

Study On the Identification and Planning for Provision of Adequate Infrastructures in Girei Local Government Area, North-Eastern Part of Nigeria

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DOI: 10.56201/ijgem.v10.no8.2024.pg65.79

Abstract

The present research aimed at identification and planning for provision of adequate infrastructures in Girei Local Government area, North-eastern part of Nigeria. Primary data were obtained using well-structured questionnaires were distributed to the 90 respondents randomly selected. The data obtained were subjected to descriptive statistical analysis. The results revealed most of the respondents were males (65 %) with majority within the age of 15-29 (35.56%) having 72.22 % married and most of them (35.56%) lived in the area for 25-35 years accordingly. It was also assessed that schools are available in the area (60 %) but inadequate (61%) distributed about 2km from the residential areas. The areas has no access to adequate Portable Water (70 %), with available (70 %) and inadequate (70 %) health care centers, access to electricity was recorded (83.33%).The infrastructures were mostly (85 %) provided and maintained by government in the area. It is planned and proposed that 6 transformers, 33 boreholes, 11 primary and 2 secondary schools and 2 health centers should be provided respectively. It is therefore recommends that adequate provision of the identified infrastructure should be urgently make available in the by the government at all levels and should be also be supported by non-governmental organizations and philanthropist for wellbeing of human development in the area.

Keywords: Adequate, Girei, Infrastructure, Planning, Provision

INTRODUCTION

Infrastructure development is a critical prelude to economic growth and development on a global scale (Okpalaoka, 2021). The development of infrastructure has long been recognized as critical to economic growth and development as it facilitates economies of scale, reduces costs of trade, and is thus central to specialization and the efficient production and consumption of goods and services. This informed efforts at provision of infrastructure at both national and sub national levels (Sa'idu and Boyi, 2021). Development of viable infrastructure has been identified as one of the essential ingredients for engendering sustainable economic growth and development in Nigeria. This could be gleaned from first National Development Plan, 1962-1968 where infrastructure was recognized as a potent tool for laying a solid foundation for the development of the then newly independent Nigeria (Braji, 2014). Infrastructure refers to the fundamental physical

and organizational elements that enable a society to function, such as roads, bridges, health services, governance, industries, and buildings. It is an industry or the goods, services, and infrastructure that enable an economy to operate (O'Sullivan and Sheffrin, 2003). It can be defined broadly as the collection of interrelated internal structures that serve as the basis for a complete development structure. Infrastructure is the mechanism by which an objective or group of objectives is accomplished and the objectives themselves. It is a critical phrase for assessing the development/status of a country, region, or state and individuals. The term is frequently used to refer to the technical structures that underpin society, such as water supply, sewers, roads, national electrical grids, and telecoms.

Based on the PESTLES Analysis, challenges of infrastructural development can be: political, economic, social, technology, legal, environmental and safety (Oyedele, 2012). Political environment has to do with the political stability, policy formulation and politics of the project environment both within and without. Economic environment deals with issues like interest rate, inflation, currency exchange rate, price fluctuation etc. Social environment has to do with workforce diversity including cultural difference, age difference etc. Technology environment deals with the machineries which are used for the execution of projects. Physical environmental issues like site topography, geology and climatology is also essential. Safety issues have to do with health and safety and security of resources on site, that is, human, material and financial. Infrastructure in developing countries connotes roads and transport infrastructures. The advent of telecommunication infrastructure in Nigeria brought infrastructure to the front seat as the products and services necessary for the performance of an entity. There are two types of infrastructure, "Hard and Soft" infrastructure. Hard refers to the large physical networks necessary for the functioning of a modern industrial nation, whereas "soft" infrastructure refers to all the institutions which are required to maintain the economic, health, and cultural and social standards of a country, such as the financial system, the education system, the health system, the governance system, and judiciary system, as well as security (gbadebo and Olalusi, 2014).

STATEMENT OF PROBLEM

Major problems that beset the process of development in Nigeria is the state of poor infrastructural facilities, this is because poor infrastructural facilities have systematically led to the present day underdevelopment with the associated high unemployment level and poverty which has led to frustration and desperation. It also led to different kinds of criminalities and migration from Nigeria to other countries. According Adagba, (2002) it has been observed that in spite of abundant natural, physical and human resources that Nigeria is endowed with, there is still high rate of underdevelopment. Preliminary investigation reveals that; Girei town is facing the problems of inadequate social amenities such as water supply, health facilities, education facilities, as well as electricity supply and other social facilities. It is imperative therefore, to assess the existing available infrastructures and their adequacy in the area. Thus, this present research aimed to study on the identification and planning for provision of adequate infrastructures in Girei Local Government Area, North-eastern part of Nigeria.

