



EMPRICAL ANALUSIS OF 74TH CONSTITUTIONAL AMENDMENT ACT OF MUNCIPAL FINANCE IN URBAN GOVERNANCEIN MACHILIPATNAM MUNICIPALITY, A.P

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ABSTRACT

This paper will analyse the real situation of 74th Constitutional Amendment Act relevance to municipal finance in urban governance in Machilipatnam Municipality in Andhra Pradesh. With rapid urbanisation and the pressure on urban areas for service delivery, the role of urban local governments is undoubtedly becoming important and, here, their financial capacity can hold the key. At the same time, there are several issues in urban governance that need to be addressed yet. Delegation of decision making powers to urban local bodies (ULBs), which are traditionally considered as a part of the system of State government and acting on behalf of it, is one of them. The constitutional mechanisms like inter-governmental fiscal transfers were an attempt to reduce the gap of ULBs, but they were not effective in implementation at ground. It has become imperative now to understand the financial position of ULBs in order to move forward with the new means of fund flow. This paper presents in terms of their financial base and its adequacy vis-à-vis norms, and their revenue and expenditure performance. Using certain ratios, the relative performance of municipalities on dependency measures was also assessed. The implications of finances of ULBs, in terms of raising resources, improving inter-governmental transfers and charting new mechanisms are also discussed. to a better understanding of the per-capita expenditure scenario of ULBs.

Key Words: urban local bodies, municipal finance, inter-governmental transfers, revenue and expenditure, governance.

Introduction

There were 377 million Indians comprising about 31 percent of the country's population live in urban areas, with an average annual addition of 8 million (Census 2011). As far as the proportion of urban population is concerned, India is behind the other emerging economies like China (45 percent), Indonesia (54 percent), Mexico (78 percent) or Brazil (87 percent) but is closer to Burma (34 percent) and Guinea (35 percent). The share of persons living in urban areas in India rose by 3.4 per cent in the decade 2001 to 2011 while it had risen by only 2.1 per cent in the decade 1991 to 2001(UNES)¹.

The urban planning process must combine spatial planning with socio-economic and financial planning, and transportation planning with land use and environmental planning to be more responsive to the changing needs and demands of the citizens. Urban planning in India is a state subject and under the 12th Schedule of the 74th Constitution Amendment Act, the subject of urban planning, including town planning has been mandated for the third tier – Municipal Corporations and Municipalities. The subject of regional planning, however, falls in the domain of the State Governments. The polarization of population in higher order urban settlements is a conspicuous feature of urban development in India. But the majority of the developing countries have failed to provide adequate urban services to the services (Dr. Purobi Sharma, 2014)².

The census results since independence reveal a steady growth in urban population from 17.3 percent of India's population in 1951 to 31.16 percent in 2011. The polarization of population in higher order urban settlements is a conspicuous feature of urban development in India. There is a consistent higher growth trend of class I and class II cities in comparison to smaller towns. According to Population Census 1991, the 300 class I cities contributed 65.20% of the total urban population of the country and more than 50% of this population lived in 23 metropolitan areas. The rest 35% was distributed to other smaller towns. The large cities have shown a consistently higher growth rate in comparison to the smaller

¹UNDESA (2011), World Urbanization Prospects The 2011 Revision, Published by United Nations Department of Economic and Social Affairs/Population Division iii World Urbanization Prospects: The 2011 Revision, New York

²Dr. Purobi Sharma(2014) *Serving the Cities: An Indian Scenario*, Published by *IOSR Journal Of Humanities And Social Science* (IOSR-JHSS) Volume 19, Issue 1, Ver. X (Feb. 2014), PP 15-22 e-ISSN: 2279-0837, p-ISSN: 2279-0845

urban areas. During 1981-91 the growth of smaller towns was 34.5% whereas class I cities accounted for 46.87% of the decadal growth rate. In 2001, the number of class I cities grew to 394 and in the recent 2011 census study, it has been recorded to have increased to 468, accounting for about 264.9 million, i.e. 70 % of the total urban population. The number of towns has also increased largely i.e. 5161 in 2001 and 7935 in 2011. Since 1951 India has witnessed high strides in its urban growth in metropolitan cities which account for one-third of country's urban population. The four mega cities-Bombay, Calcutta, Delhi, and Madras have more than 5 million populations since 1991 (Census of India, 2011)³.

