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AN ASSESSMENT OF THE SPATIAL GROWTH OF SANGERE FUTY, GIREI LOCAL GOVERNMENT AREA OF ADAMAWA STATE

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Abstract

The aim of the paper is to assessing the spatial growth of Sangere FUTY with a view to addressing possible physical planning problems in the study area. To achieve this, the study pursued the general objectives of mapping and analyzing the spatial distribution of facilities, utilities and service in the study area and examines the compliance of existing facilities, utilities and services to space standards and planning criteria. Data were obtained from questionnaire administered to 250 sampled respondents using simple random sampling technique, other sources of data collection includes personal observation, and interview schedule with the Ministry of Environment and Adamawa State Urban Planning and Development Authority (ASUPDA). The data collected from the field of study was collated, analysed using Microsoft Excel 2010 and ArcMap 10.2, this was to support data management, analysis and visualization needs. The results of the findings indeed showed that the negative effects of population increase in residential development in the study area on infrastructure out-weigh the benefits. Issues such as poor waste management, absence of outdoor recreational facilities, lack of drainage system, secondary

[redacted]

Spatial Growth, Sangere Futy, Girei Local Government Area, Adamawa State, Assessment

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schools not spatially distributed, and absence of public water among others mentioned in this document; necessitate the design of a proposed plan aimed at tackling the spatial planning challenges currently in place. This should not only be applicable in Sangere FUTY community only; but in the long run should be prepared for the different uniform neighborhood all through the Girei Local Government Area. The study also recommends that Facilities most notably educational institutions should be ensured they comply to planning standards such as land area before they are implemented. Deficiency in land area leads to overcrowding at schools and subsequently lack of concentration among others.

Introduction

Spatial planning is a key instrument for establishing long-term, sustainable frameworks for social, territorial and economic development both within and between countries. Its primary role is to enhance the integration between sectors such as housing, transport, energy and industry, and to improve national and local systems of urban and rural development, also taking into account environmental considerations (Abdullahi H.and Muhammed Y.U). This study on spatial planning is an overview document that draws the attention of policymakers to the importance of spatial planning. It also aims at raising awareness of the importance of increased community involvement and social cohesion as well as of the role of all parties concerned in territorial development in the implementation of housing and related policies and in environmental protection.

The study puts emphasis on the need to establish a shared vision and consistent direction for spatial development based on the efficient use of resources, good governance, public-private partnerships, and effective decision-making with regard to investments. While the document is intended for a pan-European audience, it pays special attention to the requirements and challenges faced by countries in transition. Due to the variations in political, cultural and economic conditions between UNECE member States, a single universal approach to spatial planning is not recommended. The study should thus be viewed as a resource that must be adapted to suit the needs of the country in question.

According to Adler, S. (2008) Spatial planning has a regulatory and a development function. As a regulatory mechanism, government (at local, regional and/or national levels) has to give approval for given activity; as a development mechanism, government has to elaborate upon development tools for providing services and infrastructure, for

establishing directions for urban development, for preserving national resources, and for establishing incentives for investment, etc. Spatial planning is planning framework to:

- Promote territorial cohesion through a more balanced social and economic development of regions, and improved competitiveness;
- Encourage development generated by urban functions and improve the relationship between the town and countryside;
- Promote more balanced accessibility;
- Develop access to information and knowledge;
- Reduce environmental damage;
- Enhance and protect natural resources and natural heritage;
- Enhance cultural heritage as a factor for development;
- Develop energy resources while maintaining safety;
- Encourage high-quality, sustainable tourism;
- Limit the impact of natural disasters.

Effective spatial planning also helps to avoid the duplication of efforts by actors such as government departments, commercial developers, communities and individuals (FGN,2007) This is of great importance, as many of the above issues are of a cross-sectorial nature and therefore should be treated as such. Spatial planning is a public sector activity at all levels. Hence a clear distribution of responsibilities is needed between the different levels of administration.

Due to the influence of Modibbo Adama University Yola, the Sangere community has witness rapid population growth coupled with infrastructure developments. Such developments have been in most cases of unplanned and uncoordinated resulting in dumping of waste in any available open space due to absence of designated waste disposal sites, absence of drainage system leading to erosion destructing roads condition, absence of recreational facilities, poor water supply system, lack of public convenience, absence of open space, and uneven distribution of available facilities such as educational institutions.(NPC,2004) Considering the importance and the role facilities, utilities and services plays in the daily operation of community residents, there is need to assess the availability and spatial distribution of facilities with a view to designing a spatial planning proposal for Sangere community.

The aim of the paper is to assess the spatial growth of Sangere FUTY with a view to address possible physical planning problems in the study area, through the following objectives:

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i. To map and analyze the spatial distribution of facilities, utilities and service in Sangere FUTY.
ii. To examine the compliance of existing facilities, utilities and services to space standards and planning criteria.
iii. To review the standards and planning criteria in the provision of facilities, utilities and services.
iv. To design a propose plan for Sangere FUTY with a view to addressing possible physical planning problems.

MATERIALS AND METHODS

For the purpose of this study, the population consists of the residents of the Sangere FUTY community present at the time of data collection. This is so due the variability of the population of the Sangere FUTY community in terms of residents travels to and from the Sangere FUTY community.

Simple random sampling technique was used to administer questionnaire to the selected 250 sample respondents in the study area to perceive their views on the physical planning implication of the neighborhood. Simple random sampling technique is a probably sampling method which gives every individual an equal chance of being selected. The study adopted the simple random sampling technique because it is an unbiased sampling method.

Interviews was conducted with a cross section of the major stakeholders in the neighborhood such as Mai Anguwa, and Mai Jimilla. In addition, interviews were conducted with some staff of Adamawa State Urban Planning and Development Authority (ASUPDA) and Ministry of Land and Survey

Questionnaire administration was carried out which consists of a series of questions for the purpose of gathering information from respondents. The questionnaires were presented to the respondents and answered in written form. Structured questions was used in preparing closed and open-ended questions for the survey. To avoid bias resulting from questionnaire design, the questions were constructed in such a way that they are direct, simple and familiar to the respondents. Open-ended and unstructured questions are however used to probe for more qualitative data for in-depth analysis on the environmental quality indicators.

Field Observation/Survey was also adopted which involved the systematic selection, observation and recording of the characteristics that can be depicted from the site. A checklist was used as the tool to aid in the observation in order to complement the other

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field survey instruments. Maps were employed to establish the spatial distribution of facilities and services in the study area. Photographs and sketches of the area were taken to facilitate the analysis of the data generated.

Finally, the data collected were analyzed using descriptive statistics which make data potable, and help to summarize mass of raw data. The analysis carried out includes frequency distribution and percentile on Microsoft Excel 2010 and Buffer analysis on ArcMap 10.2. The results of the analysis were presented on tables, charts, and maps for easy comprehension.

Study Area

Sangere Futy is about 15kms away from Jimeta Metropolis to the south and part of Girei Local Government of Northern part of Adamawa State. It is situated along River Benue and the soil is lateritic clayish of tropical climate and wet season local variation originated from the peculiar metrological and geographical influence of the area general. With an average rainfall of 759 mm any year, and it spreads effectively for a period of about seven months: April to October. The dry season (November to March) is when harvesting of crops and preparation for the next planting season are done.

Geography and Topography

Girei Local Government Area has many topographical features and is located in a very distinct Geographic region. Girei lies on the banks of the River Benue which is the main tributary to the River Niger. Girei is also close to the Mandara Mountains which lie to the South and the Shebshi Mountains which lie to the North. The Shebshi Mountains, Dimlang (Vogel) Peak, is the second highest point (2,042 m) in Nigeria. Chappal Waddi also known as the "mountain of death" lies in the Gashaka Gumpti Nature Reserve with an access point to the Reserve in Yola.

RESULTS AND DISCUSSION

This chapter presents the data collected from the field of study through questionnaire administration which were collated, organized and analysed with the aid of Microsoft Excel 2010, and ArcMap 10.2 and presented in tables, charts, plates and maps.

Socio-Economic Characteristics of Respondents

The data obtained from the respondents socio-economic characteristics which include sex of respondents, educational qualification, age group and average monthly income among others were analysed and presented below:

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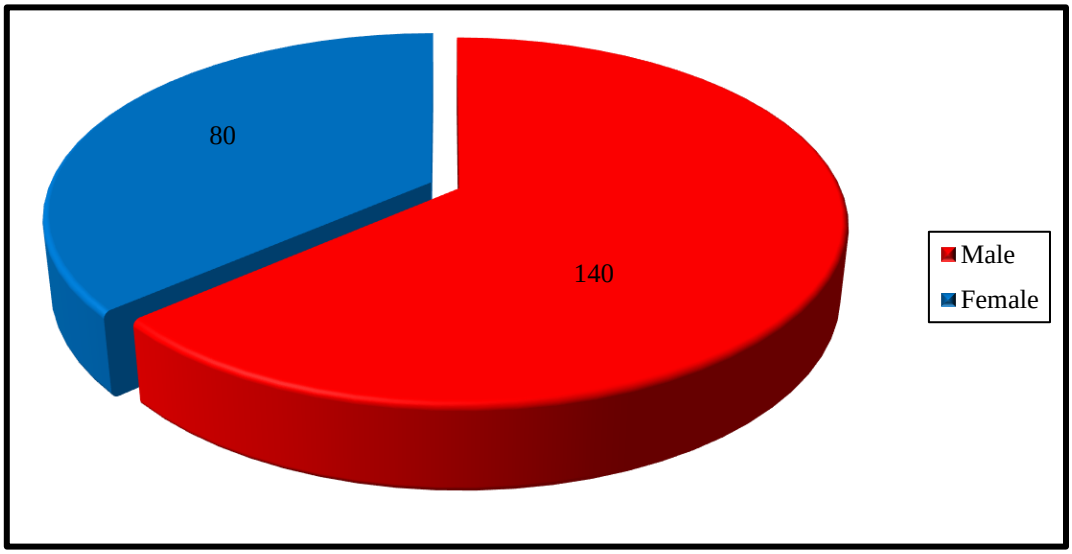


Figure 1: Sex of respondents.
Source: Field Survey, 2024.

