

Physical Infrastructure Amenities Provided by Municipal Corporations

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Abstract

Urban areas play a significant role in the economic growth of a nation and the health of public in urban areas is drawing more attention across the world. In urban areas especially in developing countries the growth of population is high owing to natural growth and migration. The rapid growth of urban population enhances pressure on urban local bodies for basic amenities. The present study has made an attempt to evaluate the performance of GVMC in providing physical infrastructure facilities to the residents. The study has focused on eliciting the public opinion on the municipal corporation with regard to provision of physical infrastructure facilities such as public lights, street roads, parks and play grounds.

Keywords: Basic Amenities, Street Lights, Urban Roads, Parks & Playgrounds, Greater Visakhapatnam Municipal Corporation.

Introduction

Urban population is rapidly increasing in the developing world and the demand for physical infrastructure facilities such as street lighting, roads, parks and playgrounds is also high. Road network act as a link between rural and urban areas. Road network also help to connect workers and raw material to industry and produced goods to markets. The improvement of roads is the responsibility of different agencies such as national highways authority, public works department state government, municipalities and village panchayats.

Both the rapid urbanization and industries in Indian urban areas have attracted substantial number of people from rural areas. In search of livelihood the people from rural areas migrate to urban areas (Subash 2014). Road network is a gauge for spatial relations between areas and has an important role in the development of a country (Chandrasekhar, 1997). Lack of sufficient revenue, centralization of functions and improper spending are the major reasons for poor delivery of services by urban local bodies in India. The revenue generated by most of the municipalities in the country is lower than their capacity (Simanti, 2014). Road network is the back bone of the passenger transport and is very important for development of a nation (Sharmila et al., 2019).

Street lighting provides direction to the travelers and protection to the community during dark hours. Street lighting eliminates accidents, enhance public interactions, security and business activities during dark time. Insufficient basic amenities may lead to unhealthy living conditions and growing urban population depend on municipalities for basic facilities (Kameswar, 2020). The design of street lighting system play a crucial role in reducing the wastage. A well designed system using modern technology can help the urban local bodies in saving the energy (Santi et al., 2019).

Public parks have positive impact on physical and emotional benefits of urban residents. There is a correlation between the physical wellbeing of public and parks in urban areas. Parks provide space for social gathering and purified air that can influence mental and psychological health (Lincoln et al., 2016). With the expansion of the city, more parks will be required to the dwellers to play, relax and enjoy. Urban inhabitants visit parks for peaceful atmosphere and to avoid stress. Parks are crucial in improving the life quality and provide socio-economic benefits (Sirisha, 2019).

Objectives of the study

- 1) To divulge the hard work made by the municipal corporation with regard to physical infrastructure facilities.
- 2) To discover the public opinion on infrastructure provided by municipal corporation.
- 3) To establish performance gaps and to suggest measures.

Research hypotheses

The hypotheses devised for the study are:

HO1: The community is not contented with the infrastructure facilities provided by the municipal corporation.

HO2: There is a considerable distinction in the public opinion on (in between geographic areas) with regard to infrastructure amenities provided by GVMC.

Methodology

The data from primary and secondary sources have been accumulated for the purpose of the study. For gathering primary data a structured questionnaire has been devised and implemented.

Primary data has been collected from a sample of 480 respondents and random stratified sampling method has been followed. Secondary data has been gathered from sources such as reports, research papers, official records and website of the GVMC. For the purpose of data analysis, SPSS software has been utilized.

Profile of the study area

The study has been conducted in the city of Visakhapatnam located on the southeast coast of India. The city was a tiny village by the time of independence, expanded demographically and grown up economically in short span. The city has witnessed rapid industrialization with establishment of major industrial units in and around the city. Visakhapatnam is the head quarters of eastern naval command. The city attracts people from nearby districts and states for the purpose of education, health and employment. For the purpose of administration the city has been divided into geographic zones and the study has been conducted in six geographical zones.

