PLANNING IMPLICATIONS OF THE LOCATIONS OF RURAL PUBLIC HEALTHCARE FACILITIES IN YEWA REGION OF OGUN STATE.

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ABSTRACT

This study evaluates planning implications of the locations of rural public healthcare facilities in Yewa region, specifically areas within the Yewa South Local Government of Ogun State, with a view to ensuring improved accessibility to healthcare services in the area. The research adopted survey research method. Using multi-stage sampling technique, the local government was classified based on urbanisation status. At the second stage, the five rural wards in the local government were selected. Villages in each ward were identified and two villages were selected randomly. Automated counting of digitized buildings in the ten selected villages resulted in a total of 944 houses, out of which 886 were found to be residential through ground truthing. Twenty (20%) of the 886 residential houses discovered in the selected villages were sampled using simple random technique. Primary data were sourced from structured questionnaire administered on 186 household-heads and Global Positioning System was used to pick the geographic coordinates of existing public healthcare facilities. Findings from the study shows that Spatial pattern of the existing public healthcare facilities in the area reveals a random distribution pattern with nearest neighbour index value (Rn) of 1.02. Majority (72.1%) of the respondents travelled below 400metres to access healthcare services. Further, more than half (56.3%) of the respondents used motorcycle to reach the closet public healthcare facility. The study also brought to fore that only 16.1% spend above ₦1,000 on transportation. The study therefore concluded that Physical accessibility in the area is satisfactory with majority of the settlements having access to healthcare facility within 5000 metres radius. However, it is hereby being recommended that there is an increasing need for optimum number and of suitable locations of additional healthcare facilities for areas that are currently underserved by existing public healthcare facilities.

KEYWORDS: ***Planning, Healthcare Facilities, Location, Public, Rural.***

1.0 INTRODUCTION

Quality of life of the rural dwellers in developing countries has become more explicit in recent years, and that policy makers and researchers have increasingly engaged in understanding social and economic problem of the rural communities (Adewunmi & Olayinka, 2017), while Omole (2010) observed that Nigeria is a prominent country among the developing countries that has neglected rural communities especially in the provision of infrastructural and social amenities.

Asenso-Okyere et al (2011) pointed out that quality health of individuals is a major determinant to productivity both at the community and national

levels. It is also observed that the costs (both tangible and intangible costs) increase on the part of households when poor condition of health manifest. It is on this premise that a correlation can easily be drawn between heath and productivity. Hence the important of good health of the people in a particular country for achieving national development cannot be overemphasized.

One major goal of the sustainable development goal (SDG) is the accessibility to public health care facilities, in order to achieve and improved health of all people irrespective of their geographical location (either in the urban or rural areas). However, poor health condition of the rural dwellers is not unconnected with inadequate and poor distribution the facilities, and the dweller of the study area is not an exception. The poor distributional pattern and the inadequacy of these facilities are examined on the basis of both inadequacy of the health care facilities and poor condition of existing ones in the study area.

Omonona *et al* (2015) observed that the health care facilities are few in numbers, the rural areas in Nigeria, while Aghion *et al* (2010) have earlier noted that these facilities are key to rural development, while the demand for healthcare is identified to be a derived demand, owing to the fact that healthcare is demanded because of the merits on human productivity.

The study evaluates the implications of health facilities (public) in the rural area of study area. This study is embarked upon as a result of the problems identified in the area of the inadequacy and poor distributional pattern of public health facilities in the study area, which is manifested in poor health condition of rural dwellers.

2.0 LITERATURE REVIEW

Zwi (2001) observed that the under-utilization of the health services in public sector has been significant in most developing countries. However, World Bank (2010) noted the state of Nigerian health system is poor and underfunded with a per capital expenditure of US $ 9.44. Hence, Nigeria health situation is recorded to be worst in the world's maternal health.

Omonona *et al* (2015) observed that proper attention has not been given to the rural area in terms of healthcare facilities, and this neglect has been in Nigeria for quite a long time, while Hamid *et al* (2005) have earlier pointed out that many developing countries are unable to meet the required standard of the World Health Organization. Ricketts (2009) observed that the problem of health care in rural areas is multifaceted and multidimensional.