Statistics from figure 1 shows that 63.6% of the respondents are male while 36.4% of the respondents are female.

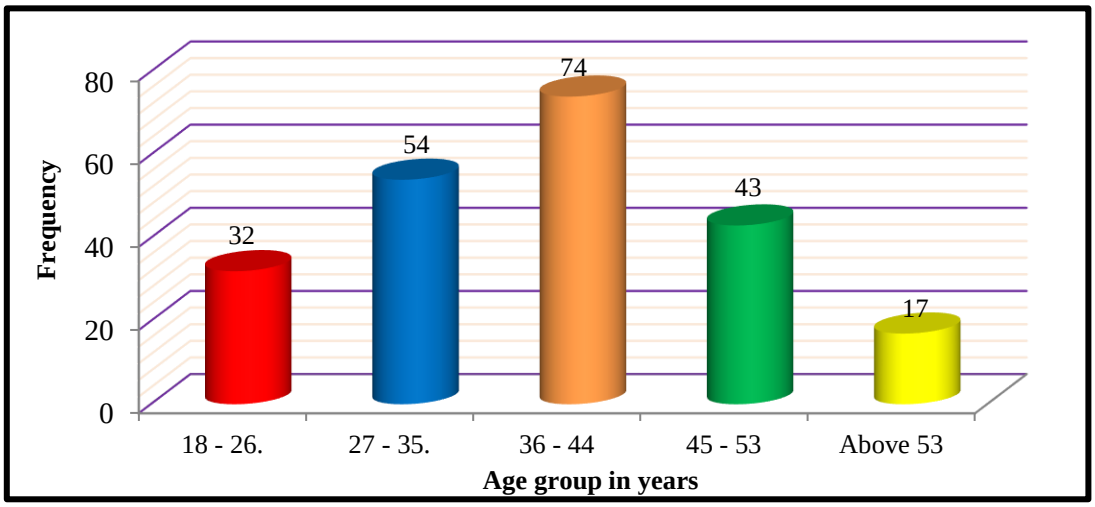


Figure 2: Age group of respondents.
Source: Field Survey, 2024.

Statistics from figure 2 indicates that 14.6% of the respondents are aged between 18 – 26 years old, 24.6% of the respondents are aged between 26 – 35 years old, 33.6% of the respondents are aged between 36 – 44 years old while 19.5% and 7.7% of the respondents are aged between 45 – 53 years old and above 53 years old respectively.

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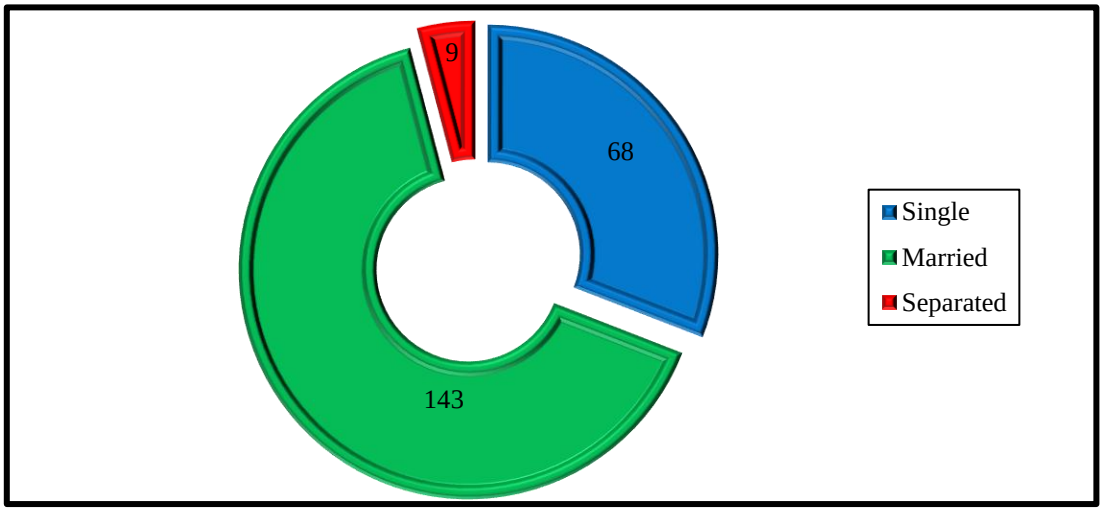


Figure 3: Marital status of respondents.
Source: Field Survey, 2024.

Figure 3 shows that 30.9% of the respondents are single while 65.0% and 4.1% of the respondents are married and separated respectively.

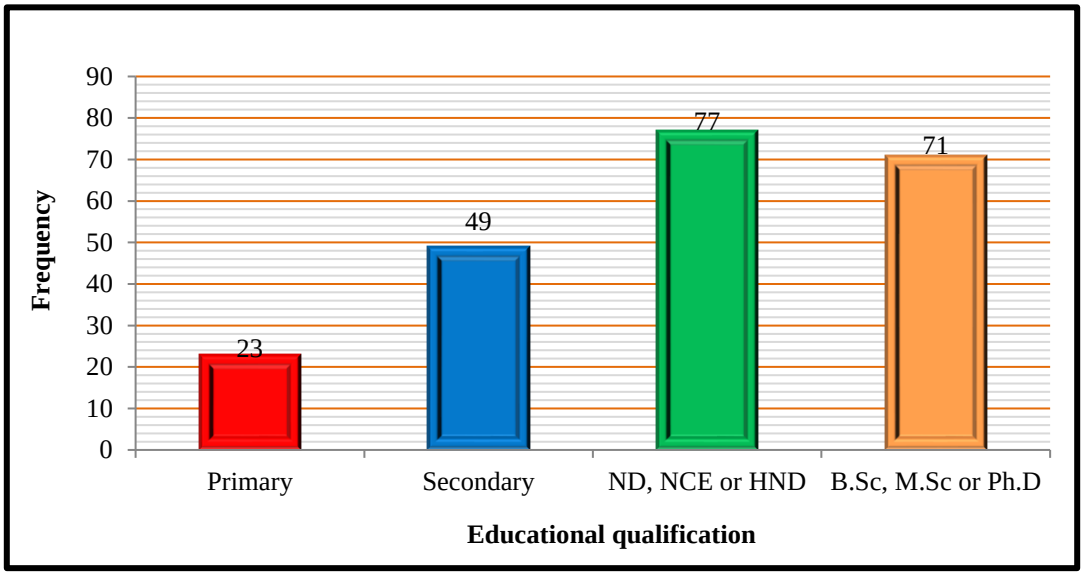


Figure 4: Respondents level of education.
Source: Field Survey, 2024.

Figure 4 shows that 10.4% of the respondents have primary school certificate, 22.3% of the respondents have secondary school certificate, 35.0% of the respondents have either ND, NCE or HND certificate while 23.3% of the respondents have B.Sc, M. Sc or Ph.D certificates.

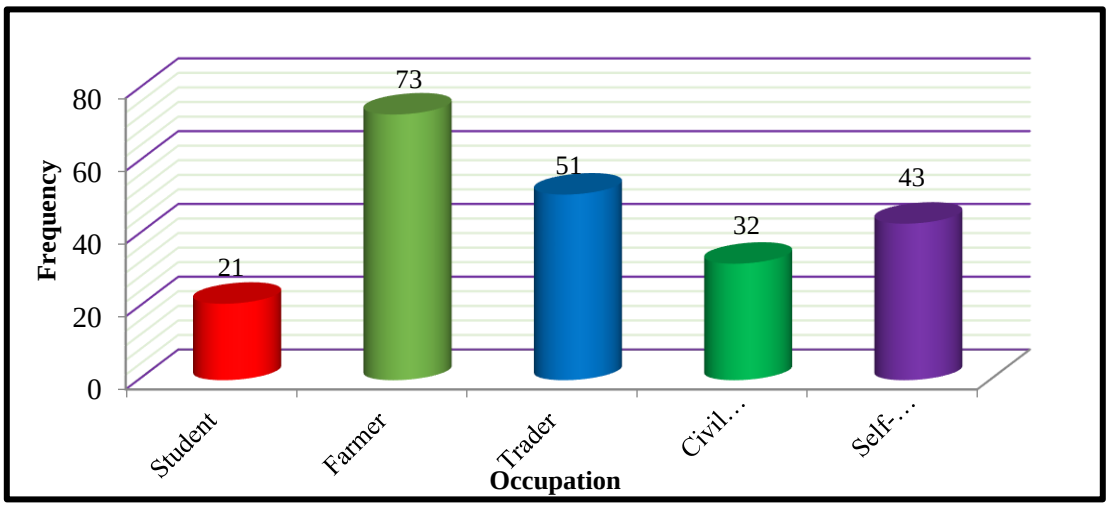


Figure 5: Occupation of respondents.
Source: Field Survey, 2024.

