrade to 23 degrees centigrade. Spring lasts from end February to mid-April where the temperature is between 14 degrees centigrade to 18 degrees centigrade. Rainy season starts from May to September with July and August being the rainiest month. The temperature during summer ranges from 25 degrees centigrade to 30 degrees centigrade. September and October are the autumn months where the temperature is between 18 degrees centigrade to 25 degrees centigrade and the rainfall is intermittent.⁷

⁴ *ibid.*, p. 2.

⁵ Lalhriatpuii, *Economic Participation of Women in Mizoram* (2010), New Delhi, Concept Publishing company Pvt. Ltd., 2010, p. 11.

⁶ Government of Mizoram, *Statistical Handbook, Mizoram 2012, Op. cit.*, p-134.

⁷ *ibid.*, p. 132.

The total area of the State covered by forests is 19,183 square kilometre and agriculture is the main occupation of the people.⁸ However, the traditional method of shifting cultivation called ‘jhumming’ has brought a lot of problems to the farmer as well as to the forests as it results in declining fertility and shortened jhum cycle. There are no major industries to boast of and only small scale and traditional industries flourish. The percentage of total workers to total population is 52.57 (Main Workers: 3,62,450 and Marginal Workers: 1,04,709).⁹

Mizoram has 8 Districts, 3 Autonomous District Councils, 23 Sub-divisions and 26 Rural Development Blocks. As per the Census of India 2011, there are 830 villages and 23 notified towns, out of which 704 are inhabited and 126 are uninhabited.¹⁰

The population of Mizoram as per the Census of India 2011 is 10,91,014 (Males: 5,52,339 and Females: 5,38,675). The rural population is 5,29,037 while the urban areas have a population of 5,61,977. The density of population is 52 per square kilometre.¹¹ Mizoram is *one* of the states in India where urbanization rate is very high and is the only State where there are no ‘homeless’. The percentage of urban population as per the Census of India 2011 is 51.51.¹² The State has a literacy rate of 91.58% (Males: 93.72% and Females: 89.40%), *second* only to Kerala. (93.91%).¹³

The population of Mizoram consists of several ethnic tribes who are culturally and linguistically linked. Mizo is a generic term by which all the ethnic tribes in Mizoram are known. The Mizo belong to the

⁸ *ibid.*, p. 22.

⁹ *ibid.*, p. xviii

¹⁰ *ibid.*, p. xvii.

¹¹ *ibid.*, p. xviii.

¹² *ibid.*, p. xviii.

¹³ *ibid.*, p. xviii.

Mongoloid Stock.¹⁴ The Mizo tribe is divided into numerous clans which are further subdivided into sub-clans with slight linguistic differences. Despite there being no authentic record about the history of the Mizo before the 17th Century, most researchers conclude that they came to their present abode from southern China, possibly Yunnan province, by gradual migration through northern Myanmar.¹⁵

The Mizo are close-knit homogenous society with no class distinction and no sexual discrimination.¹⁶ They are a distinct community and the social unit was the village, around which the life of a Mizo revolved. The Mizo code of conduct or ethics, which guides their thoughts and actions in war and peace, is called '*Tlawmngaihna*,'¹⁷ an untranslatable term, which signifies to the Mizo that they should be hospitable, kind, unselfish and helpful to others. It also stands for self sacrifice for the service of others. All voluntary services are rendered by the Mizo under this useful custom of '*Tlawmngaihna*' which continues till today.

Prior to the British annexation of Mizoram, the Mizo neither had a systematic political institution nor explicit judicial system. Each village had clan-wise Chief selected based on strength, force and bravery and not hereditary. However, with the emergence of *Zahmuaka*, chieftainship was made hereditary. The Chief exercised many executive and judicial powers with the Council of Elders over his subjects.¹⁸

The British annexed Mizoram, the then Lushai Hills in 1890 more as a policy of pacification and not so much as a desire to extend

¹⁴ R.N. Prasad, *Government and Politics in Mizoram: 1947-1986*, New Delhi, Northern Book Centre, 1987, p. 3

¹⁵ L.T. Pudaite, *Op. cit.*, p-6.

¹⁶ R. N. Prasad, *Op. cit.*, p-4.

¹⁷ *ibid.*, p. 5.

¹⁸ *ibid.*, pp. 8-9.

British imperialism. The British adopted a policy of non-intervention in the internal affairs and administration of the tribes. The Lushai Hills was kept isolated from the rest of the country and declared as 'Excluded Area.' Both the Government of India Act 1919 and 1935 did not have any effect on the administration. After independence, Chieftainship was abolished in 1952 and the Lushai Hills was made a district of Assam till 21 January 1972, when it was granted the status of a Union Territory under the Indian Union. Subsequently, it became the *twenty-third* State of India on 20 February 1987.¹⁹ Local administration, both in the urban and rural areas was carried out through directly elected Village Councils (VCs). On 3 November 2010, elections to the Aizawl Municipal Council (AMC) were held. As far as the rest of the local government area in the State is concerned, they continue to be administered by the VCs.

III. Profile of Aizawl

Aizawl is the capital of Mizoram and headquarter of Aizawl district. In 1890 when the British troops headed by Daly annexed the Mizo Hills they built a stockade or a defence post in Aizawl and settled there.²⁰ This fort came to be known as Fort Aijal and thus, the foundation for future township and district headquarter at Aizawl was built. The British divided the territory of the Lushai Hills into North Lushai Hills and South Lushai Hills and the North Lushai Hills was placed under the administrative jurisdiction of Assam with Captain H.R. Browne as its Political Officer and the South Lushai Hills under Mr. C.S. Murray. In 1898, the British decided to merge the *two* districts into a district, under the name of Lushai Hills District with headquarters at Aizawl, a part of Assam under the British Superintendent. The same year also marked the beginning of settled administration in the district

¹⁹ P. Lalnithanga, *Emergence of Mizoram*, Aizawl, Lengchawn Press, 2010, pp. 27ff.

²⁰ R. N. Prasad, *Op. cit.*, p. 29.

and Major J. Shakespeare became the *first* Superintendent of the District.²¹ In the post-independent period, Aizawl continued to be the administrative headquarters of the Mizo (Lushai) Hills District in 1952 and then of the Union Territory of Mizoram in 1972 and subsequently of the Mizoram State in 1987.

Aizawl is located north of the Tropic of Cancer in the northern part of Mizoram and is situated on a ridge 1,132m above sea level with the river Tlawng to its west and river Tuirial to its east. It lies approximately between 92.30 to 93 degrees east longitude and 23.30 to 24 degrees north latitude. Aizawl is linked to the rest of India through National Highway 54, which connects to Silchar in Upper Assam at a distance of 180 kilometres. It is bounded by the other North Eastern States of Meghalaya in the north, Manipur in the north east and Tripura in the west. Aizawl is connected by road to Champhai-Zokhawthar where Indo-Myanmar boarder trade is being located recently. The nearest airport is Lengpui, 32 kilometres from Aizawl.²²

Aizawl has a mild sub tropical climate with abundant rain during the monsoon. The summer temperature ranges from 20 degrees centigrade to 30 degrees centigrade; while it is between 11 degrees centigrade to 21 degrees centigrade in winter. The average rainfall in the City is around 2350.9 millimetres.²³

The economy is sustained by Government services since a large portion of the population are government servants. There are no major industries except for some cottage and traditional small scale enterprises.

²¹ *ibid.*, p. 4.

²² Official website of Aizawl district, <http://aizawl.nic.in/>

²³ Government of Mizoram, *Statistical Handbook, Mizoram 2012, Op. cit.*, p. 4.

The civic administration is carried on by the AMC with *one* Chairman, Vice Chairman and *three* Executive members. The administrative head of the AMC is the Chief Executive Officer (CEO). The AMC has *nineteen* elected members representing *nineteen* wards and *eleven* Members of Legislative Assembly and *one* Lok Sabha Member of Parliament. Provision has also been made for *one-third* reservation of women, which is to be on rotation among the different Wards after every *five* years. There are Ward Committees and *eighty-two* Local Councils (LCs) under it.

Being the capital of the State, Aizawl has the largest concentration of population. The population of Aizawl as per the Census of India 2011 is 291,822 (Males: 143,803 and Females: 148,019). The urban population in Aizawl accounts for 56.2 % of the total urban population.²⁴ There has been a tremendous growth of government sectors and a large portion of development funds are incurred in the city because of the large population in the city. This has resulted in an uneven development of other areas of Mizoram as compared to Aizawl and this is an important factor of urbanization in the City.²⁵

IV. Concept of Urbanisation

Urban population has been increasing at an unprecedented rate in the *twenty-first* century. This phenomenon is common in both the developed and developing countries. The surge in the growth of urban population is mainly due to migration of rural population to urban area in search of livelihood; natural increase in population where the birth rate is higher than the death rate; and inclusion of new areas under

²⁴ *ibid.*, p. 4.

²⁵ P.L. Ramliana, "Emerging Trends of Urbanization in Aizawl and Linkage of Higher Education as the Cause," in *Mizoram: The Emerging Issues of Development*, edited by B.I. Laskar, Guwahati, DVS Publishers, p. 269.

urban. Besides, the urban areas provide better facilities and opportunities as compared to the rural areas.

The definition of 'urban' varies from time to time and from country to country. While defining an urban area the United Nations Children's Fund (UNICEF) takes into consideration any or all of the following criteria:²⁶

1. Administrative criteria or political boundaries (e.g., area within the jurisdiction of a municipality or town committee);
2. Population size (where the minimum for an urban settlement is typically in the region of 2,000 people, although this varies globally between 200 and 50,000);
3. Population density;
4. Economic function (e.g., where a significant majority of the population is not primarily engaged in agriculture, or where there is surplus employment);
5. Presence of urban characteristics (e.g., paved streets, electric lighting, and sewerage).

In India definition of urban areas is based on the census reports. According to the Census of India 2011 an area to be called 'urban' must fulfil the following:²⁷

1. All places with a municipal corporation, municipality, cantonment board or notified town area committee.

²⁶ United Nations Children's Fund (UNICEF), *The State of the World's Children 2012: Children in an Urban World*, UNICEF, February, 2012, p. 10.

²⁷ *Census of India 2011, Provisional Population Total, Urban Agglomerations and Cities*, p. 1, and http://censusindia.gov.in/2011-prov-results/paper2/data_files/India2/1.%2520Data%2520Highlights

2. All other places which satisfy the following criteria:

- i. Minimum population of 5,000 persons;
- ii. At least *seventy-five* percent of the male main workers engaged in non-agricultural pursuits;
- iii. A density of population of at least *four hundred* per square kilometres.

Apart from the above criteria, the Directors of Census operating in the States and Union Territories have been empowered, in consultation with the concerned State Government or Union Territory Administration and the Census Commissioner of India, to declare a place as urban area if it has, in his opinion, a few pronounced urban characteristics and amenities.

Urbanization has been defined in a variety of ways. In its simplest form it denotes the expansion of urban areas along with increase in the proportion of people living in urban settlements. Sociologists refer to urbanization as a process by which the urban values get diffused, behaviour patterns are transformed, and movement from villages to cities occur.²⁸ The economist looks at urbanization as a process whereby the primary production functions are replaced by secondary and tertiary functions. The geographers refer to urbanization as a process by which human beings and their activities congregate spatially to give rise to towns and cities of various sizes. From the view of public administration, rural and urban centres can be thought of as a

²⁸ C.B. Mamoria, *Social Problems and Social Disorganisation in India*, Allahabad, Kitab Mahal, 1981, p. 459. (reproduced from Sahib Singh and Swinder Singh (2000): *Local Government in India: A Study in Rural and Urban Development Administration*, New Academic Publishing Co., Jalandhar, 2000, p. 4.).

spatial pyramid at the base of which village settlements provide the nuclear family.²⁹

The process of urbanization has brought in a multitude of changes which are multi-dimensional in nature. On the positive side, new and expanded employment opportunities have been created in the urban areas along with better facilities and opportunities in service delivery and changes in attitudes. These have all added to the growth and prosperity of a nation. On the other hand, urbanization has brought about civic inconveniences, sanitation and congestion; housing problems; safe and insufficient water supply; waste disposal; unemployment; and undesirable social activities.

Urban growth and urbanization has put a lot of pressure on provision of urban services, housing and infrastructure to the people, more so in the developing countries and this has posed a great challenge to the ULBs. The speed with which the urban population is growing, overflowing the boundaries and forming sprawling agglomeration of buildings has created difficulties and the tasks of urban governance have become formidable. At the same time the efficient management of the cities becomes very significant since the urban areas are considered to be a major indicator of economy and productivity. These problems are to be managed by the Local Government; however, the ULBs have not been able to meet these demands owing to scarcity of financial resources, improper planning, and deficiency in skilled manpower. In view of these problems and the onerous task that the ULBs have to undertake, they have to explore innovative mechanisms which will be beneficial to all.

²⁹ Pathak Harbans, "Urbanization in India –Some Problems and Issues", in *Seminar on Challenges to Urban Governments in India*, Panjabi University, Patiala, April 25-27 1981, p. 2. (reproduced from Sahib Singh and Swinder Singh (2000): *Local Government in India : A Study in Rural and Urban Development Administration*, New Academic Publishing Co., Jalandhar, 2000, p. 4).

V. Urbanisation in Mizoram

The erstwhile Mizo Hills, a District in the state of Assam, was bestowed the status of Union Territory in 1972 and subsequently statehood in 1987. Over the past few decades the area has been witnessing rapid socio-economic growth made possible with development initiatives of the State as well as the Central government. Mizoram has seen a phenomenal increase in urban population. From a meagre 11% at two urban centres in Aizawl and Lunglei in 1971 to 51.51 % of its population concentrated in urban areas as per the Census of India 2011.

Table: 1:1
Growth of Urban Population in Mizoram (1951-2011)³⁰

Sl.No.	Year	No.of Towns	Total Population	Urban population	% of Urban Population
1.	1951	1	196,202	6,956	3.54
2.	1961	1	266,063	14,257	5.34
3.	1971	2	332,390	37,759	11.36
4.	1981	6	493,757	121,814	24.67
5.	1991	22	689,756	317,946	46.20
6.	2001	23	888,573	441,006	49.63
7.	2011(P)	23	1,091,014	5,61,977	51.51

Table 1:1 depicts that the growth of urban population has increased from 3.54 % in 1951 to 51.51% in 2011. The number of towns also increased from 2 in 1971 to 23 in 2001.

³⁰ Census of India 2011, *Provisional Population of Totals- Rural-Urban Distribution of Figures at a Glance-Mizoram*, p. 1 and <http://censusindia.gov.in/mizoram>.

Urbanization has progressed in Mizoram mainly due to the migration of population in the urban areas. The rural population flocks to the City in search of better life and opportunities. Many a times, the City is not able to cope up with this pressure. As a result a number of problems crop up which makes it difficult to maintain law and order and at the same time the administration is not equipped to meet the challenges.

The process of urbanization in Mizoram is very haphazard. It does not seem to be in tune with the growth in infrastructures and provision of basic amenities to the population.

The Government has been declaring areas as ‘urban areas’ without providing corresponding infrastructures and services to tide over the problems that crop up. Consequently, huge problems have developed overtime in the form of acute housing crisis, acute shortage of public utility services, sanitation and solid waste management. At the same time the ULBs are incapacitated to develop and manage infrastructure services efficiently, economically and effectively within the available resources.

VI. Urbanisation in Aizawl

Aizawl, the capital of Mizoram, has registered the highest urban population in the State and as per the Census of India 2011, the population of Aizawl in 2011 is 2,91,822. The urban population in Aizawl accounts for 56.2 % of the total urban population in Mizoram.³¹ Better protective, facilitative and welfare services appear to be provided in Aizawl as compared to other urban areas in the State. Besides differential provision of physical infrastructure near roads and high

³¹ Government of Mizoram, *Statistical Handbook, Mizoram 2012, Op. cit.* p. 4.

differential development investment in Aizawl are some of the factors responsible for urbanization in Aizawl. Urbanization does provide immense opportunities to the urban population for a better life, yet, there are a number of problems that continue to glare.

(a) Population Migration

The unprecedented growth in urban population in Aizawl from 2,28,280 in 2001 to 2,91,822 in 2011 requires skilled management in handling urban and other related problems. At the same time the Government of Mizoram is not able to provide relief to these problems because of the increasing financial paucity in the State treasury. So there is a tendency to lean on private sector to tide over these problems.

(b) Urban Infrastructure and Services

There is lack of basic infrastructure and services within Aizawl and the City is not able to provide basic civic amenities or facilitative services like transport etc. to its population. The fact that Aizawl is not a planned area further adds to the problem. Sewerage, sanitation and insufficient supply of drinking water are often some of the problems faced by the City dwellers. Though there are no homeless people in the City, yet, some of the migrant population live in depilated houses that would fall anytime in stormy weather.

(c) Congestion

With a population of 2,91,822 living within its vicinity, Aizawl as an urban settlement is over-crowded. Practically, there is congestion everywhere in Aizawl City-be it in the construction of houses, roads, vehicles or traffic. The obvious reason for the congestion of Aizawl as an urban centre is that it is not a well plan city right from the beginning of its existence.

(d) Lack of Employment Opportunities

Rural people migrate to the urban areas mostly for want of jobs and better opportunities. However, city life does not always present a rosy picture and most of the time it is not easy to procure employment commensurate with their qualifications and skills. Urbanization, thus, leads to lack of employment opportunities.

(e) Undesirable Social Evils

With the growing unemployment, there is a lot of frustration among the people living in Aizawl, which in some cases lead to undesirable social evils. Maintenance of livelihood becomes difficult and it thus leads to degrading morals and laxity adversely affecting the social life and thereby creating challenges to the society.

(f) Ruralisation of Urban Areas

The rural migrants unable to get employment in Aizawl continue with their traditional rural occupations such as animal husbandry and their livestock which results in unhygienic conditions and enormously straining the municipal governance.

(f) Solid Waste Management

Waste is another major problem in Aizawl. Besides air, water and noise pollution, solid waste pollution is the biggest challenge being faced by the process of urbanization. Vast quantities of solid waste are produced as a result of packaging and consumption patterns, with very little landfill space available for disposal. The quantum of solid waste generated in Aizawl per day is 0.476 kgs and out of that only 35% are disposed off directly to the dumping site or on the roadsides in an unhygienic manner causing nuisance and creating unhealthy

environment.³² Wastes are being dumped openly and these are prone to wild fire and deliberate burning. There is no segregation of waste at source. Besides there is capacity constraints in terms of financial and qualified technical experts.

During rainy season accumulated waste cause many problems to the civic administration. Indiscriminate disposal of solid waste often leads to landslide which in turn cause lost of lives, property and an extra burden on the exchequer of the State.

VII. Public-Private Partnership in Municipal Solid Waste Management

PPP is an arrangement between government and private sectors for the purpose of providing public infrastructure, community facilities and related services and allocates responsibilities and risks among the various partners. Through the agreement, the private sector agrees to provide services which were hitherto provided by the government. The main characteristics of PPP is the sharing of investment, risk, responsibility and reward between the *two* partners. There may be many reasons as to why governments and private sectors enter into such ventures, however, the understanding in these types of partnership is that the strength of both the public and the private sector are drawn to complement the relationships.