Abdulraheem *et al* (2012) identified primary health care (PHC) to include the provision of quality health for all, but noted that this is a mirage in Nigeria due to the improper implementation of rural development policies, and the inconsistence in health care policies by various governments. Peters *et al* (2008) identified access to health care facilities as a multidimensional process which involves the good healthcare, proper distribution, adequate provision, and proper financing. Oyewole (2018) concluded that poor economic status of the rural household was the major problem which serves as a great challenge to the utilization of PHC (Public Health Care) services.

Scholars over the years had employed a variety of criteria in the evaluation of spatial distributions. Among these include spatial efficiency, equity and equality (Okafor, 2008). According to him, the

minimization of distance to facilities is a common spatial efficiency criterion. If the locational pattern of facilities is such that minimizes the aggregate distance consumer have to travel to facilities, the pattern is adjudged to be spatially efficient.

The term equity refers to fairness or justice in distribution or location of facility (Okafor, 2008; Nicholls, 2011). In the context of healthcare provision, it refers to the distribution of facilities according to need or circumstances. This implies that spatial variation in need can justify spatial inequalities in resources allocation.

In Nigeria, explicit consideration has not been given to the need for equity in the planning and distribution of healthcare facilities over the years. This has led to the emergence of many regions within the country where both public and private healthcare facilities are sparsely provided (Agaja, 2012). According to Owoola (2002) cited in Adeyinka and Olugbamila (2016) spatial distribution of healthcare facilities was not considered by government, leading to a very high ratio of the country's population been underserved by these facilities. This often brings about lop-sidedness in the spatial accessibility of these facilities with one section of a state or local government area having more facilities at the detriment of others.

3.0 MATERIAL AND METHODS

3.1 Study Area

This study was carried out in rural areas of Yewa South Local Government. The local government is contained at the interaction point of the geographical Latitude 60 37'46''- 60 55' 42'' and Longitude 20 47'24''- 30 6' 48''. Yewa South Local Government is bounded on the North by Yewa North Local Government, Ifo and Ewekoro Local Government forms the Eastern boundary. The South is bounded by Ado Odo Ota Local Government and Ipokia Local Government to the West.

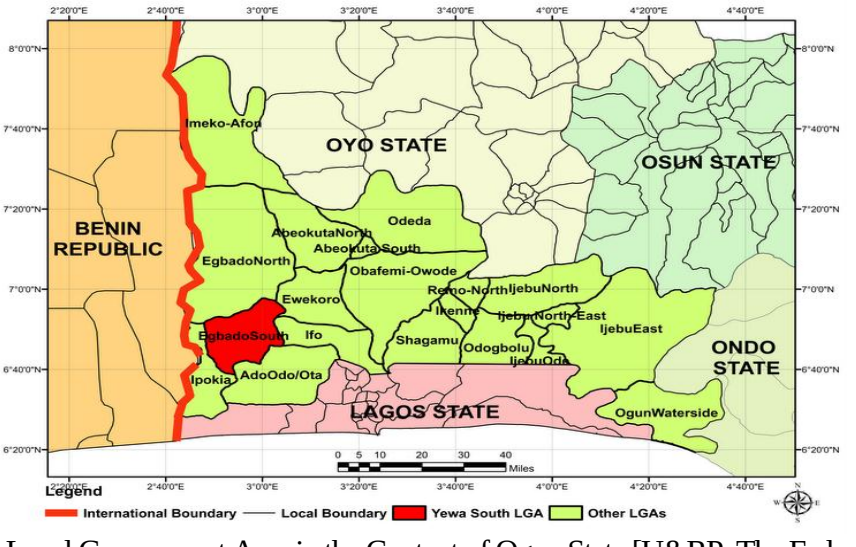


Figure 1: Yewa South Local Government Area in the Context of Ogun State [U&RP, The Federal Polytechnic, Ilaro]