METHODOLOGY

Study Area

Girei local government is located between latitude $9^{\circ}39'$ north and longitude $12^{\circ}13'$ east. The total landmass of the local government is about 2,186sq/km. The local government is bordered by Song local government area in the north, Fufore local government in the east and south while River Benue acts as a physical boundary between the local government area and Yola north and Demsa local government areas to the west. According to 2006 population census, Girei town has an estimated population of 25,648 people with an approximate land area of 2,186sq/km.. Currently, Girei Town has the estimated population of 32,832 people based on the 2.6% annual growth rate as provided by the National Population Commission. The study area lies within the Sudan savannah zone with marked dry and wet seasons. There used to be gradual increase in temperature from the months of January to April with the seasonal maximum of 42°C which normally occurs in April (Adebayoo, 1999). Figure 1 below depicted the map of the study area while the presence of some existing social amenities was presented on figure 2 respectively.

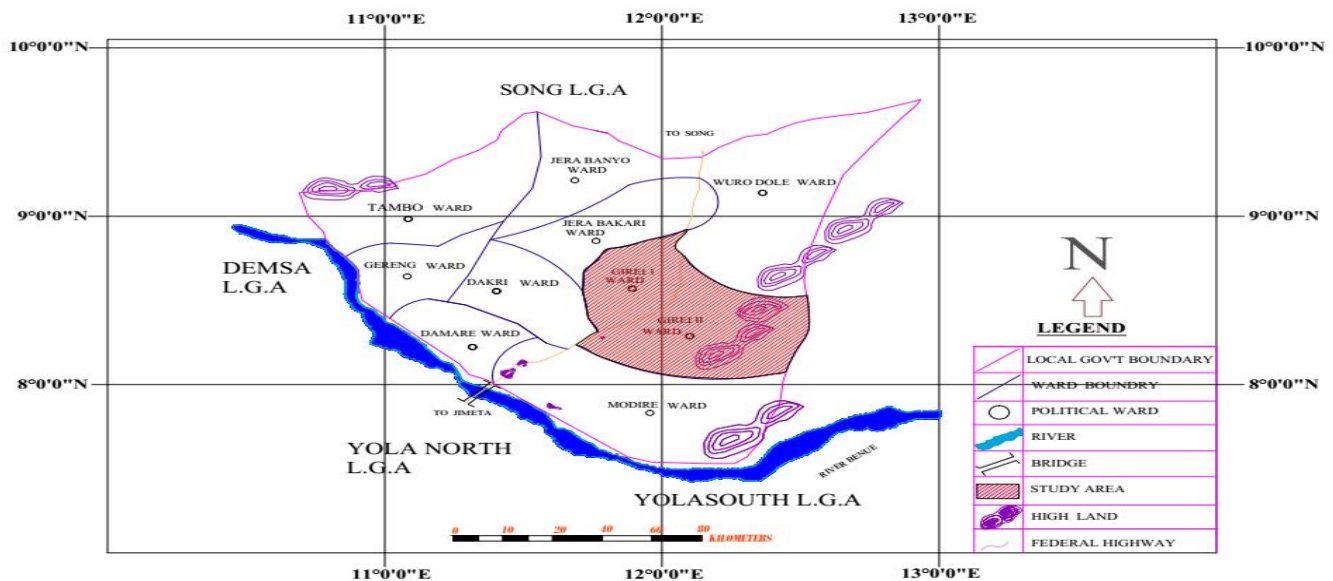


Fig.1. Map of Girei Local Government Area Showing Girei Town (Source: Ministry of Land and Survey, Yola, 2023).

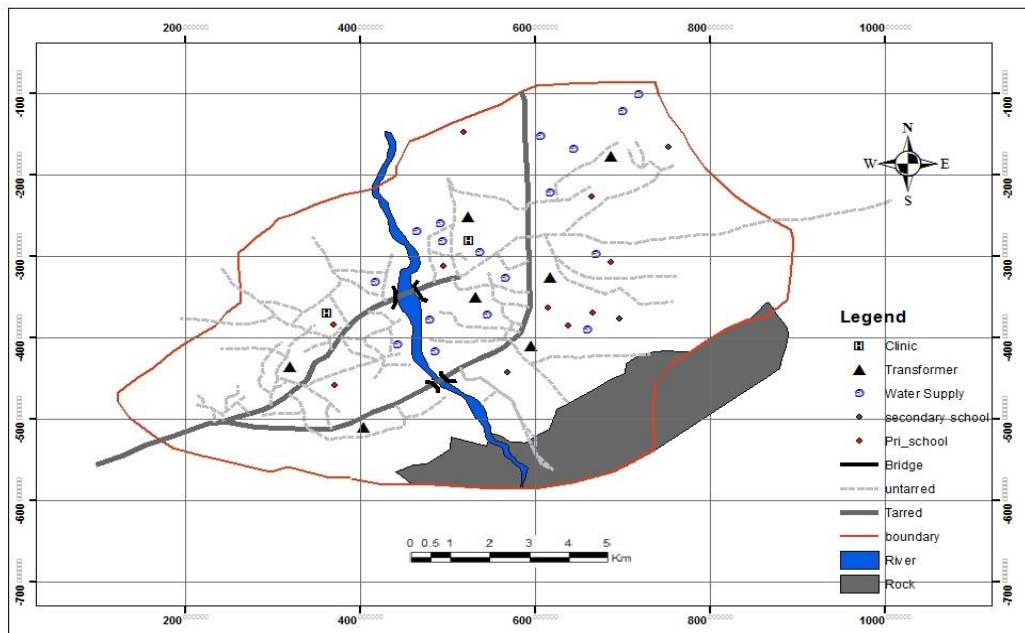


Fig.2. Map of Girei Town showing the existing Infrastructures (Source: Field work, 2023)