A waste is viewed as a discarded material, which has no consumer value to the person abandoning it. The World Health Organisation (WHO) refers to the term ‘solid waste’ as applied to

³² Government of Mizoram, *Detailed Project Report on Municipal Solid Waste Management System for Aizawl City*, Directorate of UD&PA, August 2013, p.1.

unwanted and discarded materials from houses, street sweepings, commercial and agricultural operations arising out of mass activities.³³

‘Solid Waste’ (SW) is the term used to describe non-liquid materials arising from domestic, trade, commercial, agricultural and industrial activities and from public services. It is commonly known as garbage, refuse, rubbish or thrash. Its main sources are residential premises, business establishments and street sweepings. It is a mixture of vegetables and organic matters; inert matters like glass, metal, stones, ashes, cinders, textiles, wood, grass etc.³⁴

‘Municipal Solid Waste’ (MSW) is the thrash or garbage that is discarded day to day in a human settlement. According to the Municipal Solid Wastes (Management and Handling) Rules 2000, (MSW Rules 2000), MSW includes commercial and residential wastes generated in a municipal or notified area in either solid or semi-solid form excluding industrial hazardous wastes but including treated bio-medical wastes. Waste generation encompasses activities in which materials are identified as no longer being of value (being in the present form) and are either thrown away or gathered together for disposal.³⁵

‘Municipal Solid Waste Management (MSWM)’ refers to a systematic process that comprises of waste segregation and storage at source, primary collection, secondary storage, transportation, secondary segregation, resource recovery, processing, treatment, and final disposal of solid waste.³⁶

³³ Government of Tamil Nadu, *Ready Reckoner on Municipal Solid Waste Management for Urban Local Bodies*, Commissionerate of Municipal Administration, Chennai, November, 2005, p. 2.

³⁴ Government of India, *Toolkit for Solid Waste Management, JnNURM, Op. cit.*, p. 1.

³⁵ *ibid.*, p. 1.

³⁶ *ibid.*, p. 2.

Solid waste is *one* of the important obligatory functions of the ULBs in India. However, they have fallen short of this role owing to scarcity of financial resources, including reduced plan funds from the State and the Central Government. As a result urban hygiene continues to be a really neglected and un-attended space. Therefore, in order to improve the situation, alternative institutional arrangements have to be explored.

(a) Review of Literature

Municipal Solid Waste Management is not a new phenomenon in India. Yet the struggle to keep the cities clean continues. There are attempts to improve the situation through new ventures, PPP being one of them. PPP is a relatively new area of study where much thought on the concept and its application is yet to crystallize and at the same time PPP in MSWM is also in its nascent stage. In spite of this, the researcher has carried out review of the following literature pertaining to PPP in MSWM.

Girish K. Mishra and G. C. Mathur (1997) in *Public Private Partnerships in Urban Development* have pointed out the concept of PPP in urban development with reference to services, housing and infrastructure. They are of the opinion that PPP not only helps in mobilizing more resources from private sectors but leads to better management of urban development process, improve productivity through optimum utilization of all resources and also ensures access to urban services, housing and infrastructure by the underprivileged sections of the society. The book has also thrown light on the factors underlying the success and failure of such partnership; the areas that are to be demarcated as ‘public sectors’ and where PPP is to be encouraged;

the responsibilities to be shared between public and private sectors; and the incentives required to promote partnership.

E.S. Savas (2001) *Privatization and Public Private Partnerships* examines the privatization of infrastructures through PPP. The book highlights that PPP for infrastructure satisfy the needs to upgrade systems to accommodate population growth, to satisfy tightened regulatory requirement, or to attract investment and development; to minimize the cost of new infrastructure and to raise capital for other desired projects. The author is of the opinion that PPP offers a solution for governments that are seeking funds to develop infrastructures needed to satisfy people's needs and to promote economic development. He further points out that through large studies conducted on solid waste collection, PPP is found to be the most efficient, effective and equitable arrangement.

Da Zhu, P U Asnani, C. Zurbrugg, S Anapolsky and S K. Mani (2008) in their book, *Improving MSWM in India – A Sourcebook for Policy Makers and Practitioners*, has outlined the present scenario of SWM in urban areas, the deficiencies that exist in the system and the steps that need to be taken to correct SWM practices in compliance with the MSW Rules 2000. The book has also given details on the best practices in SWM, how to involve community, NGOs and private sectors to help improve efficiency and cost effectiveness of the services.

The Indian Journal of Public Administration (2008) (Special Number on A Policy Framework on Public Private Partnership) is a compilation of *twenty-four* varied articles on Public-Private Partnership policy and its implementation requirements. Pertinent issues relating to governance, stakeholders' roles, responsibilities and accountabilities and

a need to develop long-term and faultless policy framework for PPP have been discussed in this special number.

S.L. Goel (2011) *Urban Local Self Government: Administration and Management in the 21st Century* has pointed out that urbanization has caused a grave situation for urban cities in India. The ULBs in India are entrusted with solid waste management; however, they are not able to effectively discharge their duty owing to paucity of funds, shortage of manpower, absence of technical knowledge etc. Hence, the author is of the opinion that new partnerships in the form of PPPs should be created which would lessen the burden on ULBs on one hand and improve the efficiency and effectiveness of the ULBs on the other hand.

Joseph Kurian's (2002) article on "Perspectives of Solid Waste Management in India" in *International Symposium on the Technology and Management of the Treatment and Reuse of the Municipal Solid Waste*, has highlighted that India, in spite of having achieved multi faceted socio-economic process, has not done much for solid waste management and that it continues to remain one of the most neglected areas of urban development in India. The article has also drawn attention on the legal and institutional framework, the existing management practices and the National Plan for Municipal Solid Waste Management.

U. Arabi's (2006) article on "Solid Waste Management in Metropolitan Cities: The Case of Mangalore" in PSN Rao (Ed.), *Urban Governance and Management: Indian Initiative*, has stated that with increasing urbanization, SWM services have become a huge problem in cities and towns in India. The author has, in this paper, made an attempt to study Mangalore City Corporation (MCC)'s SWM pattern and mechanisms, offered strategies on how to improve the system, discussed

critical issues in SWM in MMC and the need for institutional and regulatory reforms.

Lokendra Malik's (2010) article on "Solid Waste Management and Sustainable Cities in India: A Critique" in *Nagarlok*, October-December 2010, Vol. XLII, No.4, analyses how a proper solid waste management system can promote the growth of sustainable cities in India. The article discussed the solid waste problem and its impact on the health and environment; the legal and institutional framework relating to solid waste management; the Municipal Solid Wastes (Management and Handling) Rules 2000 alongside the Municipal Value Chain. The author argued that in order to have efficient and sustainable solid waste management reduction of waste at source, technological interventions, social and community efforts and institutional and regulatory reforms have to be initiated.

Mukul G.Asher and Deepa Vasudevan's (2010) article on "Unconventional Methods of Financing Urban Development: The Role of Public-Private Partnership" in G. Ramesh et al., *Urban Infrastructure and Governance* has discussed the need of the ULBs to learn, to initiate and to sustain PPP. The article has also analysed the common PPP Modes in municipalities, and the risks and challenges involved in implementing them.

Nilufa Akhter Khanom's (2010) on "Conceptual Issues in Defining Public Private Partnerships" in the *International Review of Business Research Papers*, Volume 6, Number 2. July 2010, explored the conceptual issues associated with defining PPP. The author is of the opinion that there is no precise agreed definition of PPP and that PPPs can be viewed from different angles. However, the different PPPs exhibit certain common features which may vary in nature.

Asok Kumar Mukhopadhyay's (2012) article on "Public-Private Partnership for Good Governance" in ZHAU Xia-ning and ZHAO Shu-rong edited, *Proceedings of 2012 International Conference on Public Administration (8th ICPA)* has presented the PPP model of development administration from the context of Indian experience. The author has argued that PPP differs from privatization as the former depends on political as well as development considerations for its successful implementation. He has further maintained that PPP promotes Good Governance provided that there is public accountability and that public and private interests are not compromised.

Sanjeev K. Mahajan and Anupama Mahajan's (2012) article on "Impact of Proactive Policies in Improving Social Sector Service Delivery through Public Private Partnership" in ZHAU Xia-ning and ZHAO Shu-rong edited, *Proceedings of 2012 International Conference on Public Administration (8th ICPA)* have argued that without the help and involvement of private sector, it is difficult to bridge the investment gap and thus, improve the efficiency and effectiveness of service delivery. This article also highlights the concept of PPP and how PPP at the national and state level can be a medium to achieve development in social sector. They also agree that in the present scenario, the involvement of private sector along with the governmental effort is strongly advocated to facilitate the necessary investments in social sector (education and health) that is basic requirement for achieving human index.

All the mentioned review of literature provides an insight on PPP in MSW in India. However, literatures pertaining to PPP in MSWM in Mizoram, in general and Aizawl in particular, are far and between. Therefore, the study has been undertaken to throw light on PPP and its application in MSWM of Aizawl.

(b) Statement of the Research Problem

Urbanisation has brought numerous challenges in city or town administration, Municipal Waste being one of the many. MSWM is an essential and obligatory function of ULBs in India. However, ULBs have not proven to be very effective in discharging their functions due to various reasons. Hence, the need to find an alternative in the form of new partnerships between the government and the private sectors which would be able to collect, transport and dispose off the MSW in a manner that is most sustainable to the environment and wherein the community effectively participate.

The 74th Constitutional Amendment Act of 1992, MSW Rules 2000, notified by the Ministry of Environment and Forests (MoEF) in September 2000 and the launch of Jawaharlal Nehru National Urban Renewal Mission (JnNURM) programme on 3 December 2005, have all paved the way for the enactment of ‘The Mizoram Municipalities Act, 2007,’ notified on 25 February 2008 and amended on 29 October 2009.³⁷

By the instrument of the Act, the *first* Aizawl Municipal Election across *nineteen* Aizawl Municipal Wards was held on 3 November 2010. Meanwhile, the Government of Mizoram also published ‘The Mizoram Urban Sanitation and Solid Waste Management Policy, 2011’ by issuing official Notification on 1 September 2011.³⁸ These *two* milestones in the history of Urban Governance in Mizoram set the pace for a new type of democratic decentralization and new partnerships.

³⁷ Government of Mizoram, *Notification No. 12018/120/03-LJD*, of 19.11.2009.

³⁸ Notification No. B.13016/15/2007-UD&PA (SAN), the 30th August, 2011, Vide *The Mizoram Gazette* EXTRA ORDINARY published by Authority, Vol-XL Aizawl, Thursday, 1.9.2011 Bhadrapad 10, S.E. 1933, Issue No. 389.

JnNURM, a reform driven infrastructure improvement programme that aims to create economically productive, efficient, equitable and responsive cities, has recommended that the State Governments and ULBs should pursue reforms to improve Urban Governance. The programme has thrown open opportunities for expanding PPPs in service delivery and suggested that ULBs should explore the possibility of including PPPs in SW and also involve Non-Governmental Organisations (NGOs) or Community Based Organisations (CBOs) in Planning, Implementation and Operation and Maintenance of SWM services.³⁹

The MSW Rules, 2000 has also made it mandatory for all ULBs in India to improve their Waste Management systems envisaged in the Rules by December 2003. The same Rules designate the ULBs as solely responsible to manage SW in their areas. However, the ULBs have fallen short of this role owing to lack of capabilities in skilled resources, inadequate institutional and financial resources. As a result, urban hygiene continues to be a really neglected and un-attended space. Therefore, in order to improve the situation, alternative institutional arrangements in the form of PPP have been explored.

Presently, MSWM is handled by AMC in partnership with those Solid Waste Management Committees (SWMC) set up by Local Councils (LCs) in their respective localities. Each Committee is composed of Members of the LCs, *two* Members each from different civil society organisations and *three* prominent citizens within that locality. These Committees in turn enter into an agreement with a private operator to collect and transport MSW at the Dumping Ground.

³⁹ Government of India, *Toolkit for Public-Private Partnership Frameworks in Municipal Solid Waste Management*, *Op. cit.*, p. 3.

As experienced in other urban centres of the country, urbanisation and population explosion in Aizawl has brought along problems in SWM in terms of low collection coverage, irregular collection services, waste transportation, and inadequacy of disposal site, open dumping and absence of treatment process. Therefore, in order to solve these problems, PPP in MSWM has been sought.

Every system has its share of success and failure. The reasons for the success and failure of PPP and its application in MSWM have been examined and solutions brought forth.

(c) Scope of the Study

The restructuring of the Indian economy, the unprecedented growth of urbanisation and the failure of the ULBs in dealing effectively with the municipal waste have all led to building new partnerships in the form of PPP in MSWM. The study examined the effectiveness of private sector participation in SWM sector with a focus on PPP in SWM as a possible alternative and solution for the waste management problems. It is believed that PPP will be a viable key in providing MSW services and reaching out to the whole population.

The problem of MSW is common not only in the developing countries but it persists even in the developed countries. The only difference lies in the way it is managed. SW is an issue of both health and environmental concern to municipal authorities, governments and particularly people, therefore, establishment of functional, efficient and adequate waste management systems are absolutely essential towards more sustainable solutions and governmental authorities have a great range of roles and responsibilities in this respect, including policy-making and taking other necessary steps in order to pave the way for more efficient and sustainable waste management systems.

The study focused on PPP and its application on MSWM in the Local Bodies under AMC. The history of SWM in Aizawl, the factors responsible for the success and failure of the partnership and possible solutions to improve or make more efficient MSW has been studied.

(d) Objectives of the Study

- (1) to study the concept of Public-Private Partnership;
- (2) to study Public-Private Partnership in Municipal Solid Waste Management under AMC;
- (3) to determine the problems and challenges associated with Public-Private Partnership in general, and its application in Municipal Solid Waste Management in Aizawl and to seek solutions.

(e) Research Questions

For the purpose of the study the following research questions have been formulated:

- (1) What are the principles of Public-Private Partnership?
- (2) What are the reasons for carrying out Public-Private-Partnership in Municipal Solid Waste Management in Aizawl?
- (3) What are the problems and challenges faced in implementing Public-Private Partnership in Municipal Solid Waste Management in Aizawl and their possible solutions?

(f) Methodology

There are two types of data viz., primary and secondary, available to a researcher in order to help reach the research goals. The primary data are those which are collected afresh and for the first time, and thus happen to be original in character. They are produced by the researcher or her team. These can be obtained via a wide array of methods and techniques. Some of them are observation, interviews, field studies, etc. Secondary data are those which have already been collected by someone else and which have already been passed through the statistical process. These data were produced by other research teams and were available to the researcher mainly in the form of literature. The methods of collecting these data differ since primary data are to be originally collected, while in the case of the secondary data the nature of data collection work is merely that of compilation.

The study is an exploratory one with a focus on the study of PPP and its application on MSWM in Aizawl. In order to achieve this objective, primary and secondary data has been collected.

The primary data has been collected through interview and questionnaires from concerned officials, Local Council functionaries and those beneficiaries of PPP in MSWM; Gazette, Notifications, Reports and other original publications of the State or the Central Governments.

Disproportionate Stratified Sampling has been used to represent the *nineteen* Wards within AMC. The total size of the sample is approximately *fifty* and Sample has been collected from *twenty* officials (7 concerned Government Officials and 13 Local Council members) and *thirty* beneficiaries representing 15 Wards.

The secondary data has been collected from extensive survey of available literature in the form of books, articles, journals, magazines and newspaper reports; published and unpublished documents of independent studies, government publications and documents published and unpublished on the study.

The information posted on the World Wide Web sites was also used. However, this was restricted and confined only to official pages of International Organizations or national and international authorities.

(g) Chapterisation

The whole study has been divided into *five* Chapters. The *first* Chapter is an introductory Chapter which provides an in-sight into urbanization and its impact; literature survey; statement of the problem; scope and objectives of the study; research questions and the methodology applied in the study.

The *second* Chapter is an Overview of Public-Private Partnership which has examined the concept and meaning of Public-Private Partnership in general and its application in India in general and in Aizawl Municipal Council of Mizoram in particular.

In the *third* Chapter, an attempt has been made to study Public-Private Partnership in Mizoram with special reference to Municipal Solid Waste Management under Aizawl Municipal Council. It has also investigated into the process of evolution of Solid Waste Management in Mizoram in general and in Aizawl City in particular. It has also made an enquiry into the management of solid waste from the year of inception of the Department of the Local Administration Department (LAD) in 1987 up to the initiation of the Public-Private Partnership under the

Department of Urban and Poverty Alleviation (UD & PA) and, later on, under Aizawl Municipal Council.

The *fourth* Chapter provides an analysis of the response to the interview and the questionnaire both by the officials and the beneficiaries. These questions have been framed and designed to give answers to the research questions on Public-Private Partnership in MSWM. It has also thrown light on the reasons as to why PPP was implemented in SWM; the problems and solutions for sustainable and effective PPP in MSWM in Aizawl.

The *fifth* Chapter is a concluding Chapter which provides the summary and major findings of the research. Attempt has also been made to offer suggestions and recommendations for the improvement of MSWM by policy makers and concerned stakeholders.

VIII. Conclusion

The population of Mizoram has reached a great height so also is the case with Aizawl city. Along with the increase in urban population and urbanization in Aizawl, there has been a lot of pressure on the civic administration to deliver goods and services. However, the task has not always been an easy one. Accordingly an attempt has been made to study one of the major problems in Urban Local Governance in Aizawl, the MSWM, and how through new partnerships in the form of PPP, effective and efficient MSWM can be sustained.

CHAPTER-II

PUBLIC-PRIVATE PARTNERSHIP – AN OVERVIEW

I Introduction

Chapter *two* presents the concept and meaning of Public-Private Partnership in general and as applied to India and in Mizoram, in particular. The different forms of Public-Private Partnership, the key differences between Public-Private Partnership and Privatization, some case studies of Public-Private Partnership in Municipal Solid Waste Management in Indian Cities are highlighted in this chapter.

The period following the Second World War to the late 1970s saw the dominant role played by the state at all levels of the government. The government was engaged in creating a welfare state which provided public services and infrastructure to the people. The welfare state, no doubt, minimized the risks of poverty; yet, it was not able to respond to new demands imposed by economic, political and financial crises. It was felt that re-implementation of market initiatives such as privatization, decentralization and deregulation would help tide the problem.

The 1990s witnessed a dramatic transformation of welfare state policy with the belief that the private sector is more efficient, productive and cost-effective than the public sector in providing and managing the economy and society. The state has gradually withdrawn from direct involvement in many areas of social life and services have now been contracted out or outsourced to the private sectors. Transfer of ownership and de-regulation of state companies and public services have taken place. At the same time the spirit of competition has been injected

along with increased flexibility in approach towards provision of services to the people.

The quest for economy, efficiency and effectiveness has led to restructuring of government organizations, incorporating private management techniques in public system and rolling back the state. The reforms that have been brought through reinventing government have encouraged, among others, democratization and decentralization of powers to the Local Government as well as the establishment of Public-Private Partnership (PPP) as a new management tool for providing public services.

With the Government of India undertaking economic and structural reforms in the 1990s, there has been an enhanced role of the private sector in the economic and social development of the people. In addition to being a potential source of funding, the private sectors are cost effective to bring about efficiency and effectiveness in service delivery.

PPP is an arrangement between government and private sectors for the purpose of providing public infrastructure, community facilities and related services. Through the agreements the collaborating partners agree to pool in their resources - capital, expertise, state-of-the-art-technology, experience and skilled manpower – to produce and deliver specific public goods and services to the government agency or people or to bring about some developmental works as agreed. The partnership enables the private sector to provide services which were hitherto provided by the government. There may be many reasons as to why governments and private sectors enter into such ventures, however, the understanding in these types of partnership is that the strength of both

the public and the private sector are drawn to complement the relationships.