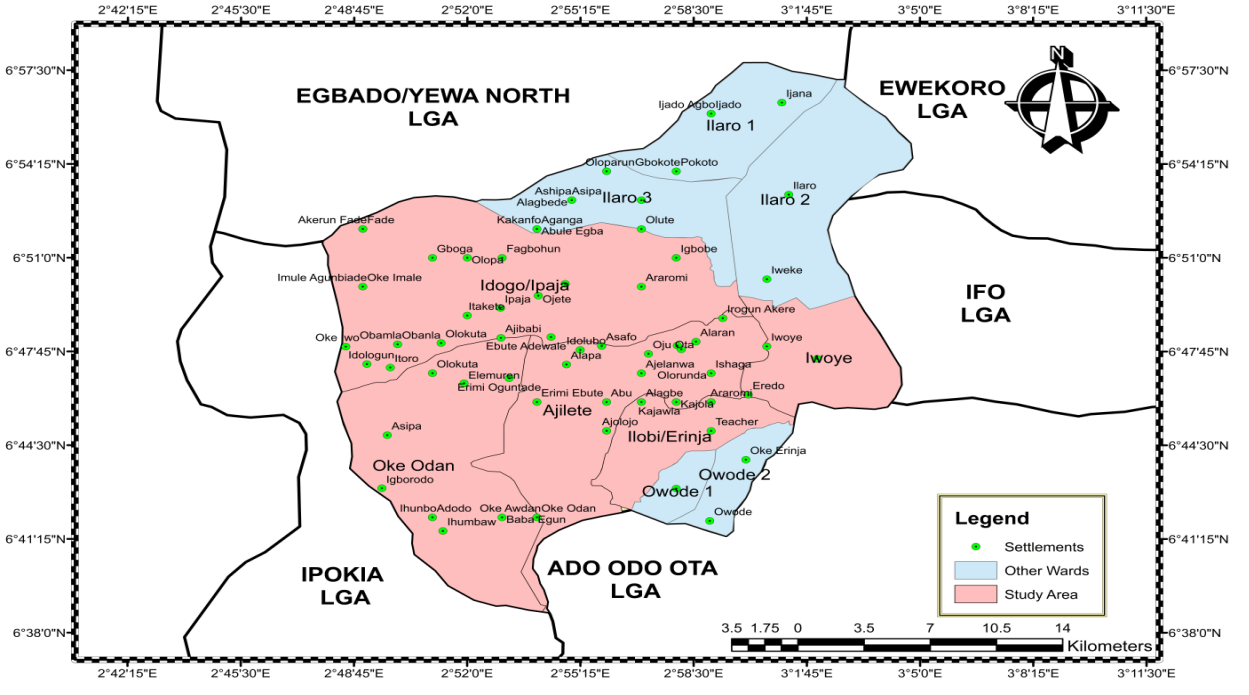


Figure 2: Map of Yewa South Local Government showing the Study Area [U&RP, The Federal Polytechnic, Ilaro]

The 2006 population census states that Yewa South Local Government area has a population of 168,336. This figure was projected by the National Population Commission to 234,200 in 2016. The current estimated population of the local government at annual growth rate of 2.5 (NPC, 2016) is 237,859. The Local government is an agrarian economy. Ogundele, Odewumi & Ganiy (2013), noted that 75% of the inhabitants rely on agriculture as means of livelihood. It is one of the ten local governments in Ogun State with least number of public healthcare facilities O. However, Otuh et al., (2018) reported that the local government had the highest number of Buruli ulcer cases 59.3% in three years, which are 2009, 2010 and 2012. Rural areas in the local government are not exempted from poor transport infrastructure and low personal mobility. Roads are unpaved and adopted by convenience for travelling on foot or motorcycle.

3.2 Methods

A multi-stage sampling technique was adopted in the selection of the required sample for households' questionnaire administration. This process started with the identification and classification of wards in the local government into rural and urban as shown by Fabiyi and Ogunyemi (2015). Based on the classification, the five (5) wards that were classified as rural were purposely selected. The selected wards are Idogo/Ipaja, Iwoye, Ajilete, Ilobi/Erinja and Oke Odan.

In each of the selected wards, villages were identified and two villages were selected randomly. The villages were picked in such a way that it spread across the rural areas in the local government to ensure fair representation of all. The total number of housing in each locality was determined. This was made possible by the use of 2016 google earth imagery of the areas through on screen digitization and automated counting. The automated counting of digitized buildings in the 10 selected villages resulted in a total of 944 houses, out of which 886 were found to be residential through ground truthing.