Physical infrastructure amenities administered by GVMC

Street lighting is a very important facility that promotes safety and improves the quality of life especially during night hours. To save energy and for better illumination, GVMC has introduced LED street lights with Centrally Controlled Monitoring System (CCMS).

Table 1.1: Street light infrastructure provided by GVMC

Sl. No.	Particulars of Poles	Number
1	Street light poles	92858
2	Modern light poles with single/double arm	7969
3	11 meters mini high mast poles	1318
4	16 meters mini high mast poles	24
5	20 meters mini high mast poles	15
6	30 meters mini high mast poles	4
	Total	1,02,288

Source: Office of the Chief Engineer, GVMC

Table 1.1 depicts the street light infrastructure provided by GVMC. According to the table there are 1, 02,288 total poles. There are 92858 street light poles, 7969 modern light poles with single/double arm and 1361 mini high mast poles in and around the city.

The number of vehicles have increased in the city with the high growth of population and enhanced pressure on city traffic. The total length of road network under the municipal corporation is 1670 kms. Keeping the rapid growth of population in view, GVMC has implemented Bus Rapid Transit System (BRTS) in the city. The BRTS connect NAD Junction, Pendurti, Simhachalam and Dwarakanagar areas in the city.

There are 88 (eighty eight) mini parks and 3 (three) major parks maintained by the municipal corporation. Parks are maintained under Public Private Partnership (PPP) mode mini parks are developed by involving the public i.e., Residential Welfare Associations (RWAs). In addition to school playgrounds, GVMC maintains sports complexes such as Aqua Sports Complex, Swarna Bharathi Indoor Stadium, Rajiv Gandhi Gymnasium (Indoor Stadium), Lawn Tennis Sports Complex, Indira Priyadarshini Stadium, Skating Rink at Shivaji Park and GVMC Ground, Opposite to Coramandel Gate.

RESPONDENTS' PERCEPTION ON INFRASTRUCTURE FACILITIES

This study has evaluated the public opinion on physical infrastructure amenities provided by GVMC. The study has covered the public perception on “municipal follows a planned approach for laying street roads”, “quality norms are followed by GVMC in laying street road”, “roads developed by GVMC are qualitative”, “without representation road repairs are taken up”, “road maintenance is done systematically”, “public complaints on roads are addressed effectively”, “overall performance of municipal corporation in laying street roads is satisfactory”, “public lighting is planned effectively”, “there is no wastage of city lighting”, “public complaints on street lighting are responded effectively”, “performance of municipal corporation in providing street lighting is satisfactory”, “municipal parks and playgrounds are developed as per the public choice”, “required facilities are provided in parks and playgrounds”, “parks and playgrounds are improved periodically”, and “public complaints on parks and playgrounds are addressed effectively”.

Table 1.2 depicts the public opinion on the physical infrastructure amenities provided by the Greater Visakhapatnam Municipal Corporation. The factor “planned approach is followed by the municipal corporation in laying street roads” has 3.58 mean score on a 5 point scale exemplify

Table 1.2: Respondents Opinion on Physical Infrastructure Facilities Provided by GVMC