The 74th Constitutional Amendment Act

The 74th Constitution Amendment Act, 1992 of Indian Constitution in India aims at a decentralized regime through the mechanism of devolution of functions, finances, and functionaries to urban local bodies. Originally, the Constitution of India envisaged a two-tier system of federation. Until 1992, local governments had not been a Constitutional component of the Indian planning and development strategy. It took nearly four decades to accord a constitutional status to Local Self-Governments and, thereby create a three-tier system of federation. With the Constitution (73rd Amendment) Act, 1992 and the Constitution (74th Amendment) Act, 1992, local bodies became the third stratum of government. Enormous responsibilities have been identified for urban local bodies in the 74th Constitution Amendment. These include i) preparation of plans for economic developments and social justice, and ii) implementation of such plans and schemes as may be entrusted to them, including those in relation to the matters listed in the Twelfth Schedule to the Constitution (Article 243W). Besides, the 18 items of responsibilities envisaged as legitimate functions of Urban Local Bodies in the Constitution of India. The Legislature of a State, by law, can assign any tasks relating to the preparation and implementation of plans for economic development and social justice (The Constitution Seventy-Fourth Amendment Act, 1992, Article-243W),

³Census of India(2011), Distribution of Urban Population by Million Plus and other Cities published by Census of India, New Delhi, <http://censusindia.gov.in/>

Functions and Finance:

The 74th Constitutional Amendment Act has specified eighteen functions which may be considered as the responsibilities of the urban local bodies. In addition, state governments may assign them any tasks relating to the preparation and implementation of plans for economic development and social justice. As a result, urban local bodies are in need of substantial funds to execute their constitutionally assigned functions. The legislature of a state may, by law, authorize an urban local body to levy and collect taxes, duties, tolls, and fees. Central and state governments may also provide grants-in-aid to their urban local bodies. Thus there are two main sources of revenue for urban local bodies, internal and external. Internal source revenue is commonly known as own source and it includes income generated from various taxes and non-taxes levied on the citizen. External source revenue mainly includes funds obtained from the central and state governments in the form of grants or loans. There may be other external sources of funds, for example, loans from domestic institutions or financial intermediaries. Some urban local bodies have also chosen to raise money from capital markets by issuing bonds (Aijaz, 2006)⁴.

Local Self-Government in India

Local Self-Government Institutions (LSGIs) or Local Bodies in India, being at the cutting edge level of administration, directly influence the well-being of the people by providing civic services and socio-economic infrastructure facilities. The Constitution (73rd and 74th) Amendment Acts, 1992 (for rural and urban local bodies, respectively) have accorded a constitutional status to these institutions as the third-tier of Government. The Constitution (74th Amendment) Act, 1992 has mandated grassroots level democracy in urban areas by assigning the task of preparation and implementation of plans for economic development and social justice to elected municipal councils and wards committees. It has incorporated the Twelfth Schedule into the Constitution of India containing a list of 18 functions as the legitimate functional domain of Urban Local Bodies (ULBs) in the country. In view of this position, the demands placed by the public on municipal authorities for the provision of various civic services have increased considerably. Further, with globalization, liberalization, the rise of the service economy and revolution in information and communication technologies, cities are being increasingly required to compete as centers of

⁴Aijaz R. (2006), "Challenges for Urban Local Governments in India", Asia Research Centre Working Paper No.5

domestic and foreign investment and hubs of business process outsourcing. Civic infrastructure and services are critical inputs for the competitive edge of cities in a fast-globalizing world. However, without a commensurate enhancement of their resource-raising powers, cities are faced with fiscal stress as a result of which their capacity to contribute to national development as engines of economic growth is severely constrained (P.K.Mohanty, B.M.Misra, RajanGoyal, P.D.Jeromi (2007)⁵).

Statement of the Research Problem

There are several studies regarding urban governance and municipal finance reference to 74th Amendment Constitutional Act, but not municipal finance and urban governance. Regarding this in India majority of the municipalities are facing various types of problems, issues, and challenges. Because the rapid urbanization of our Indian cities have not engaged to solve the city's problems and yet not to discuss how to handle the urban governance and municipal finance for the makeup of the nation. In the current circumstance of Indian municipalities are facing particularly finance problems like inadequacy of internally generated revenues for meeting revenue expenditures. On the other side raising revenues of municipalities are insufficient to meet the revenue account expenditures. In nature, grants-in-aid and high level of expenditure are on the establishment (wages and salaries) vis-à-vis expenditure on operations and maintenance of services. Moreover, there are various reasons that many local governments are unable to perform good governance and municipal finance tasks inadequately. Poor infrastructure and services are often blamed on local government institutions. This is partly because although they collect taxes to cover service provision costs, they fail to meet citizens' expectations.

. Urban India today is “distributed” in shape with a diverse range of large and small cities spread widely around the nation. India will probably continue on a path of the distributed model of urbanization because this suits its federal structure and helps to ensure that migration flows aren't unbalanced toward any particular city or cities. As the urban population and incomes increase, demand for every key service such as water, transportation, sewage treatment, low-income housing will increase five- to sevenfold in cities of every size

⁵P.K.Mohanty, B.M.Misra, Rajan Goyal, P.D.Jeromi(2007), Municipal Finance in India: An Assessment Published by Reserve Bank of India, Mumbai

and type. And if India continues on its current path, urban infrastructure will fall woefully short of what is necessary to sustain prosperous cities.