Sources of Data

The data used for the research were primary data generated through the use of well-structured and defined questionnaires designed to capture information on the demographic data of the respondents, presence of infrastructures, their availability and adequacy as well as the provision and maintenance responsibilities. In addition, personal observations by the authors were conducted which includes practical field observation and field based data collection through formal and non-formal interviews were carried with aimed of generating relevant and reliable data to achieved the stated objectives of the study.

Sampling Size and Technique

A total of ninety (90) set of questionnaires was administered to the respondents in the study area. Simple Random sampling technique was used in the administration of the questionnaires.

Data Analysis

Descriptive statistics were employed to analyze the data obtained where frequencies and percentages were presented accordingly.

RESULTS & DISCUSSIONS

Demographic information of the Respondents

Results on the demographic information of the respondents were presented on Table 1. It was revealed from the result that the fifty nine (59) respondents representing (65%) were male, while thirty one (31) which represents (35%) of the sample size were female as gender group respectively. It could be explained that majority of the respondents were male due to the cultural and religious restrictions which made retrieval of some questionnaires particularly those issued to the married women difficult if not impossible coupled with the fact that the person through whom the questionnaires were issued to the women travelled. On the distribution of respondents by age it shows that 32 respondents representing (35.56%) were within the age bracket of 15-29, while 23 (25.56%) were in the range of 30-40 years, 24 (26.66%) were of 41-50 years category, and 11 (12.22%) respondents were in the 50years and above group. This revealed that most of the population in the study were within the active age group saddled with enough energy for promoting growth and development in the area.

Moreover, Information on the educational status of the respondents revealed that 16 respondents constituting 17.78% have first school leaving certificate, 24 of them, commanding 26.67% are SSCE holders, while 19 with 21.11% have tertiary education certificates and the remaining 31 respondents pulling 34.44% did not pass through formal education process, though some are sound in non-formal education (Arabic knowledge). This is an indication that most of the respondents are not illiterate. Thus, majority can read write and comprehend effectively which may ease the response on the required information in the study

Results on the marital status (Table 1) expressed that about 25 respondents that represent 27.78% are single and 65 weighing 72.22% are married justified by the community based nature of the research. Furthermore, duration on the dwellers habitation in the study area revealed that 23 respondents with 25.56% have lived in the town for about 5 – 15 years, 24 respondents with 26.66% dwelled between 15-25 years while 32 respondents with 35.56% stayed for 25–35 years and 11 respondents with 12.22% lived there for more than 35years. It is worthy to note that no particular preference is given to any category of inhabitants, fair and equal treatments have been given to all of them.

Table 1. Shows the Demographic information of the Respondents

Demographic Data	Variables	Frequency (90)	Percentage (%)
Gender	Male	59	65
	Female	31	35
	Total	90	100
Age Group	15 – 29	32	35.56
	30 – 40	23	25.56
	41 – 50	24	26.66
	50 and above	11	12.22
	Total	90	100
Educational Background	Primary School Cert.	16	17.78
	Secondary School Cert.	24	26.67
	Tertiary Education Cert.	19	21.11

	Others	31	34.44
	Total	90	100
Marital Status	Single	25	27.78
	Married	65	72.22
	Total	90	100
Duration of Dwellers Habitation	5 – 15	23	25.56
	15 – 25	24	26.66
	25 – 35	32	35.56
	35 and above	11	12.22
	Total	90	100

Source: (Source: Field Survey, 2023).

Information on Infrastructure (Facilities)

Results in Table 2 show the information on infrastructural facilities in the study area. It was found that the presence of schools has been affirmed in Girei town as admitted by 60% of the total respondents even though 40% of them are of the contrary opinion which might not be unconnected to the fact that a reasonable percentage of the population suffers some hitches in accessing schools. Even though schools are available in Girei town, they are not enough to cater for the wide needs of the population as proven by 61% of the respondents (Table 2) this could be attributable to the growing population of the area in addition to scarcity of resources, that is to say, the available schools can only meet the educational needs of 39% of the population. Thus, infrastructural resources are always in short supply (Okpalaoka, 2021). In addition, it is clear that according to 39 respondents making up 43.33%, the students of Girei Town have to cover at least 1 kilometer in order to access school while the remaining 56.67% are of the view that their students always trek between 1 and 2 kilometers before gaining access to the schools. These distances might lead to unavoidable late coming to schools, at times responsible for absenteeism which in consequence affects their academic performance. Similarly, it could be asserted that majority of the people of Girei town are suffering from lack of adequate portable water if the opinion of the 70% of the respondents could be something to go by. The 30% respondents that admit the adequacy of portable water in the Town are those whose residential areas are full of boreholes provided by either themselves, politicians or the Local Government Council.