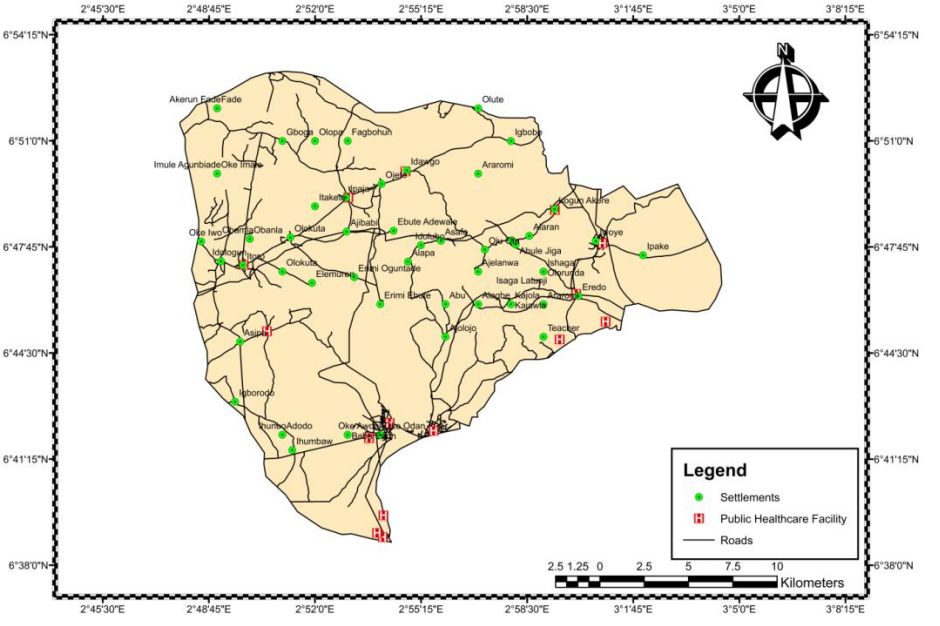
Twenty (20%) of the 886 residential houses identified in the selected villages were sampled. This was done using systematic sampling technique. Questionnaires were administered on the selected household heads until the required number of sample for each village is conducted.

4.0 RESEARCH FINDINGS AND DISCUSSIONS

A total of 186 copies of the questionnaire were administered on selected households in the villages, out of which 184 (98.9%) were eventually analyzed due to the invalidation of some of the completed copies.

4.1 Spatial Distribution Pattern of Public Healthcare Facilities in Rural Area of Yewa South Local Government

Nearest neighbour analysis of public healthcare facilities in study area revealed a random distribution pattern with nearest neighbour index value (Rn) of 1.02. This is statistically significant with the critical value (z-score) of 0.128891 at 0.897444 level of significant. The implication of this finding is that the locations of these public healthcare defaulted in adhering to planning standards. This finding reveals the state of public healthcare facility in Nigerian settlement where healthcare facility distributions do not adhere to any particular criteria. Fadahunsi et al., (2017), observed that this type of spatial pattern shows disorderly and inefficient distribution of healthcare services. This finding is similar to that of Owoyele et al., (2015); Sedenu et al., (2016);Fadahunsi et al., (2017) in Suleja, Ile-Ife and Osun state in general respectively. The implications of this type of spatial distribution as noted by Fadahunsi et al., (2017) include self-medication and patronizing of quackery, high infant and maternal mortality.