Main Objective of the Study

The broad objective of the study is to identify key issues, challenges of urban governance and municipal finance with reference to 74th Constitutional Amendment Act and fundamental challenges currently facing Machilipatnam Municipality.

Research Methodology

The present study is obviously based on both primary and secondary sources. The study has been taken into account a mixed approach; used to assess the municipal finance and urban governance with reference to 74th Amendment Constitutional Act. The researcher preferred using a purposive sampling technique to select the Andhra Pradesh as guarantee representativeness. The researcher is used as simple Sampling techniques to select the Machilipatnam Municipality.

Multistage sampling was employed to select the sample households. Sampling has been done in four stages and each stage is described in a detailed manner. The study area covers one municipality with in the Andhra Pradesh. For the purpose of the research study Machilipatnam Municipality had been selected and with in the Machilipatnam Municipality, the researcher have been selected households, ward concilers and municipality administration staff in order to understand the nature and extent of Municipal Finance and Urban Governance. The research will also conduct interviews and hold consultation with officials associated with Municipality administration and performance. This research study focus on the urban governance and municipal finances aim to reinforce and advance the suggestion that India's municipal system is in need of major repair and reforms.

The present study is carried out with the help of data based on recorded analytical, case studies and sociological and methods of personal informal interviews, with the functionaries of the Machilipatnam Municipality Corporation. The important role played by the ward members and officials in the administration and in the functioning of the Machilipatnam Municipality will be studied by utilizing. The study suggests a way forward

for municipalities to be able to effectively respond to the challenges that they face in the present context.

The analysis of municipal finances looks first at the current financial status of municipal bodies in providing civic amenities, which is carried out in terms of current spending vis-à-vis the standard norm. The revenue and expenditure sides of municipal finances are then analyzed in terms of the growth and their normalized indicators are used to benchmark municipality. The performance is also measured by relative ranking/grading of the Machilipatnam municipality in the cross-section in terms of absolute figures and their growth. Although the debt/borrowed funds can play an important role, it is not examined here as only a few of them have actually gone to market and made borrowings. Therefore debt sustainability of the local urban bodies is not looked upon in this study.

Data Collection Sources

The secondary data were collected from the administration reports of Machilipatnam Municipality, State Administration Reports of Municipality. The historical information was collected from the old records of the municipality. The Andhra Pradesh Municipality Act, latest amendments, proceedings, and resolutions were also thoroughly studied and necessary data incorporated. Further, various books, journals relating to municipal administration and problems of finance were consulted. Data were also collected from government departments, university library, NIRD. Lastly, several newspapers relating to the national and regional levels were also used.

Data Analysis and Discussions

Machilipatnam town has been the Headquarters of the District since the British period till date. It is also the Headquarters of a Revenue Division. It is a trading centre for the Agricultural produce of its hinter land. It has also developed into an important centre of education with a good no. of schools and colleges located here. Noble College was established in 1864, it was 1st College in Andhra Pradesh. National College was established in 1910. There is a sea in the east side. Machilipatnam constituted in a Municipality in 1866, 2nd Municipality in India. Machilipatnam is the one of the oldest town which was known to be a great port town on the eastern costs of the Country. See the below district map.

Governance of the Municipality

Civic Administration: Machilipatnam Municipal Corporation is the civic body of the city. It was constituted as a municipality in the year 1866 and was upgraded to corporation from special grade municipality on 9 December 2015. It covers an area of 26.67 km² (10.30 sq mi) under its jurisdiction. The present commissioner of the corporation is A.S.N.V.MaruthiDiwakar and the municipal chair person is MotamarriVenkata Baba Prasad. Machilipatnam Area Development Authority is the urban planning authority, headquartered at Machilipatnam

Politics: Machilipatnam is a part of Machilipatnam (Assembly constituency) for Andhra Pradesh Legislative Assembly. KolluRavindra is the present MLA of the constituency from Telugu Desam Party. The assembly segment is also a part of Machilipatnam (Lok Sabha constituency), which was won by KonakallaNarayana Rao of Telugu Desam Party.

Art and handicrafts:Machilipatnam Kalamkari is a handcrafted dyed block-painting of a fabric.^[31] It is performed at the nearby town of Pedana and was registered as one of the geographical indication from Andhra Pradesh. Machilipatnam and Srikalahasti style are the only two existing Kalamkari style of works present in India

Analysis of Efficiency in Service Delivery

In this part of analysis the water supply and sewerage services delivered by ULBs are analyzed. As mentioned in the methodology,Machilipatnam Municipality had been selected and service delivery is analyzed by using appropriate indicator. Each indicator follows the specified methodology and appropriate statistical technique. Data are collected from respective ULBs. This analysis will give comparative status of each ULB in terms the services delivered to people. In the following section indicators for service delivery are analysed to assess the efficiency level. The details of the components and works carried out in each town are as below:

Environmental Sanitation: Water Supply, Sewerage, Solid Waste Management and Storm Water Drainage

Machilipatnam Municipality: The sewerage system included trunk sewers and sewage treatment plants (STP) for each of three separate drainage districts, including connections to existing laterals and tributaries to the trunk sewer systems and to interlink with the storm

drainage systems. Systems have been designed with capacity to meet the forecasted demands up to 2015 and for easy expansion to meet the design capacity for 2020 by incremental expansions of the mechanical equipment, along with some civil works(**Machilipatnam Annual Accounts Reports,2016**)⁶

The solid waste management program was divided into two packages. The contract for construction of 205 community bins has been completed, including an extension to provide additional bins in response to public demand. The contract for construction of a 200 TPD composting plant under BOT conditions also completed(Ibid)⁷.

Under the storm water drainage program, Drainage Master Plans were prepared and the priority drainage improvement works identified. Based on the recommendations of the drainage master plan, one contract for drainage system improvements and upgrading work completed water supply improvement program comprised a new supply system, designed for an initial supply of 50 million liters per day (mld), adequate to meet the estimated demand through 2011, and capable of being upgraded to 150 mld to meet the estimated demand in 2026. Additional contracts were added to link the new supply system to ground-level reservoirs and new distribution mains to the existing distribution system, to ensure a more effective and efficient system. Coverage of water supply to urban population is one of the indicators being used to measure the efficiency of ULBs. Unit of measurement expressed in terms of percentage. The definition of the indicator is population with access to water services expressed as a percentage of the total population. The calculation used the monthly data. The method of calculation is given bellow,

Percentage of Water Supply Coverage

$$= \frac{\text{Population with access to water services}}{\text{Total Population}} \times 100$$

⁶Machilipatnam Municipality Annual Account Reports,(2016),
http://machilipatnam.cdma.ap.gov.in/sites/default/files/budget/MTM_Annual%20Accounts%20With%20Submission%20Letter%20for%20the%20Year%202016-2017.pdf

⁷Machilipatnam Municipality Annual Account Reports,(2016),
http://machilipatnam.cdma.ap.gov.in/sites/default/files/budget/MTM_Annual%20Accounts%20With%20Submission%20Letter%20for%20the%20Year%202016-2017.pdf

Table:1 Water Supply Coverage

Sl.No	Projects implemented in the Wards	% of Coverage	Level of Service	Score
1	No of Wards	12	Medium	2
2	No of Wards	9	Medium	2
3	No of Wards	8	Medium	1
4	No of Wards	7	Medium	1
	Average	9		

Sources: Researcher Calculations

The above table presents the information about the water supply coverage level in 32 revenue wards of Machilipatnam Municipality. It is found from the ward 1 to 10 analysis that the level of water supply coverage is high in center of Municipality, and low in other municipalities in the same city. Therefore, the level of water supply coverage is not uniform and has not reached hundred percent in all the towns.

- 1. Water Supply service level:** Water Supply service level is one of the indicators being used to measure the efficiency of ULBs. Unit of measurement expressed in terms of liter per capita daily. The definition of the indicator is total water supplied into the distribution system (Including purchased water, if any) expressed by population served per day. The calculation used the monthly data. The method of calculation is given below:

$$\text{Water Supply service level in (lpcd)} = \frac{\text{water Distributed daily}}{\text{Population Benefited}}$$

Table:2 Water Supply Service level in (LPCD)

Sl.No	Project implemented in the words	Service Level in (lpcd)	Level of Service	Score
1	No of wards	5	low	1
2	No of wards	12	high	2
3	No of wards	7	Low	1
4	No of wards	8	low	1
5	Average	8		

Sources: Researcher Calculations

The above table presents the information about the Water Supply service level in six towns. It is found from the Machilipatnam municipality analysis that the level of Water

Supply service level is high in Krisahna district of Andhra Pradesh. The level of coverage is low in 2nd 25th ward and in remaining wards are in Water Supply service level is medium. Therefore, Water Supply service level has not reached the 135 lpcd, which is a benchmark

2.Index of population served by public taps: Index of population served by public taps is one of the indicators being used to measure the efficiency of ULBs. Unit of measurement expressed in terms of indexed value. The definition of the indicator is Percentage of ULB population served by public stand posts. The calculation used the monthly data. The method of calculation is given bellow,

$$\text{Index of population served by public taps} = \frac{\text{Population Served by public taps}}{\text{Total Population with access WS Services}} \times 100$$

Table:3 Populatin served by Public Taps

Sl.No	Project Implemented	Serviced by Public Taps	Level of Service	Score
1	No of wards	10	Medium	1
2	No of wards	5	Low	1
3	No of wards	8	Low	1
4	No of wards	9	low	1
	Average	8		

Sources: Researcher Caluculations

The above table presents the information about Index of population served by public taps in six towns. It is found from the Machilipatnam Mucnicipalty analysis that Index of population served by public taps is high in 2th ward to 32th ward. In remaining towns Index of population served by public taps is medium. Therefore, Index of population served by public taps shows that more people dependent on public taps for their water needs