Furthermore, on the presence of health clinic in the study area, it was observed that (Table 2) the presence/availability of health clinic in the Town was affirmed by 70% of the respondents as against the 30% on the contrary side, but to what extent is it adequate would be. Majority of the population of the people of Girei Town find it difficult to access health care within their locality which warrants about 70% of the respondents to declare the number of their health clinics as inadequate. It's only minority of the population that are adequately catered for as shown by the 30% of the respondents as presented on Table 2 respectively. This could be explained that infrastructural development in democratic administration is more difficult due to the public's accessibility to government. It entails finding the appropriate project, conducting feasibility and

viability studies, and initiating physical development. Numerous problems exist, including those related to funding, technological development, maintenance, and design. Moreover, it could be seen from the Table 2 that in Girei town is electrified as 83.33% of the respondents testify to that, it is only those in some areas of the outskirts that are likely in black out as opined by the 16.67% respondents. The improvement in public power supply across the country is also reflected in Girei town as affirmed by 71.11% respondents, while 28.89% respondents who find themselves in those areas with faulty power transformers are suffering from inadequate supply. According to Gbadebo and Olalusi (2014) unreliability of power infrastructure has no doubt been a factor in sluggish development in certain parts of the economy, particular in process plant related industries. However, as a number of newly-financed independent power producers (IPPs) come on line in the next few years, assisted by Nigeria's power privatization initiative, the increasing stability of power infrastructure and increased exposure of international and local investors, as well as development finance institutions (DFIs) and export credit agencies (ECAs), to the Nigerian market should assist the process of developing Nigeria's anticipated pipeline of infrastructure projects. Lack of adequate power; roads and similar infrastructure will continue to hamper economic development in the country.

Table 2. Information on Infrastructure (Facilities)

Variables	Response	No. of Respondents	Percentage (%)
Are there available schools in your area?	Yes	54	60
	No	36	40
	Total	90	100
Determining the adequacy of the available schools	Adequate	35	39
	Inadequate	55	61
	Total	90	100
What is the Distance between residential areas and Schools?	Less than 1km	14	15.55
	1km	25	27.78
	Less than 2km	36	40
	2km	15	16.67
	Total	90	100
	Yes	27	30

Does this community have access to adequate Portable Water?	No	63	70
	Total	90	100
	Yes	63	70
Is there any health Clinic here?	No	27	30
	Total	90	100
	Adequate	27	30
Is it adequately available?	Inadequate	63	70
	Total	90	100
Do you have access to Electricity?	Yes	75	83.33
	No	15	16.67
	Total	90	100
How adequate is the public power supply in your area?	Adequate	64	71.11
	Inadequate	26	28.89
	Total	90	100

Source: (Source: Field Survey, 2023).

Information on the provision and maintenance of Infrastructure (Facilities)

Results on the information on the provision of Infrastructure (Facilities) were depicted on Table 3. It was assessed that provision of basic amenities to citizens is considered as requisite responsibility of the Government, the Government has actually achieved this in Girei town as 94.44% of the respondents admit that schools, health care and electricity are provided by the Government only 5.56% could be attributable to community based effort. However, the effort of the Government is complemented by Non-Governmental Organizations and community in providing water to the entire population with the Government provision constituting 55% and the other parties providing 45%. Infrastructure development has in recent times assumed a central importance in Nigeria's fight to attain social and economic stability. The federal government and all state governments are using infrastructure as the focal point of their administrations and policy enactments. Infrastructure generally has to do with the fixed provision of tangible assets on which other intangibles can be built on. Not limited in scope, it revolves the provision of Housing, Power

(electricity), Transport, Education, Communication, and Technology (Gbadebo and Olalusi , 2014). Generally, Infrastructural development in democratic administration is more difficult due to the public's accessibility to government. It entails finding the appropriate project, conducting feasibility and viability studies, and initiating physical development. Numerous problems exist, including those related to funding, technological development, maintenance, and design.

Table 3: Who provided the infrastructures to the community?

	Government		NGO		Community based effort		Total Freq	Total Percent (%)
	Freq	Percent (%)	Freq	Percent (%)	Freq	Percent (%)		
Schools	85	94.44	-	-	5	5.56	90	100
Health	85	94.44	-	-	5	5.56	90	100
Portable water	55	61.11	20	22.22	15	16.67	90	100
Electricity	85	94.44	-	-	5	5.56	90	100

Freq: Frequency, **Percent:** Percentage (Source: Field Survey, 2023.)

