



Assessment of Services Available in the Jhumritelaiya Municipal Council (JMC)

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Abstract

Jhumritelaiya is a town designated as municipal council located in the Koderma District of Jharkhand. Several studies confirm the rapid urbanization leads population growth makes the challenges for urban government to provide the municipal services sufficiently for fulfilling the residents' demand. While the gap persists between the service provision and citizen's satisfaction on it. The quality of the services may depreciate due to dissatisfaction of residents with provided urban services. Therefore, the assessment of the service quality from the residents' perspective and accordingly highlighting the gap is necessary for sustainable town management. Present study is an attempt to assess the services delivery from residents' perspective in the Jhumritelaiya Municipal Council of Jharkhand. The study is based on the quantitative analysis of primary data surveyed from households in the Jhumritelaiya Municipal Council, Jharkhand. Assessment of the services delivery across the 28 wards of the Jhumritelaiya Municipal Council has been done for showing the pattern of availability and quality of the provided services using geo-statistical and geo-spatial techniques in the study area. The analysis of quality of available services provided reveals that the majority of the population are availing the services and the available services are fulling the citizen's demand in the study area. While a significant proportion of the households are dissatisfied or unaware about the provided services and its quality delivery. However, a section of the residents is willing to upgrade the services. Thus, there is need to underline the factors responsible and residents' requirements in order to fulfil the citizen's demands about the services.

Keywords: *Jhumritelaiya municipal council (JMC), Municipal service, Quality of service delivery, Urban local body (ULB).*

1. Introduction

Urban local bodies (ULBs), which manage and develop urban regions, are essential elements of municipal governance. They serve as the level of government closest to the community, offering infrastructure and necessary services that directly affect day-to-day living in towns and cities (Kundu et al., 1999). The Central government's view local governments as valuable collaborators in addressing a variety of public policy concerns and tasks, such as creating more just and efficient social service systems and supplying a sizable amount of essential infrastructure that boosts economic growth and enhances quality of life (O'Donnell, 2012). Urban decentralization and its significant impact on service delivery in Jharkhand indicates that certain responsibilities designated to local bodies have not been officially transferred through notification, leading to arbitrary implementation. The standard of municipal services can greatly influence a city's social, economic, and environmental outcomes (Bandyopadhyay et al., 2011). A few instances of local government services consist of: 1) Infrastructure and services including clean water, sanitation, waste disposal, transportation and communication systems, energy, healthcare and emergency services, educational institutions, public safety, and management of green areas. 2) Other services are fire services, law enforcement, emergency medical services, and various health department matters (Japan International Cooperation Agency, 2011). Utilizing primary data that includes two subscales, one pertains to customer expectations and the other relates to their perception of service quality. It assesses service quality by examining five key determinants: reliability, accountability, empathy, safety, and tangibility. From the customers' perspective, the quality of municipal services is deemed unsatisfactory, indicating notable discrepancies between their expectations and the actual

perception of each determinant of service quality, particularly in terms of reliability and accountability. As a result, the municipalities have a distinct understanding of where to concentrate their enhancements (Živković et al., 2019).

According to the Act, the assignment of taxes and user fees, including property tax, is optional rather than mandatory. Despite the amendments to the Acts, the decentralization of functions has not been effectively carried out in Jharkhand. There has been an unwarranted delay in delegating responsibilities to urban local bodies. The State Municipal Acts indicate that urban local bodies, in particular, have not been allocated a range of functions beyond the essential ones. Furthermore, the ULBs are ignorant of the roles that have been transferred and assigned to them. The ULBs' insufficient power and awareness prevent them from performing even basic services, let alone additional ones (Jharkhand Municipal Act, 2011).

Jhumritelaiya is a town designated as municipal council located in the Koderma District of Jharkhand. Several studies have found that population growth makes the challenges for urban government to provide the municipal services sufficiently for satisfying the residents' demand (Initial Environmental Examination, April 2021). Therefore, the study assesses the quality of services provided by JMC in the context of Citizens' 'view and happiness. The study is based on the quantitative analysis of primary data surveyed from households in the Jhumritelaiya Municipal Council, Jharkhand. Assessment of the service quality delivery across the 28 wards of the Jhumritelaiya Municipal Council has been done for showing the pattern of quality level of the provided services using geo-statistical and geo-spatial techniques along with diagraph and figures in the study area. In brief, the research article has been divided into five major sections including introduction, methods and materials, results and findings, discussion and concluding remarks.