Figure 5 indicates that 9.5% of the respondents are students, 33.2% of the respondents are farmers, 23.2% of the respondents are traders, 14.5% of the respondents are civil servants, while 19.5% of the respondents are self-employed.

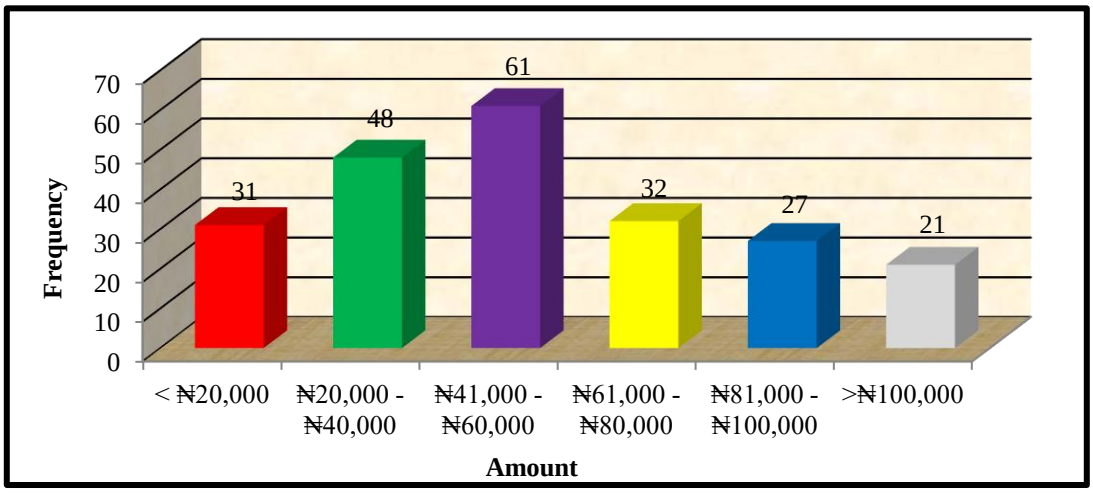


Figure 6: Average monthly household income.
Source: Field Survey, 2024.

Data from figure 6 indicates that 14.1% of the respondents average monthly household income is less than ₦20,000, 21.8% of the respondents average monthly household income is between ₦20,000 – ₦40,000, 27.7% of the respondents average monthly household income is between ₦41,000 – ₦60,000, 14.5% of the respondents average monthly household income is between ₦61,000 – ₦80,000,12.3% of the respondents average

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monthly household income is between ₦81,000 – ₦100,000, while 9.5% of the respondents average monthly household income is more than ₦100,000.

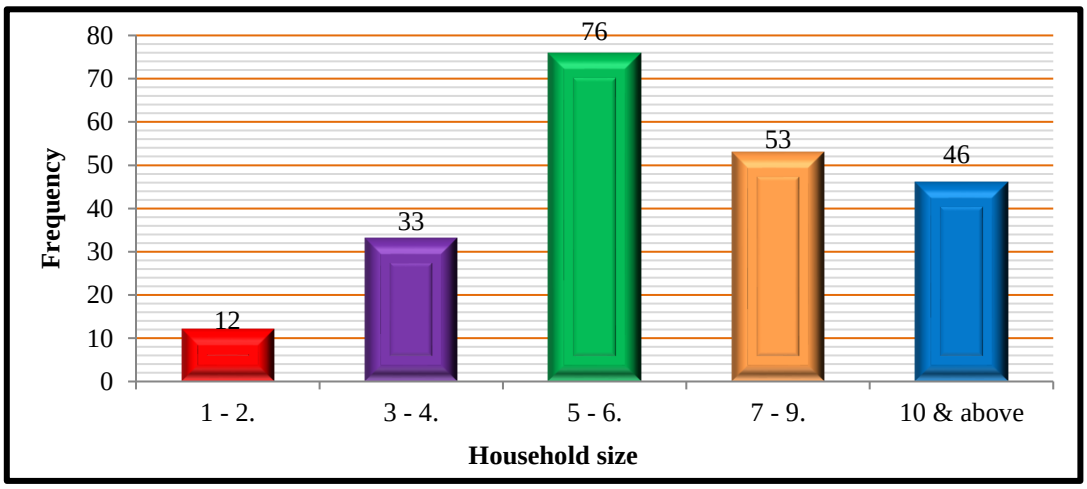


Figure 7: Respondents household size.
Source: Field Survey, 2024.

Figure 7 indicates that 5.5% of the respondents household size is between 1 – 2, 15.0% of the respondents household size is between 3 – 4, 34.5% of the respondents household size is between 5 – 6, 24.1% of the respondents household size is between 7 – 9 while 20.9% of the respondents household size is above 9.

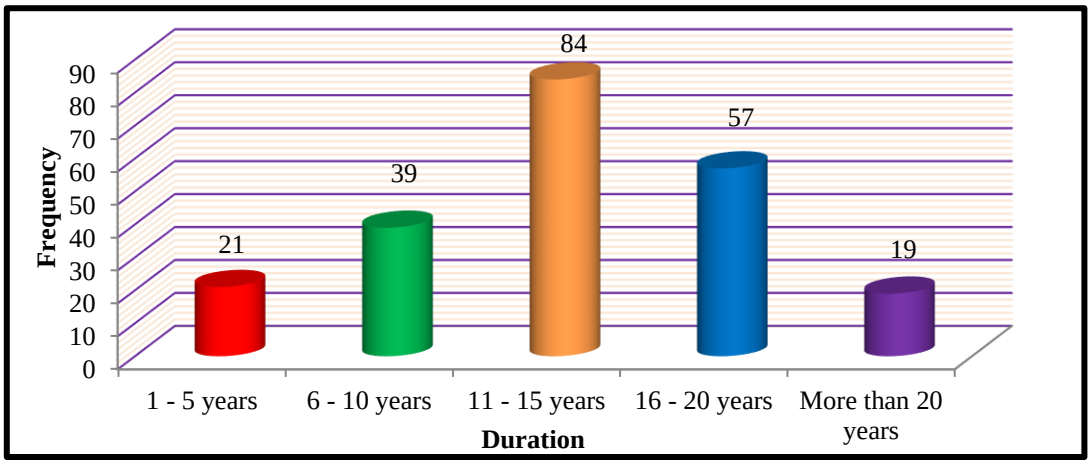


Figure 8: Duration of stay.
Source: Field Survey, 2024.

Figure 8 reveals that 9.5% of the respondents live in the area between 1 – 5 years, 17.7% of the respondents live in the area between 6 – 10 years, 38.2% of the respondents live in the

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area between 11 – 15 years, 25.9% of the respondents live in the area between 16 – 20 years, while 8.6% of the respondents live in the area for more than 20 years.

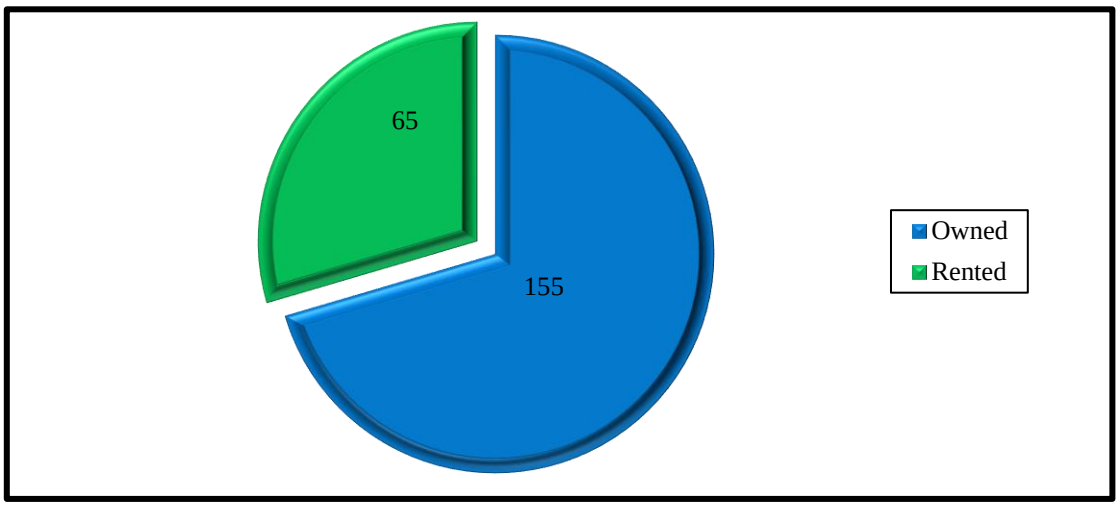


Figure 9: House ownership status.
Source: Field Survey, 2024.