Results on the information on the maintenance of Infrastructure (Facilities) were depicted on Table 4. Where electricity is maintained by the Government and little community effort with 88.89% and 11.11% respectively, school maintenance is collectively carried out by the Government 55.56%, NGO 16.67% and community effort 27.78%. Health care maintenance is 61.11% done by the Government, 27.78% NGO, 11.11% community effort. The Government maintenance effort as regards water facilities is not up to half (i.e. 40%), the bulk part of maintenance is carried out by NGO 33.33% and community based 22.22%. This might be attributed to so many factors which include which politicization of infrastructure projects. Sa'idu and Boyi, (2021) explained that that politics plays a decisive role in the development of This could be seen in project identification; award of contracts, timing and execution of the projects where political considerations take precedence over due process. Another factor might be financing . This is because one of the recurring issues in the development and maintenance of infrastructure across the world is that of financing and the appropriate method of financing. Infrastructure provisioning is capital intensive and evidences have shown that government has been a dominant player in infrastructure financing.

Table 4. Who maintains the provided infrastructures in the community?

	Government		NGO		Community based effort		Total Freq	Total Percent (%)
	Freq	Percent (%)	Freq	Percent (%)	Freq	Percent (%)		
Schools	50	55.56	15	16.67	25	27.78	90	100
Health	55	61.11	25	27.78	10	11.11	90	100
Portable water	40	44.44	30	33.33	20	22.22	90	100
Electricity	80	88.89	-	-	10	11.11	90	100

Freq: Frequency, **Percent:** Percentage (Source: Field Survey, 2023)

Planning for the Provision of Adequate Infrastructures in the Study Area

Considering the inadequate of infrastructure in the area, the following planned were identified to the most prioritised infrastructures that are lacking in the area.

1. Electricity Supply

Electricity is one of the basic elements for economic development, though some parts of the Town are experiencing blackout as a result of two faulty transformers. The population of Girei Town is 42353, therefore the research proposed a provision of six (6) transformers in addition to the seven (7) existing ones, making up the aggregate of (13) transformers in order to conform to the standard which requires one transformer every 3200 people. This means that the two transformers earlier reported as faulty are going to be repaired. These six transformers may be distributed at a strategic places described in figure 3 below

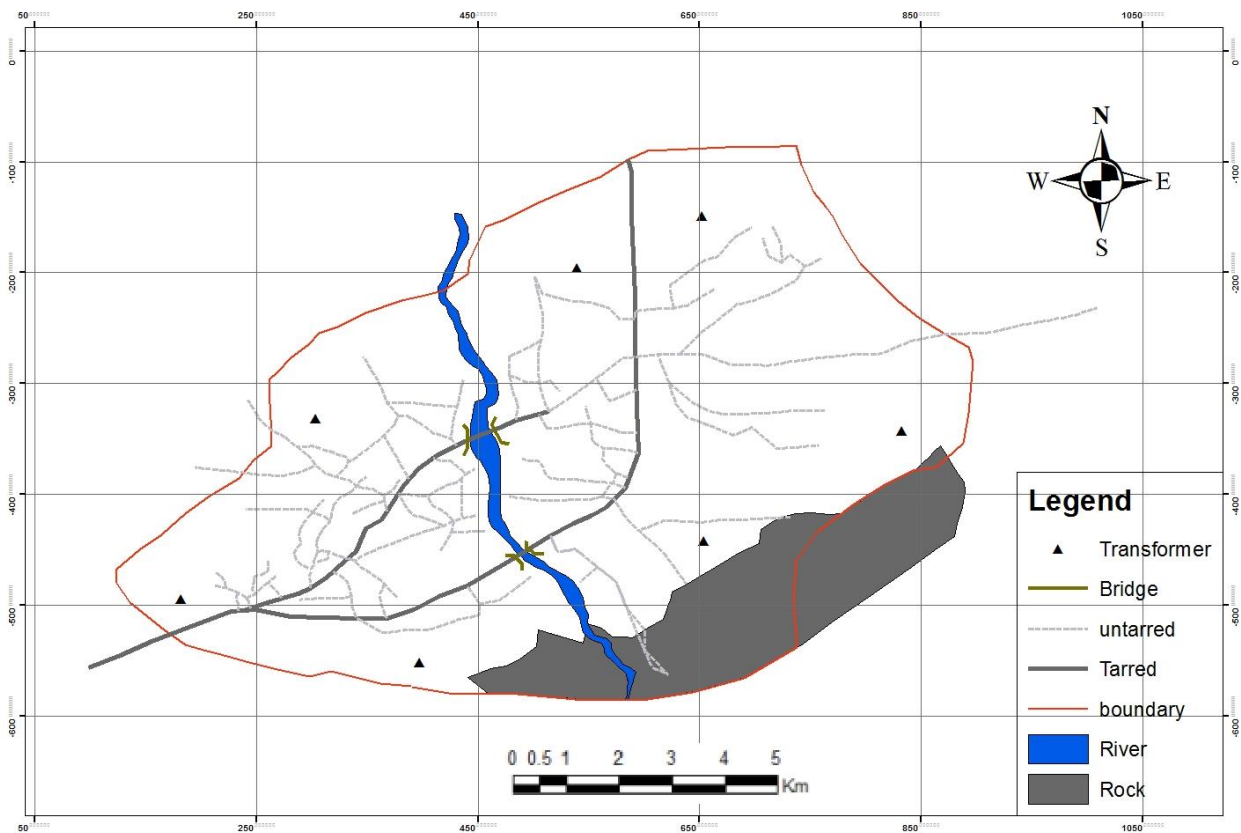


Fig.3. Map of Girei showing proposed Electrical transformers (Source: Field work, 2023).