2. Methods and Materials

2.1 The study area

Jhumritelaiya Municipal Council is located on dissected plateaus of the Chota Nagpur in eastern India, which covers much of Jharkhand state as well as adjacent parts of Odisha, West Bengal, Bihar and Chhattisgarh. The town is located at 24°25'48" North Latitude and 85°31'12" East Longitude. Jhumritelaiya Municipal Council extends between 24°24'08.03" north to 24°29'50.58" north latitudes and 85°28'51.01" east to 85°33'37.70" east longitudes (Google Earth Pro, 1 September 2024) spread over an area of nearly 50.47 Km² (Jhumritelaiya Master Plan 2015-2040). Jhumritelaiya is located in the Damodar River- valley. It has an average elevation of 383 m (1,257 ft) (Falling Rain Genomics, Inc - Jhumritelaiya, 2012). It is located at a distance of 152 km from the state capital - Ranchi. It is situated about 8 km from Koderma town. Both the towns are closely linked. Jhumritelaiya is situated in the Koderma tehsil of the Koderma district (District Gazette of Koderma, 2012). Climatically the region enjoys a tropical monsoonal type with average annual rainfall varying between 100 to 150 cm across the region and average monthly temperature varying between 29 degrees to 32 degrees centigrade. The local relief in association with the climatic patterns has developed numerous hard rocks based on large and small streams comprising Barakar and its tributaries.