3.Frequency of water supply: Frequency of water supply is one of the indicators being used to measure the efficiency of ULBs. Unit of measurement expressed in terms of number of hours of water supply in a weak. The definition of the indicator is Average number of hours of water supply in a week. The calculation used the monthly data. The method of calculation is given bellow, Frequency of water supply = No of hours a day × No of times in a week

4. Frequency of water supply:

Table:4 Frequency of water supply

slno	Implemented projected	Frequency of Wards	Level of Service	Score
1	no wards	15	Medium	2
2	No wards	21	High	3
3	No of wards	97	Low	1
	Average	44.33		

Sources: Researcher Calculations

The above table presents the information about Frequency of water supply in six southern towns. It is found from the group analysis that Frequency of water supply is high in Machilipatnam Municipality. In remaining towns Frequency of water supply is medium. Bench mark for water supply is 24 Hours in a day. Therefore, Frequency of water supply is not according to the benchmark.

5. Non Revenue Water:

Non Revenue Water is one of the indicators being used to measure the efficiency of ULBs. Unit of measurement expressed in terms of percentage. The definition of the indicator is Percentage of water loss for which no revenue was generated. The calculation used the monthly data. The method of calculation is given below,

$$\text{Non Revenue Water} = \frac{\text{Total Water Produced} - \text{Total Water Sold}}{\text{Total Water Produced}} \times 100$$

Table:5 Non-revenue water

Sl.No	Implemented projected	Frequency of Wards	Level of Service	Score
1	no wards	6	low	1
2	No wards	12	Medium	2
3	No wards	16	High	3
	Average	11.33		

Sources: Researcher Calculations

The above table presents the information about Non Revenue Water in six southern towns. It is found from the Cohort analysis that Non Revenue Water is medium in all the towns. Therefore the score are given equally to all the towns. However water supply utilities are not metered.

6.Metering Level: Metering Level is one of the indicators being used to measure the efficiency of ULBs. Unit of measurement expressed in terms of percentage. The definition of the indicator is Total number of functional meters expressed as a percentage of total number of water supply connections. The calculation used the monthly data. The method of calculation is given bellow,

$$\text{Metering Level: } \frac{\text{Number of metered direct service connections}}{\text{Total number of water supply connections}} \times 100$$

Table:6 Metering Level supply

Sl.No	Implemented projected	Frequency of Wards	Level of Service	Score
1	no wards	14	low	1
2	No wards	7	Medium	2
3	No wards	11	High	3
		10.67		

Sources: Researcher Caluculations

The above table presents the information about Metering Level in Mucnicplaity town. It is found from the group analysis that Metering Level is high in Machicilipatnam Municipality. The level of coverage is low in 2nd ward and 25th ward in remaining towns Metering Level is medium. Therefore, Metering has not been taken up in all the towns excluding 32nd ward and other wards.

7.Pipe Breaks: Pipe Breaks is one of the indicators being used to measure the efficiency of ULBs. Unit of measurement expressed in number of breaks per linear kilometre. The definition of the indicator is Measures the number of water supply pipe breaks per kilometer of pipeline per year. The calculation used the monthly data. The method of calculation is given bellow.

$$\text{Pipe Breaks} = \frac{\text{Total number of pipe breaks per year}}{\text{Total length of the water distribution network in kilometres}} \times 100$$

Table:7 Pipe breaks and frequency of repair

Sl.No	Implemented projected	Frequency of Wards	Level of Service	Score
1	no wards	2	low	1
2	No wards	15	Medium	2
3	No wards	15	High	3
		10.67		

Sources: Researcher Caluculations

The above table presents the information about Pipe Breaks in six southern towns. It is found from the group analysis that Pipe Breaks is high in Municipality of Machilipatanam. In remaining towns Pipe Breaks are medium. Therefore, Pipe Breaks are to be minimize in order to ensure the uninterrupted water supply.

8. Energy Consumption for water Supply: Energy Consumption for water supply is one of the indicators being used to measure the efficiency of ULBs. Unit of measurement expressed in terms of KWh/ 1000 liters of water produced. The definition of the indicator is The amount of energy consumed per Kilolitre of water produced. The calculation used the monthly data. The method of calculation is given bellow, Energy Consumption for water supply=

$$\frac{\text{Energy consumed in KWh}}{1000 \text{ liters of water produced}}$$

Table:8 Energy Consumption for water production:

Sl.No	Implemented projected	Frequency of wards	Level of Service	Score
1	no wards	6	low	1
2	No wards	10	Medium	2
3	No of wards	9	High	3
4	No of wards	7	Medium	4
	Average	8		

Sources: Researcher Calculations

The above table presents the information about Energy Consumption for water supply in Krishna district of Municipalities. It is found from the group analysis that Energy Consumption for water supply is high in 25th ward of municipality. Energy Consumption for water supply is low in 32nd ward. In remaining towns Energy Consumption for water supply are medium. Therefore Energy Consumption for water supply is not unique.