The United Nations define PPP as ‘voluntary and collaborative relationships between various parties, both state and non-state, in which all participants agree to work together to achieve a common purpose or undertake a specific task and to share risks and responsibilities, resources and benefits.’¹ Such partnerships can include those oriented towards resource mobilization, advocacy and policy goals as well as long term operations.

The term PPP is commonly used in *three* different ways. *Firstly*, it is used loosely and somewhat pretentiously, to refer to any arrangement in which the public and private sectors join together to produce and deliver goods and services. Contracts, franchises, and grants, are some of the examples. *Secondly*, it is used for complex, multi-partner, privatized, infrastructure projects. *Thirdly*, it refers to a formal collaboration between business and civic leaders and local government officials to improve the urban situation.²

PPP is the mode of implementing government programmes and schemes in partnership with the private sector. The term private in PPP encompasses all non-governmental agencies such as the corporate sector, voluntary organisations, self-help groups, partnership firms, individuals and community based organisations. PPP is essentially a co-operative endeavour between public and private sectors to restructure the provision of public services for making them more efficient. It is a

¹ International Labour Office, Governing Body Committee on Technical Cooperation, 298th Session, Geneva, March 2007, p. 2 and http://www.ilo.org/wcmsP5/groups/public/---ed_norm/---relonf/documents/meeting_documents/wcm.

² Donald F Kettle, “Sharing Power: Public Governance and Private Markets,” Washington, DC, The Brookings Institution, 1993, quoted in *Privatization and Public Private Partnerships* by E.S. Savas, New Delhi, Affiliated East-West Press Private Limited, 2001, pp. 105-106.

legal contractual arrangement in which the public and private sectors share equity, investment, finance, risk, responsibility and profits in the venture.³

II Public-Private Partnership and Privatisation

PPP refers to private management of public services through long-term contract between a private operator and a public authority. Privatisation involves outright disinvestments in, or sale of, public service or utility to private sector. PPP should not be seen as public partnership in private projects. It should rather be viewed as private partnership in public projects.⁴

PPP does not dilute the responsibility and accountability of the government. The government remains accountable for ensuring the standard of service quality, price certainty and cost effectiveness; in fact the role of government gets redefined as one of facilitator and enabler, while private sector plays the role of financier, builder and operator of service. Under PPP approach, the skills, expertise and experience of both public and private sector get combined to deliver higher standard of service to the consumers. The public sector contributes assurances in terms of stable governance, citizens' support and financing, and also assumes social, environmental and political risks. The private sector brings along operational efficiencies, innovative technologies, managerial effectiveness, access to additional finances, and bears construction, commercial, and operational risks of the projects.⁵

³ S.L. Goel, *Urban Local Self Government: Administration and Management in the 21st Century*, Deep and Deep Publications Pvt. Ltd., New Delhi, 2011, p. 580.

⁴ Noorjahan Bava, "Public Private Partnership in Public Service and Development: A Conceptual and Empirical Framework", *Indian Journal of Public Administration*, Vol. LIV, No. 3, July-September, 2008, p. 404.

⁵ Nand Dhameja, "Public-Private Partnership for Infrastructure Development: Cross-Country Scenario", *Indian Journal of Public Administration*, Vol. LIV. 1, January-March, 2008, p. 22.

(a) Differences between Public-Private Partnership and Privatisation

The key differences between PPP and Privatization are as follows:⁶

(i) Responsibility:

Under privatization, the responsibility for delivering and funding a particular service rests with the private sector where as PPP on the other hand, involves full retention of responsibility of the government for providing the service.

(ii) Ownership:

While ownership rights under privatization are sold to private sector along with associated benefits and costs, PPP may continue to retain the legal ownership of assets.

(iii) Nature of Service:

The service provider under privatization determines the nature and scope of service. Under PPP, the nature and scope of service is contractually determined between the *two* contracting partners;

(iv) Risk and Reward:

Under Privatization, all risks inherent in the business rest with the private sector. On the other hand, under PPPs, risks and rewards are shared between the government (Public) and the private sector.

⁶ Sanjeev Mahajan, and Anupama Mahajan, "Impact of Proactive Policies in Improving Social Sector Service Delivery through Public Private Partnership", *Proceedings of 2012 International Conference on Public Administration (8th ICPA)*, Vol III, edited by ZHAU Xia-ning and ZHAO Shu-rong, p. 726.

PPP may serve different purposes depending on the context it is applied to. It may be seen as a tool of governance or management in service delivery either through inter-organisational or financial arrangement between the public and the private sectors. PPP may also be looked as a tool of financial arrangements since it is believed that PPP reduces the pressure on government budgets and also provides better value for money in the provision of infrastructure. PPP is slowly emerging as a new development arrangement since it maximizes benefits for development through collaboration and enhanced efficiency.⁷

III Forms of Public-Private Partnership

PPP is a policy decision and initiative of the government at any level to promote public interest and public good.⁸ In PPP, the ‘private’ partner encompasses all non-governmental agencies such as the corporate sector, voluntary organizations, self-help groups, partnership firms, individuals and community based organizations.⁹ The scope of partnership is wide and it may mean different things to different people in a set of given situation. The partnership is meant to bring together the public and private sectors for the achievement of common goals. The extent and involvement of the public as well as the private sectors would depend on the forms of the partnership.¹⁰ PPP can vary in:

- (1) the degree of risk allocated between the partners;

⁷ Nilufa Akhter Khanom, “Conceptual Issues in Defining PPPs”, *International Review of Business Research Papers*, Volume 6, No. 2. July 2010, pp. 150-163.

⁸ Noorjahan Bava, *Op. cit.*, p. 404.

⁹ Mahajan, Sanjeev and Anupama Mahajan, “Impact of Proactive Policies in Improving Social Sector Service Delivery through Public Private Partnership”, *Proceedings of 2012 International Conference on Public Administration (8th ICPA)*, Vol. III, edited by ZHAU Xia-ning and ZHAO Shu-rong, p. 726.

¹⁰ Girish K. and G.C. Mathur, *Public-Private Partnerships in Urban Development*, Intellectual Book Corner Pvt. Ltd., New Delhi, 1997, p. 2.

(2) the amount of expertise required on the part of each partner to negotiate the contracts;

(3) the potential implications for taxpayers.¹¹

The various forms of PPP are:

(a) Contracting Out:

One of the most common means for PPP is to contract out work or service to be performed by the private sector. This arrangement transfers the load of public sector to the private sector for undertaking the task in question. The finances are provided by the public sector on completion of the work or service by way of payment of bills, as the work or service is rendered, even in stages.¹² Contracting out may take the form of service contract and work contract.

(i) Service Contract: In the service contract form of PPP, a public authority like central or state or local government contracts out the provision of specific services connected with the felt needs of the infrastructure concerned to a private company for a specific time period (normally less than five years) in return for a management fee. However, the government agency retains the overall responsibility for the operation and maintenance of the system except for the particular contracted services and it bears all the commercial risks. The government also owns and finances the fixed assets and provides the working capital. The management fee or compensation to the private firm is generally on the basis of time, a lump-sum fixed fee, or cost plus, or physical parameters.¹³

¹¹ Government of British Columbia, *Public-Private Partnership: A Guide for Local Government*, Ministry of Municipal Affairs, May 1999, p. 11.

¹² Girish K. Mishra and G.C. Mathur, *Op. cit.*, p. 3.

¹³ Noorjahan Bava, *Op. cit.*, p. 406.

(ii) Management Contract: The private partner performs specific tasks under a management contract for a period of *three to five* years in return for a payment from the government. In this type of PPP, the government owns the assets, invests its capitals and bears the commercial risks. This arrangement, though similar to the service contract, permits the private operator to take day-to-day decisions and holds him responsible for operating and maintaining the system, but it does not make the private partner responsible for any capital risks.¹⁴

(b) Design Build:

Under this type of PPP, the government enters into an agreement with a private partner to design and build a facility that conforms to the standards and performance requirements of the government. Once the facility has been built, the government takes ownership and is responsible for the operation of the facility.¹⁵

(c) Turn-key Operation:

In this type of partnership, the government provides the financing for the project but engages a private partner to design, construct and operate the facility for a specified period of time.¹⁶ The private partner in this form of PPP could offer their own designs and specifications and standards of quality in keeping up with the requirements of the client.¹⁷

(d) Wraparound Addition or Lease:

A private developer finances and constructs an addition to an existing public facility, with its own funds and then operates the combined facility either for a fixed period or until he recovers costs plus

¹⁴ *ibid.*, p. 406.

¹⁵ Government of British Columbia, *Public Private Partnership: A Guide for Local Government*, Ministry of Municipal Affairs, May 1999, p. 7.

¹⁶ *ibid.*, p. 7.

¹⁷ Girish K. Mishra and G.C. Mathur, *Op. cit.*, p. 4.

a reasonable return on his invested capital. The private partner may own the addition. The objective of this arrangement is to expand the facility despite the government's lack of resources or expertise to do so entirely with its own funds.¹⁸

(e) Lease-Build-Operate (LBO):

A private firm is given a long-term lease to develop (with its own funds) and operate an expanded facility. It covers its investment plus a reasonable return over the term of the lease and pays a rental fee. Because the facility remains publicly owned, this arrangement avoids possible legal problems associated with private ownership of a facility that was publicly financed originally.¹⁹

(f) Build-Transfer-Operate (BTO):

A private developer finances and builds a facility and, upon completion, transfers legal ownership to the sponsoring government agency. The agency then leases the facility back to the developer under a long-term lease, during which the developer operates the facility and has the opportunity to recover his investment and earn a reasonable return from user charges and commercial activities.²⁰

(g) Build-Operate-Transfer or Build-Own-Operate-Transfer (BOT or BOOT):

A private developer is awarded a franchise (concession) to finance, build, own, and operate a facility (hence this is sometimes referred to as BOOT-build, own, operate, and transfer), and to collect user fees for a specified period, after which ownership of the facility is transferred to the public sector. This arrangement is similar to BTO but

¹⁸ E.S. Savas, *“Privatization and Public-Private Partnerships”*, New Delhi, Affiliated East-West Press Private Limited, 2001, p. 244.

¹⁹ *ibid.*, p. 243.

²⁰ *ibid.*, p. 243.

may encounter legal, regulatory, and liability issues arising during the long period of private ownership before the transfer.²¹

(h) Buy-Build-Operate (BBO):

An existing public facility is sold to a private partner who renovates or expands it and operates it in perpetuity under a franchise. This is equivalent to divesting a company, which then operates under a franchise. As in other franchise models, during the negotiations prior to the sale, the public owner can use the franchisee agreement to exercise public control over pricing, access, noise, safety, quality, and future capacity expansion.²²

(i) Build-Own-Operate (BOO):

A private developer finances, builds, owns, and operates a facility in perpetuity under a franchise, subject to regulatory constraints on pricing and operations. The long-term property rights provide a significant financial incentive for capital investment in the facility.²³

The different forms of PPP would differ in terms of ownership or the objectives sought through PPP or, in terms of political commitment, cost covering tariff, regulatory framework or information flows. The models and their variants can be used to develop new infrastructure, to rehabilitate or expand existing infrastructure, or to improve the performance of existing infrastructure.²⁴

IV. Public-Private Partnership in India

In developing countries like India, *two* very important steps have to be taken up by the government in order to accelerate socio-economic development and provide justice to the people. *Firstly*, with the

²¹ *ibid.*, p. 244.

²² *ibid.*, p. 244.

²³ *ibid.*, pp. 244-245.

²⁴ *ibid.*, p. 244.

Government of India undertaking economic and structural reforms in the 1990s, there has been an enhanced role of the private sector in the economic and social development of the people which has to be facilitated, supported and encouraged so that it can grow and expand. *Secondly*, the role of the public sector has to be restricted only where it is inevitable and all the existing public sectors are to be privatized.²⁵

PPP in the all round development of the nation has been widely recognized. Since the public sector alone cannot meet the growing challenges of development it has to look for new ventures in the form of partnership to meet the huge investments in a variety of development fields and provide economic and efficient delivery of quality goods and services to the people.

One of the important and growing challenges in the post-liberalised India is development of infrastructure. The Government of India acknowledges that investment in infrastructure is of immense importance with growing urbanization, yet, it is unable to invest in these areas owing to financial scarcity and insufficient manpower. These shortcomings can be addressed by bringing in private capital, expertise, entrepreneurial spirit and techno-managerial efficiencies which is best provided by PPP.²⁶

India had some experiments of PPP as early as the *nineteenth* century. The Great Indian Peninsular Railway Company operating between Bombay and Thane (1853), the Bombay Tramway Company running tramway services in Bombay (1874) and the power generation and distribution companies in Bombay and Calcutta in the early 20th century are some of the earliest examples of PPP in India. Post 1991

²⁵ Girish K. Mishra and G.C. Mathur, *Op. cit.*, p. 41.

²⁶ R. Thandavan and Kalaichelvi Sivaraman, "Public Private Partnership within Policy Framework", *Indian Journal of Public Administration*, Vol. LIV, No. 3, July-September, 2008, p. 444.

there have been successful PPP in Visakhapatnam, Tirupur, and the Delhi-Noida Bridge project.²⁷

The growing importance of the private sector in economic matters and the consequent increase in the sensitivity of the economy to business cycle fluctuations was first officially recognised in the Tenth Five Year Plan. Very soon a reappraisal of the role and the manner of macro-economic management was made. The key principles formulated were introducing well-enforced user-charges, exploiting new technologies, private sector production, and a regulatory framework to foster competition.²⁸

The Government of India realizing that the availability of quality and efficient infrastructure services is essential for accelerating economic development in the country set up the Rakesh Mohan Committee in 1995 to recommend on India's infrastructure needs. The Committee on infrastructure (CoI) under the chairmanship of the Prime Minister was set up on 31 August 2004, for initiating policies that could ensure time-bound creation of world-class infrastructure and service delivery on international standards, and for maximizing the role of PPP. Another committee on infrastructure finance was set up in December 2006 under the chairmanship of Deepak Parekh to make detailed recommendations on infrastructure finance.²⁹

A PPP Cell in the Department of Economic Affairs (DEA) was constituted to provide greater focus on mainstreaming PPPs both in the Central and State sectors.³⁰ Key initiatives of the government to foster

²⁷ *ibid.*, p. 444.

²⁸ Asok Kumar Mukhopadya, "Public-Private Partnership for Good Governance", *Proceedings of International Conference on Public Administration 2012 (ICPA 8th)*, Vol. III, edited by ZHU xiao-ning and ZHAO Shu-rong, p. 739.

²⁹ Noorjahan Bava, *Op. cit.*, pp. 410-411.

³⁰ T.N. Dhar, "Public Private Partnerships in India (Policy, Strategies and Operational Issues)", *Indian Journal of Public Administration*, Vol. LIV, No. 3, July-September, 2008, p. 419.

and strengthen PPPs include the Viability Gap Funding (VGF) scheme (For those infrastructure projects which are economically justifiable but not commercially viable, the government gives a grant of up to 20 per cent of the project cost to private sector developer who is selected through competitive bidding), India Infrastructure Finance Company Limited (a wholly government-owned company has been established to provide long-term financing of infrastructure projects in the public, private, or PPP sector) and intensive capacity building at the State and Central level.³¹

As for administrative preparation, PPP Approval Committee has been set up as per decision of the Cabinet Committee on Economic Affairs on 27 October 2005. The Approval Committee consists of the Secretaries of Department of Economic Affairs, Planning Commission, Department of Expenditure, Department of Legal Affairs and of the sponsoring Department of the Government.³²

Similarly, guidelines have been formulated vide G.O. number 1664 dated 29 June 2007, to ensure implementation of PPP activities in a transparent and competitive manner and to maintain uniformity in selection of the developer for infrastructure projects under private partnership and selection of private investor in disinvestment or privatization process.³³

So far as the policy decision is concerned, the distinction between the public (governmental) and private (market) spheres of life has been liberalised, and the private domain has become wider than before so as

³¹ Government of India, *Annual Report of the Finance Commission*, Ministry of Finance, March 2008.

³² Noorjahan Bava, *Op. cit.*, p. 412.

³³ Sushma Yadav and Nidhi Yadav, "Governance in India and Public Private Partnership: A Paradigm Shift", *Indian Journal of Public Administration*, Vol. LIV, No. 3, July-September, 2008, p. 644.

to include civil society organisations, foreign companies and even Multinational Companies (MNCs) within its scope.

V Public-Private Partnership in Municipal Solid Waste Management in India

MSWM is an essential and obligatory function of Urban Local Bodies (ULBs) in India. However, ULBs have not proven to be very effective in discharging their functions due to various reasons. Hence, the need to find an alternative in the form of new partnerships between the government and the private sectors which would be able to collect, transport and dispose off the MSW in a manner that is most sustainable to the environment and wherein the community effectively participate.

The Ministry of Urban Development (MoUD), Government of India has initiated a number of steps to address a number of policy, capacity building and financing challenges that are faced by ULBs. It recognises PPP as an important element to improve service delivery in MSMW, apart from bringing external investment.³⁴

Large-scale PPP intervention in MSWM was initiated in the mid 1990s. Chennai Corporation was among the *first* in India to enter into a PPP contract for primary/secondary collection and transportation. Private operators continued to be engaged in development, operations and maintenance of waste processing facilities. Further, the need for private sector participation in MSWM was articulated strongly in the recommendations of the Committee appointed by the Supreme Court in 1999. Following the judgement of the Supreme Court, The Municipal Solid Wastes (Management and Handling) Rules, 2000 (MSWM Rules 2000) was notified by the Ministry of Environment and Forests (MoEF)

³⁴ Government of India, *Toolkit for Public Private Partnership Frameworks in Municipal Solid Waste Management*, Ministry of Finance and Ministry of Urban Development, Vol. I, p. 1.

in September 2000 which made it mandatory for all ULBs in India to improve their Waste Management systems envisaged in the Rules by December 2003. The same Rules designate the ULBs as solely responsible to manage Solid Waste in their areas.³⁵ The Jawaharlal Nehru National Urban Renewal Mission (JnNURM), a reform driven infrastructure improvement programme that aims to create economically productive, efficient, equitable and responsive cities, launched on 3 December 2005, has recommended that the state Governments and ULBs should pursue reforms to improve Urban Governance. The programme has thrown open opportunities for expanding PPPs in service delivery and suggested that ULBs should explore the possibility of including PPP in SWM and also involve Non-Governmental Organisations (NGOs) or Community Based Organisations (CBOs) in planning, implementation and Operation and Maintenance of SWM services.³⁶ Of late, Integrated PPP projects, Combined Processing and Disposal PPP contracts, and Integrated MSWM system level PPP contracts have been awarded to many cities in the country.

The SW sector has witnessed maximum private sector participation compared to other urban infrastructure sector projects. In a majority of the Indian cities where private sector has been involved in SWM the activities include door-to-door collection of solid waste, street sweeping in a limited way, secondary storage and transportation and for treatment and disposal of waste.

³⁵ Government of Tamil Nadu, *Ready Reckoner on Municipal Solid Waste Management for Urban Local Bodies*, Commissionerate of Municipal Administration, Chennai, November 2008, p. 10

³⁶ Government of India, *Position Paper on the Solid Waste Management Sector in India*, Department of Economic Affairs, Ministry of Finance, November 2009, p. 29.