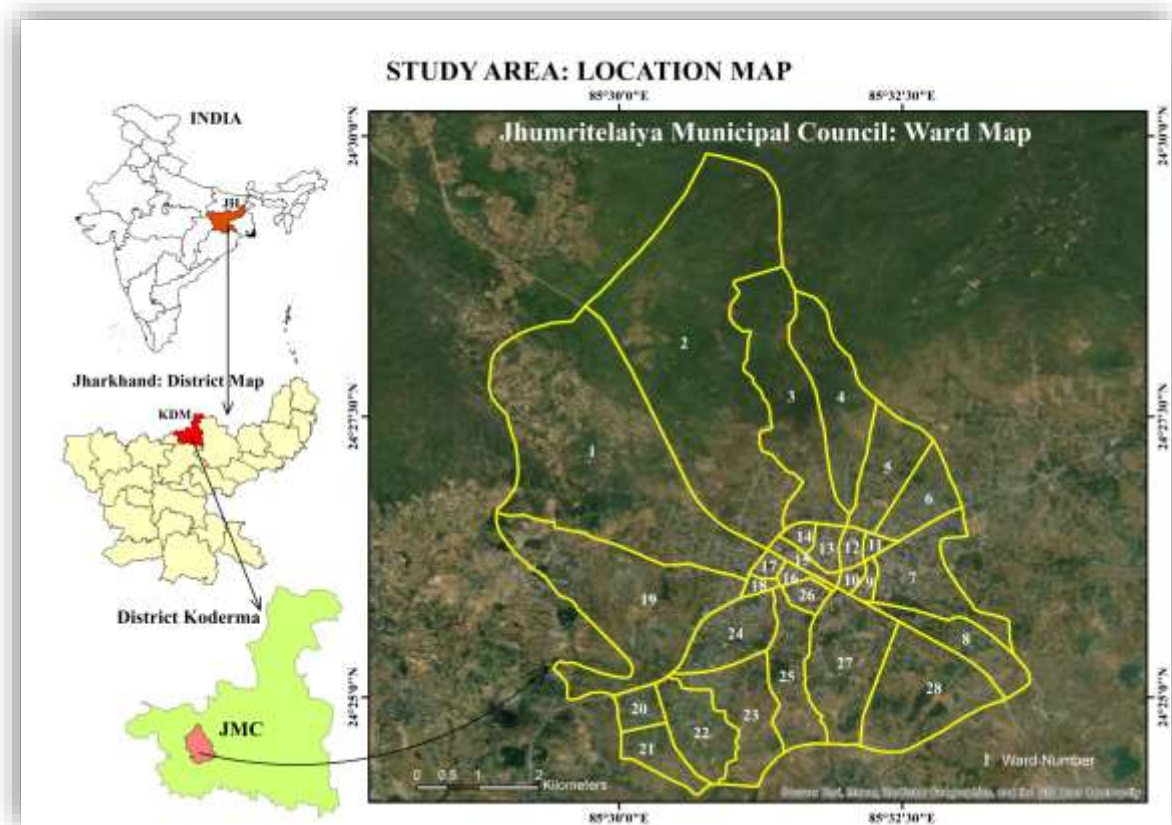


Figure 1. Location Map of the Study Area

The unique physiographic setup has resulted in a marked variation in the pattern of human habitation and development of the area. It has a mixed pattern in most parts dominated by agriculture mixed with urban to semi-urban pursuits (Das et al., 2020). In 2010, Jhumritelaiya was designated as a Nagar parishad. 28 wards make up Jhumritelaiya town's administrative territory. The original settlement in the area, which is now a part of the city, was called Jhumri. It became Jhumritelaiya since the word "Telaiya" in Hindi refers to a little lake. The average elevation is 383 meters or 1,257 feet. It is situated 152 kilometres away from Ranchi, the state capital. About 8 kilometres separate it from Koderma Town. The two towns are interconnected. To improve city administration and promote sustainable development, measuring and assessing urban growth has become necessary due to the rapid population expansion and alteration of urban land use (Jhumritelaiya Nagar Parishad Portal, October 2024). According to the 2011 Census, Jhumritelaiya had a total population of 87,867, of which 52.24% are males and 47.76% females. The average literacy rate in Jhumritelaiya is 62%, which is higher than the 59.5% national average. The rate for males is 72%, while the rate for females is 52%. Sixteen percent of people in Jhumritelaiya are under the age of six. The primary language used in the town is Khortha. In addition, residents of this town speak English, Bengali, Marwari, Punjabi, Hindi, and Bhojpuri (Census of India, 2011).

2.2 Statement of the Problem

The degree of connection between decisions on public spending and its financing, known as the Wicksellian Connection, plays a crucial role in determining the alignment of local public policy decisions with citizens' preferences. Government efficiency in providing services is enhanced when spending and taxing decisions are closely linked and made by the same body simultaneously. To enhance the effectiveness of local government spending, it is important for ULBs to create conditions that are conducive to such expenditure. Citizens' preferences play a role in determining local spending on culture, with this preference alignment being notably higher in highly autonomous municipalities. Therefore, limits on local government revenues and spending restrict allocative efficiency (Premchand, 1993).

Several studies confirm the rapid urbanization leads population growth makes the challenges for urban government to provide the municipal services sufficiently for satisfying the residents' demand. While the gap persists between the service provision and citizen's satisfaction on it, the quality of the services may depreciate due to dissatisfaction of residents with provided urban services. The assessment of the service quality from the residents' perspective and accordingly highlighting the gap is necessary for sustainable town management (Bandyopadhyay et al., 2011). Therefore, the study is an attempt to assess the services delivery from residents'

perspective in the Jhumritelaiya Municipal Council of Jharkhand. Moreover, the study has tried to explore 'what are the services offered by the JMC and at what levels of consumers' satisfaction from these services?'

2.3 Research Methodology and Techniques

The primary data source is a sample schedule (questionnaire) based survey for collecting quantitative information from the selected households of the wards. The secondary data sources are census data, satellite images, data published by various government agencies and departments, etc. has been used to supplement the analysis of the study. The study is based on the quantitative analysis of primary data surveyed from households in the Jhumritelaiya Municipal Council, Jharkhand (Jhumritelaiya Municipal Council, 2024). A scheme of sample design for collecting the data displayed in the Table 1.

As per the Table 1 of sample design, number of samples from a particular ward based on the proportion of the total households available in the ward. Only one sample from each household were collected from a particular ward. In this way, total 450 samples have been collected from 28 wards of the Jhumritelaiya Municipal Council (JMC), Jharkhand for fulfilling the purpose of the study.

2.3.2 Research Methodology

Assessment of the services delivery across the 28 wards of the JMC has been done for showing the pattern of quality level of the provided services. A cross-tabulation technique has been used to compute the results for analysis. A cross-tabulation is frequently employed to document and examine the connections between two or more categorical variables. Moreover, cartographic methods such as bar diagrams and map created with GIS have been utilized to illustrate the ward/zonal distribution of access to services available in JMC of Jharkhand.

Ward	Residential	Commercial	Household	Samples
1	828	110	1693	31
2	572	47	1220	22
3	238	42	446	8
4	570	44	748	14
5	446	58	794	14
6	418	65	782	14
7	674	185	1625	29
8	311	85	790	14
9	625	100	836	15
10	246	212	553	10
11	299	337	752	14
12	237	289	610	11
13	372	112	622	11
14	543	117	873	16
15	242	325	654	12
16	208	44	298	5
17	308	23	444	8
18	230	94	371	7
19	480	150	1560	28
20	440	27	637	12
21	503	9	819	15
22	593	74	1527	28
23	521	58	1320	24
24	453	68	670	12
25	732	92	1015	18
26	381	190	634	12
27	1062	108	1553	28
28	490	27	954	17
Total	13022	3092	24800	450