Statistics from figure 9 reveals that 29.5% of the respondents are renting the apartment they live in while 70.5% of the respondents owned their houses.

Spatial Distribution of Land Uses

The data obtained on the spatial distribution of land uses and the condition of facilities, utilities and services were analysed and presented below:

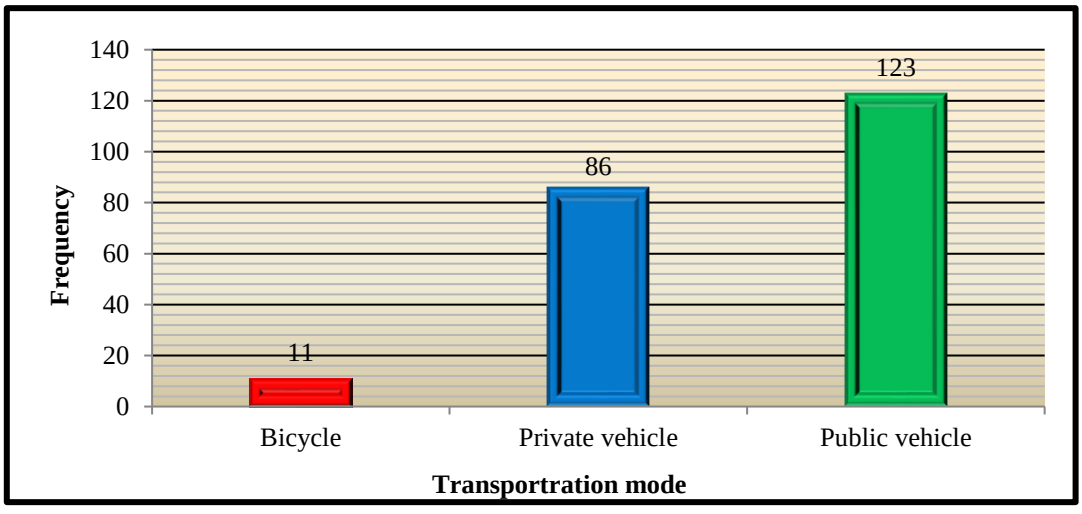


Figure 10: Respondent mode of transportation.
Source: Field Survey, 2024.

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Data from figure 10 indicated that 5.0% of the respondents uses bicycle as their mode of transportation, 39.1% of the respondents uses private vehicle as their mode of transportation whereas 55.9% of the respondents uses public vehicle as their mode of transportation.

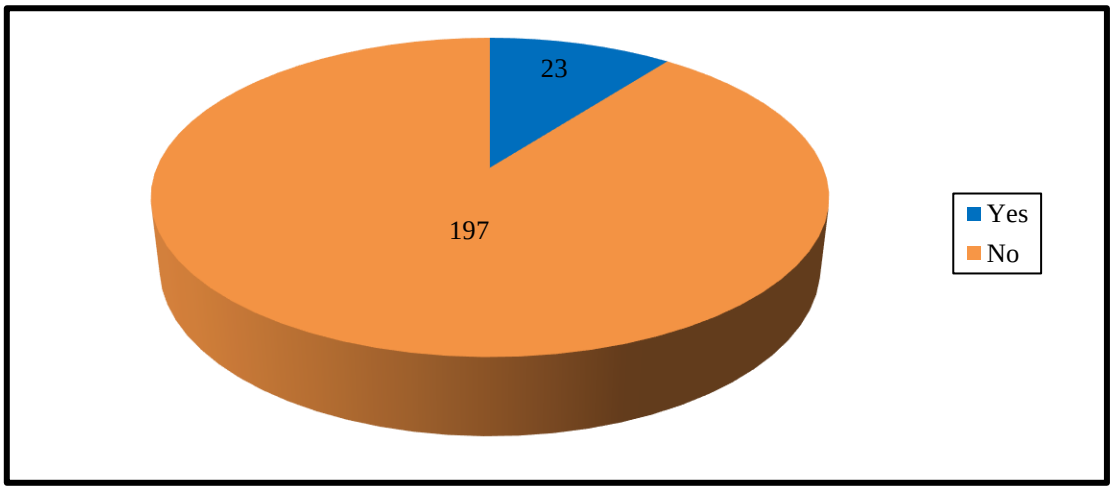


Figure 11: Access to public water supply.
Source: Field Survey, 2024.

Data from figure 11 indicated that 89.5% of the respondents have access to public water supply while 10.5% of the respondents don't have access to public water supply.

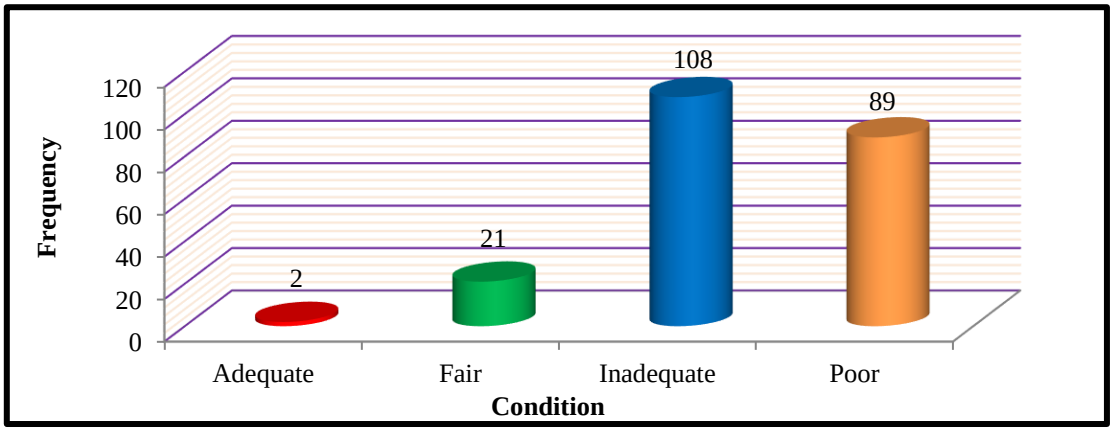


Figure 12: Condition of public water supply.
Source: Field Survey, 2024.

Figure 12 indicates that public water supply in the area is adequate according to 0.9% of the respondents while the condition of public water supply in the area is fair, inadequate and poor according to 9.5%, 49.1% and 40.5% of the respondents respectively.

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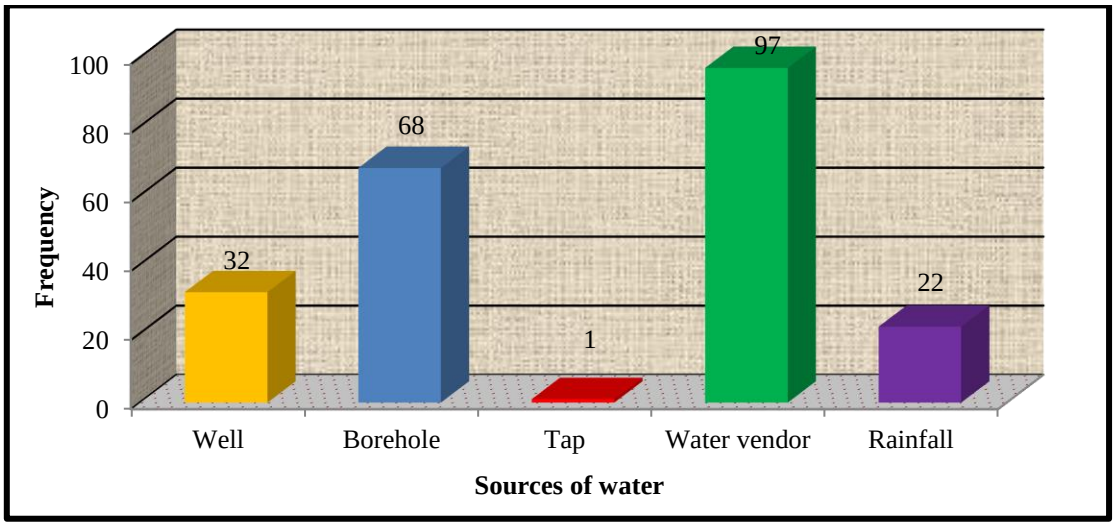


Figure 13: Major source of water supply.
Source: Field Survey, 2024.

Data from figure 13 shows that 14.5% of the respondents use well as their main source of water supply, 30.9% of the respondents uses borehole as their main source of water supply, 0.5% of the respondents use tap as their main source of water supply whereas 44.1%, and 10.0% of the respondents use water vendor and rainfall respectively as their major source of water supply.