(a) Chennai:

Chennai is a pioneer in PPPs in Solid Waste on a large scale. The Municipal Corporation has withdrawn its staff from *three* out of the *ten* zones of the City. A *seven* year contract was awarded to the private operator Onyz through a transparent bidding process for primary collection, street sweeping, secondary storage at transfer station and transportation of waste to disposal site. Onyz engaged its own manpower, tools and equipment and fleet of vehicles. The cost per tone of waste in this arrangement is 50% of the departmental cost for the same service provided by the city administration in other zones.³⁷

Regarding the impact of PPP intervention, it was found that the private sector's work was 30% cheaper than when the Corporation of Chennai was involved in similar work. The Onyz's staff used to collect and transport waste even on holidays and festivals leading to a considerable improvement in solid waste management due to the efficient operations of Onyz and the support from the community.³⁸

(b) Bangalore:

Bangalore entered into *two* kinds of service contracts for:

1. Primary waste collection from the door steps and transportation to disposal site through small contractors and;
2. Integrated treatment and disposal of waste through payment of tipping fees to expert agencies.

In the *first* kind of arrangement, 66% of the city was divided into 61 groups and contracts given for primary waste collection in waste

³⁷ P. U. Asnani, *Solid Waste Management*, India Infrastructure Report, 2006

³⁸ Government of India, *Toolkit for Public Private Partnership Frameworks in Municipal Solid Waste Management*, *Op. cit.*, p. 84.

tricycles/handcarts and direct transfer to a vehicle (owned by the contractor) and then transported to the disposal sites. Through this arrangement the ULB spends only 50% of what it would cost to undertake the task by the Corporation.³⁹

The other contract is for the treatment and disposal of 1000 MT of waste per day. Land and solid waste has been provided by the Corporation to the private operator who had invested 30 crores to set up the facility. The Corporation is not expected to pay for waste treatment but a tipping fee of Rupees *one hundred and ninety-five* per MT of rejects has to be paid.⁴⁰

The service contracts with the private sector has enabled an asset creation of 2600 TPD waste processing with initial capital investment from private operators leaving no strain on the Corporation's finances; scientific monitoring of MSW with check on unauthorized dumping has been possible; the compliance rate of MSW Rules for Processing and Disposal has substantially improved to 65%.⁴¹

(c) Hyderabad:

Under the "Clean Hyderabad 2006-07 Programme", the Greater Hyderabad Municipal Corporation (GHMC) has privatized 75% of its garbage clearance operations. It has introduced a unique unit area method where the unit cost has been worked out on the basis of need of manpower, the minimum wage payable, the tools and equipment required. The GHMC has provided *ten* acres of municipal land on *thirty* years lease to a private operator to produce two hundred tones RDF per

³⁹ Government of India, *Position Paper on The Solid Waste Management Sector in India*, *Op. cit.*, p. 41.

⁴⁰ *ibid.*, p. 41.

⁴¹ Government of India, *Toolkit for Public Private Partnership Frameworks in Municipal Solid Waste Management*, *Op. cit.*, p. 40.

day from *seven* hundred tones of municipal solid waste, with an annual lease rent of 5% of the registered value of land.⁴²

(c) Ahmedabad:

PPPs in SWM in Ahmedabad started with the setting up of 500 MT capacity compost plant. This was followed by private contracting of secondary storage and transportation. Door-to-door collection has been conducted entirely through the Resident Welfare Association (RWA), associations of sanitation workers, and women's organization. The Municipal gives grant for door-to-door collection and its supervision.⁴³

In the area of waste treatment, the corporation has allotted 25 acres of municipal land at a nominal lease rent of Rupees *one* per square metre per year for a period of *fifteen* years to a private operator.⁴⁴

(e) Guwahati:

The Municipal Corporation has set up a Special Purpose Vehicle (SPV) named Guwahati Waste Management Company Private Limited (GWMCL) to implement waste collection activity. The project is implemented under JnNURM and involves *two* segments:

1. Primary (door-to-door) collection, transportation to the processing site and disposal of MSW;

2. Setting up a plant with a capacity to convert 650 TPD of MSW into refuse derived fuel (RVF), a 50 TPD compost plant to produce manure as well as a *six* mega watt plant to run on the RDF produced.⁴⁵

⁴² P. U. Asnani, *Solid Waste Management*, India Infrastructure Report, 2006.

⁴³ Government of India, *Position Paper on the Solid Waste Management Sector in India*, *Op. cit.*, p. 42.

⁴⁴ *ibid.*, p. 43.

(f) Coimbatore:

The Coimbatore City Municipal Corporation has implemented *two* components of integrated SWM project under JnNURM which are:⁴⁶

1. An investment requiring Rs 269.1 million which involves distribution of bins, primary segregation of garbage, secondary storage in bins and transportation of waste to transfer stations;

2. A 695.1 million investment which involves development, design, engineering, finance, construction implementation and O&M of transfer stations, transportation of MSW from transfer stations to waste processing and disposal sites, processing and disposal facility for treating 400 tones of waste generated from Coimbatore.

(g) Delhi:

In order to tackle the problems of MSWM in Delhi, PPP in collection and transportation of MSW was started in 6 Municipal Corporation of Delhi (MCD) zones which were extended to other zones. The contractual framework was based on Design, Procure, Renovate, Operate, Maintain and Transfer (DPROMT) through a Concession Agreement.⁴⁷

New standards of service in the form of daily clearance of biodegradable waste; containerization from community bins onwards through the transport chain and mechanized lifting of waste was made possible through the partnership. Segregation of waste witnessed

⁴⁵ *ibid.*, p. 49.

⁴⁶ *ibid.*, p. 50.

⁴⁷ *ibid.*, p. 55.

improvement and there was a partial formalization of the rag pickers or the informal sector.⁴⁸

(h) Surat:

The city introduced several measure of privatization in SWM after the plague in 1994, which transformed it into *one* of the cleanest cities in the country. Transportation of waste from primary collection points to transfer stations, secondary transportation of waste for removing MSW from transfer station to final disposal site and the final waste disposal has been contracted out to private agencies by the Corporation. The partnership saw a remarkable increase in the net savings in MSW of the Corporation.⁴⁹

For internal cleaning of societies and to involve the societies in cleaning process, the Corporation has introduced the Anudan scheme through PPP mode. Sweepers are arranged by the societies and paid out of the contribution made by the Corporation.⁵⁰ The citizens are actively involved through the partnership and are highly aware about sustainable SW.

(i) Jaipur:

To strengthen the areas of waste processing and scientific disposal of MSW using sanitary landfill sites, PPP has been sought by the Corporation in MSW segregation at the processing facility and

⁴⁸ Government of India, *Toolkit for Public Private Partnership Frameworks in Municipal Solid Waste Management*, *Op. cit.*, p. 101.

⁴⁹ Government of India, *Position Paper on the Solid Waste Management Sector in India*, *Op. cit.*, p. 43.

⁵⁰ Madhu Tiwani. "Managing Municipal Solid Waste: The Surat Municipal Corporation Way", *Nagarlok*, Vol. XLIV, No. I, January-March 2012, p. 90,

construction and development of MSW processing facility at prescribed site.⁵¹

VI. Public-Private Partnership in Mizoram

The Government of Mizoram though appreciating the benefits of PPP as a new model of governance and partnership has not yet developed a comprehensive policy on PPP. A PPP Project Committee was formed in 2007 with the Chief Secretary as its Chairman.⁵² However, the Committee is yet to start functioning. PPP projects have not been introduced in any of the sector in the State. The overtly reliance of the majority of the population on the government for its survival, the under developed infrastructure, the difficult terrain, lack of political will and above all the misconception that government is always the best provider of services could be some of the reasons as to why such reforms have not taken place in the state.

The 74th Constitutional Amendment Act, 1992; the MSW Rules 2000 and the launch of the JnNURM programme have all paved the way for the enactment of the Mizoram Municipalities Act, 2007, notified on 20 April 20, 2007 and amended in September, 2009. Subsequently the *first* Aizawl Municipal Elections across *nineteen* AMC Wards was held on 3 November 2010. The Government of Mizoram also published The Mizoram Urban Sanitation and Solid Waste Management Policy 2011, notified on 1 September 2011.⁵³ These milestones in the history of urban governance in Mizoram set the pace for a new type of democratic decentralization and new partnership in networking.

⁵¹ Government of India, *Toolkit for Public Private Partnership Frameworks in Municipal Solid Waste Management*, *Op. cit.*, p. 71.

⁵² Government of Mizoram Notification No. G. 28014/65/2005- PLG, 9 May 2007 and *The Mizoram Gazette*, EXTRA ORDINARY, Published by Authority, Vol. XXXVI Aizawl, Thursday, 17.5.2007, Vaisakha 27, S.E. 1929, Issue No. 138.

⁵³ Government of Mizoram , Notification No. B. 13016/15/2007-UD&PA (SAN), 30 August, 2011 and *The Mizoram Gazette*, EXTRA ORDINARY, Published by Authority, Vol-XL Aizawl, Thursday, 1.9.2011., Bhadrapada 10, S.E., 1933, Issue No. 389

The Government of Mizoram initiated a sort of PPP project in MSWM in 2010 when the *first* Municipal Elections were held. This particular project was, for the *first* time in the history of the State, used in Aizawl City, the capital of Mizoram and the district headquarter of Aizawl. The form of partnership as practiced in Aizawl is different from the usual form of partnership in the sense that the contracting partners are not the private company or developers but rather the elected LCs of the different Wards under AMC.

The PPP model as practiced in MSWM in Aizawl under AMC is unlike others in the states in India. In the case of Aizawl, the word ‘private’ in PPP in MSWM denotes the elected LCs in every locality under AMC and not a private company or organization. Presently the MSWM in Aizawl is handled by the AMC in partnership with the different Solid Waste Management Committee (SWMC) composed of members of the Local Council Bodies, *two* members each from different Community Based Organisation (CBOs), and *three* prominent citizens within the locality. These Committees in turn enter into an agreement with a private company to collect, transport and dispose off the municipal waste. As per the agreement, the expenditure of MSWM is to be borne by the Government and the monitoring will be carried out by the SWMC. A nominal user charge will be collected from the people. The funds sanctioned by the Government and collected from the members of the locality are to be used in the most economical, efficient and effective manner.⁵⁴

VII. Conclusion

India at the time of Independence had adopted a mixed economy which visualized equal participation of both the public as well as the

⁵⁴ Vide Government of Mizoram’s *Order No.M.13011/2/2009* – AMC, Aizawl, 8 July, 2011

private sector. However, because of circumstances that prevailed at that time PPP projects was hardly carried out. It was only in recent times that the government has opened and allowed the private sectors to involve themselves in the economy and play positive role in different fields. With the change in the functioning of the state and increasing globalization the potentialities of PPP will be realized and it will certainly make its presence felt in the years to come. Mizoram is still a backward area with little or no major industries to boast of. It thrives on funds from the government and the potentialities on PPP are yet to be comprehended by the majority of the masses.

CHAPTER-III
PUBLIC-PRIVATE PARTNERSHIP IN MIZORAM:
MUNICIPAL SOLID WASTE MANAGEMENT UNDER AIZAWL
MUNICIPAL COUNCIL

I. Introduction

The growth of urban population, increasing urbanization, rising standards of living and rapid development in technology has increased the quantum of waste generated. At the same time half of the urban population in the developing countries does not have access to services for solid waste disposal. To keep cities clean and environmentally friendly has been *one* of the greatest challenges in governance in urban areas. This chapter traces the evolution of Solid Waste Management in Mizoram and Aizawl in particular.

A waste is viewed as a discarded material, which has no consumer value to the person abandoning it. The World Health Organisation (WHO) refers to the term ‘solid waste’ as applied to unwanted and discarded materials from houses, street sweepings, commercial and agricultural operations arising out of mass activities.¹

‘Solid Waste’ (SW) is the term used to describe non-liquid materials arising from domestic, trade, commercial, agricultural and industrial activities and from public services. It is commonly known as garbage, refuse, rubbish or trash. Its main sources are residential premises, business establishments and street sweepings. It is a mixture

¹ Government of Tamil Nadu, *Ready Reckoner on Municipal Solid Waste Management for Urban Local Bodies*, *Op. cit.*, p. 2.

of vegetables and organic matters; inert matters like glass, metal, stones, ashes, cinders, textiles, wood, grass etc.²

‘Municipal Solid Waste (MSW)’ is the thrash or garbage that is discarded day to day in a human settlement. According to the Municipal Solid Wastes (Management and Handling) Rules 2000, (MSW Rules 2000), MSW includes commercial and residential wastes generated in a municipal or notified area in either solid or semi-solid form excluding industrial hazardous wastes but including treated bio-medical wastes. Waste generation encompasses activities in which materials are identified as no longer being of value (being in the present form) and are either thrown away or gathered together for disposal.³

‘Municipal Solid Waste Management (MSWM)’ refers to a systematic process that comprises of waste segregation and storage at source, primary collection, secondary storage, transportation, secondary segregation, resource recovery, processing, treatment, and final disposal of solid waste.⁴

II. Solid Waste Management in India

The waste pattern in India has changed with the increase in urbanization, commercialization and standard of living. In the rural areas people throw their waste in open fields which over a period of time gets decomposed and is locally handled. In the urban areas, waste is generally dumped in low lying areas and burned openly or collected, transported and disposed off in landfills sites. Due to the rapid urbanization there has been a marked shift in the quantities and quality of waste generated, which in turn contribute to a rising deficit between

² *ibid.*, p. 2.

³ Government of India, *Toolkit for Solid Waste Management, JnNURM, Op. cit.* p. 1.

⁴ *ibid.*, p. 2.

the demand for MSW services and the current capacities among Urban Local Bodies (ULBs) to service the same. Owing to the inefficient management of SW in India there are many threats to the environment.

(a) Legal Framework

In India, SWM is the responsibility of ULBs due to the public and local nature of the service. Prior to the enactment of the MSW Rules 2000, there was no explicit statute dealing with SWM. The issues relating with SWM were scattered in the provisions of the Indian Penal Code, Criminal Procedure Code and Constitution of India.⁵ With the passing of the MSWM Rules 2000 by the Ministry of Environment and Forests (MoEF), steps were laid down to be observed by all urban authorities, regardless of its size, to ensure efficient and healthy management of solid waste. The management of MSW is covered under Schedule II of the Rules. According to the Rules, the urban authorities must provide the infrastructure and services with regard to collection, storage, segregation, transportation, treatment and disposal of MSW. The same Rules authorize the Central Pollution Control Board (CPCB) at the top to monitor the implementation of the Rules. The ULBs are responsible for implementing the Rules and the State Pollution Control Board (SPCB) is responsible for granting authorization of setting up of waste processing facilities.

In 2000, the Ministry of Urban Development (MoUD) through the Central Public Health Engineering Organisation (CPHEEO) published the Manual on Solid Waste Management and Handling 2000,

⁵ Malik, Lokendra, "Solid Waste Management and Sustainable Cities in India: A Critique", *Nagarlok*, Vol. XLII, No. 4, October-December 2010, p. 41.

which provides implementation guidelines for all aspects of MSWM, including collection, transportation, treatment and disposal.⁶

The Ministry of Urban Development in 2005 published the Technology Advisory Group Report on MSWM which is a compilation document based on information received on proven waste treatment and disposal technologies from field experience and sector experts.⁷

In 2005, the Ministries of Urban Development and Agriculture made available the Inter-Ministerial Task Force on Integrated Plant Nutrient Management to understand production and marketability of compost which is an important reference document related to design and development of compost plant.⁸

The National Urban Sanitation Policy (NUSP), a policy prepared by the MoUD in 2008, broadly covers aspects of urban sanitation, with a specific focus to eliminate open defecation in cities. The policy focuses on re-orienting institutions for developing city-wide approach to sanitation, covering all its aspects including SWM⁹.

The Service Level Benchmark by the MoUD evaluates the performance of urban services so that services could be improved through better provision and delivery.¹⁰

The National Mission on Sustainable Habitat, a component of the National Action Plan for Climate Change focused on waste recycling.¹¹

⁶ Government of India, *Toolkit for Solid Waste Management, JnNURM, Op. cit.*, p. 4.

⁷ *ibid.*, p. 4.

⁸ *ibid.*, p. 4.

⁹ *ibid.*, p. 4.

¹⁰ *ibid.*, p. 4.

The Jawaharlal Nehru National Urban Renewal Mission (JnNURM), has recommended that the State Governments and ULBs should pursue reforms to improve Urban Governance, one of which is to encourage PPPs. Accordingly, all state Governments have been advised that the ULBs should explore the possibility of including PPP in SWM projects and also involve Non-Government Organizations (NGOs) or community Based Organizations (CBOs) or Resident Welfare Societies and Associations (RWAs) in planning, implementation, operation and maintenance of SWM services.¹²

(b) Institutions for Solid Waste Management

MSWM is an essential and obligatory function of ULBs. According to the Constitution of India, SWM falls under the State List and is entrusted to the ULBs through state legislations. MSWM is a part of public health and sanitation, and is entrusted to the Civic Bodies for execution as per the respective Local Government Acts.¹³

At the Central Government, the MoUD, the CPHEEO, the CPCB and the MoEF are the responsible institutions for SWM.

The MoUD formulates broad policies for sanitation sector including SWM; prepares guidelines for SWM services; supports SWM projects under JnNURM/Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) and provide facilitative role to the ULBs for capacity building.¹⁴

The CPHEEO assist in technical matters on SWM and prepare guidelines like technical manual on SWM.

¹¹ *ibid.*, p. 4

¹² *ibid.*, p. ii.

¹³ *ibid.*, p. 4.

¹⁴ *ibid.*, p. 4.

The CPCB plays a monitoring role by convening meetings of various members of SPCBs; seek information in respect of initiatives taken by ULBs and to review the information furnished by various SPCBs.¹⁵

The MoEF is directly involved by way of deployment of MSWM Rules under the Environment Protection Act, 1986.

At the State Level, the Department of Urban Development, the State Level Nodal Agency and the SPCB are the responsible institutions in SWM. The Department of Urban Development has the overall responsibility for the enforcement of the provisions of the MSWM Rules, 2000; the Project Monitoring Units (PMUs) at the State Level Nodal Agency oversee project implementation and the SPCB plays a monitoring role and issues an authorization to municipal authorities or operators stipulating compliance standards.¹⁶

The NUSP of the MoUD has given directives to each state to develop a comprehensive strategy for sanitation, including SWM. Besides, efforts have been made at the state level to enact legislation, frame an infrastructure policy and set up nodal institutions for fostering PPP.¹⁷

At the Local level, the municipal authority and the District Magistrate or the Deputy Commissioner had the overall responsibility for the enforcement of the provisions of the MSWM Rules, 2000 within the territorial limits of their jurisdiction.¹⁸

¹⁵ *ibid.*, p. 5.

¹⁶ *ibid.*, p. 5.

¹⁷ *ibid.*, p. 5.

¹⁸ *ibid.*, p. 6..

The NGOs or Civil Society, Communities and public, conservancy workers and the rag pickers all have equal responsibility in sustainable SWM.

The Municipal Solid Waste Management value chain consists of collection and transportation (C&T), processing and disposal. A holistic approach to waste management includes efforts to reduce the quantity of waste generated at all points i.e., waste reduction at source to reduction at disposal. The C&T consists of door-to-door collection of segregated waste from households followed by transportation to waste processing plants in covered vehicles. The processing of waste involves the application of appropriate technology, depending upon the quantity and quality of wastes, so as to reduce the overall quantity of waste reaching the landfill sites and to derive value from wastes to the extent possible. Lastly, the refuse from the processing plant is collected from the waste processing plants and disposed in scientifically engineered landfills.¹⁹

III. Solid Waste Management in Mizoram

Aizawl is the capital of Mizoram and headquarter of Aizawl District. It is the largest district in Mizoram. The total population of Mizoram as per the Census of India 2011 is 1,091,014. The total population of people living in rural area is 529,037 and that of the urban area is 561,977 (51.51%). Aizawl has a population of 3,15,875 (56.2 %).²⁰ The administration of the city is carried out by the Aizawl Municipal Council (AMC).