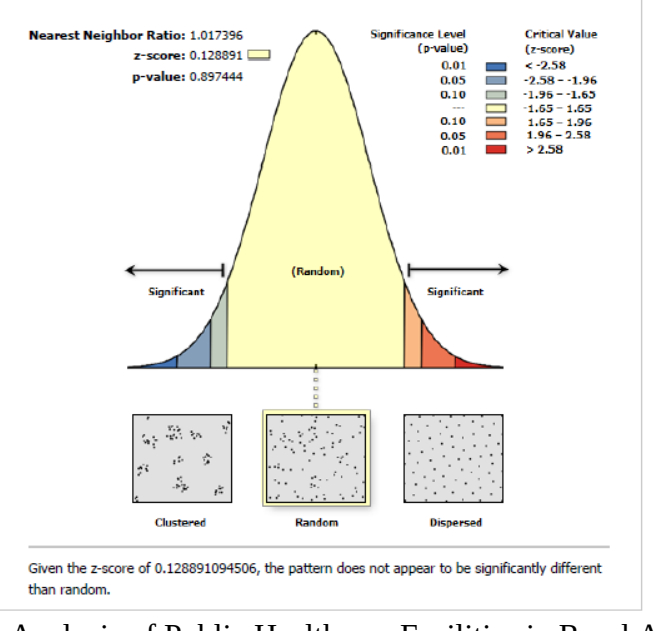


Figure 3: Nearest Neighbour Analysis of Public Healthcare Facilities in Rural Area of Yewa South Local Government Area

Source: Authors' Analysis (2021)

4.2 Spatial Access to Public Healthcare Facilities in the study area

In order to assess spatial access of resident to healthcare facility a buffer analysis was performed to identify the undeserved areas. This was done using the Ogun State Regional Plan (2005) and Olujimi (2007) guideline of 5 Kilometres radius for Primary Health Centres. As shown in Figure 4, it is evident that majority of the settlements in the rural local government area have access to public Primary Health Centre within 5km distance. However, some settlements at the centre and north western part of the study area do not have access to any health facility within 5km distance (see figure 5).

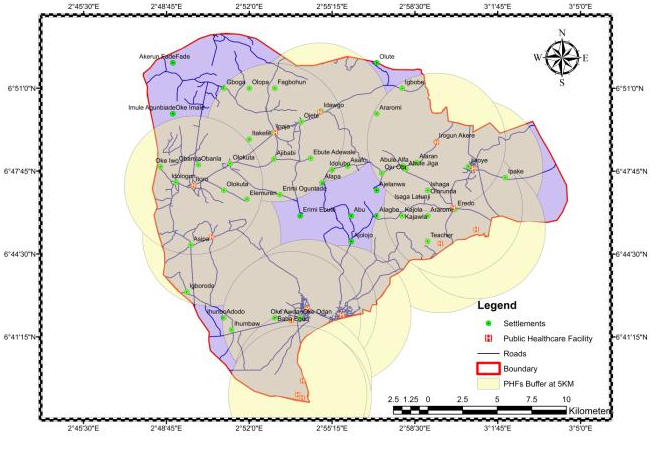


Figure 4: Five (5) Kilometres radius Buffer around existing Public Healthcare Facility
Source: Authors' Analysis (2021)

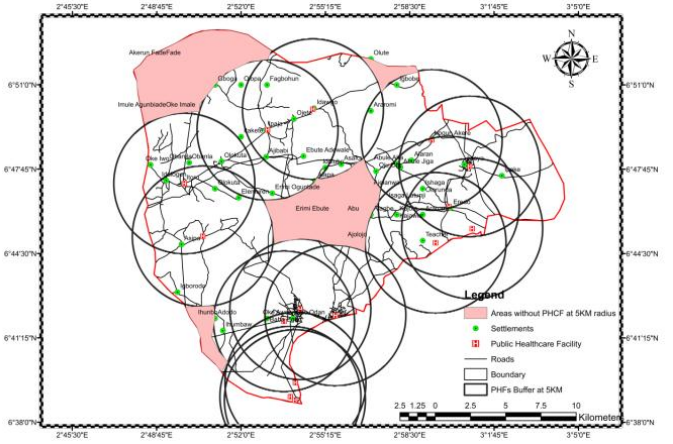


Figure 5: Areas without Public healthcare facilities at 5 KM radius (Deprived Areas)
Source: Authors' Analysis (2021)

4.3 Distance Travelled to the Public Healthcare Facilities

Distance travelled to health facilities as shown in figure 4.3 reveal that majority (72.1%) of the respondents travelled below 400m to access healthcare services, this is followed by 11.6% who covered a distance between 401-1500m. Also, residents that covered a distance between 1500-3000m and 3001-5000m accounted for 3.3% and 1.3% while 11.7% of the respondents travelled a distance of above 5000m to access healthcare facilities. It can be deduced from the above analysis that majority of the respondents travelled below 5km to access healthcare services. This finding is similar to that of Aminu and Asogba (2020) who reported that majority of farmers in rural area of Yewa south local government visit Primary Healthcare facilities largely due to distance. This is an improvement to what is reported by Okafor (1984) as cited by Olujimi (2007). This improvement may not be unconnected with the introduction of Ward Minimum Healthcare Package (WMHCP) in 2007.