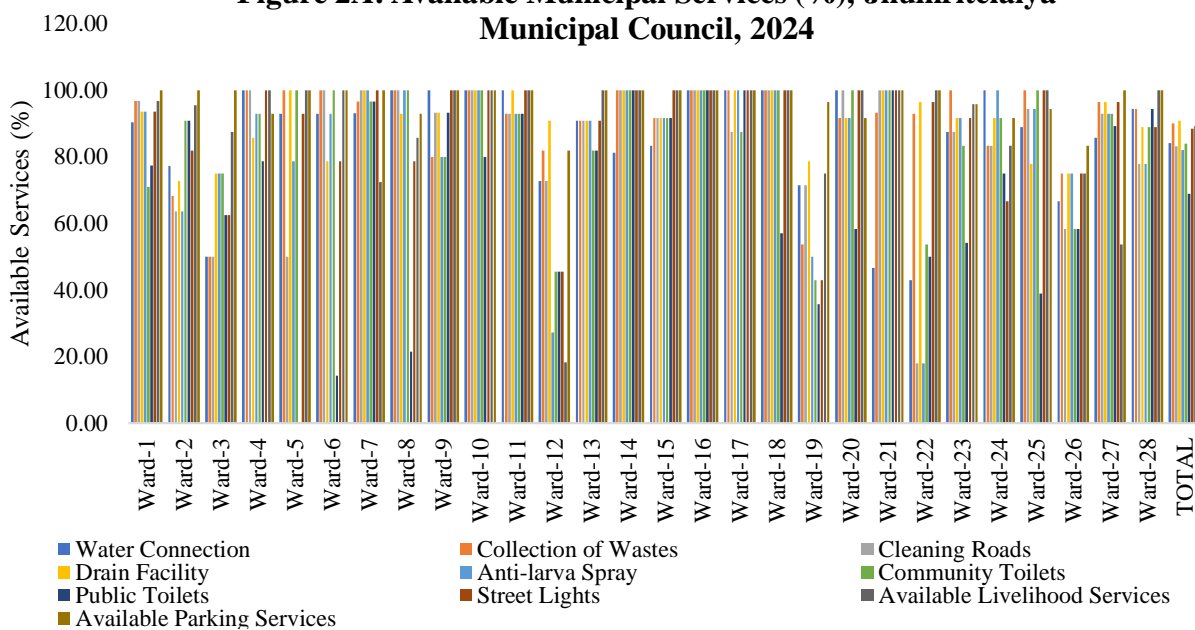
Source: Jhumritelaiya Municipal Council (JMC), Government of Jharkhand, 2024

3. Results and Findings

3.1 Available Municipal Services

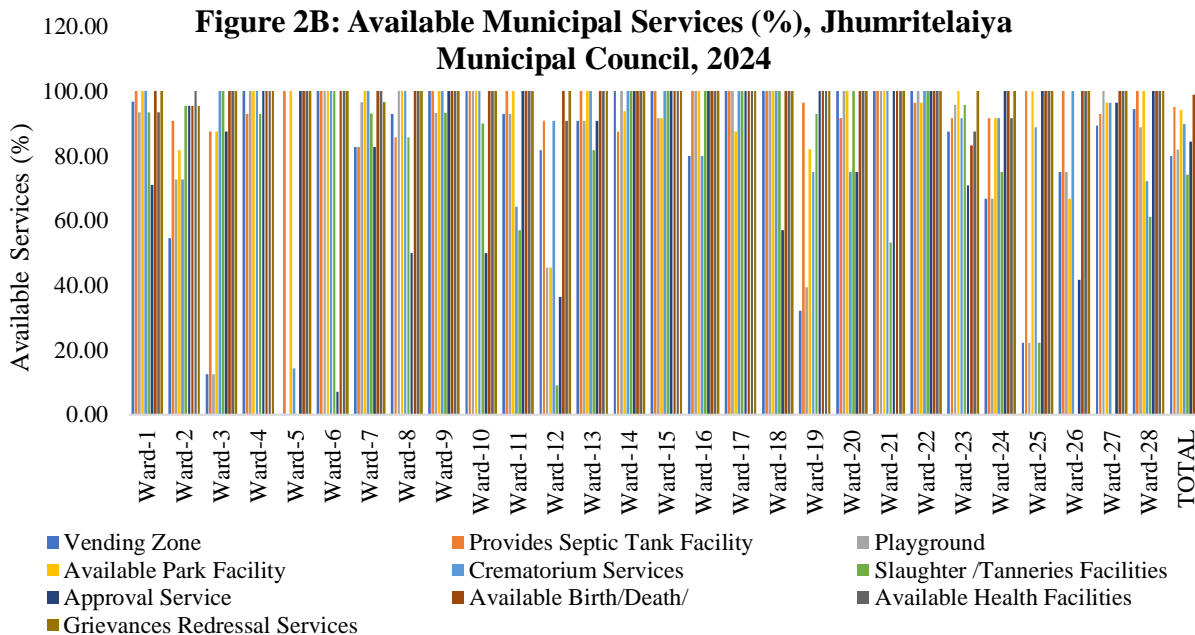
Figure 2A and 2B show distribution of household responses availability of municipal services provided by JMC across the wards in the study area. Figure demonstrate that JMC provides various municipal services and facilities across the 28 wards in the study area. These municipal services and facilities including water connection, collection of domestic wastes, cleaning of roads/galis, drain facility, anti-larva spray or fogging or bleaching spray services, community toilets, public toilets, street lights, livelihood services, parking, vending zone, septic tank facility, playground, parks, crematorium/burial ground, slaughter /tanneries, house plan approval, birth/death/marriage registration, health facilities, grievances redressal and many more services and facilities have been provided by JMC across the wards of the study area. Further, the figure reveals that the more than 75% to 100% of the households from each of the wards have been recorded for availing each of these municipal services in the study area. However, a small or significant proportion of the households have disapproved for availing each of these municipal services (Figure 2A & 2B).