With the creation of the Mizo District Council in 1952, Sanitation Committee was formed and efforts were made towards cleanliness.

¹⁹ Ankit Kumar Chatri and Arslam Azim, *PPP in MSWM: Potential and Strategies*, Athena Infonomics India Pvt. Ltd, Chennai, p. 21.

²⁰ Government of Mizoram, *Statistical Handbook, Mizoram 2012, Op. cit.*, p-xvii.

When the District Council was granted the status of a Union Territory in 1972, the Directorate of the Local Administration Department (LAD) was created on 1 January 1973, and the “Sanitation Wing” started functioning within it. On 15 January 1973, solid waste was collected and disposed off for the first time by the Local Administration Department (LAD) in Mizoram with a lone vehicle of the then Deputy Commissioner. In 1975, there were *two* trucks used by the Government to collect and dispose off solid waste within Aizawl. At the same time the Government kept Mini Dustbin and Fixed Dustbin at convenient places which were of great help to the people. However, with the growth in urban population and increasing urbanization these dustbins were found to be inconvenient and were later disbanded on 6 March 1986 and 12 May 1986 respectively.²¹

Mizoram was granted the status of a full fledged State under the Indian Union on 1987 and there was a marked progress in the sanitation department in terms of allocation of resources. The Sanitation Wing was made an attached office of the District Local Administrative Officer (DLAO). Government owned trucks used to collect solid waste from different corners of Aizawl and dispose them off at designated Dumping Grounds. Street Sweeping was also initiated during this period which continues till today.²²

With the creation of the Department of Urban Development and Poverty Alleviation (UD&PA) on 24 August 2006,²³ the Sanitation Wing which previously functioned under the LAD was transferred to the newly created department. All efforts were made by the Government for improved and environmentally friendly SWM and the funds used for

²¹ <http://udpamizoram.nic.in/>

²² <http://udpamizoram.nic.in/>

²³ Government of Mizoram *Order No. J-11012/2/2006 POL-VOL-I*, dated August 8, 2007.

SWM were sourced from different schemes of the Twelfth Finance Commission (2005 to 2010).

To improvise on the existing SWM the Government introduced Mobile Garbage Trailer on a trail basis at *five* places on 6 May 2006, which was increased to *twenty* Trailers by 18 October 2006. Initially the Department vehicles used to dispose off the waste from the Trailer but later on it was found that the process was too cumbersome for the concerned Department, which was facing manpower and financial crunch. At the initiation of the officers in the Department, the Government decided to enter into a Contract with a local contractor on 18 October 2006. As per the Deed of Agreement signed between the Government and the contractor, SW was to be collected and dispose off only at night. This agreement continued for a period of time. However, with the passage of time it was found that it would be more feasible if the concerned Village Councils (VCs), where the Trailers were kept, handled the disposal of the SW. Hence, an agreement was signed between the VCs of Chanmari, Zarkawt, Dawrpui and Tuikual South and the Government to this effect. Despite the best effort put in by the concerned VCs, the Trailers were overloaded and it was proving difficult to carry on the onerous task. At the same time, the SW collected in the Trailer were found to be causing a nuisance and hazardous to the health of the urban population. Therefore, the Government decided to do away with the Mobile Garbage Trailer on 29 September 2009, after almost three years.²⁴

While SW was collected in the Mobile Garbage Trailer at certain points on the main road, the Department of UD&PA continued to collect and transport the SW from areas that were not accessible to the Trailers. This was done free of cost by the Government and the people did not

²⁴ <http://udpamizoran.nic.in/>

have to pay user charge or fee. There was no designated day in which the Government vehicles would collect the SW and this would depend on the availability of the Government vehicles.²⁵

A very interesting fact about SW in Aizawl and for that matter, the whole of Mizoram, is that there is no Door-to-Door Collection as practiced in other Indian states. In Aizawl SW is collected not from the door-step but at designated Stand Point.

In view of the growing health hazards and unhygienic SWM, the Government decided to set up a Dumping Ground at Tuirial, about *twenty* kilometres from Aizawl. Subsequently Tuirial Dumping Ground has been christened as the Solid Waste Management Centre and started functioning from 27 May 2006. The Centre was initiated with funds from the ULB Grants 2005-06.²⁶ At the Solid Waste Management Centre, SW are treated and processed mechanically.²⁷

The Department of UD&PA had been collecting and transporting SW for quite some time. But, it was found that it was facing a number of problems in the form of increasing SW without an increase in manpower, Government vehicles to collect and transport SW and financial crunch. At this point of time, the Government decided that the best policy in SWM was to introduce the concept of PPP. On 4 October 2010, PPP in SWM was introduced in Aizawl, for the *first* time in the history of Mizoram²⁸. A Deed of Agreement was signed between the Department of UD&PA, Government of Mizoram and the VCs within Aizawl. The Deed of Agreement specified the general and financial terms and conditions. The Agreement was to be in force for a period of *six* months and renewed, if desired. In the initial stage, the partnership

²⁵ <http://udpamizoram.nic.in/>

²⁶ Vide Government of Mizoram's *Letter No. B.-13015/12/2003/LAC* of March 6, 2006.

²⁷ <http://udpamizoram.nic.in/>

²⁸ *ibid.*,

was started in *sixty* VC areas within Aizawl. As of date, PPP in MSWM is being carried out in all the *eighty-two* Local Councils (LCs) of the AMC jurisdiction.

With the elections to the AMC on 3 November 2010, and subsequent formation of the AMC, the Sanitation Wing of the Department of UD&PA was transferred to the AMC on 20 September 2011,²⁹ and has been functioning under it till date. PPP in MSWM was continued by the AMC and those LCs which were still using Government vehicles to collect and transport solid waste, have now resorted to PPP.

Meanwhile, the Government of Mizoram on 30 August 2011, had passed “The Mizoram Urban Sanitation and Solid Waste Management Policy, 2011 with the objectives of:³⁰

1. Providing directions for carrying out sanitation and solid waste management activities in a manner which is not environmentally, socially and financially sustainable but is also economically viable;
2. Establishing an integrated and self-contained operating framework for Urban Sanitation and Solid Waste Management, which would include the development of appropriate means and technologies to handle various waste management service;
3. Enhancing the ability of the Government functionaries /ULB/local authorities to provide effective waste management services to their citizens;

²⁹ Government of Mizoram’s *Order No. B. 13017/29/2009-UD&PA* Dated September 20, 2011.

³⁰ Government of Mizoram’s *Order No. B. 13016/15/2007-UD&PA (SAN)*, Dated 30th August 2011.

4. Providing at least basic sanitation services to every urban dweller.

IV. Solid Waste Management in Aizawl

Solid Waste Management is a part of Health and Sanitation and according to the Constitution of India falls within the purview of the State List. The activity being local in nature, the responsibility for providing the services is entrusted to the ULBs. However, it has not always been easy to effectively deal with the issue at hand because of the lack of financial and human resources as well as organisational inefficiency within the local bodies. Transportation arrangements are generally inadequate due to the unavailability of proper vehicles as well as the low productivity of the personnel. There are also policy gaps that need to be addressed (e.g. to desist people from throwing garbage in public areas). In addition, the ULBs find it hard to raise resources to acquire suitable land, and they often lack the technical capability to design a proper sanitary landfill facility.

(a) Solid Waste Management in Aizawl Prior to PPP

MSWM in Aizawl is handled by the Sanitation Wing of the AMC. A separate SWM Department does not exist for the state of Mizoram. The Sanitation Wing can trace its origin dating back to the Mizo District Council days. When Mizoram was given the status of a Union Territory under the Indian Union on 21 January 1972, the Directorate of the Local Administration Department (LAD) was created on 1 January 1973, and the “Sanitation Wing” started functioning within it. On 15 January 1973, solid waste was collected and disposed off for the *first* time by the LAD in Mizoram with a lone vehicle of the then Deputy Commissioner. Later on when Mizoram was granted the status of a full fledged State the Sanitation Wing was made an attached office

of the District Local Administration Office (DLAO). With the creation of the Department of Urban Development and Poverty Alleviation on 24 August 2006,³¹ the Sanitation Wing which previously functioned under the LAD was transferred to the newly created Department. Subsequently with the creation of the AMC, the Sanitation Wing of the Department of UD&PA was transferred to the Council on 20 September 2011,³² and has been functioning under it till date.

The post of the Sanitation Officer under the Sanitation Wing was upgraded to that of the Senior Sanitation Officer on 30 May 2005.³³ The Sanitation Wing consists of *seventeen* Officers and *two hundred* supporting staff on regular and contract posts.

For operational purposes the entire area of AMC is divided into *five* Sectors wherein there are *five* Site Offices with attached Sweepers, who work under the supervision of the Sirdar.

(b) MSWM Value Chain and Management

Following are the stages of SWM prior to the introduction of PPP in Aizawl:

(i) Source Storage and Segregation: Storage of waste at source is one of the recommendations of the Ministry of Environment and Forests. It is, however, observed that storage and segregation at source is absent in Aizawl and people are generally ignorant of the significance and necessity of such a practice. Though people may collect their waste in bags, these are not segregated. Besides at the time of collection, these bags are emptied into the vehicles so that they may be used for further collection by the people.

³¹ Vide Order No. J-11012/2/2006 POL-VOL-I dated August 8, 2007.

³² Vide Order No. B. 13017/29/2009-UD&PA Dated September 20, 2011.

³³ Vide Order No. A-11017/1/2003-LAD. Dated 31.05.2005.

(ii) MSWM Collection: The system of door-to-door collection of waste in Aizawl is different from those in other parts of the country. In the case of Aizawl, the VCs (now LCs) designate a Sanitation Point in convenient places and people assembled at the Sanitation Point at the stipulated time to throw their waste in Government owned vehicles. The frequency of waste collected was on an average *twice* a week.

(iii) Secondary Storage: A huge Barrel to store market wastes was set up on 4 April 1972, at Bara Bazaar.³⁴ But this was discontinued after a very short time as it was found to be a nuisance for the people at large.

Mini and Fixed dustbins were installed at convenient places by the Government. However, since the cons outweigh the pros it was stopped on 6 March 1986 and 12 May 1986 respectively.³⁵

Secondary Storage was initiated in Aizawl when Transfer Station was constructed near Beraw Lui, Bung Bungalow, Tuirial road in 2006 under schemes from the Twelfth Finance Commission (2005-2010). The Transfer Station was to serve as a transit for SW before transferring them to Tuirial Dumping Ground and it was used for the *first* time on 18 October 2006. The transit was engaged for a while, but with the passage of time it was found that directly transporting the SW from designated Stand Point to the Dumping Ground was more economical and efficient. Hence, the use of the Transfer Station was stopped.³⁶

The Mobile Garbage Trailer was introduced on 6 May 2006. This again proved to be more of a problem from the environmental

³⁴ <http://udpamizoram.nic.in/>

³⁵ <http://udpamizoram.nic.in/>

³⁶ <http://udpamizoram.nic.in/>

perspective and the Government discontinued its use on 29 September 2009.

(iv) Street Sweeping: For purpose of Street Sweeping Aizawl is divided into *five* Sectors and the work starts from 5:30 in the morning. The sweepers collect waste and transport them to the designated Sanitation Points within their area and after completing their work gather in their respective Site Office where a review of their morning routine is made at 10 o'clock.

(v) Waste Transportation: The Government had around *nineteen* vehicles which used to collect waste from different Sanitation Points within Aizawl and transport the same at various Dumping Grounds designated by the Government from time to time. On an average the vehicles usually made *three* trips per day to the Dumping Ground.

(vi) SWM Processing: There was no treatment and processing facility available in Aizawl for conversion of waste or extraction of recyclable before final disposal to the Dumping Ground. All SW collected within the city was transported off in the open Dumping Ground.

(vi) SWM Disposal: Solid Waste was for the first time collected and disposed off on 15 January 1973. The first Dumping Ground was at an old Quarry in Bawngkawn. However, the site was closed on 30 September 1982, as it was unable to withstand the huge amount of waste. Since then the government has designated *seven* Dumping Grounds.

As far as bio-medical waste is concern, these are handled by the concern Department of Health and Medical Education in the case of

Government hospitals while the private hospitals manage by themselves. These wastes are being dumped at the same Dumping Ground at Tuirial. Though provisions exist for separate Dumping Grounds and incineration, yet, these are not complied by the hospitals.

Post 2000 Market Waste is handled by the Department of Trade and Commerce, Government of Mizoram. The Department tenders Quotation *twice* in a financial year for Disposal of Market Garbage for *five* Market areas viz., New Market, Bawngkawn, Vaivakawn, Mission Veng and Ramhlun. The Department has its own Dumping Ground at Lengte which is 26 kilometres from Aizawl. However, work is yet to be completed, so in the meantime the market waste is being dumped at Tuirial Dumping Ground.

The following table shows the different Dumping Grounds used by the Government from time to time.

Table: 3.1³⁷

Dumping Grounds used by the Government (1973 till date)

Sl. No.	Disposal Site	Years in Used
1.	Bawngkawn Kham	15. 01. 1973 – 30. 09.1982
2.	Bung Bungalow kawng bul	01.10. 1982 – 24. 06. 1993
3.	Chawke Kham	25. 06. 1993 – 25. 06. 1994
4.	Muthi Tlang	10. 06. 1993 - 1995
5.	PTC Peng, Sairang Road	25. 06. 1994 – 09. 04. 1995
6.	Sairang Buichali Kai	10. 04. 1995 – 01. 05. 1997
7.	Tuirial Dumping Ground	02. 05. 1997 till date
8.	Sakawrhmutuai Tlang	02. 05. 2001 – 10. 12. 2010

³⁷ <http://udpamizoram.nic.in/>

V. Municipal Solid Waste Management and Public-Private Partnership in Aizawl

With the growth in urban population and increasing trends towards urbanization, the quantum of MSW generation has increased considerably. On the other hand, the Government's role as a service provider has been questioned. The Government faced capacity constraints, both in financial resources and qualified technical personnel to handle SW. In view of the growing importance of sustainable MSWM and capacity constraints that the State was facing, the Government of Mizoram turned a new leaf in the SW disposal problems with the launch of PPP mode on 4 October 2010, to deal with the said problems³⁸.

(a) Public-Private Partnership in Solid Waste Management under Department of Urban Development and Poverty Alleviation (UD&PA)

The Department of UD&PA had been collecting and transporting SW for quite some time. But, it was found that the Department was facing a number of problems in the form of increasing SW without an increase in manpower, very few Government vehicles to collect and transport SW and financial crunch. At this point of time, the Government decided that the best policy in SWM was to introduce the concept of PPP. On 4 October 2010, PPP in SWM was introduced in Aizawl, for the *first* time in the history of Mizoram. A Deed of Agreement was signed between the UD&PA, Government of Mizoram and the VCs within Aizawl in November 2010. The Deed of Agreement specified the general and financial terms and conditions. The Agreement was to be in force for a period of *six* months and renewed, if desired. At the initial stage, the partnership was started in *sixty* VC areas within

³⁸ <http://udpamizoram.nic.in/>

Aizawl. As of date, PPP in MSWM is being carried out in all the *eighty-two* LCs of the AMC's jurisdiction.

With the creation of the AMC, the Sanitation Wing of the Department of UD&PA was transferred to the AMC on 20 September 2011,³⁹ and has been functioning under it till date. At the same time the nomenclature of the VC was changed to LC. PPP in MSWM was continued by the AMC and those LCs, which were still using Government vehicles to collect and transport solid waste, have now resorted to PPP.

The Deed of Agreement signed between the erstwhile VC and the Department of UD&PA provided certain Terms and Conditions according to which the VC and the Government (UD&PA) would share responsibilities in SWM.

General Terms and Conditions:⁴⁰

“Responsibilities of Department of UD&PA:

- (a) The funds for SWM would be provided to the VC in the form of Grants-in-Aid;
- (b) It will be responsible for supervising and monitoring SWM.
- (c) It will be responsible for undertaking Public Information, Education, and Communication (IEC) through the media;
- (d) It will also be responsible for imparting training in Book Keeping, preparation of Report and Utilization Certificate and others as and when it is needed.”

³⁹ Vide order No. B. 13017/29/2009-UD&PA Dated September 20, 2011.

⁴⁰ Terms and Condition in the Deed of Agreement signed between the Department of UD&PA, Government of Mizoram and the Village Councils in Aizawl.

“Responsibilities of the VC:

The VC will be responsible for:

- (a) earmarking a ‘Stand Point’; the duration of time the vehicle will stop at one Stand Point and collect waste; making arrangements for transportation of collected waste, hiring of vehicles and labourers to collect and transport the same and its disposal; making arrangements regarding the collection of waste on main roads and to oversee that waste are not being collected and dumped on the main roads. Failure to comply would result in penalties extending to delay in disbursement of funds;
- (b) the collected SW is to be disposed off only at designated Dumping Ground;
- (c) public Information, Education, Communication (IEC) is to be provided by the VC in their area of jurisdiction; the people must be educated in the need for reducing, recycling and segregation of solid waste;
- (d) the Grants provided by the Government and the user-charge collected from the people must be properly maintained by a Treasurer with all the books;
- (e) collection of 10 % user-charge from the people either in the form of cash or through voluntary deeds;
- (f) the funds to be sanctioned to the VCs are to be paid on a monthly basis;
- (g) the SW so collected is to be transported in closed or covered vehicles;

- (h) the collection of SW should be done in such a manner that it does not obstruct the movement of traffic and cause inconveniences to others;
- (i) the VC is responsible for the collection, transport and disposal of government and private SW within its area of jurisdiction;
- (j) the VC should form a separate Committee or Board on PPP;
- (k) the Department Sweepers are to collect SW in their areas and transport them in their area Stand Point.”

“Financial Terms and Conditions:

1. Solid Waste Management will be carried out using PPP mode wherein the Government will sanction 90% of the finances and the VCs will have to pay 10%;
2. The funds for SWM would be provided to the VCs in the form of Grants-in-Aid by the Government;
3. The Grants provided by the Government and the funds generated by the VCs towards SWM and Sanitation should be properly maintained in separate Account Books and audited by Department Auditor at the end of the year, or as and when, the Government and the VC deems it necessary. The Books should be audited at least *once* in a year;
4. *Three* copies of Utilization Certificate in Form ‘A’ should be prepared either at the end of the month or when funds have been exhausted or at the commencement of the next instalment.

In such cases, the certificate will be prepared by the Treasurer of the VC and countersigned by the VC President. The copies of the certificates will have to be deposited in the Directorate of UD&PA, Office of the Senior Sanitation Officer and the Treasury.”

“Terms of Agreement:

1. The period of Agreement is *six* months. However, the agreement can be terminated, on reasonable grounds, if the *two* parties so agree. If, on the other hand, the VC does not abide with the terms of the Agreement and in view of sustainable SW, the Department can terminate the Agreement;

2. If and when the Government changes the nomenclature of the VC to any other name, the term of agreement will still remain and not be affected by it.”