9 Index of use of coagulant at treatment plant:

Index of use of coagulant at treatment plant is one of the indicators being used to measure the efficiency of ULBs. Unit of measurement expressed in terms of mg / litre of water produced. The definition of the indicator is Quantity of coagulant used per litre of water treated at the treatment plant. The calculation used the monthly data. The method of calculation is given

bellow, Index of use of coagulant at treatment plant = $\frac{\text{Coagulant consumed per day}}{\text{Coagulant consumed per day}}$

Table:9 Index of use of coagulant at treatment plant

Sl.No	Implemented projected	use of coagulant	Level Service	Score
	no wards 10	2.61	High	1
	No wards 07	1.272	Medium	2
	No of wards 04	1.482	Medium	3
	No of wards11	3.704	Medium	4
	Average	2.267		

Sources: Researcher Calculations

The above table presents the information about Energy Consumption for water supply in Krishna district of Municipalities. It is found from the group of analysis that Energy Consumption for water supply is high in 25th ward. Energy Consumption for water supply is low in other wards. In remaining towns Energy Consumption for water supply are medium. Therefore Energy Consumption for water supply is not unique.

1. Index of treatment losses:

Index of treatment losses is one of the indicators being used to measure the efficiency of ULBs. Unit of measurement expressed in terms of percentage. The definition of the indicator is The O & M efficiency of the treatment plant in terms of quantity of water. The calculation used the monthly data. The method of calculation is given bellow,

$$\text{Index of treatment losses} = \frac{\text{Raw water received} - \text{Raw water treated}}{\text{Raw water received}} \times 100$$

Table:10 Index of treatment losses:

Sl.No	Implemented projected	Treatment loss	Level Service	Score
	no wards 10	10.23	Medium	1
	No wards 07	15.12	High	2
	No of wards 04	10.22	Medium	3
	No of wards11	11.32	Medium	4
	Average	11.7225		

Sources: Researcher Calculations

The above table presents the information about Index of treatment losses in ULBs. It is found from the group analysis that Index of treatment losses is high in 1st ward to 32nd wards. In

remaining towns Index of treatment losses are medium. Therefore, Index of treatment losses are to be minimize in order to ensure the uninterrupted water supply.

2. Quality of Treatment in WTP:

Quality of treatment in WTP is one of the indicators being used to measure the efficiency of ULBs. Unit of measurement expressed in terms of percentage. The definition of the indicator is Measure of the Efficiency of the Treatment plant in terms of Quality. To access the quality of water desired levels of PH, Total suspended Solids, mg/l and BOD, mg/l, COD. The calculation used the monthly data. The method of calculation is given bellow

$$\text{Quality of treatment in WTP} = \frac{\text{No of water samples which meet the WQ standards}}{\text{Total samples tested}} \times 100$$

Table:11 Quality of treatment in WTP:

Sl.No	Implemented projected	Water Quality	Level Service	Score
1	no wards 10	80	High	1
2	No wards 07	74	Medium	2
3	No of wards 04	62	Medium	3
4	No of wards 11	43	Medium	4
5	Average	64.75		

Sources: Researcher Calculations

The above table presents the information about Quality of treatment in WTP in Krishna district municipalities. It is found from the group analysis that Quality of treatment in WTP is medium in all the towns.

3. Consumer complaints redressed:

Consumer complaints redressed is one of the indicators being used to measure the efficiency of ULBs. Unit of measurement expressed in terms of percentage. The definition of the indicator is Total number of water supply related complaints redressed within 24 hours as a percentage of the total numbers of complaints received in a given time. The calculation used the monthly data. The method of calculation is given bellow

$$\text{Consumer complaints redressed} = \frac{\text{Number of complaints attended on the same day}}{\text{Number of complaints received on the same day}} \times 100$$

Table:12 Consumer Complaints Redressed:

Sl.No	Implemented projected	% redressed	Level Service	Score
1	no wards 10	34	Medium	2
2	No wards 07	54	High	1
3	No of wards 04	23	Medium	3
4	No of wards11	17	Low	4
5	Average	32		

Sources: Researcher Caluculations

The above table presents the information about Consumer complaints redressed in six southern towns. It is found from the group analysis that Consumer complaints redressed is medium in all the towns. Index of failures due to Power is one of the indicators being used to measure the efficiency of ULBs. Unit of measurement expressed in terms of percentage. The definition of the indicator is percentage of failure due to power against total number of failures. The calculation used the monthly data. The method of calculation is given bellow,

$$\text{Index of failures due to Power} = \frac{\text{Power failures in a particular month}}{\text{Total failures in that month}} \times 100$$

Table: 13 Index of failures due to Power:

Sl.No	Implemented projected	% of Failure	Level Service	Score
1	no wards 10	36	Medium	4
2	No wards 07	39	High	3
3	No of wards 04	27	Medium	2
4	No of wards11	5	Low	1
5	Average	26.75		

Sources: Researcher Caluculations

The above table presents the information about Index of failures due to Power in six southern towns. It is found from the Cohort analysis that Index of failures due to Power is low in Mysore. In remaining towns Index of failures due to Power is medium. Therefore, Index of failures due to Power is to be minimized in order to ensure the uninterrupted water supply.