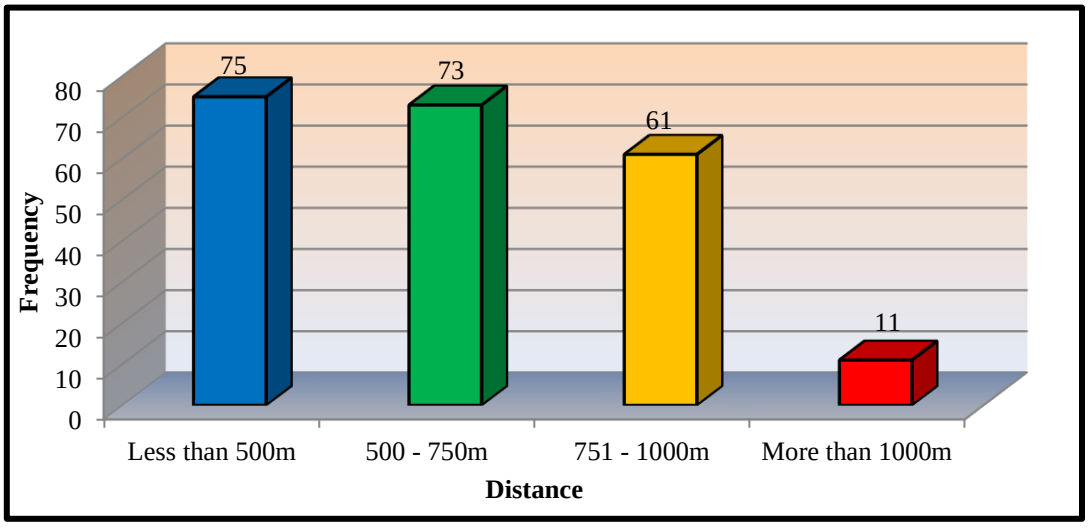


Figure 14: Distance to source of water supply
Source: Field Survey, 2024.

Figure 14 reveals that 34.1% of the respondents distance to source of water supply is less than 500 meters, 33.2% of the respondents distance to source of water supply is between

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500 – 750 meters, 27.7% of the respondents distance to source of water supply is between 751 – 1000 meters while 5.0% of the respondents distance to source of water supply is more than 1000 meters.

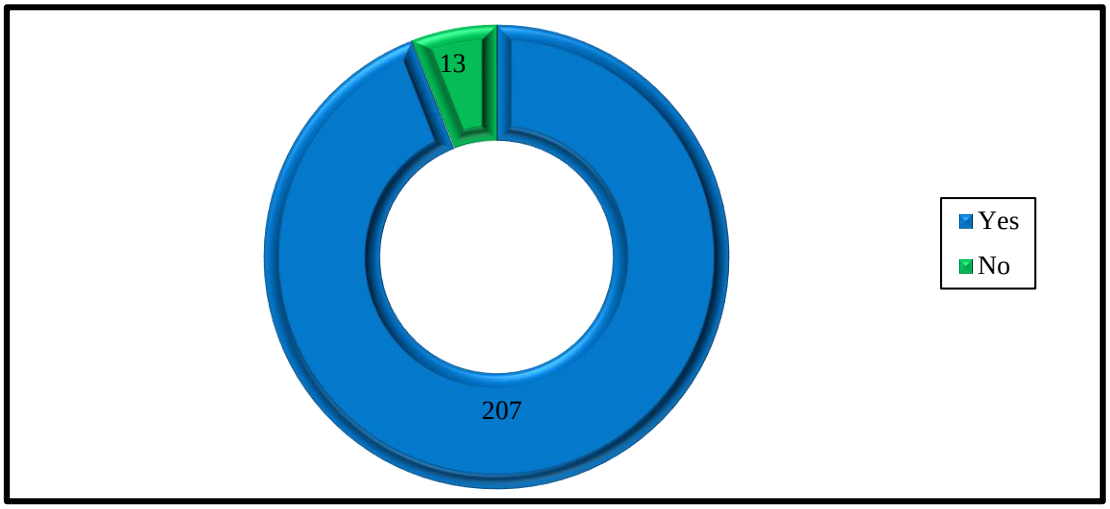


Figure 15: Access to health facility.
Source: Field Survey, 2024

Analysis from figure 15 reveals that 94.1% of the respondents have access to health facilities whereas 5.9% of the respondents do not have access to health facilities in the area.

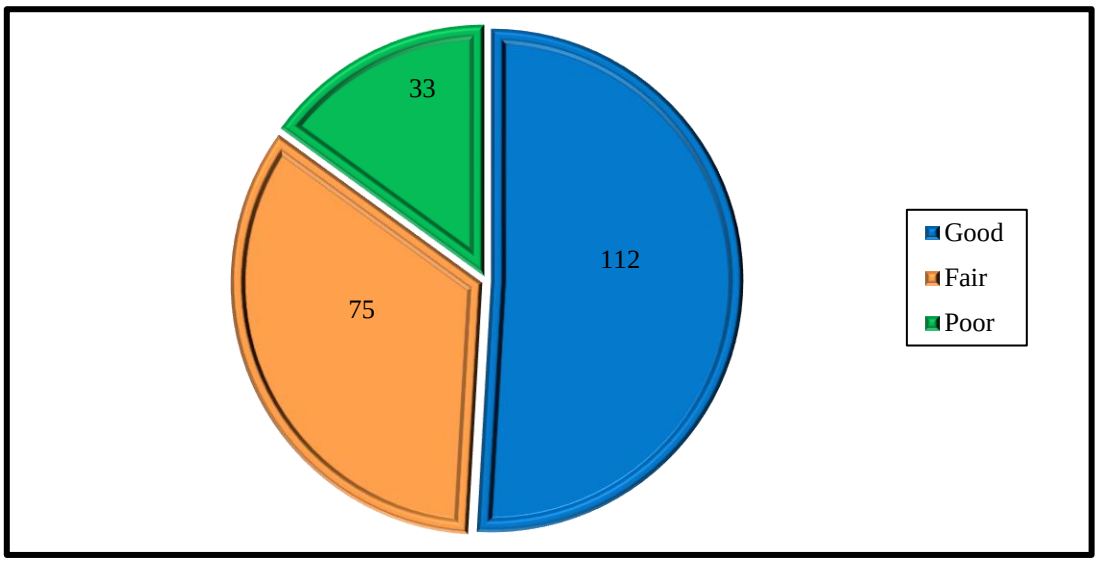


Figure 16: Condition of health facility.
Source: Field Survey, 2024

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Figure 16 shows that the health facilities in the study area are in good condition according to 50.9% of the respondents whereas 34.1% and 15.0% of the respondents are of the opinion that the condition of health facilities in the area is fair and poor respectively.

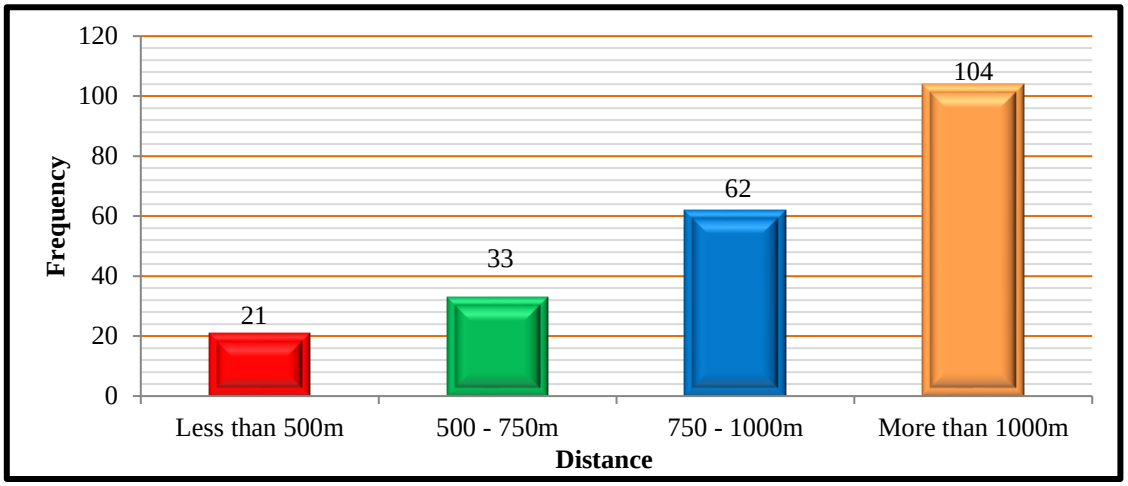


Figure 17: Distance to nearest health facility.
Source: Field Survey, 2024.

Data from figure 17 reveals that 9.5% of the respondents distance to nearest health facility in the area is less than 500 meters, 15.0% of the respondents distance to nearest health facility is between 500 – 750 meters, 28.2% of the respondents distance to nearest health facility is between 751 – 1000 meters while 47.3% of the respondents distance to nearest health facility is more than 1000 meters.