(b) Public-Private Partnership in Municipal Solid Waste Management under Aizawl Municipal Council

Consequent upon the establishment of the *first* AMC and the elections of the LCs across *nineteen* Wards under AMC, SWM came to be the responsibility of the AMC as per the powers and functions of the Aizawl Municipal Act 2007 (amended in 2009).⁴¹ The Deed of Agreement on SWM signed between the Department of UD&PA and the VC had expired and fresh Agreement was signed between AMC and LC.

An appeal was made by the Chief Executive Officer (CEO) of AMC to the NGOs viz., the Young Mizo Association (YMA), the Mizo

⁴¹ ‘The Mizoram Municipalities Act, 2007 (amended in 19.11.2009)’ as notified by the Government of Mizoram, *Notification No. H. 12018/120/03-LJD*, of 19.11.2009.

Upa Pawl (MUP and the Mizo Hmeichhe Insuihkhawm Pawl (MHIP), of different localities within the jurisdiction of AMC to extend their co-operation in regard to efficient, effective and sustainable SWM.⁴² As suggested in the letter, Solid Waste Management Committee (SWMC) is to be constituted in every locality. The SWMC is to be formed with the Councillors and would comprise of the Local Council (LC) members and *two* representatives each from the YMA, MHIP and MUP. The letter also contained how SWM was to be carried out, post the election of AMC.

As per the Notification of the AMC, SWMC is to be constituted in every locality. “The Office Bearers of the Committee are:⁴³

1. Chairman - Local Council Chairman or any member of the Local Council, which ever is more convenient;
2. Vice Chairman - Local Council Member;
3. Secretary
4. Assistant Secretary
5. Treasurer
6. Financial secretary

The Secretary, Assistant Secretary, Treasurer and the Financial Secretary will be from the Member Representatives of the YMA, MUP and MHIP. The Member Representatives who do not fill up the Office Bearers post will automatically become the Committee Members.

The Committee Members consist of-

⁴² ‘Guidelines for the Formation of SWMC’ Vide *CEO’s Letter No. M. 13011/2/2009-AMC*, dated 8 July, 2011. p. 2.

⁴³ ‘Guidelines for the Formation of SWMC’ Vide *CEO’s Letter No. M. 13011/2/2009 – AMC*, dated 8 July, 2011, p.2.

1. All the members of the Local Council;
2. *Three* prominent citizens;

A member nominated to the Ward Committee automatically becomes the member of the SWMC.”

“The Terms and Conditions of SWMC:

1. The SWMC is to be constituted within the month of July 2011;
2. Since the modus operandi of SW is to be on PPP mode, the local people has to pay not less than rupees *ten* only as user-charge. The SWMC has to make arrangements for collection of SW for those people living along areas that may not be accessible to vehicles.
3. Funds will be transferred to the SWMC by the AMC for PPP mode on SWM;
4. The collected SW is to be dumped only at Tuirial Dumping Ground. The SWMC will make arrangements for the most convenient, economical, efficient and effective SWM;
5. The Chairman of the SWMC will be clothed by the AMC with powers and functions prescribed by The Mizoram Municipalities Act, 2007 (as amended in 2009) in regard to SWM and others (First Schedule Sec. 153, 154,155,157). Fine Receipt will also be given to him or her;
6. The arrangement is to come into force with effect from 1 August 2011, and the Work Bill is to be given with the approval of the Councillors;

7. The SWMC is to discharge any activity specified by the AMC in regard to SWM;
8. Only Domestic Waste is to be collected by the SWMC. Regarding Commercial Waste, Industrial and Construction Waste the AMC has given the responsibility to the SWMC who will make arrangements as and when necessary;
9. Account Books is to be properly maintained and audited every year by AMC. The Ward Committee will also look into the Books, as and when necessary;
10. The AMC can make desirable changes to the terms and conditions as and when necessary.”

As per the guidelines of the AMC, MSW are being collected and transported by the SWMC in every locality. Arrangements are made by the SWMC to collect MSW from every area including those that may not be accessible by vehicles. In such areas the SWMC gives information to the people regarding the timing and the designated Stand Point so that they may dispose off their waste.

The SWMC hires vehicles and labourers to collect and transport SW from the designated Stand Point to the Dumping Ground. The number of trips the hired vehicles makes to collect and transport SW would depend on the total population, the size of the LC and the density of population. Because Aizawl is a hilly area the route of the hired vehicles have to be properly worked out and at the same those entire household living in step-areas and other areas not accessible by vehicles will also have to be considered. The whole LC area for effective and efficient SWM may be divided into as many routes as, convenient. However, all routes must be visited by the hired vehicles at least *twice* a

week so that SW is effectively managed. Usually the hired vehicles make *two* trips in a week in a particular route of a locality.

Aizawl, not being a planned city does not have areas that are demarcated as exclusively commercial or business and residential. Along the main road of Aizawl, which is approximately 20 kilometres long; there are business houses and small shops lined up, which contributes to huge generation of SW. Since there is no segregation of waste at source and the SW generated not being industrial, do tend to mix together with the SW collected from residential areas. These do not generally cause harm to the population, yet, they pose a huge problem for the SWMC and the private operators in terms of collection and transportation. Besides, the hired vehicles have to make more trips which leads to more expenditure.

VI. Conclusion

Accumulated SW is not only an eyesore but it also causes poor environment and health issues. The management of SW is the responsibility of the local governing bodies but for obvious reasons they have not been able to play a positive role. The initiatives taken by the government has not been very effective. There are gaps in policy and implementation and therefore the need to carefully tackle these problems through facilitating new partnerships for sustainable development.

CHAPTER-IV

RESULTS AND DISCUSSIONS

I. Introduction

Public-Private Partnership (PPP) involves a long-term, contractual relationship between the public and the private sectors, specifically targeted towards financing, designing, implementing and operating infrastructure facilities and services that were traditionally provided by the public sector. The principles of PPP are:¹

(a) Contractual Framework to deliver a balanced risk profile between Government and the Private operator

In PPP ventures, the basic objectives and the resource required of the programme or project, the tenure of agreement, the funding pattern and of sharing of risks and responsibilities is formalized through a contract which may broadly be classified under service contract, operations & maintenance (management) contract and capital projects, with operations & maintenance contract.²

Developing a strong contract between the operator and the government is an important principle of PPP for sustainability of the transaction is of paramount importance. For government's objectives to be met and for the operator to perform adequately, the roles and responsibilities of the two partners need to be clarified.

¹ Government of India, *Report of the PPP Sub-Group on Social Sector- Public-Private Partnership*, Planning Commission, November 2004, p. 6.

² *ibid.*, p. 6.

(b) Selection of Service Providers

Selection of service providers must be done in the most transparent manner and may be carried out through competitive bidding, the Swiss Challenge approach, wherein *suo-motu* proposals are received from the private participant by the government, and the competitive negotiation.³

(c) Payment Mechanism

Payment to the private sector could take the form of contractual payments, grants-in-aid and the right to levy user charges for the asset created or leased-in.⁴

(d) Monitoring & Evaluation

Once an operator has been selected, it is important that the operator is monitored and the benefits achieved through the PPP contract are maintained over time and communicated to stakeholders. The regulatory function plays a critical role in this and therefore the ability to sustain the change following the completion of the transaction will be critical.

Monitoring may be done by government departments authorized to do so, based on a standardized scale; by independent agencies or regulators based on a standardized scale; by the department or independent agencies, based on the simple criteria of ‘pass’ and ‘fail’; or by the department or independent agencies, based on the feedback received from the beneficiaries.⁵

³ *ibid.*, p. 8.

⁴ *ibid.*, p. 9.

⁵ *ibid.*, p. 10.

(e) Risk & Revenue Sharing

PPP involves sharing of risk and reward between the partners. It is essential that all possible risks be identified before finalizing the contract. The assurance of the government to share the risks act as a confidence booster for the private developer and at the same time the sharing of rewards if the output or returns exceed what was contemplated at the start of the project shows the commitment of the private sector.⁶

(f) To win the commitment of critical Stakeholders and Operators⁷

The implementation of the PPP project must be thoroughly and skilfully presented and marketed within government, to the utility management, staff and labour, to the labour sector generally, and to the public-at-large. The benefits of reform and privatization must be developed and well presented if they are to be understood and accepted by all stakeholders. The success of the reform and PPP exercise will be greatly enhanced by successful marketing of the concepts involved. In addition, the commitment of potential bidders or operators will need to be gained and the design of the structure, its transparency and overall management (during and post transaction) will have a critical bearing in an operator's decision to participate in any PPP arrangement.

⁶ *ibid.*, p. 10.

⁷ Cledan Mandri-Perrott, *Six Guiding Principles to Achieve Sustainable PPP Arrangements*, Institute of PPP, Washington D.C., 2005, p. 7 and http://www.ip3.org/ip3_site/six-guiding-principles-to-achieve-sustainable-ppp-arrangements/

(g) Demonstrate improved Service Delivery in terms of Customers and Infrastructure⁸

The key objective of the introduction of the private sector in the infrastructure sectors is generally to meet government's policy objectives of: improvement, quality, cost and access to infrastructure, and ensuring the financial viability of infrastructure at minimum cost to government. In meeting the above objectives, government will have a positive social and economic impact.

(h) Sustain change to deliver long term benefits⁹

All the levers (processes, fairness, transparency of process, international best practice, stakeholder participation, and regulation) must be used to embed the changes into the privatization to ensure that benefits continue to be delivered and the changes sustained after the transaction has been completed.

The Government of India has drafted the “National PPP Policy 2011-Draft for Consultation” wherein the principles governing implementation of PPPs in India have been mentioned. The broad principles governing implementation of PPPs in India are to:¹⁰

- (1) Provide a fair and transparent framework to facilitate and encourage PPP mode of implementations for provision of public assets and related services;
- (2) Ensure that the projects are planned, prioritized and managed to benefit the users and maximize stakeholder economic return;

⁸ *ibid.*, p. 7.

⁹ *ibid.*, p. 7.

¹⁰ Government of India, *National PPP Policy 2011-Draft for Consultation*, Department of Economic Affairs, Ministry of Finance, 2011 and <http://www.pppindia.com/>

- (3) Adopt an efficient, equitable, consistent, transparent and competitive process for selection of private partners, and ensure efficient governance over the project life cycle;
- (4) Protect the interests of end users, project affected persons, private and public entities and other stakeholders;
- (5) Encourage efficient delivery of public services by encouraging proficient and innovative practices with the utilization of best available skills, knowledge and resources in private sector;
- (6) Achieve increased efficiency in the deployment of investments by setting out enabling frameworks for greater private sector participation in building future public assets and ensuring their long-term maintenance;
- (7) Provide requisite provision in budgets for contingent liabilities for the sponsoring government, in various forms such as liabilities towards leader in case of contract termination or minimum revenue guaranties.

The mentioned principles must be adhered to when projects and programmes are implemented through the PPP mode.

II. Public–Private Partnership in Municipal Solid Waste Management in Aizawl

The study reveals that PPP has been introduced in MSWM in Aizawl due to the change and restructuring in the Government's policy; Supreme Court of India recommendation; notification of Municipal Solid Wastes (Management and Handling) Rules 2000 (MSWM Rules 2000), by the Ministry of Environment and Forests in September 2000; funds from Jawaharlal Nehru Urban Renewal Mission (JnNURM) and Urban Infrastructure Development Scheme for Small and Medium

Towns (UIDSSMT); Twelfth Finance Commission recommendations; creation of Aizawl Municipal Council (AMC) and the advantages that PPP subscribes to in terms of providing efficient management service with regularity, speed and quality, increased coverage, community participation and ownership qualities created in the minds of the people through user charge.

The main objective of the whole research has been on whether PPP serves as an alternative model for improving Solid Waste Management (SWM) in Aizawl or not. An attempt has been made in this chapter to present the findings of the study by analysing empirical data collected, through unstructured interviews and questionnaires, from different types of respondents-(a) Government officials from the Department of Urban Development and Poverty Alleviation, Government of Mizoram, and the Aizawl Municipal Council (AMC), (b) beneficiaries from the general public and those from the Market areas. *Two* sets of questionnaires were prepared for the officials and the beneficiaries respectively as per the postulated research questions.

III. Analysis of Responses of the Stakeholders to three Sets of Questionnaires

In Municipal Solid Waste Management (MSWM) in Aizawl, there are *three* types of stakeholders, namely the Government, the Local Councils (LCs) and the Urban Dwellers. Accordingly, questionnaires were administered to the officials involved in the implementation of PPP, Chairmen of LCs and the beneficiaries of such partnership drawn from *thirty* localities. Empirical data has been collected from the selected samples to give answers to the research questions pertaining to MSWM in Aizawl. While selecting the samples for collecting empirical data to arrive at a conclusion, disproportionate stratified sampling was

conveniently used to collect data from *fifty* samples drawn from the *three* types of stakeholders. Unstructured interview and structured-open-ended questionnaires were administered to them for data collection. The data so collected from each of them has been analysed to form concrete conclusions.

1. Responses of the Officials to Questionnaires

By way of collecting data from government officials who are directly concerned with SWM, questionnaires were prepared and administered to them. Of the officials involved in SWM, *seven* officials were selected as the samples for the present study as follows: (a) *two* officers from the Department of UD&PA, and (b) *five* functionaries of the AMC.

(a) Responses of the officials relating to the type of PPP used in SWM in Aizawl with other Indian cities

With a view to understanding the perception of the officials about the difference between PPP mode used in SWM in Aizawl and those practised elsewhere in other cities of India, the researcher administered relevant questions to them and this question calls for an exercise to compare the *two* types of SWM. Following is the result of their responses.

Table 4.1

Difference between PPP mode used in SWM in Aizawl and those practised in other Indian cities

Form of PPP							
Sl. No.	Respondents	Different	%	Similar	%	Not Aware	%
1.	Concerned Government Officials	7	100	0	0	0	0

Table 4.1 of the above reveals that 100% of the *seven* officials directly involved in SWM are of the opinion that there are differences in the type of PPP used in MSWM in Aizawl and those used in other cities in India.

The reasons given by the official respondents who found that there were differences in PPP in Aizawl include:

1. Unlike other PPP in other Indian cities, the type of PPP used in MSWM involves major financial contribution from the Government. The Government contributes 90% of the required funds to the LCs in the form of Grants and public contributions are very meagre.

2. The PPP model used in MSWM in Aizawl could be a type of ‘Service Contract’ but having more elements of ‘outsourcing.’

3. The partnership is not PPP in the true sense of the term. In most types of PPP, there are usually *two* partners’ viz., the Government and the Private sector who agree to share equity, investment, finance, risk, responsibility and profits in the venture. But, in the case of Aizawl, the partners in PPP are the Government represented by the Department of UD&PA and later on by the AMC. It is strange to point out that the elected body (Village Council/Local Council) is the connecting link between the Government and the people in PPP. Strictly speaking, the elected body does not seem to be a Private Sector.

4. In the type of PPP practised in Aizawl, the partnership is between the Government and the elected bodies representing the urban dwellers. As per the guidelines of the AMC, the elected body is responsible to constitute a Municipal Solid Waste Management Committee (MSWMC) which will enter into a contract with the owners of vehicles to collect and transport Solid Waste (SW) to the Dumping Ground.

(b) Reasons for Introduction of PPP for MSWM in Aizawl

The quantum of SW increased considerably with urban growth and urbanization, and it is believed to grow even more. Urban areas suffer from excessive waste and poor disposal systems. This has caused a great concern to the policy makers. In regard to the question on the reasons for introducing PPP in MSWM in Aizawl the respondents' replies can be grouped into the following:

(i) Government's Policy

With the Government of India undertaking economic and structural reforms in the 1990s, there has been an enhanced role of the private sector in the economic and social development of the people. The Government is gradually limiting its sphere of influence in providing services to the people. It has now gradually shifted to playing a more facilitative role. At the same time, with the pace of urbanization, the Government cannot remain a mere spectator. It has to find ways by looking at new avenues.

(ii) Community Participation

PPP entails greater community participation. For efficient management of any service, community participation is of immense importance and for sustainable SWM, it is imperative that citizens be involved not only in the implementation stage but also at the formulation and monitoring phase. Today, no project can see the light of the day without the active involvement of the citizens. Therefore, in order to have an environmentally viable SWM in Aizawl, the community has to participate and play an active role. With the involvement of the community in the partnership, there has been a

feeling of ownership among them and this PPP has shown a positive sign of success in MSW.

There is no denying the fact that the monthly expenditure on Municipal Solid Waste (MSW) from the Government side is really huge while the contribution of the local people is not significant. So, from the government perspective, it may not seem to be very feasible. However, the fact remains that MSWM in Aizawl through PPP has been far more effective today, then when the government was solely responsible for it. Besides, the community feels a sense of responsibility through their 10% contribution.

(iii) Cost Savings

Prior to the introduction of PPP in MSWM, the Government used to collect SW from collecting points in different localities of Aizawl and transport them with a very limited number of vehicles for which the Government had to pay. In those years, the people did not contribute even a single rupee for SWM. Since the Government did not have sufficient manpower to deal with collection and transportation, it was impossible to cover the whole of Aizawl even in a week's time. At the same time, there was an attitude among their limited personnel that, even if they did not perform their duties, they were still getting paid for, since they were on the Government's pay roll. Besides, only main road areas could be covered, which was about 30% of the total area of Aizawl,¹¹ and the rest of the population either burned or threw their wastes in drains or open spaces which were scattered at odd places. Besides, waste disposal was unhygienic and, at the same time, not environmentally friendly.

¹¹ *This is the rough calculation made by UD & PA officials.*

In the meanwhile, officials from the UD & PA had a strong belief that PPP intervention would reduce the expenditure on the State treasury in a significant manner. The use of private vehicles for collection and transportation of waste would result in the reduction of cost needed by the Government for SWM ranging from 15 to 50 %.¹²

(iv) The Interim Report on Solid Waste Management Practices in Class I Cities

During the late 90s the Supreme Court of India received a large number of Public Interest Litigation relating to MSWM. This resulted in the formation of a committee to study the current status of SWM in Indian cities. This committee identified the deficiencies or gaps in the existing SWM system in the country and prepared the Interim Report on SWM Practices in Class I Cities with a recommendation to enable private sector participation in MSWM.

(v) The Municipal Solid Wastes (Management and Handling) Rules, 2000

The Municipal solid Wastes (Management and Handling) Rules 2000 (MSW Rules 2000), notified by the Ministry of Environment and Forests (MoEF) in September 2000 has made it mandatory for all ULBs in India to improve their Waste Management systems envisaged in the Rules by December 2003. The rules designate the ULBs as solely responsible to manage Solid Waste in their areas, authorize the Central Pollution Control Board (CPCB) at the top to monitor the implementation of the Rules and the State Pollution Control Board (SPCB) has been made responsible for granting authorization of setting up of waste processing facilities.

¹² *This is also the calculation made by the officials of UD & PA who were directly involved in SW.*

(vi) Efficient Management Service

The quality of service provided by the government tends to suffer from various problems which results in public inconveniences. PPP, on the other hand, provides better services in terms of regularity, speed and quality. It is not only economical but also efficient and effective.

(vii) Increased Coverage

PPP covers a much larger population than when the Government handled the job. With the intervention of PPP, the population living in step areas and areas not accessible by vehicles has also been covered by designating the Stand Points from where the vehicles would collect waste. It would not be wrong to say that the population of Aizawl today collect and transport SW through PPP mode.

(viii) Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT)

The primary objective of UIDSSMT scheme is to improve the urban infrastructure in towns and cities in planned manner and to promote PPP in infrastructure development. This scheme was introduced in 2005-06 and is expected to continue for *seven* more years. *One* of the components of this scheme is to renew the old sewerage and SW disposal systems in inner (old) town or city areas.