2. Water Supply

As discovered by this research work, the whole of Girei Town has only 14 boreholes, this explains the reason why only 30% of respondents agreed there's adequate water in the Town. Therefore this research proposed that thirty three (33) more should be provided and sparsely distributed as depicted on figure 4 in oto overcome the water problem of the Town. Because, if 14 boreholes would sufficiently be enough for 30% of the respondents to declare there is adequate water in the town, then the remaining 70% will require 33more. Going by 14 boreholes to every 30%.

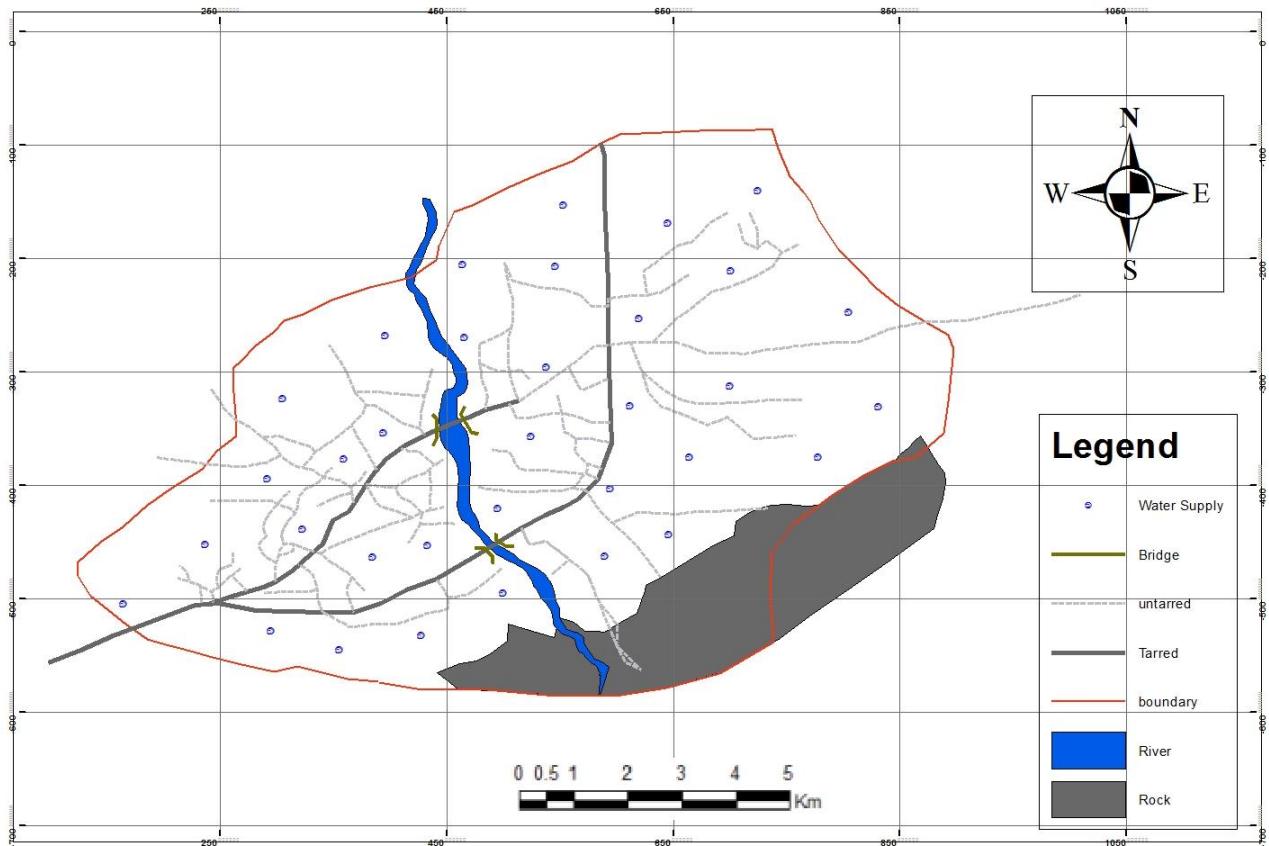


Fig.4. Map of Girei showing proposed water supply (Source: Field work, 2023)