Variables	Mean Value							F
	Zone-1	Zone-2	Zone-3	Zone-4	Zone-5	Zone-6	Average	
MC follows a planned approach for laying street roads	3.90	4.10	3.71	3.45	3.19	3.14	3.58	14.060**
MC follow quality norms laying street roads	3.45	4.11	3.23	3.08	2.76	3.19	3.31	17.688**
Roads developed by GVMC are qualitative	3.73	4.10	3.90	3.48	2.98	3.54	3.56	17.533**
MC repairs roads without representation	2.85	3.87	2.90	3.04	2.44	2.83	2.99	17.305**
Maintenance of roads is done systematically	2.95	3.86	2.93	3.05	2.42	2.81	3.00	16.795**
Complaints on roads are addressed effectively	2.79	2.98	2.89	2.99	2.54	2.82	2.83	9.963**
Overall performance of MC in laying roads is satisfactory	3.74	4.10	3.91	3.49	3.40	3.22	3.64	10.160**
Public lighting is planned effectively by the municipal corporation	4.28	4.31	4.04	4.36	3.85	3.93	4.12	5.326**
City lighting timings are followed efficiently	4.24	4.38	4.02	4.40	3.48	3.90	4.06	12.047**
There is no wastage of city lighting	4.25	4.31	4.03	4.26	3.20	3.68	3.95	16.378**
Public complaints on lighting facility are addressed effectively	4.24	4.21	4.01	4.21	3.31	3.85	3.97	11.785**
Performance of municipal corporation in providing public lighting is satisfactory	4.29	4.31	4.02	4.36	3.40	3.87	4.04	13.994**
The MC developed parks and playgrounds as per the choice of the public	3.11	3.01	2.69	2.68	1.70	2.49	2.61	25.181**
Required facilities are provided for parks and playgrounds	3.80	3.61	3.61	3.64	2.68	3.26	3.43	12.638**
Parks and playgrounds are improved periodically	3.76	3.49	3.37	3.49	2.64	3.29	3.34	10.576**
Complaints on parks are addressed effectively by MC	3.35	3.50	3.07	3.09	2.21	3.18	3.06	37.634**

Source: Primary Data

that the respondents have optimistic opinion on GVMC in relation to provision of roads. In between the various geographical zones the respondents from Zone – 2 area are more contented (secured mean score 4.10) and respondents from Zone -6 area are less contented (secured mean score 3.14) in relation to street roads laid by the

municipal corporation. The mean scores of the respondents perception (of different zones) on the this factor illustrate that there is a considerable difference among the various geographical zones.

The inhabitants rated the factor “the overall performance of GVMC in delivering public lighting amenity is satisfactory” as positive according to the got mean score of 4.04 (on a 5 point scale). In relation to the overall performance of municipal corporation in providing street lighting facility, inhabitants of Zone -4 area are more contented with a mean score of 4.36 and respondents of Zone-5 area are less contented (mean score 3.40) than other zones. To evaluate the disparity among the groups a one-way analysis of variance has been implemented and the difference is insignificant.

The variable “parks and playgrounds are improved periodically” has a mean score of 3.34 on a 5 point scale the exemplify that the society has optimistic feelings towards GVMC with regard to this factor. In between the various geographic zones, the Zone- 1 area residents are more contented having a mean score of 3.79 and inhabitants from Zone-5 area are least contented in relation Further, this study depict that there is a considerable difference in the public opinion of of various zones in relation to physical infrastructure amenities provided by the municipal corporation. The result of the study steadfastly supports the null hypothesis that there is a significant difference in the public opinion of different geographic zones in relation to the physical infrastructure amenities.

CONCLUSION AND SUGGESTIONS

This study has focused on the public perception on the physical infrastructure facilities provided by the municipal corporation. The average mean score of the sixteen variables mentioned in table 1.2 is 3.46 on a 5 point scale that clearly indicate the community has affirmative opinion on the performance of municipal corporation in delivering physical infrastructure facilities. The results of the study describe that the public have affirmative opinion with the municipal corporation whereas; the community is not fully contented.

The population of the city is growing rapidly and Visakhapatnam is one among the fastest growing cities in India. To meet the growing needs of the city, the municipal corporation has to develop playgrounds and parks within a distance of kilometer. Idle space need to be converted into parks and playgrounds. More number of mini parks have to developed with the involvement of Residential Welfare Associations (RWAs).

It is suggested to develop and maintain proper drainage system to avoid overflow of waste water that damage roads, particularly during rainy season. Roads have to be developed according to the growing demand from expanding population.

The policy makers need to focus on the use of technology in controlling the public lighting system. The population of urban local bodies is increasing rapidly and the pressure for civic services on municipal corporations is expanding. It is recommended to the policy makers to emphasize on developing satellite towns. Additionally, an integrated approach is essential to deliver the crucial requirements of the growing population.

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