(ix) Twelfth Finance Commission (TFC) Recommendations

The Twelfth Finance Commission under the Department of Expenditure, Government of India, has recommended measures to augment the Consolidated Funds of the States to supplement resources of the Rural and Urban Local Bodies. The funds are allocated to these Bodies based on the recommendations made by the State Finance

Commissions (SFCs). The funds allocated to the Rural Local Bodies are being utilized for providing water supply and sanitation in rural areas while the funds allocated to the ULBs are being utilized for enhancing the SWM services in urban areas under PPP.

(x) JnNURM

With the launch of JnNURM on 3 October 2005, opportunities for expanding PPPs in urban sector have been made possible. The capital support to ULBs under the programme is intended to reduce the capital expenditure required for creation of integrated MSW facility.

(xi) Creation of Aizawl Municipal Council

With the establishment of AMC, SWM, an item under the Department of UD&PA, was transferred to AMC by July 2012 as per Twelfth Schedule of the 74th Amendment Act, 1992. Since the AMC is still in its infancy, with limited resources in terms of manpower, infrastructure and finances, it is a popular belief among the officials, including LC members that certain services have been outsourced and PPP has been resorted to in providing SWM services.

(c) Financial Contribution of the Government towards MSWM in Aizawl.

To feel the pulses of the officials on whether the financial contribution of the Government towards MSWM in Aizawl is adequate or not, questions were administered to them. Following is the responses given by the officials.

Table: 4.2

Financial Contribution of the Government towards MSWM in Aizawl

Sl. No.	Official respondents	Adequate	%	Not Adequate	%
1.	Concerned Government Officials	7	100	0	0

Table 4.2 shows that *one-hundred* percent of the official Respondents accepted the financial contribution of the Government towards MSWM in Aizawl as sufficient.

(d) Financial Contribution of the Public towards MSWM in Aizawl

Table: 4.3

Financial Contribution of the Public towards MSWM in Aizawl

Sl. No.	Official Respondents	Adequate	%	Not Adequate	%
1.	Concerned Government Officials	0	0	7	100

Table 4.3 shows the reactions of the official respondents to the financial contributions of the public towards MSWM and *one-hundred* percent of them found the public contribution towards MSWM as inadequate.

It will not be out of place to note that the existing PPP Mode in MSWM has not yet fulfilled the PPP norms. Hence, the State Government has been taking up an initiative to introduce the true PPP in MSWM in Aizawl with the funds to be provided under JnNURM.

(e) Problems Encountered in Implementation of Public-Private Partnership

The study reveals that problems faced by the official respondents stem not so much from PPP but from SWM. 57% of the concerned government official respondents reveal that problems exist while 43% feel otherwise. The reasons given by the respondents as to why problems arise may be grouped into:

(i) Low User Charge

The community contributes only 10% of the expenditure on MSWM and the Government has to spend the rest. The AMC has to shell out about Rupees *thirty* lakhs every month towards MSWM in Aizawl. Attempts have been made to increase the contribution of the community to at least 20%; however, positive result is yet to be seen. At the same time, there are some people who are unwilling to pay even 10% of the expenditure. In such a scenario, efficient and effective SWM becomes difficult.

(ii) Commitment of the Members of the Local Council

The official respondents believe that there is a very low commitment on the part of the members of the Local Councils (LCs) towards PPP in MSWM. Political commitment and support seems to be wanting. As a result there is a likelihood that the partnership may fail in the years to come.

(iii) Absence of Segregation of Waste at Source

Waste segregation at source is absent. The people do not segregate wastes. Even if there is segregation, at all, these are mixed into waste collection vehicles. There is lack of awareness about segregation

of waste. At the same time, people are still in the habit of burning waste or disposing them in open drains.

(iv) Inadequate Dumping Ground

Availability of land is one of the problems in SWM. So far Aizawl has had 8 Dumping Grounds. However, with the increase in consumption and waste disposal the Dumping Grounds does not seem to stand the pressure. These sites do not follow any treatment or sanitary landfill. Besides, bio-medical and market wastes are also being dumped at the site.

(v) Congestion

Aizawl is a very congested City. The fact that it is not a ‘planned’ City adds to the problem. Buildings, roads, people and vehicles seem to be clamouring for spaces of their own. In such setting, movement of traffic becomes a problem which results in indiscriminate disposal of wastes.

(vi) Lack of Awareness and Commitment of the People

People living in Aizawl are yet to realize the benefits of PPP and sustainable MSWM. For a very long time there has been a feeling among the Mizo that the Government is the best provider of services to the people and that the private sector is not in a position to compete. There is very little commitment of the people in any private venture and people are still looking at the partnership with scepticism.

2. Local Councils as Agents of the Government and the Representatives of the People in SWM under PPP Mode

Democratically elected Village Councils (VCs) and, after the establishment of AMC, the LCs are the signatory to the agreement for the introduction of PPP. It is pertinent to assert that the LCs are the Agents of both the Government and the people living in different localities of Aizawl. Questionnaire relating to PPP mode in Aizawl and those practised in other cities of India was administered to the Chairmen of *thirteen* LCs, *twelve* of them representing *four* Municipal Wards in Aizawl and another *one* sample was selected to represent *one* more Municipal Ward in Aizawl where the busiest market, Bara Bazaar is located.

(a) Responses of the Local Councils relating to the type of PPP used in SWM in Aizawl with other Indian cities.

This questionnaire was administered to the Chairmen of LCs with a motive of extracting information on the similarity or difference of PPP in SWM in Aizawl and those practised elsewhere in other parts of the country.

Table 4.4

Type of PPP used in SWM in Aizawl and those in Indian cities.

Form of PPP							
Sl. No.	Respondents	Difference	%	Similar	%	Not Aware	%
1.	Chairmen of Local Councils (including Bara Bazaar)	8	61.54	0	0	5	38.46

Table 4.4 reveals that 61.54% of the Chairmen/Vice Chairmen of LCs in Aizawl opine that there are differences between the types of PPP used in MSWM in Aizawl with those used in other cities in India. On the other hand, 38.46% of the representatives of LCs are not aware of any differences or similarity nor were they conscious of the existence of such partnership elsewhere in India.

It is significant to note that the question of the elected VCs and later the LCs under AMC being a signatory to the agreement and serving as a private sector has to be seen in the light of the role of these bodies in the socio-economic and political life of the Mizo over the past many years. Mention must be made in this connection that, before the launch of the programme, there were many debates on who would be the signatory on the private sector side. After deliberating on the issue, the Government was being convinced that the elected VCs and, later on, the LCs would be the most appropriate body because of the firm dedication of the Mizo in such a body. The argument was that, many a times, contracts have been made with private operators in these types of projects but, it has been found, through experiences, that community participation has been very lukewarm when these projects are handled by private operators while participation of the community is of immense importance for the success of such projects. At the same time, it has been felt that the elected VCs and, later on, the LCs would best exert influence on the people because of the strong belief in the institution.

It is something like an axiom among the Mizo that the hitherto VC was considered to be the supreme authority in the social lives of the Mizo in their respective localities. Obedience was given to this institution because of long established customs and traditions. None of the subjects dare speak or act against the orders of the VC in different localities.

From the light of the important role that the VC played in the lives of the Mizo, the policy-makers felt that the partners to the PPP mode in MSWM in Aizawl would be the Government and the elected VCs and today the LCs and not a private operator.

(b) Financial Contribution of the Government towards MSWM

A questionnaire was administered to the Chairmen of LC by way of knowing whether the financial contribution of the Government towards MSWM in Aizawl is sufficient or not.

Table: 4.5

Financial Contribution of Government towards MSWM in Aizawl

Sl. No.	Respondents	Adequate	%	Not Adequate	%
1.	Chairmen of Local Councils	13	100	0	0

From the above Table, it has been found that, like the Government officials, the LC Chairmen also found financial contribution of the Government towards MSWM in Aizawl as sufficient.

(c) Financial Contribution of the Public towards MSWM

Again, the Chairmen of the Local Councils were asked to express their view on whether the financial contribution of the public towards MSWM in Aizawl is sufficient or not. Following are the answers given to the questions by *thirteen* Chairmen of the Local Councils in Aizawl.

Table: 4.6

Financial Contribution of Public towards MSWM in Aizawl

Sl. No.	Respondents	Adequate	%	Not Adequate	%
1.	Chairmen of 13 Local Councils	13	100	0	0

Table 4.6 shows that, *one-hundred* percent of the Chairmen of the LCs accepted the contribution of the public as adequate.

Further, the Chairmen of the *thirteen* LCs were asked a question on whether PPP is a good venture or not in view of the monthly expenditure on MSW in Aizawl. In their replies, all *thirteen* of them showed positive attitude. They are of the opinion that the monthly expenditure for MSWM justifies the end result. Through the new venture in MSW Aizawl is said to be environmentally friendly than earlier and that the local people are more aware of their responsibilities towards hygienic and sustainable MSW

(d) Factors which have given rise to the Problems encountered by the LCs in the process of implementation of PPP

As with conventional forms of service delivery, there are many problems as well as benefits associated with PPP. In course of the investigation, the researcher found that, 85% of the *thirteen* Chairmen of the elected LCs face certain problems in the implementation of PPP. The factors which have given rise to the problems faced by the LCs in the process of implementation of PPP can be grouped as follows:

(i) Topography of Aizawl

Aizawl is a hilly and difficult terrain which poses a lot of problem in implementation of PPP in general and in MSWM in particular. The transportation cost is extremely high and the presences of inaccessible areas or pockets are major hindrances. Landfill sites and development of MSWM sites are few because of the scarcity of suitable land. Narrow roads and high traffic congestion further add to the problem. As a result of all the aforesaid problems effective implementation of PPP in MSWM becomes difficult.

(ii) Poor Information Education Communication (IEC)

For successful implementation of any programme involving the people at large, it is essential that the people are given information, educated about the problems at hand and how to best deal with the problem. As far as PPP in MSW in Aizawl is concern, the replies to the questionnaire suggest that there is lack of awareness on information about PPP and its application in MSWM in Aizawl. The IEC system is not very effective as it may involve finances which the AMC and the LCs may at times find it difficult to arrange.

(iii) Community Participation and Contribution

Out of the 85% who faced problems, 40% of them have problems with the community in terms of participation and contribution. Because of the lack of IEC, the community have not realised the full impact of the new partnership and how they could benefit from it; the problems of accumulated waste and the way it affects their lives directly. Moreover, public contribution was not very forthcoming in these areas and there are some who feel that the contribution is high.

(iv) Delay in Release of Funds from AMC

50% of those who faced problems complained about the delay in release of funds from AMC. The LCs have to wait for months to get payments and this greatly hampers the implementation process, especially for those living far away from the Dumping Ground.

(e) Measures to Solve the Problems Encountered by the Local Councils

Regarding the measures to be taken to counter the problem, all the 85% who faced problems were of the opinion that effective IEC should be made through the use of mass media, posters, school children and all the stakeholders. People's participation should be encouraged at all levels of the MSWM chain cycle and also create a suitable environment for PPP to flourish. Identification of problems and seeking solutions; timely release of funds from AMC to the MSWMC would go a long way in effective PPP in MSWM in Aizawl.

3. Analysis of Responses of Beneficiaries to the Questionnaires

Questions were posed to the beneficiaries representing *thirty* LCs from the *nineteen* Municipal Wards.

(a) Responses of the Beneficiaries relating to the Comparisons of SWM prior to and post PPP in Aizawl.

The beneficiaries were asked to compare the previous SWM carried out by the Local Administration Department (LAD) of the Government of Mizoram and the MSWM System in the post-PPP under UD & PA and AMC.

Table: 4.7

Comparison of Government in MSWM with PPP in MSWM

Modes of SWM				
Sl. No.	Government in MSWM	%	PPP in MSWM	%
1.	0	0	30	100

Replies to the questionnaires as reflected in table 4.7 reveal that all the 30 beneficiary respondents, which make it *one-hundred* per cent, are in favour of PPP intervention in MSWM in Aizawl in lieu of SWM undertaken by the LAD of the State Government. The reasons given by the respondents include:

(1) Regularity, Flexibility and Efficiency

All 30 beneficiary respondents agree that with the introduction of PPP in MSWM in Aizawl, efficient collection and transportation of SW has become a regular feature. Earlier the Government (LAD and later on Department of UD&PA) used to collect and transport SW, but it was not on a regular basis. The Government had very few vehicles and manpower and therefore, it was very difficult to cover the whole area. With the initiation of new partnership, people now transport their SW in designated Stand Point at a certain time. Littering of waste has become something of a past.

(2) Community Participation and Contribution

PPP has made it possible for the community to participate in sustainable MSWM. The people contribute *ten* percent of the cost, either in the form of cash or through voluntary deeds. This has enabled the people to have a sense of ownership in the partnership. At the same time

the people are eager in helping the LCs to monitor and supervise the implementation of the partnership.

(3) Wider Coverage

PPP covers areas that were not included in the erstwhile system. Because of the topography, insufficient manpower and vehicles, collection and transportation of SW was confined to selected routes only. However, all these changed with PPP. People living in step-areas and inaccessible areas now have the opportunity to throw their SW in properly managed vehicles. PPP today covers the whole population of Aizawl.

(4) Cost Recovery

The community contributes *ten* percent of the total cost in MSWM and the rest is contributed by the Government. All the respondents are of the opinion that their contribution, though very meagre, justifies the services and quality provided through PPP. Through a very small contribution from the people a large scale project has been made possible. Moreover, the contributors have a sense of ownership and responsibility towards MSWM.

(b) Monthly Financial Contributions and the Quality of PPP Mode

The beneficiaries of PPP were asked whether their monthly contributions, also known as user charges, towards PPP are adequate or not. Following are their replies to the questions posed to them.

Table: 4.8

Financial Contribution of Public (User Charge)

Adequate			Not Adequate	
Sl. No.	Number of Respondents	%	Number of Respondents	%
1.	13	43	17	57

Table 4.8 depicts that 43% of the beneficiary respondents feel that the contribution of the public towards MSWM in Aizawl is adequate, while 57% believe otherwise.

(c) Problems in Implementation of PPP in MSWM in Aizawl

With a view to finding out the problems of PPP in MSWM, questionnaire was administered to the respondents. The Table that follows portray the replies received from them:

Table: 4.9

Problems in Implementation of PPP in MSWM in Aizawl

Yes	%	No	%
5	17	25	83

Table 4.9 shows that 17% of the Beneficiary respondents have problems with PPP in MSWM in Aizawl, whereas, 83% of them claimed that they did not face problems.

(d) Problems Encountered by the Beneficiaries

The scholar visited different localities and, when collection of waste by vehicles was taking place, interviewed the beneficiaries in their respective localities in relation to the problems faced by them. Following is the responses of the beneficiaries.

Table: 4. 10

Problems faced by the Beneficiaries in the process of Collection of Waste

Sl. No.	Number of Beneficiaries Interviewed	Yes/Adequate	%	No/Not Adequate	%
1.	30	25	83	5	17

Table 4.10 reveals that of the *thirty* beneficiaries interviewed, 83% of them felt that the process of collection of Solid Waste is adequate; while 17% of them feel otherwise. It is necessary to note that there were no major problems faced by the respondents in PPP implementation. Following are the problems generally faced by the beneficiaries.

(i) The problem faced by the beneficiaries was that, at times, the vehicle failed to turn up at the stipulated time which can cause inconveniences to the people. This type of problem has arisen due to narrow roads and traffic congestion.

(ii) Though this partnership is supposed to cover all those areas including step-areas, problems still persist for people living in these areas.

(iii) In some areas, failure of the community to pay user fee still continues. These people carry on throwing SW in drains and open spaces wherever convenient.

(e) Measures to Solve the Problems faced by the Beneficiaries

The respondents agree that the responsibility of solving the problems lie with the LC. At the same time, there are others who feel that, through proper IEC, such problems can be solved.

IV. Conclusion

The Government of Mizoram has initiated PPP in MSWM in Aizawl, though the partnership may not be the true form of PPP. The response of the people has been very positive and all efforts have been made, by the people as well as the Government towards sustainable MSWM. In view of insufficient funds and resources the management of SW by the Government has been found wanting. At the same time participation of the community as well as political will and commitment has to be harnessed for effective implementation of PPP in MSWM in Aizawl.

CHAPTER-V CONCLUSION

I. Introduction

This chapter provides the summary and major findings of the study from the discussion in the preceding chapters. Attempt has also been made to offer suggestions and recommendations for policy makers and concerned stakeholders as also areas for further research in the field.

The state played an important role in provision of social services and infrastructure to the people during the *nineteenth* century. This role heightened in the post *second* world war period with the emergence of many newly independent countries that were embarking on the twin objectives of nation building and socio-economic development. At this juncture the state had to play an interventionist role. However, in the mid 1970s with the economic crisis the state was not able to deliver what was expected of it. It was argued that since the state failed in its basic purpose of providing services to the people the role of the state had to change with minimum intervention and the private sectors had to be given more participatory role along with promoting market competition. Following this, priority for the growth of private sectors was given since it was held that the private sector is more efficient, productive and cost-effective than the public sector in providing and managing the economy and society. Market competition was also encouraged. The emergence of the New Public Management (NPM) in the 1980s, with its emphasis on privatization, market mechanism, deregulation and reinvention of the role of the government, has set the stage for the emergence of Public-Private Partnership (PPP) as an alternative and complimentary ways of financing.

The private sector may be more advantageous than the public sector in socio-economic development of a nation; however, all the goods and services cannot be delivered by the private sector alone. Therefore, PPP has to be resorted to as it is believed that it would lead to greater supply of financial resources, pooling together of managerial and technical capabilities and greater consciousness towards cost and customer satisfaction in a more efficient and effective management of solid waste.

II. Summary and Findings

The objective of this study has been to examine PPP in general and the Municipal Solid Waste Management (MSWM) practices under Aizawl Municipal Council (AMC) along with the challenges and problems associated with the partnership, in particular. PPP in MSWM in Aizawl has been studied with the aim of exploring its efficiency as a possible better alternative model for provision of Solid Waste Management (SWM) in Aizawl.

Long term collaboration between public and private actors to achieve socio-economic benefits and to share risks and responsibilities is usually termed as PPP. PPPs are suitable methods of delivering most services commonly provided by Local Government. The type of services that would be provided through PPP would vary from Local Government to Local Government depending on the policies of the government from time to time. Most Local Governments would enter into an agreement with private sector for provision and delivery of basic services like housing, recreation facilities; solid and liquid waste management etc.

MSWM, which includes systematic waste segregation and storage at source, primary collection, secondary storage, transportation,

secondary segregation, resource recovery, processing, treatment and final disposal, is an essential and obligatory function of Urban Local Bodies (ULBs) and has been a major challenge for urban local governments all over. The process of rapid urbanization and urban growth; the failure of the ULBs to provide effective services and the lack of information on hygienic management of solid waste has further accelerated the problem. In view of these problems and the onerous task that the ULBs have to shoulder, possible innovative mechanisms have to be explored which will be environmentally sustainable, cost effective and viable for all stakeholders.

The respondents to the questionnaires provided relevant information, opinion, and views for proper analysis of the situation. The available literature on the subject has also been made use of to provide an understanding of the study.

PPP has been introduced in MSWM in Aizawl due to the change and restructuring in the Government's policy; Supreme Court of India recommendation; notification of The Municipal Solid Wastes (Management and Handling) Rules, 2000 (MSWM Rules 2000), by the Ministry of Environment and Forests (MoEF) in September 2000; funds from Jawaharlal Nehru Urban Renewal Mission (JnNURM) and Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT); Twelfth Finance Commission recommendations; creation of AMC and the advantages that PPP subscribes to in terms of providing efficient management service with regularity, speed and quality, increased coverage, community participation and ownership qualities created in the minds of the people through user charge.