3. Educational Facilities

In order to improve educational sector in the town, eleven (11) primary schools with size of 1.6 hectares each and two (2) secondary schools with size of 6 hectares each should be provided as distributed as presented on figure 5 accordingly. As the standard requires a provision of one Primary school for every 3000 – 4000 population and one secondary to every 12,000 – 16,000 populations. According to the National Integrated Infrastructure Master Plan (NIIMP) covering 2014 to 2043, the priorities of the Nigerian government for infrastructure development are largely centred on two critical sectors particularly, the Energy and Transport sectors which account for 33 percent and 25 percent of proposed investment shares, respectively (Chukwuka et al, 2016)

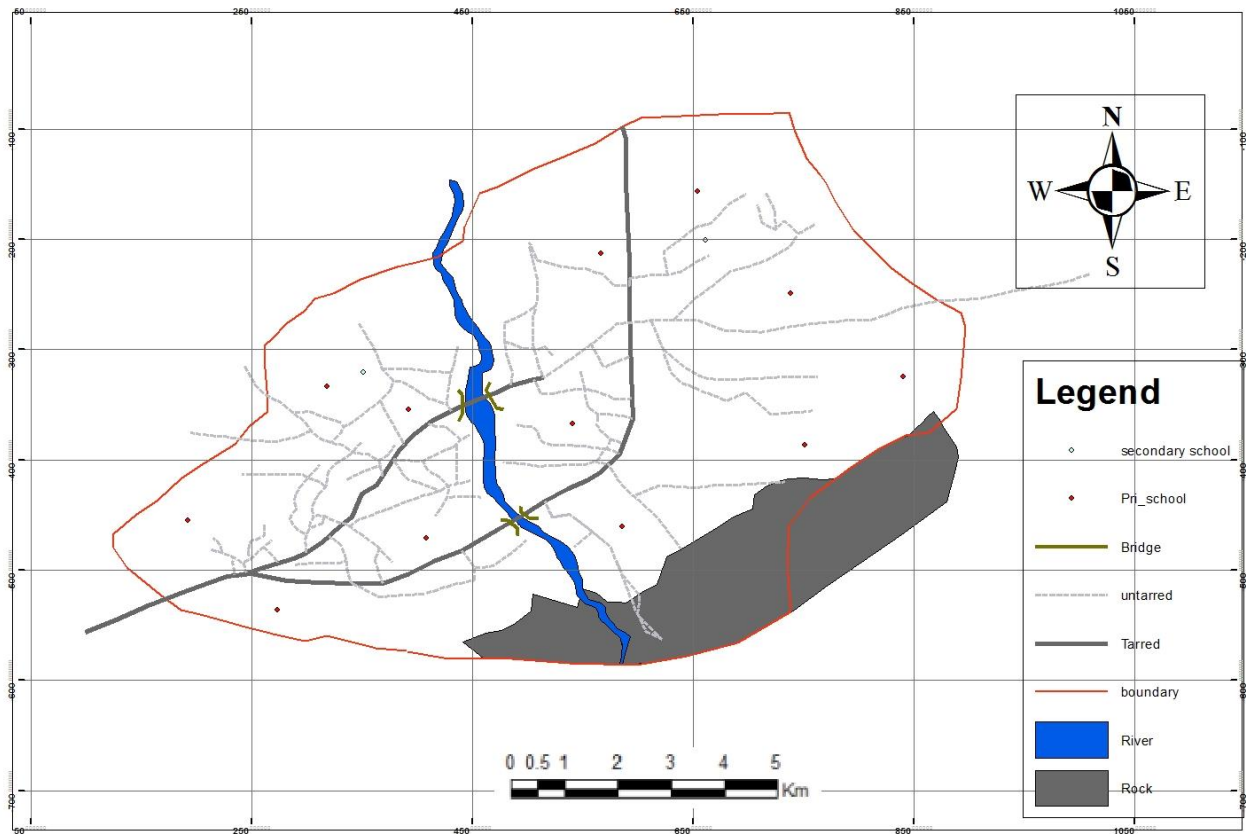


Fig.5. Map of Girei showing proposed Primary and Secondary Schools (Source: Field work, 2023)

4. Health Care Centers

Two (2) primary health centers should be provided in addition to the two existing clinics in order to conform to the standards that require a population of 10,000 – 12,000 people to have one (1) primary health Centre, while the existing clinics should be upgraded to primary health centers. This is against the background of the fact that the targeted estimated population is 42,353 people. Figure 6 below shows the distribution of the two proposed health care centers.