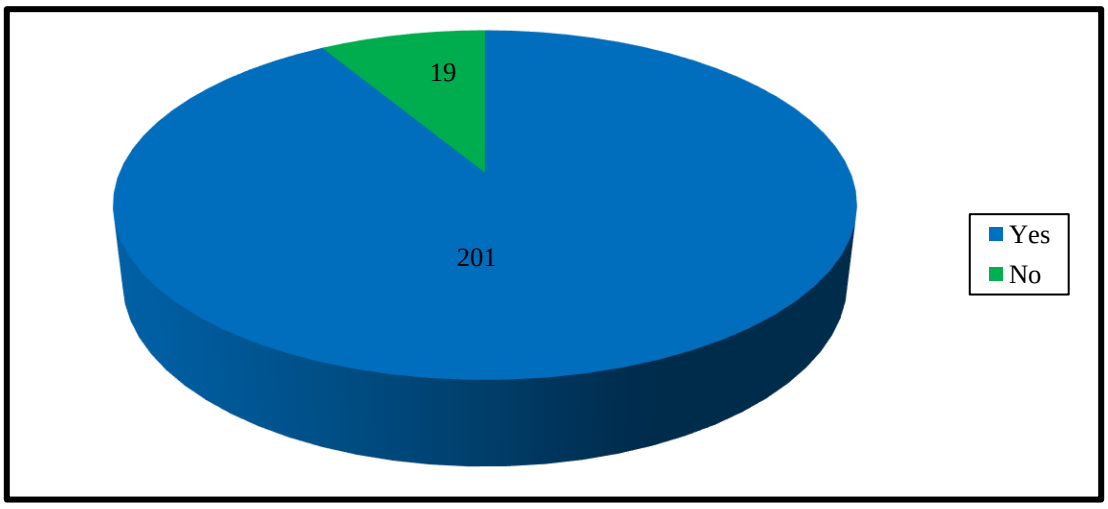


Figure 18: Access to electricity supply.
Source: Field Survey, 2024

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Information from figure 18 shows that 91.4% of the respondents have access to electricity supply whereas 8.6% of the respondents don not have access to electricity supply in the area.

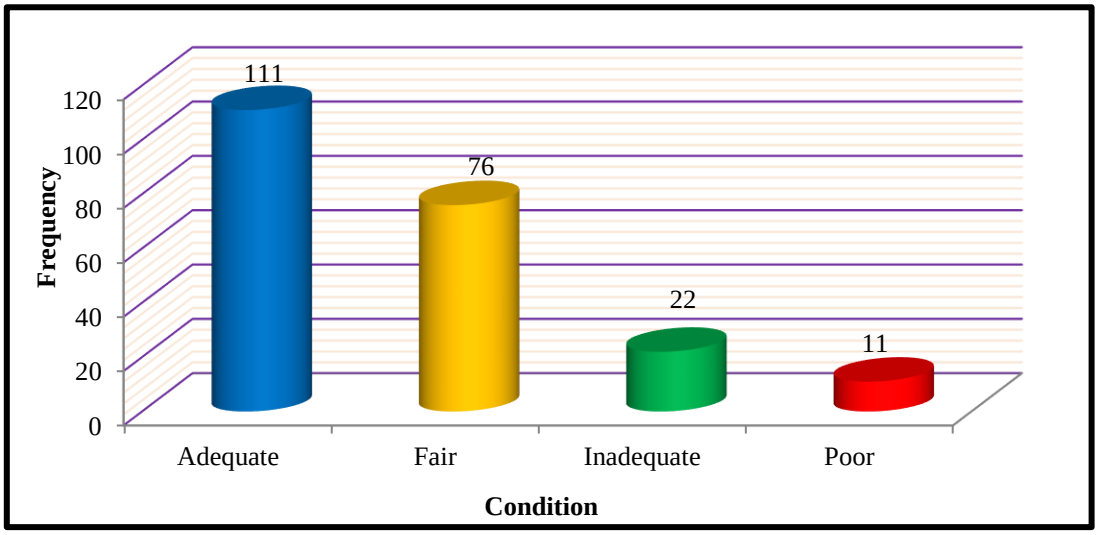


Figure 19: Condition of electricity supply.
Source: Field Survey, 2024

Figure 19 reveals that the condition of electricity supply in the study area is adequate according 50.5% of the respondents, the condition of electricity supply in the area is fair according to 34.5% of the respondents whereas 10.0% and 5.5% of the respondents are of the opinion that the condition of electricity supply in the area is inadequate and poor respectively.

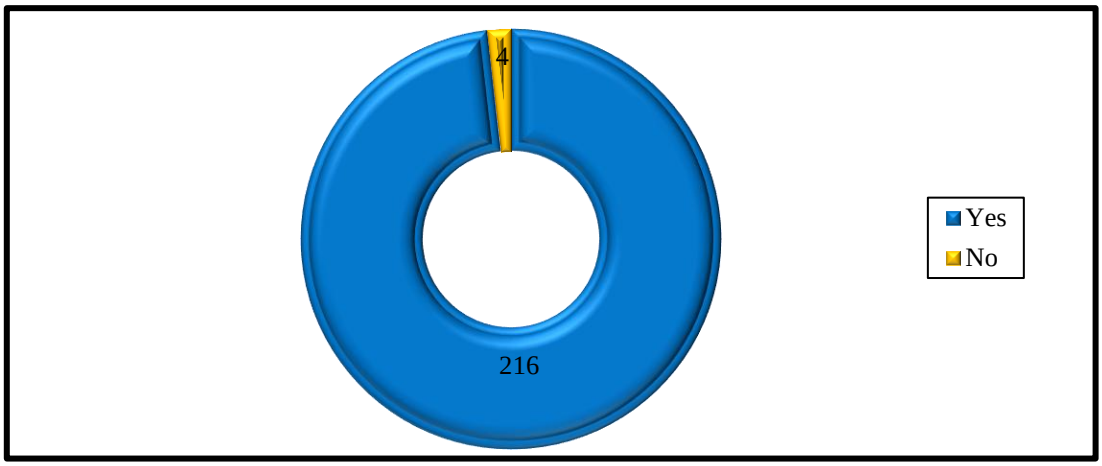


Figure 20: Access to primary and secondary school.
Source: Field Survey, 2024

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Analysis from figure 20 reveals that 98.2% of the respondents have access to primary and secondary schools in the study area whereas 1.8% of the respondents do not have access to primary and secondary schools in the study area.

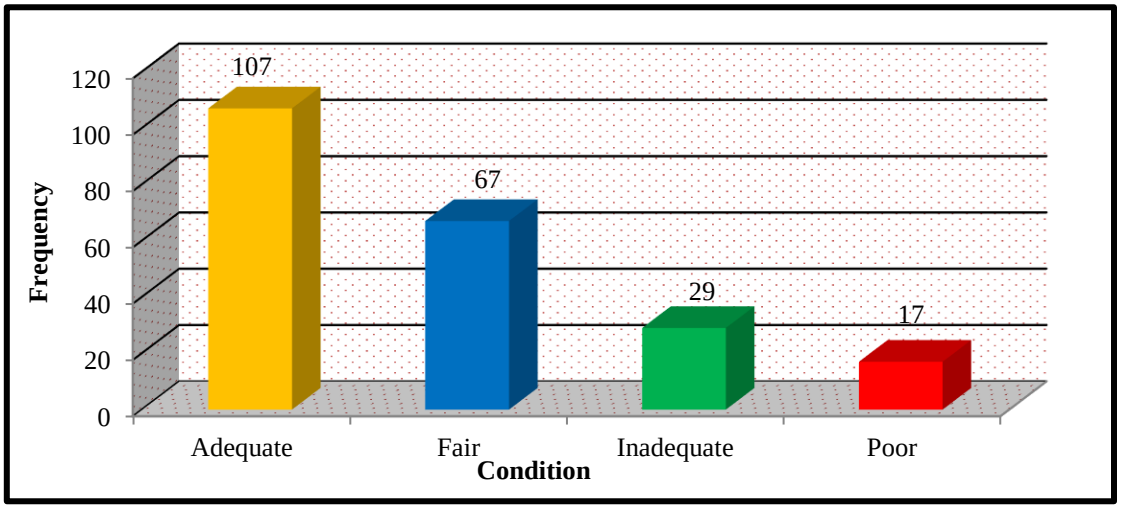


Figure 21: Condition of primary and secondary school.
Source: Field Survey, 2024.

Figure 21 reveals that the condition of primary and secondary schools in the study area is adequate according 49.5% of the respondents, the condition of primary and secondary schools in the area is fair according to 30.5% of the respondents whereas 13.1% and 7.7% of the respondents are of the opinion that the condition of primary and secondary schools in the area is inadequate and poor respectively.