11 Index of Failures due to Pumping Equipment:

Index of failures due to Pumping equipment is one of the indicators being used to measure the efficiency of ULBs. Unit of measurement expressed in terms of percentage. The definition of the indicator is Percentage of failure due to pumping equipment against total

number of failures. The calculation used the monthly data. The method of calculation is given below,

$$\text{Index of failures due to pumping equipment} = \frac{\text{Equipment failures in a particular month}}{\text{Total failures in that month}} \times 100$$

Table:15 **Index of Failures due to Pumping Equipment**

slno	Implemented projected	% of failure	Level of Service
1	No of wards	5	low
2	No wards	7	Medium
3	Nof wards	35	High
	Average	11.75	

Sources: Researcher Calculations

Index of Failures due to Pumping Equipment:

The above table presents the information about Index of failures due to pumping equipment in six southern towns. It is found from the group analysis that Index of failures due to pumping equipment is high in all the wards. In remaining towns Index of failures due to pumping equipment is low. Index of failures due to pumping equipment is medium in 12th ward. Therefore, Index of failures due to pumping equipment is to be minimized in order to ensure the uninterrupted water supply.

A. Number of Accidents:

Number of accidents is one of the indicators being used to measure the efficiency of ULBs. Unit of measurement expressed in terms of ratio. The definition of the indicator is Total number of accidents per year expressed as a ratio of the total length of pipeline in kilometres. The calculation used the monthly data. The method of calculation is given below

$$\text{Ratio of number of accidents} = \frac{\text{Total number of accidents}}{\text{Total length of pipelines in kilometres}}$$

Table:16 Number of Accidents:

Sl.No	Implemented projected	Ratio	Level of Service
1	no wards	0	Low
2	No wards	0.00018	Medium
3	No of wards	0	Low
		0	

Sources: Researcher Calculations

Since the data are not available to all the project towns the technical values have not computed the analysis also not made.

Efficiency of Water Supply Services:

The group analysis disclosed the level of water supply services in the project ULBs for coverage, volume of water supply and duration of water supply in terms of high, medium and low. The qualitative results of group analysis are indexed and the same are used for ANOVA analysis. Outcome of the analysis is as follows

Table:17 ANOVA for Comparison of Water Supply Services

Description	sum of Squares	Df	Mean square	F	Sig
Between Groups	3	3	1	12	0.002
Within Groups	0.667	8	83		
Total	3.667	11			

Sources: Researcher Calculations

The ANOVA test reveals that there is significant difference in water supply services among the towns. Further the post hoc multiple comparison tests reveal that the water supply services in Machilipatnam all 32 wards significantly better than other project towns. Hence, project intervention has not resulted in uniform water supply services across the Project ULBs.

Machilipatnam Municipality is the first developed by Britishers in India. However, it was focused mainly on providing water and sewerage facilities in the ULBs. Providing potable drinking Water to the citizens is primary obligation of the urban local bodies. Out of investment to the tune of Rs.160 Crores (36.6millions USD) made under the project towards

Environment sanitation, 50 percent i.e., Rs 80 Crores (18 millions USD) investment was made towards creation of water supply utilities in the project towns.

Water supply assets were created under the project as intended. Analysis of service delivery shows that, even though the assets were created, efficiency in service delivery is not on par with the benchmarks. At the same time, services are not uniform across the project ULBs. However, it is found from the analysis that water supply services are better in Machilipatnam in comparison with other project ULBs. Hence the primary objective of the researcher assisted project which is creation of uniform efficient water supply services is not realized. Therefore, the ULBs should take proper measure to improve the water supply services.

Financial Position of Municipality of Machilipatnam

The Municipality was upgraded as Special Grade Municipality with an area of 26.67 SQ.KMs and Population of 1,83,870 as per 2011 Census. There are 32 Revenue Wards & 42 Election wards. There are @ 39000 PT assessments in Machilipatnam Municipality as on 01.04.2016. The main source of Income are Property tax, Water tax, Fees, Rents & Leases from shopping complexes, assigned revenues like stamp duty, Grants etc.,

The accounts of Machilipatnam Municipality for the year 2015-16 were generally examined excepting the standard audit risks. A test check on expenditure was conducted taking the months of May, July, September, November 2015 & January and March 2016 as samples and also certain major items of expenditure taken at random for in-depth scrutiny. The responsibility for production of all fund pass books, FDRs etc., furnishing of correct accounts lies with Municipal Commissioner. If any of the pass books or other funds were concealed & not at all taken in to account and the original records not produced to audit, it is not possible for the audit to trace whether any amount is omitted or not or whether any funds exist other than those shown to audit. To that extent audit risk is involved. Therefore, the audit is conducted to the extent records produced by the Municipal Commissioner.