Figure 2A: Available Municipal Services (%), Jhumritelaiya Municipal Council, 2024



Source: Computed from Primary Data of JMC Household Survey, 2024

Figure 2B: Available Municipal Services (%), Jhumritelaiya Municipal Council, 2024



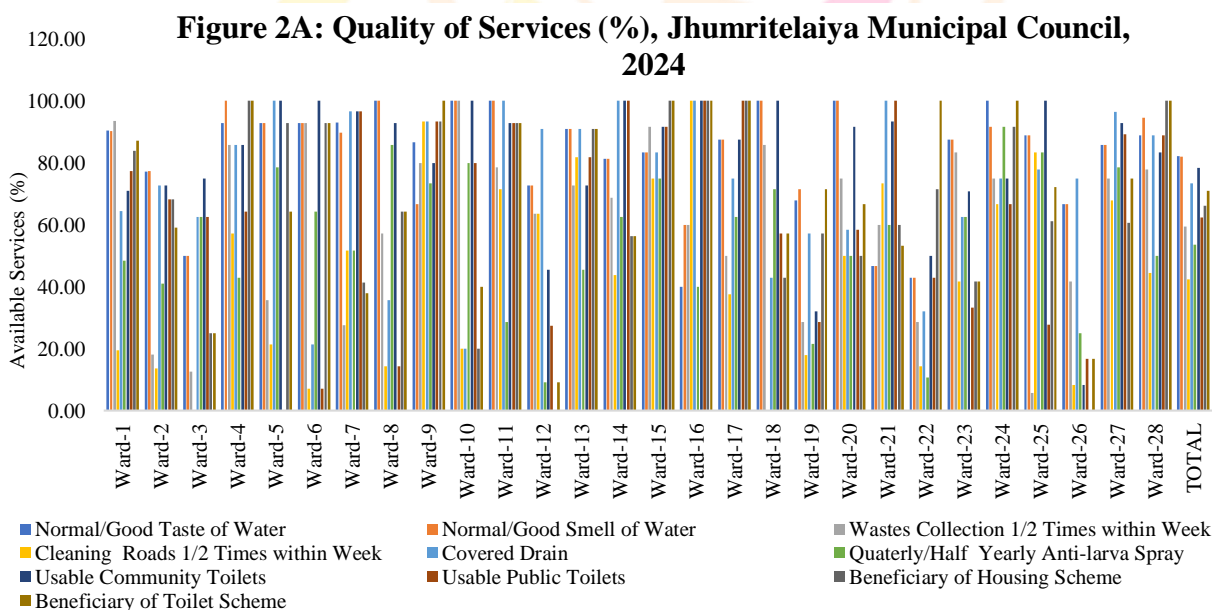
Source: Computed from Primary Data of JMC Household Survey, 2024

The spatial distribution of availability of municipal services indicates that some of the available services i.e. domestic wastes collection, drain facility, livelihood services, parking services, septic tank facility, park facility, crematorium services, birth/death/marriage registration, health facilities and grievances redressal services are benefitting to more than 90% of the households in each ward; while, services of cleaning roads,

anti-larva spray or fogging or bleaching spray, community & public toilets, street lights, vending zone, playgrounds, slaughter /tanneries facilities and house plan approval services have been recorded 75 to 90% of the households in each of the wards. Overall performance of wards in availability of municipal services have been recorded excellent in the Ward-25, Ward-8, Ward-6, Ward-10, Ward-18, Ward-7 and Ward-16. However, Ward-22, Ward-12, Ward-19 and Ward-26 have recorded poor performance in availability of municipal services in the study area (Table 2A & 2B). Therefore, it is reveals that a spatial variation exits in distribution of households availing municipal services across the wards in the study area. However, a large majority of the households are benefitting with availability of municipal services; while a small proportion of the household are deprived from the availing municipal services in the study area.