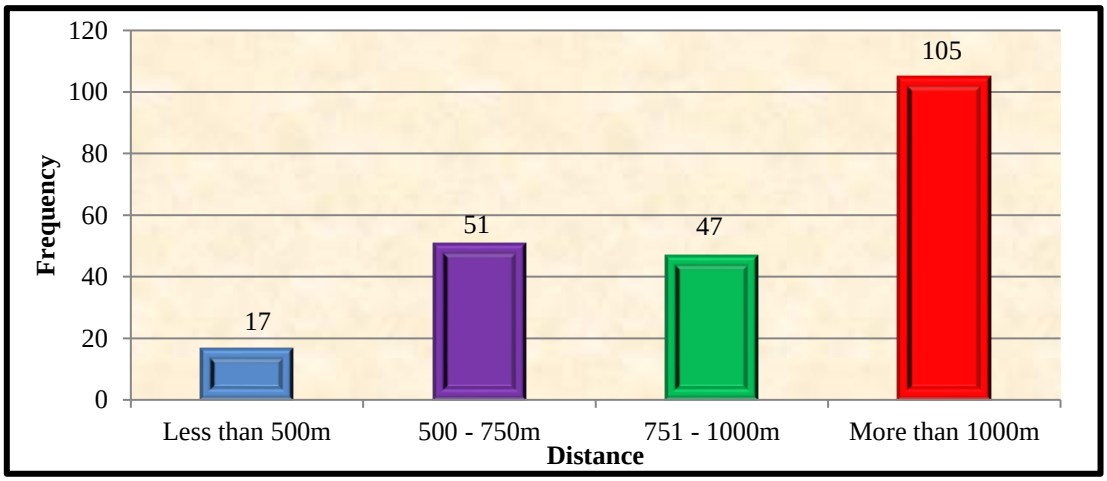


Figure 22: Distance to primary and secondary school.
Source: Field Survey, 2024.

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Data from figure 22 reveals that 7.7% of the respondents distance to primary and secondary schools in the area is less than 500 meters, 23.2% of the respondents distance to primary and secondary schools is between 500 – 750 meters, 21.4% of the respondents distance to primary and secondary schools is between 751 – 1000 meters while 47.7% of the respondents distance to primary and secondary schools is more than 1000 meters.

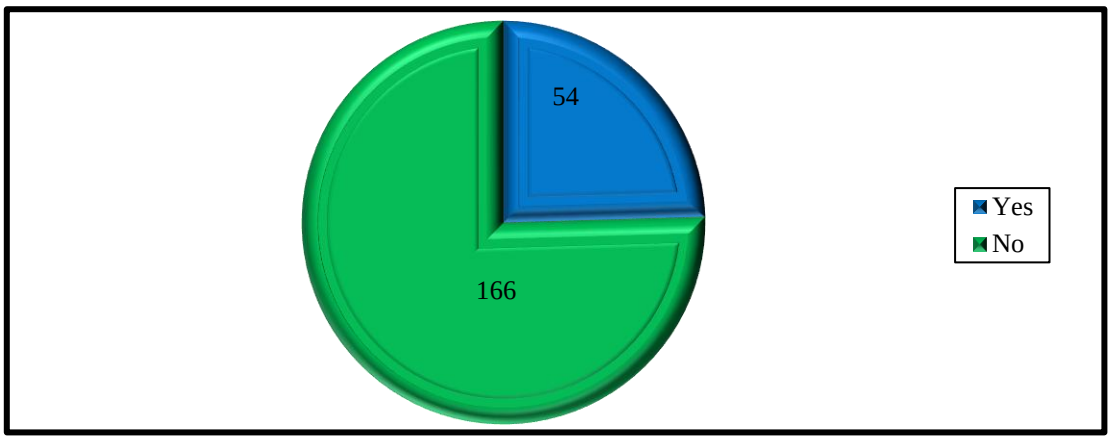


Figure 23: Access to recreational facility.
Source: Field Survey, 2024.

Figure 23 shows that 24.5% of the respondents have access to recreational facility in the study area whereas 75.5% of the respondents are of the opinion that they don't have access to recreational facility in the area.

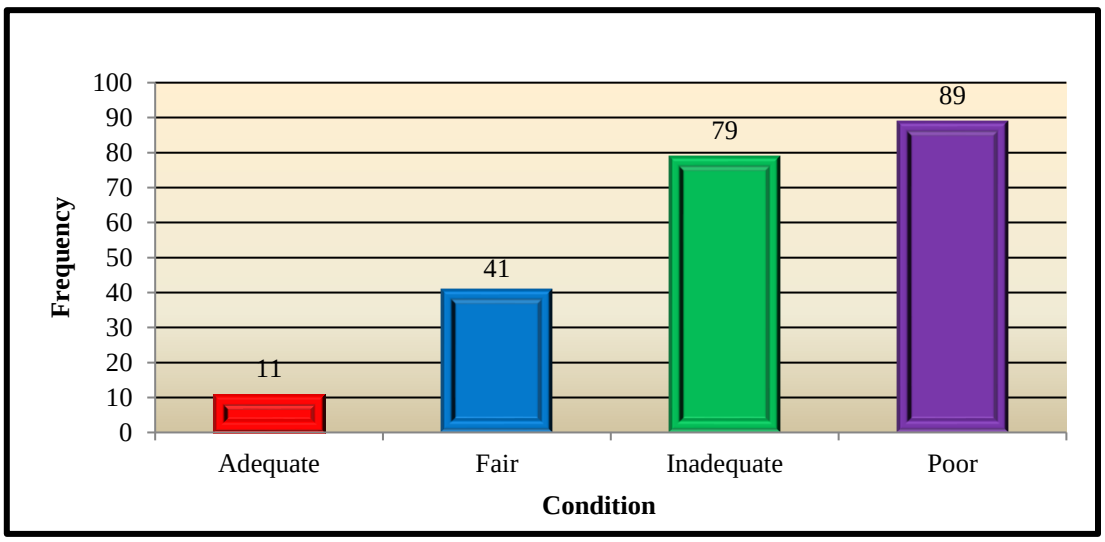


Figure 24: Condition of recreational facilities.
Source: Field Survey, 2024.

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Data from figure 24 indicated that the condition of recreational facilities in the study area is adequate according 5.0% of the respondents, the condition of recreational facilities in the area is fair according to 18.6% of the respondents whereas 35.9% and 40.5% of the respondents are of the opinion that the condition of recreational facilities in the area is inadequate and poor respectively.

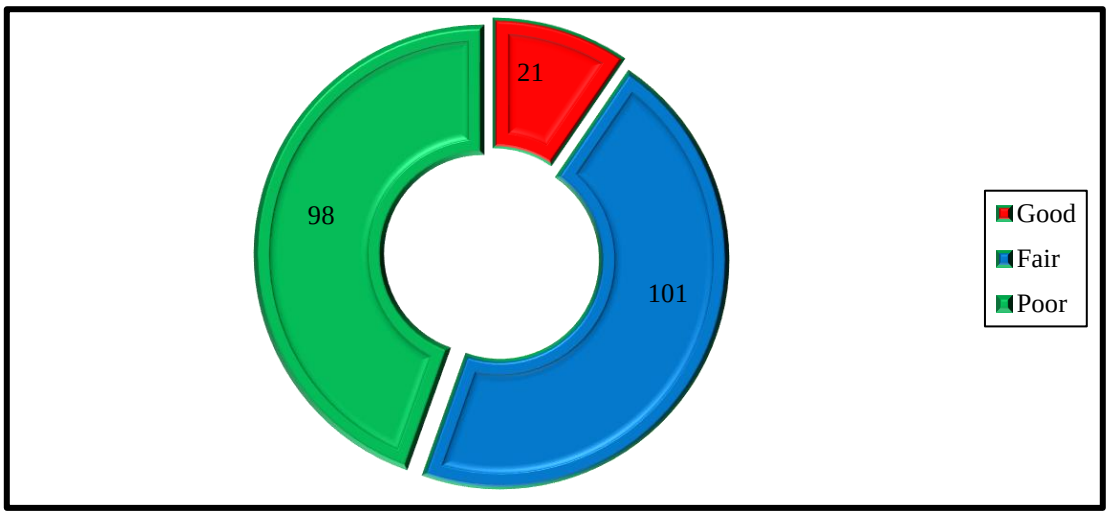


Figure 25: Condition of road network.
Source: Field Survey, 2024.

Figure 25 reveals that in condition of road network in the study area is good according to 9.5% of the respondents, 45.9% of the respondents rate the road network in the area as fair while 44.5% of the respondents view road network in the study area as poor in condition.

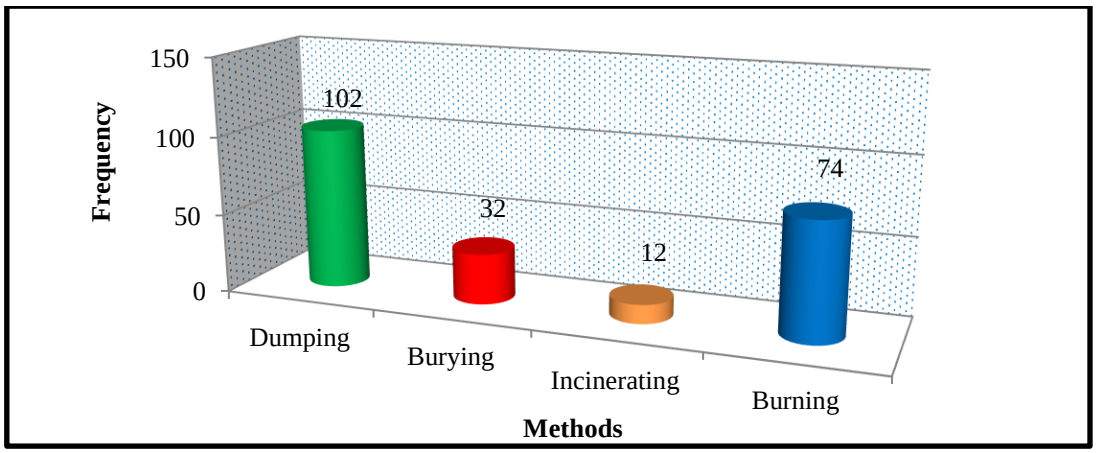


Figure 26: Methods of waste disposal.
Source: Field Survey, 2024.