General Financial Review: The receipts and payments during the year were shown in the Receipts & Payments statement together with the opening and closing balance. The opening balance in the cash book was in agreement with the closing balance of the previous year. The consolidated annual account was showing the closing balance of Rs.108108278/- as on 31-3-2016. As verified from the cash book, the cash book was closed every month. The monthly abstract and yearly abstract was arrived at and noted in the cash books. The reconciliation

statements were not produced as such the correctness of the closing balance of the cash book could not be certified in audit. Immediately the reconciliation statements would need to be obtained and produced to audit. Details of the Closing Balances as Per Receipts and Payments Statement as on 31-3-2016 .

6.23 Summary and Discussion of the Data Analysis

After studying the various constitutional and statutory provisions governing the finances of the urban local governments it is disheartening to note that in spite of high deals envisaged under the constitution and the state enactments, the urban local bodies in India suffer severely on the revenue side of their balance sheets while at the same time they are expected to play a vital role in the urban development process. Rather they find it increasingly difficult to meet even the cost of civil services out of their own resources

Municipal finances hold the key to the overall status and progress of service delivery in right direction. Poor finances of municipal corporation results in poor basic services, low capital investment, low credibility of municipal corporation, poor revenue collection efficiency, corruption and the lack of innovation in resource mobilization. This vicious cycle leads to poor delivery and low quality of services, which will hamper the growth potential of Municipal Corporation. Here, understanding the structure or pattern of finance of Municipal Corporation and its growth holds greater promise in the move towards improving the municipal revenue.

The research analysis results indicated that to build awareness for decision-making with by Municipality councilors/ward members is not easy as Municipality face various constraints. These constraints that Municipality representatives face are varied include lack of clear understanding of the legal and governance processes Municipal Acts, rules and regulations, urban administration, urban development issues, etc. Most of the Municipality councilors/ward members were first time entrants and, as they lack prior experience they find it difficult to work with local institutions. Lack of support from their experienced male or in some cases even female colleagues, in the council and outside and lack of proper cooperation from municipal officials who were mostly working only with men in the councils also makes their task tough. Another problem is the lack of support from the political parties, as also overall situation, which was not very encouraging and finally lack of confidence. This was compounded by their role in family management. With increasing urban population, the

political institutions need responsive participation of Municipality members. Particularly, in the research area of Andhra Pradesh municipalities, the 74th Constitutional Amendment Act (CAA) helped to increase their number and participation in decision making for various municipality development activities in their areas. There were hardly a few chairpersons earlier, whereas their number has increased by two to three-folds after the 74th CAA. Thus, for the first time a large number of Municipality's representatives are entering the council halls which were hitherto forbidden for them for a variety of reasons. As a result, the municipalities would now present a totally different picture both in terms of number of Municipality sitting in the council hall and also their socio-economic background, political and administrative experience as well as their keenness to participate actively in civic affairs.

The property tax is the single most important source for Machilipatnam municipality. The assessment of value and imposition of tax was not properly done. Any familiarity with reveals that something had gone wrong in assessment of property. These two Municipal was failed in tax collection from commercial complexes and vacant land owners. Since, there was no possibility in the reduction of property tax collections, the only possible explanation is the failure of the officials in assessing and collecting the tax, which resulted in heavy loss to the corporation's income.

Another discouraging factor was that salaries and contingency expenditure is more than what this municipality earns as tax. The earnings of the corporations were not even sufficient to meet the salaries of its own employees. In every budget year it had to draw money either from non-tax revenue or from grants to meet the salary and contingency bill. The literature on urban finances suggests that a miss match between tax revenue and salary expenditure is a sign of financial ill health. The net result is total dependence on grants and loans for development work. The decisions of officers are creating much more loss to corporation's income by recruiting Additional Staff.

The The expenditure on three most important activities viz., roads, water and health had been negligible. These three are considered most important because they were essential for development. Surprisingly, on these three activities the expenditure is very low. This is mainly due to mis-match between the functions entrusted and the finances made available to them by non-buoyant taxes which do not increase proportionately with the increase in the cost of establishment and services to be provided by the municipal bodies" and incomes are less and expenses are more. Revenue Gap and filling through external sources becomes a routine feature. The Machilipatnam municipality is the mostly depend on state government

grants. This municipality should have improved its performance for providing civic amenities for the public at large. The analysis of municipal finances reveals that municipal corporations are generating small revenue surplus with low resources gaps. More than that, they are spending lower than that required for providing a minimum level of civic amenities.

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