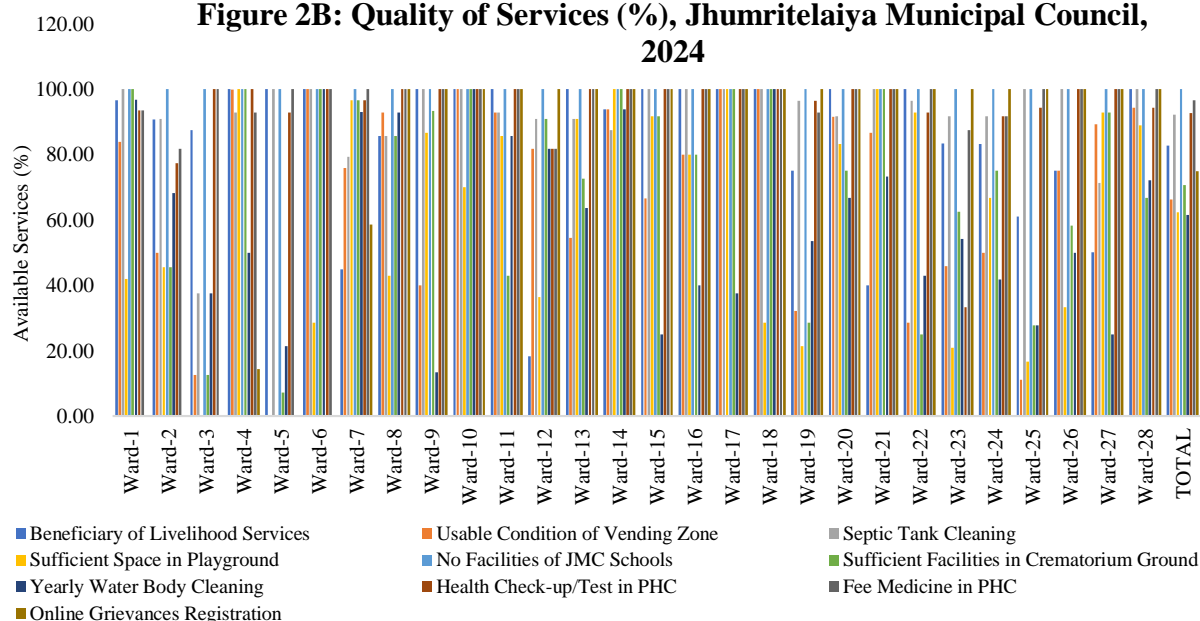
3.2 Quality of Municipal Services

Figure 3A and 3B show distribution of quality of municipal services provided by JMC across the wards in the study area. Figure validate that JMC provides various municipal services and facilities across the 28 wards in the study area. These municipal services and facilities including normal or good taste & smell of supplied water, 1 or 2 times domestic wastes collection within a week, 1 or 2 times cleaning roads/galis within a week, covered drain, quarterly or half yearly anti-larva spray or fogging or bleaching spray, usable community & public toilets, beneficiary of housing, toilet and livelihood scheme, usable condition of vending zone, septic tank cleaning, sufficient space in playground, unavailable JMC school, sufficient facilities in crematorium ground, yearly water body cleaning, health check-up/test & fee medicine in PHC, online grievances registration facility and many more quality services have been provided by JMC across the wards of the study area.



Source: Computed from Primary Data of JMC Household Survey, 2024

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Figure 2B: Quality of Services (%), Jhumritelaiya Municipal Council, 2024

Source: Computed from Primary Data of JMC Household Survey, 2024

Moreover, the figure reveals that the more than 50% to 100% of the households from each of the ward has been confirmed for availing each of these quality of municipal services delivery with few exceptions in the study area. Nonetheless, a small or significant group of the households have disapproved for availing quality of municipal services (Figure 3A & 3B).

The spatial distribution of availing quality of municipal services indicates that some of the quality services i.e. normal or good taste & smell of supplied water, fee medicine & health check-up/test in PHC, septic tank cleaning, beneficiary of livelihood schemes, usable condition of community toilets and online grievances registration facilities are benefitting more than 75% of the households in each ward across the study area. On the hand, quality services for beneficiary of toilet & housing scheme schemes, sufficient facilities in crematorium ground, usable condition of vending zone & public toilets, sufficient space in playground, yearly water body cleaning, 1 or 2 times domestic wastes collection within a week, quarterly or half yearly anti-larva spray or fogging or bleaching spray, and 1 or 2 times cleaning roads/galis within a week have been recorded 50-75% of the households in each of the ward with few exceptions(Figure 3A & 3B).

Comprehensibly, performance of wards availing quality of municipal services have been recorded excellent in the Ward-10, Ward-14, Ward-1, Ward-18, Ward-6, Ward-7 and Ward-4. On the contrary, the Ward-5, Ward-25, Ward-3, Ward-19 and Ward-22 have recorded poor performance in availing quality of municipal services in the study area ((Figure 3A & 3B). Therefore, it is reveals that a spatial disparity exists in distribution of quality of municipal services across the wards in the study area. However, a large majority of the households are availing quality of municipal service; even though a small proportion of the household have deprived from quality services in the study area.