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Data from figure 26 indicated that in 26.4% of the respondents dump their waste in any available space, 14.5% of the respondents bury their waste, 5.5% of the respondents disposed their waste by incineration while 22.6% of the respondents burn their waste.

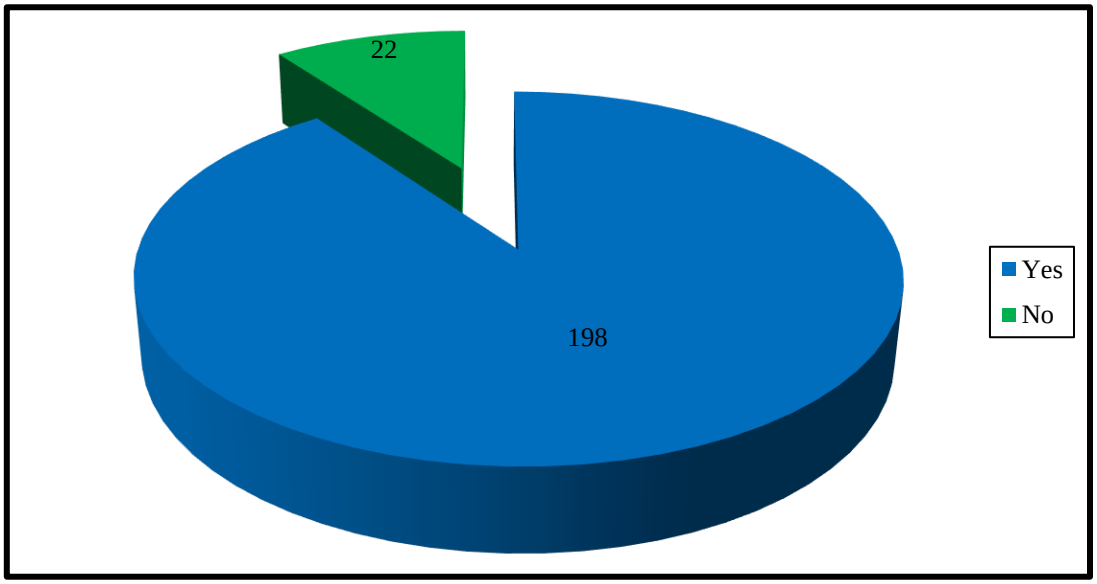


Figure 27: Presence of security challenge.
Source: Field Survey, 2024.

Figure 27 shows that 90% of the respondents acknowledge the presence of security challenge in the study area whereas 10% of the respondents do not acknowledge the presence of security challenge in the study area.

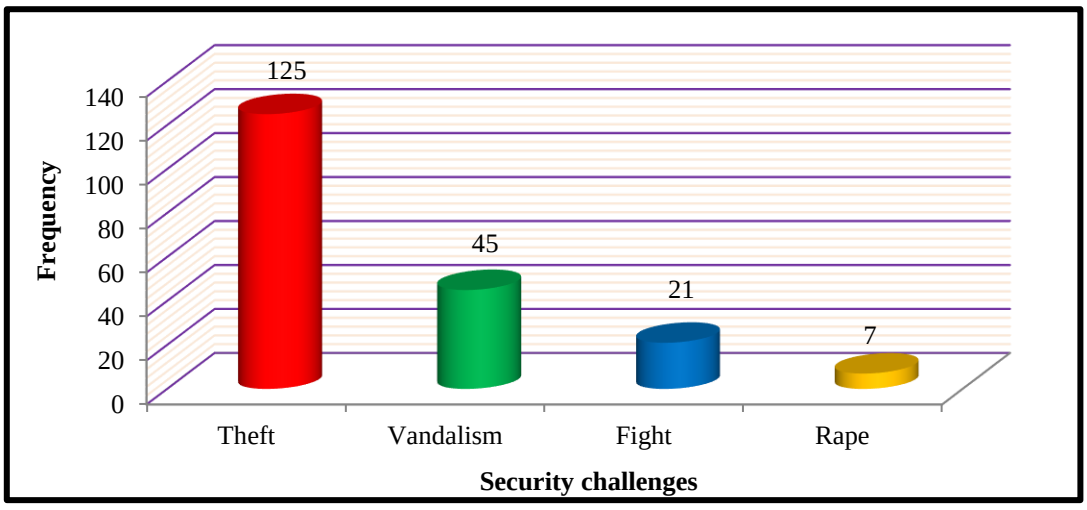


Figure 28: Nature of security challenge.
Source: Field Survey, 2024.

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Analysis from Figure 28 indicates that there is presence of theft in the study area according to 56.8% of the respondents, vandalism has been witness by 20.5% of the respondents, while 9.5% and 3.2% of the respondents are of the opinion that fight and rape are the security challenges presence in the area respectively.

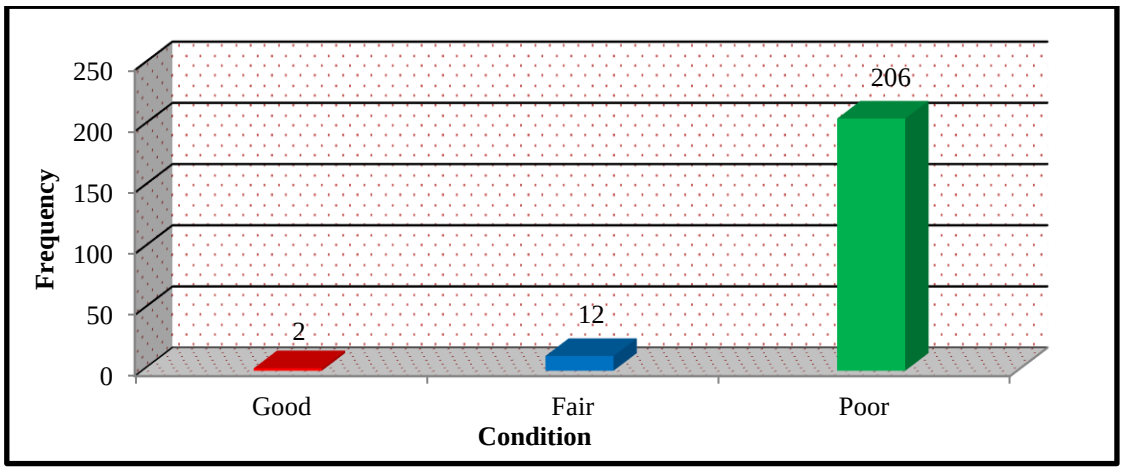


Figure 29: Condition of drainage system.
Source: Field Survey, 2024.

Figure 29 shows that the drainage system in the area is in good condition according to 0.9% of the respondents, 5.5% of the respondents view drainage condition in the area is fair while 93.6% of the respondents view drainage system in the study area as poor in condition.

CONCLUSION

The importance of infrastructure as basic needs for development and economic growth has been recognized for long. For example, the First National Development Plan (1962-1968) contained provisions for the dispersal of infrastructural facilities to rural areas, a need which was further stressed in the subsequent plans. Mc Neil (1993) enthused that the importance of infrastructural facilities had won due recognition so much so that many states created institutions for their provision and expansion. This paper is a preliminary study that has examined the availability of facilities, utilities and services in Sangere community, and their compliance to space standards and planning criteria. It found out that though majority of areas have significant presence of facilities, utilities and services that enhance efficient functioning of the Sangere community, they are not equitably distributed. It suggests that a comprehensive strategy that will eliminate disparities that exist within L.G.As and between L.G.As be instituted. It also suggests that an articulated and integrated plan for social infrastructural provision indicating priority areas using

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acceptable criteria is needed for costs to be minimized. Since social infrastructural availability does not necessarily translate to accessibility or utility, to achieve genuine development, social infrastructural provision in the study area needs an excellent institutional framework.

RECOMMENDATIONS

In light of the findings, the following were recommended;

1) Water is a basic need, as such, water facilities should be monitored and repaired immediately to avoid decay of water facilities.
2) Facilities most notably educational institutions should be ensured they comply to planning standards such as land area before they are implemented. Deficiency in land area leads to overcrowding at schools and subsequently lack of concentration.
3) When proposing a new facility and utility, the community should be consulted and carried along the implementation phases.
4) Community residents should be enlightened on the need to carefully manage and use facilities and utilities provided as their personal belongings. This will increase the life span of facilities and utilities.
5) Community residents should endeavor and corporate to carryout minor repairs on community facilities and utilities rather than waiting for the governments.

Proposal

In proposing a plan for Sangere community, the following neighbourhood facilities were considered: drainage, public convenience, recreation facilities, secondary school, water supply and waste management. Furthermore, the researcher reviewed the standards and principles guiding spatial distribution of facilities before proposing a plan with a view to improving the spatial plan of Sangere community.

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