As far as the type of partnership involve is concern, the research findings indicate that of the *seven* concerned Government official respondents directly involved in MSW, all of them, which makes it cent

percent, are of the opinion that there exist differences in the type of PPP practiced in Aizawl when compared with the rest of the country. As for the *thirteen* Local Council (LC) officials (including Bara Bazaar), *eight* of them, which makes it 61.54% revealed that differences exist; while *five* of them, (38.46%) were not conscious of any differences nor were they aware that PPP in MSWM in other Indian cities exist.

PPP as it exists in Aizawl is not really the true form. PPP envisages the contracting members to be the government and the private sector or developer or Non-Government Organizations (NGOs) or Community Based Organizations (CBOs). In the case of PPP in Aizawl, the partnership is between the Government and the Elected Local Councils (LCs) and not a private operator.

Cent percent of the beneficiary respondents are in favour of PPP intervention in MSWM in Aizawl.

Cent percent i.e. 100% of the official respondents, both the concerned Government Officials and the LC Chairmen, agree that the financial contribution of the Government towards MSWM in Aizawl is adequate. At the same time the Government official respondents all agree that the contribution of the public is not sufficient while all the LC Officials are in unison that it is adequate.

With regard to the question on whether PPP is a good venture in view of the monthly expenditure on MSW in Aizawl, all the LC Official respondents, which makes it 100%, are of the opinion that the monthly expenditure justifies the end result. Through the new venture in MSW Aizawl is said to be environmentally friendlier than before and that the local people are more aware of their responsibilities towards hygienic and sustainable MSW.

As far as the Government official respondents are concerned, they agree that PPP is a good endeavour; however, in spite of the AMC spending huge amount towards MSW, Aizawl does not seem to be free from dirt and wastes are seen to be scattered and dumped at wherever convenient. There is still many an area that cannot be covered by vehicles and where the designated Stand Points are far to reach by the local people. Though great attempts have been made by the LCs to include these areas the topography of Aizawl seems to suggest differently. In some areas people find it handier to throw their waste over the hills or burn them.

The monthly expenditure on MSW is really huge from the Government side but the contribution of the local people is very meagre. So, from the Government perspective it may not seem to be very feasible. However, the fact remains that through PPP, MSWM in Aizawl has been far more effective today, then when the government was solely responsible for it. Besides, the community feels a sense of responsibility through their 10% contribution.

Forty-three percent of the beneficiary respondents are of the opinion that the monthly expenditure that they contribute towards SW justifies the end result. At the same time, *fifty-seven* percent of the replies indicate that in spite of the huge investment in MSWM; the city continues to struggle with SWM.

The information that has been obtained from the study reveals that the intervention of PPP in MSWM in Aizawl result in cost reduction; efficient management of services in terms of regularity, speed and quality; increased coverage, where all the *eighty-two* LCs under AMC have now resorted to PPP mode; community participation in formulation, implementation and monitoring.

III. Issues and Challenges

The issues and challenges before the stakeholders in MSWM are:

(a) Quantity and Quality of Waste:

In most cases the quantity and quality of SW pose a problem in effectively using the technologies. The technologies used require huge quantities of segregated SW. However, since there is no segregation of waste the technologies have to add other material. The market is yet to be developed for composting which has resulted in uncertainties. As a result, the burden of high operational cost falls on the developer and it becomes uncompetitive.

(b) Project Structure and Risk:

Equitable risk sharing between the government and the private sector is far and between. Therefore, for PPP models to be effective sensible division of roles and fair sharing of responsibilities, costs and risks between the public and private sectors should be made. Detailed policy and planning is needed to bolster the confidence and attract participation of private investors and commercial lenders. Strategic planning and management by the Government therefore, becomes essential. The PPPs are to be structured and planned, and managed by expert teams and the Government should make use of technical and financial advisors, wherever needed.

(c) Availability of Land:

Land is the single most important factor in MSWM. Availability and clearances are to be ensured for successful implementation of MSWM.

(d) Capacity of the Contracting Agency:

Public sector capacity to prioritise, plan, appraise, structure, bid for financially viable PPPs remains the topmost challenge for mainstreaming of PPPs at the state as well as central levels.

(e) Political Will:

The support for the PPP programme and for specific projects comes from the highest political level of government. Strong political will is essential in overcoming resistance and as an assurance of the government's intention to meet its contractual commitments.

(f) Feedback and Consultation:

Constant feedback and consultation with citizens, labour unions, relevant government agencies, private investors, civil society organisations, and media would go a long way to ensure support, client focus, and improved overall coordination in project formulation and implementation.

The various problems and challenges being faced in PPP in MSWM in Aizawl may arise from insufficient funds at the disposal of the LCs and the AMC; absence of technical experts and the availability of land; topography of Aizawl; poor Information, Education and Communication (IEC); delay in release of funds from the AMC to the LCs; reluctance on the part of certain members of the community to pay user charge.

IV. Observations

The following observations can be drawn from the study undertaken:

(a) Aizawl has half the population of Mizoram residing within its vicinity. With the unprecedented growth in urban population and urbanization the urban local government has not been able to cope with the ever increasing demand for urban development owing to scarcity of financial resources, improper planning and deficiency in skilled manpower. Therefore, the need arises to develop new ventures.

(b) *One* of the major hurdles in urban development in Aizawl is the fact that the city is not a 'planned area'. Improper sewerage, open drains, congestions have been common features in Aizawl. As such the provisions of basic urban services have become difficult.

(c) The Government has been declaring areas as 'urban areas' without providing corresponding infrastructures and services to tide over the problems that crop up. Consequently, huge problems have developed overtime in the form of acute housing crisis, acute shortage of public utility services, sanitation and solid waste management. At the same time the ULBs are incapacitated to develop and manage infrastructure services efficiently, economically and effectively within the available resources.

(d) SWM is *one* of the biggest challenges being faced by AMC. An effective management of SW has to be environmentally and economically sustainable and for that the Local Government alone is not in a position to carry out all the responsibilities. Hence, there is a need to explore new ventures in SWM in the form of PPP.

(e) The study reveals that the benefits of PPP in terms of improved service delivery and efficiency, technical and managerial competence and external investment, indicate that it is a better alternative for MSWM in Aizawl.

(f) The Government of Mizoram has realized the potentialities of PPP as experienced in MSWM in Aizawl; however, it is yet to promote it as an important policy.

(g) The type of PPP as practiced in MSWM is different from the general idea of PPP world wide. In the case of MSWM in Aizawl, the contracting partners are the ULBs and the Elected LCs, who functions as the local bodies in normal circumstances. As per the Deed of Agreement signed, the LC would form a Municipal Solid Waste Management Committee (MSWMC) in their respective area. The MSWMC would in turn enter into a contract with a local operator to collect and transport SW to the Dumping Ground.

(h) There are critics who point out that the type of PPP functioning in MSWM in Aizawl is not the true form of PPP. To a certain degree this may be true with regard to the contracting partners. However, situation indicate that due to the obedience exerted by the Village Councils (VCs) and later LC, because of long established customs and traditions, it is more profitable for the Government to enter into a partnership with the LC than any other private operator or developer.

(i) The elected LCs have not only been made partners in PPP but they have also been given the responsibility of monitoring the implementation of the partnership.

(j) User charge has been incorporated in the partnership. This not only supplements funds for SWM but instil an element of ownership in the mind of the user.

V. Suggestions

In order to make PPP a viable alternative in MSWM in Aizawl the following suggestions have been made:

(a) PPP in MSWM in Aizawl entails the participation of the community, without which such an activity cannot materialize. Therefore, the contracting partners have to pro-actively engage the stakeholders for the support of such an initiative.

(b) Accountability and mutual trust holds the key to successful PPP. The Government as well as the LCs must be accountable to the public at large. People need to know that they are getting value for their money and that their taxes are being administered with probity and distributed evenly.

(c) Clear Information, Education, and Communication (IEC) strategies have to be worked out to elicit community cooperation and effective participation in SWM services and to create awareness about sustainable SWM and the feasibility of PPP in MSWM.

(d) With a view to promote PPP in MSWM in Aizawl the support and commitment of the political leadership is of great significance. It is suggested that consensus among the political representative be obtained prior to the ratification of the partnership.

(e) Performance standards to evaluate service delivery must be maintained periodically. Service level benchmarking in SWM must be

incorporated so that quality services can be provided by the LC and the MSWMC.

(f) Capacity building of the ULBs and urban development agencies engaged in MSWM in Aizawl to effectively manage PPP process must be a priority. At the same time, efforts must be made to set up required separate municipal technical personnel to operate Municipal Solid Waste (MSW) facilities.

(g) Timely release of funds by the AMC to the MSWMC would go a long way in effective implementation of PPP in MSWM in Aizawl. It is suggested that funds be released to the designated MSWMC at least *twenty* days after the receipt of the utilization certificate.

(h) Feedback and consultation with the stakeholders would help to ensure support, focus and improve the overall coordination in formulation, implementation and monitoring of the partnership in Aizawl.

(i) For sustainable MSWM in Aizawl, it is suggested that the Principles of 4Rs –Reduce, Reuse, Recycle and Recover be applied and encouraged.

(j) Segregation of waste at source and separate Dumping Grounds for bio-medical waste, market waste and construction debris must be maintained.

VI. Suggested Areas for Further Studies

PPP is a relatively new area of study and there is ample scope for further in-depth studies in the country as well as in the State. The following, though not exhaustive, maybe considered by prospective researchers for further studies:

1. People's participation in PPP or in MSWM;
2. The role of the Local Councils in MSWM in Aizawl;
3. The role and contribution of the NGOs and other Civil Society Organizations in either PPP or PPP in MSWM;
4. Comparative studies of PPP with other North Eastern States.

VII. Conclusion

PPP has become an important tool of governance in the present scenario because of the many advantages that it subscribes to. The findings of the present research have indicated that the people in Aizawl have appreciated the partnership because of the contributions that PPP has made in MSWM in terms of being economically and environmentally viable. Though some problems might persist, it has proved to be a better alternative and the success of it could be taken as an example to be used in other towns in different districts of the State.

PPP may be introduced in Mizoram not only in MSWM but also in different sectors like Health Care, Transport, Tourism, Communication and Education. In fact, the Education Reforms Commission, set up by the State Government, on 8 May 2009, to be the first of its kind in Mizoram, has recommended initiating PPP in Education.

Experiences have shown that the private sector has been effectively and efficiently providing civic amenities to the urban settlers and these good practices of private sector have sown the seeds for PPP.

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NOTIFICATION

No. G. 28014/65/2005-PLG, the 9th May, 2007. The Governor of Mizoram is pleased to constitute the State Public Private Partnership (PPP) Project Committee as follows :

- I. Chief Secretary - Chairman
- II. Secretary of the concerned Deptt. - Member Secretary.
- III. Secretary, Finance - Member
- IV. Secretary, Planning & Programme Implementation. - Member
- V. Head of Department concerned. - Member.

2. All cases of Public Private Partnership (PPP) Projects will be submitted to the State Public Private Partnership (PPP) Project Committee for Screening and Approval.

3. There will be Departmental Public Private Partnership (PPP) Project Development Committee to select Projects to be implemented under Public Private Partnership mode. The members of the Departmental Public Private Partnership (PPP) Project Development Committee will be constituted as under:

- I. Secretary of the concerned Department. - Chairman.
- II. Head of Deptt./any other suitable officer of the Department. - Member Secretary
- III. Representative of Planning & Programme Implementation Department (not below the rank of Deputy Secretary. - Member
- IV. Representative of Finance, (not below the rank of Deputy Secretary.) - Member

4. The Departmental Public Project Partnership (PPP) Development Committee will identify the Projects to be implemented under Public Private Partnership Project. Initial screening exercises should be taken up by the Committee by reviewing technical feasibility as well as environmental, social and financial issues. The Departmental PPP Development Committee will develop Initial Screening Report (ISR) of each Project to be submitted to PPP Project Committee.

5. After Initial Screening Report (ISR), the Departmental Public Project Partnership (PPP) Project Development Committee will formulate a Documentary to be endorsed to public. This Documentary will indicate the bankability of the Project so as to invite potential sponsors of the Project.

6. The Project documentary would consist of the followings :

- (a) Detailed Feasibility & Project Report.
- (b) Investment Banking Report.
- (c) Environmental & Social Assessment Report.
- (d) Risk Management Plan.
- (e) Bidding Documents.
- (f) Contract Document.
- (g) Project Information Memorandum.

7. To enable selection of suitable operator/contractor for the Projects, the following activities may be taken up.

- (a) Constitution of Bid Evaluation Review Committee.
- (b) Based on the requirements of the Projects, the Bid Evaluation Review Committee could decide the qualification criteria and selection methodology for the operator.
- (c) Based on Detailed Feasibility Report and Investment Banking Report, Request for Qualification (RFQ) would be prepared as another criterion for short listing the Contractors. However, Request for Qualification (RFQ) would be reviewed and approved by Bid Evaluation Review Committee.
- (d) Floating of Advertisement to invite response from interested parties.

- (e) 2 Stage Evaluation process:- There should be Technical and Financial bids for selection of Operators/Developers.
- (f) Finalisation of contract:- Bid Evaluation Review Committee or Departmental (PPP) Project Development Committee would negotiate the final terms of contract with the preferred bidder and then contract may be signed.

This comes into force with immediate effect and shall remain valid until further orders.

Lalmalsawma,
Secretary to the Govt. of Mizoram.



Figure 1: India Political Map

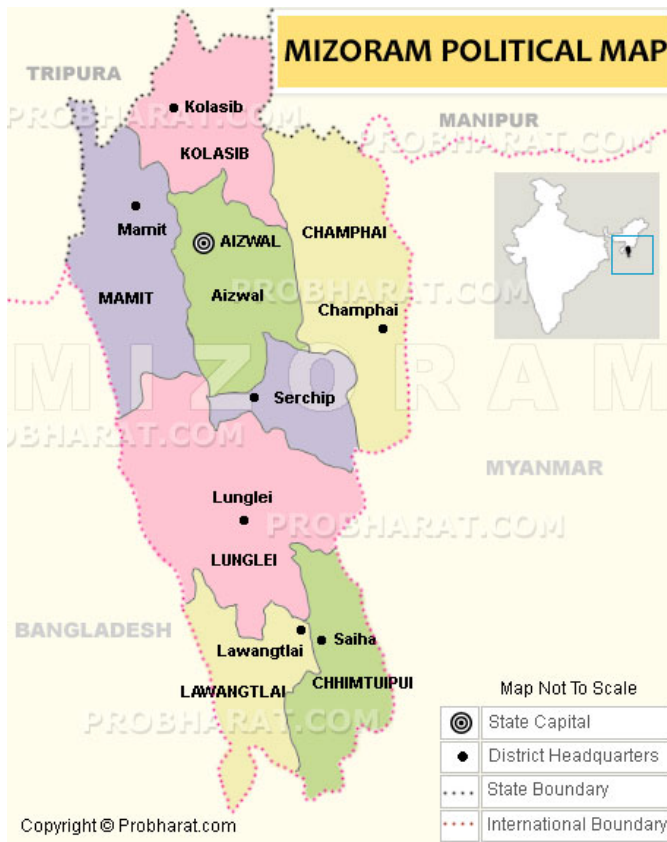


Figure 2: Mizoram Political Map

GLOSARRY

1.	Aizawl	Capital of Mizoram and district headquarter of Aizawl District.
2.	Aizawl Municipal Council	Urban Local Body, Municipal Council.
3.	Beraw Lui, Bung Bungalow, Bawnkawn Kham, Chawke Kham, Muthi Tlang, PTC Peng, Sairang road, Sairang Buichali Kai, Sakawrhmuituia Tlang	Names of Places in Aizawl
4.	Lunglei	A town in the southern part of Mizoram and headquarter of Lunglei District.
5.	Lushai Hills	The erstwhile name of Mizoram during British days in India.
6.	Mizo Hmeichia Insuihkhawm Pawl (MHIP)	Civil Society Organization; an association of Mizo women founded in the 1950s.
7.	Mizo National Front (MNF)	Regional Political Party in Mizoram
8.	Mizoram Upa Pawl (MUP)	Civil Society Organization; an association of Mizo men and women above the age of 50 founded in 1980s.
9.	Onyx	A private company engaged in MSWM in Chennai.
10.	Village Council	Democratically elected traditional governing institution.
11.	Young Mizo Association (YMA)	Civil Society Organization: association of Mizo men and women whose membership is open to both officials and non-officials; founded in 1935.
12.	Zahmuaka	Name of the first Mizo Chief
13.	Tlawmngaihna	An untranslatable term, which signifies to the Mizo that they should be hospitable, kind, unselfish and helpful to others. It stands for self sacrifice for the service of others.

ABBREVIATIONS

AMC	Aizawl Municipal Council
BBO	Buy Build Operate
BOO	Build Own Operate
BOOT	Build Own Operate Transfer
BOT	Build Operate Transfer
BTO	Build Transfer Operate
CBOs	Community Based Organizations
CoI	Committee on Infrastructure
C&T	Collection and Transportation
CPCB	Central Pollution Control Board
CPHEEO	Central Public Health Engineering Organization
DEA	Department of Economic Affairs
DLAO	District Local Administration Officer
DPROMT	Design, Procure, Renovate, Operate, Maintain and Transfer
GHMC	Greater Hyderabad Municipal Corporation
G.O.	Government Order
GWMCL	Guwahati Waste Management Company Private Limited
ICPA	International Conference on Public Administration
IEC	Information, Education and Communication
JnNURM	Jawaharlal Nehru Urban Renewal Mission
LAD	Local Administration Department
LBO	Lease Build Operate
LC	Local Council
MCC	Mangalore Municipal Council
MHIP	Mizo Hmeichhe Insuihkhawm Pawl
MoEF	Ministry of Environment and Forests

MoUD	Ministry of Urban Development
MSW	Municipal Solid Waste
MSWM	Municipal Solid Waste Management
MSWM Rules, 2000	Municipal Solid Wastes (Management and Handling) Rules, 2000
MUP	Mizoram Upa Pawl
NGO	Non-Government Organization
NPM	New Public Management
NUSP 2008	National Urban Sanitation Policy 2008
O&M	Operation and Management
PMUs	Project Monitoring Units
PPP	Public-Private Partnership
RDF	Refuse Derived Fuel
RWAs	Resident Welfare Associations
SPCB	State Pollution Control Board
SPV	Special Purpose Vehicle
SW	Solid Waste
SWM	Solid Waste Management
SWMC	Solid Waste Management Committee
UD&PA	Department of Urban Development and Poverty Alleviation
UIDSSMT	Urban Infrastructure Development Scheme for Small and Medium Towns
ULB	Urban Local Body
VGP	Viability Gap Funding
YMA	Young Mizo Association
4Rs	Reduce, Recycle, Reuse, Recover

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(ii) Joint Director, Department of Urban Development and Poverty Alleviation, Government of Mizoram.

(iii) Local Council Chairmen of Dawrpui (Bara Bazar), Laipuitlang, Ramhlun North, Ramhlun Sports Complex, Electric, Chanmari, Zarkawt, Tanhril, Luangmual, Tuivamit, Kulikawn, Tlangnuam and Saikhamakawn Local Councils

(b) Beneficiaries

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