4. Discussion

The available municipal services to the residents of the JMC revealed that most essential services for daily life are available to the citizens to the JMC. Majority of these services are water supply, domestic waste collection, sweeping/cleaning the roads, drain maintenance, anti-larva spray or fogging or bleaching spray, toilet facilities, street lights, livelihood services and, housing & toilet scheme. Besides, the parking and park services, vending zone services, playground services, crematorium services, house plan approval, birth/death/marriage registration services, health services, septic tank services, and grievances redressal services are being provided by JMC to its residents (Table 2A and 2B).

The quality of municipal services provided by JMC indicates that majority of the services available to the residents of the JMC are normal quality. Basic or essential services such as water supply, sweeping/cleaning, toilet facilities, street lights, housing & toilet scheme, parking and park services, birth/death/marriage registration services and health services are available with normal quality sufficiently to the residents. However, a significant section of the households has been reported deprived quality of the services in the JMC

area. Moreover, an insignificant of the respondents have been found that they are unaware about some of the services which are free of cost like spray of anti-larva or unavailable such as school facilities in the JMC. Conversely, some of the services such as vending zone services, house plan approval and septic tank services are suffered from inferior quality and identified with unavailable of basic facilities/infrastructure and absence of its maintenance (JMDP, November 2017). The quality of services process noted that majority of the service process are time bound for providing solutions of the issues in processes (Zeithaml et al., 1998; Armstrong, 1995). Majority of the essential services are being delivered on time and provided solutions within time periods prescribed for providing solutions. However, there are some discrepancies has been recorded in furnishing services such as house plan approval, livelihood services and housing schemes, and maintenance of the services (Eneanya, 2018).

5. Conclusion

The analysis of quality of services provided reveals that the majority of the population are satisfied with the service quality in the study area. While a significant proportion of the residents are dissatisfied or unaware about the provided services quality. However, a section of the residents is willing to upgrading and improvement in the services and their qualities. Thus, there is need to underline the factors responsible and residents' requirements in order to fulfil the citizen's perceptions about the services in the study area.

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Appendix. 2A: Availability of Services (%) in the Jhumritelaiya Municipal Council (JMC), 2024

Ward No.	Water Connection	Wastes Collection	Cleaning Roads	Drain Facility	Anti-larva Spray	Community Toilets	Public Toilets	Street Lights	Livelihood Services	Parking Services
Ward-1	90.30	96.80	96.80	93.50	93.50	71.00	77.40	93.50	96.80	100.00
Ward-2	77.30	68.20	63.60	72.70	63.60	90.90	90.90	81.80	95.50	100.00
Ward-3	50.00	50.00	50.00	75.00	75.00	75.00	62.50	62.50	87.50	100.00
Ward-4	100.00	100.00	100.00	85.70	92.90	92.90	78.60	100.00	100.00	92.90
Ward-5	92.90	100.00	50.00	100.00	78.60	100.00	0.00	92.90	100.00	100.00
Ward-6	92.90	100.00	100.00	78.60	92.90	100.00	14.30	78.60	100.00	100.00
Ward-7	93.10	96.60	100.00	100.00	100.00	96.60	96.60	100.00	72.40	100.00
Ward-8	100.00	100.00	100.00	92.90	100.00	100.00	21.40	78.60	85.70	92.90
Ward-9	100.00	80.00	93.30	93.30	80.00	80.00	93.30	100.00	100.00	100.00
Ward-10	100.00	100.00	100.00	100.00	100.00	100.00	80.00	100.00	100.00	100.00
Ward-11	100.00	92.90	92.90	100.00	92.90	92.90	92.90	100.00	100.00	100.00
Ward-12	72.70	81.80	72.70	90.90	27.30	45.50	45.50	45.50	18.20	81.80
Ward-13	90.90	90.90	90.90	90.90	90.90	81.80	81.80	90.90	100.00	100.00
Ward-14	81.30	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Ward-15	83.30	91.70	91.70	91.70	91.70	91.70	91.70	100.00	100.00	100.00
Ward-16	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Ward-17	100.00	100.00	87.50	100.00	100.00	87.50	100.00	100.00	100.00	100.00
Ward-18	100.00	100.00	100.00	100.00	100.00	100.00	57.10	100.00	100.00	100.00
Ward-19	71.40	53.60	71.40	78.60	50.00	42.90	35.70	42.90	75.00	96.40
Ward-20	100.00	91.70	100.00	91.70	91.70	100.00	58.30	100.00	100.00	91.70
Ward-21	46.70	93.30	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Ward-22	42.90	92.90	17.90	96.40	17.90	53.60	50.00	96.40	100.00	100.00
Ward-23	87.50	100.00	87.50	91.70	91.70	83.30	54.20	91.70	95.80	95.80
Ward-24	100.00	83.30	83.30	91.70	100.00	91.70	75.00	66.70	83.30	91.70
Ward-25	88.90	100.00	94.40	77.80	94.40	100.00	38.90	100.00	100.00	94.40
Ward-26	66.70	75.00	58.30	75.00	75.00	58.30	58.30	75.00	75.00	83.30
Ward-27	85.70	96.40	92.90	96.40	92.90	92.90	89.30	96.40	53.60	100.00
Ward-28	94.40	94.40	77.80	88.90	77.80	88.90	94.40	88.90	100.00	100.00
TOTAL	84.20	90.00	83.10	90.90	82.00	84.00	68.90	88.40	89.30	97.60