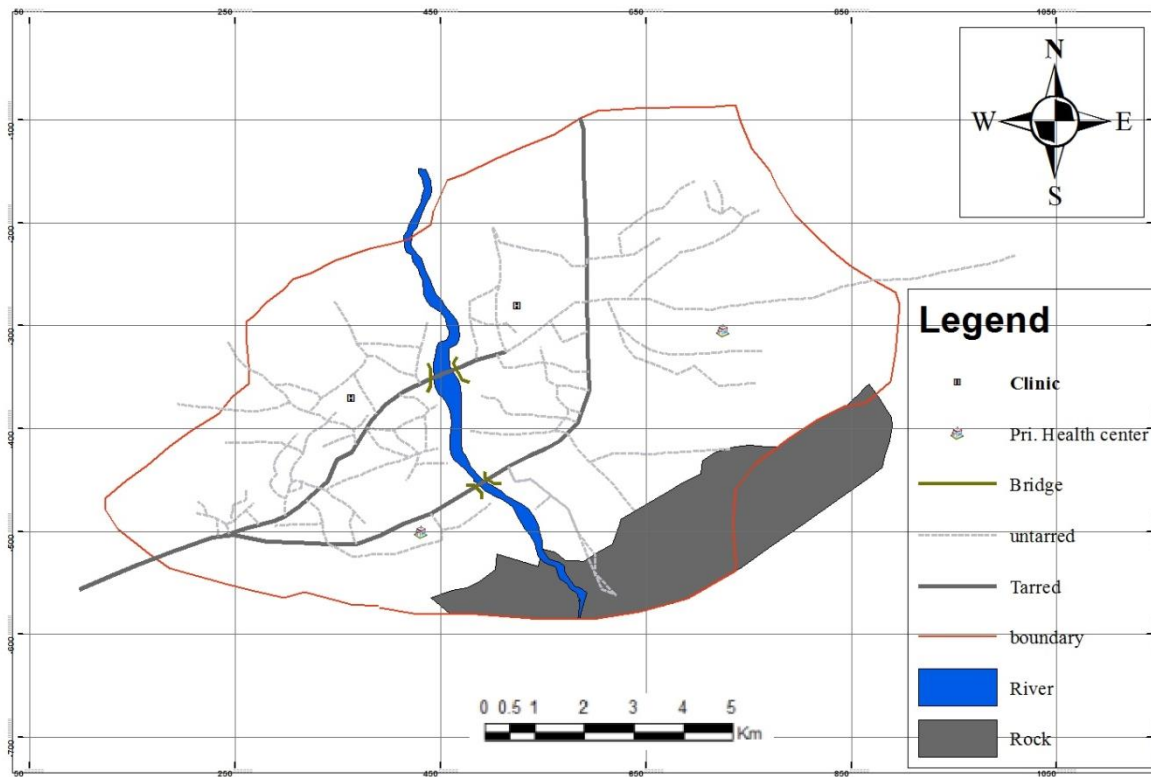


Fig.6. Map of Girei showing proposed primary health centers (Source: Field work, 2023)

CONCLUSION

The study aimed to study on the planning and provision of adequate infrastructure in Girei Local Government Area, North-eastern part of Nigeria. The inadequacy of basic infrastructural facilities such as schools, health care, portable water and electricity necessary for development in Girei Town which has adversely affected the physical growth and the living standard of the people were identified. To curtail the existing dilemma, the study predicates preferred planning towards effective provision of the required infrastructures for sustainable growth and development in the area. It is therefore recommends that adequate provision of the identified infrastructure should be urgently make available in the by the government at all levels and should be also be supported by non-governmental organizations and philanthropist for wellbeing of human development in the area.

REFERENCES

- Adebayo, A.A.(1999). The Incidence of Dry Spells during the Growing Season in Yola. In: J.E.Ukpong (ed). Geography and the Nigerian Environment. Nigerian Geographical Association.1998:258-264
- Ayotunde, M.A (2004) The Effects of Infrastructure Networks on Economic Growth of Nigeria: A Senior Critical Factors Affecting Development of Infrastructure in Nigeria Proceedings of TheIIER. International Conference, Dubai, UAE, 14th December 2014, ISBN: 978-93-84209-72-8.
- Chukwuka. O., Precious. A. & Anointing M. (2016). Infrastructure Financing in Nigeria: Engagement with MDBs and Recommendations on how lending Processcould be improved, Working Paper, WPS/16/03, December, 2016,p.3-4
- Gbadebo M.A and Olalusi O.C. (2014) Critical Factors Affecting Development Of Infrastructure In Nigeria. Proceedings of the IIER International Conference, Dubai, UAE, 14th December 2014, ISBN: 978-93-84209-72-8 Journal homepage: <http://iieta.org/journals/eesrj>
- Kathmandu Final Workshop Report (2009). Governance and Infrastructure Development Challenges in the Kathmandu Valley.
- Okpalaoka, C (2021). Infrastructural Challenges in Nigeria and the Effect on the Nigerians Economy: A Review of Literature. *Environmental and Earth Sciences Research Journal* Vol. 8, No. 4, December, 2021, pp. 159-162
- O'Sullivan, A, Sheffrin, M.S.(2003). *Economics: Principles in Action*. Upper Saddle River, New Jersey 07458: Pearson Prentice Hall.
- Sa'idu, M and Boyi, R. (2021). Challenges and Prospects of Infrastructure Development in Gombe Metropolis, North East Nigeria. *International Journal of Humanities, Art and Social Studies (IJHAS)*, Vol. 6, No.1, February 2021