Source: Computed from Primary Data of JMC Household Survey, 2024

Appendix. 2B: Availability of Services (%) in the Jhumritelaiya Municipal Council (JMC), 2024										
Ward No.	Vending Zone	Septic Tank Cleaning	Playground	Park Facility	Crematorium Services	Slaughter / Tanneries	House Plan Approval	Birth/Death/Marriage Registration	Health Facilities	Grievances Redressal
Ward-1	96.80	100.00	93.50	100.00	100.00	93.50	71.00	100.00	93.50	100.00
Ward-2	54.50	90.90	72.70	81.80	72.70	95.50	95.50	95.50	100.00	95.50
Ward-3	12.50	87.50	12.50	87.50	100.00	100.00	87.50	100.00	100.00	100.00
Ward-4	100.00	92.90	100.00	100.00	100.00	92.90	100.00	100.00	100.00	100.00
Ward-5	0.00	100.00	0.00	100.00	14.30	0.00	100.00	100.00	100.00	100.00
Ward-6	100.00	100.00	100.00	100.00	100.00	100.00	7.10	100.00	100.00	100.00
Ward-7	82.80	82.80	96.60	100.00	100.00	93.10	82.80	100.00	100.00	96.60
Ward-8	92.90	85.70	100.00	100.00	100.00	85.70	50.00	100.00	100.00	100.00
Ward-9	100.00	100.00	93.30	100.00	100.00	93.30	100.00	100.00	100.00	100.00
Ward-10	100.00	100.00	100.00	100.00	100.00	90.00	50.00	100.00	100.00	100.00
Ward-11	92.90	100.00	92.90	100.00	64.30	57.10	100.00	100.00	100.00	100.00
Ward-12	81.80	90.90	45.50	45.50	90.90	9.10	36.40	100.00	90.90	100.00
Ward-13	90.90	100.00	90.90	100.00	100.00	81.80	90.90	100.00	100.00	100.00
Ward-14	100.00	87.50	100.00	93.80	100.00	100.00	100.00	100.00	100.00	100.00
Ward-15	100.00	100.00	91.70	91.70	100.00	100.00	100.00	100.00	100.00	100.00
Ward-16	80.00	100.00	100.00	100.00	80.00	100.00	100.00	100.00	100.00	100.00
Ward-17	100.00	100.00	100.00	87.50	100.00	100.00	100.00	100.00	100.00	100.00
Ward-18	100.00	100.00	100.00	100.00	100.00	100.00	57.10	100.00	100.00	100.00
Ward-19	32.10	96.40	39.30	82.10	75.00	92.90	100.00	100.00	100.00	100.00
Ward-20	100.00	91.70	100.00	100.00	75.00	100.00	75.00	100.00	100.00	100.00
Ward-21	100.00	100.00	100.00	100.00	100.00	53.30	100.00	100.00	100.00	100.00
Ward-22	100.00	96.40	100.00	96.40	100.00	100.00	100.00	100.00	100.00	100.00
Ward-23	87.50	91.70	95.80	100.00	91.70	95.80	70.80	83.30	87.50	100.00
Ward-24	66.70	91.70	66.70	91.70	91.70	75.00	100.00	100.00	91.70	100.00
Ward-25	22.20	100.00	22.20	100.00	88.90	22.20	100.00	100.00	100.00	100.00
Ward-26	75.00	100.00	75.00	66.70	100.00	0.00	41.70	100.00	100.00	100.00
Ward-27	89.30	92.90	100.00	96.40	96.40	0.00	96.40	100.00	100.00	100.00
Ward-28	94.40	100.00	88.90	100.00	72.20	61.10	100.00	100.00	100.00	100.00
TOTAL	80.00	95.10	82.00	94.20	89.80	74.20	84.40	98.90	98.40	99.60

Source: Computed from Primary Data of JMC Household Survey, 2024