However, more than 11% of the respondents still travelled above 5km to access healthcare services. This implies that some of the respondents bypass the nearest healthcare facilities to facilities located in urban centers or neighbouring country (Republic of Benin). The reason for this according to findings is poor quality of health services being offered.

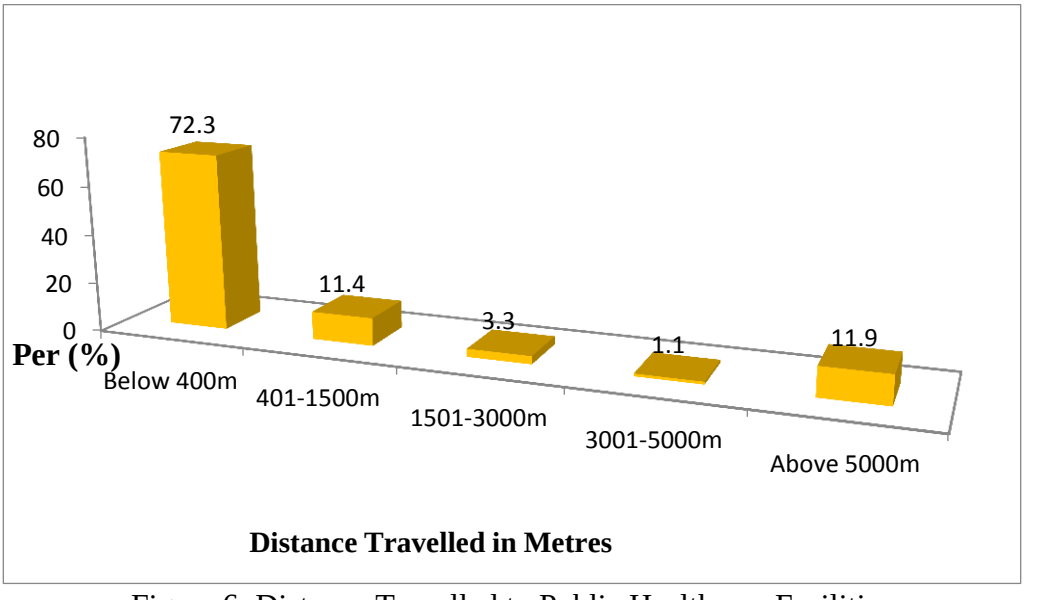


Figure 6: Distance Travelled to Public Healthcare Facilities
Source: Authors' Field Survey (2021)

4.4 Mode of Transportation to the Healthcare Facilities

Regarding the mode of transportation, more than half (56.3%) of the respondents used motorcycle to reach the public healthcare facility. It is surprising that only 18.4% claimed to travel on foot to access healthcare services taking into cognisance that majority of the respondents reside within a walk able distance to public health facility.

Table 1: Respondents Mode of Transportation to Healthcare Facilities

Mode of Transportation	Frequency	Percentage
Walking	34	18.4
Bicycle	22	12.1
Motorcycle	104	56.3
Car	24	13.2
Total	184	100.0

Source: Authors' Field Survey (2021)

This paradox may imply that most sick person cannot travel by foot. This is followed by 12.1% who claimed to use bicycle to travel to the nearest public healthcare facility. As distance to healthcare facilities is not a problem, only 16.1% of the respondents use car to travel to the access healthcare services.

4.5 Cost of Transportation to the healthcare facilities

Olujimi (2007) observed that travel cost and distance play a significant role in measuring accessibility. The longer the distance, the higher the cost of travel and the lower the accessibility. As shown in figure 4.4 majority (34.2%) of the respondents spend between ₦501 - ₦1,000, 25.0% spend between ₦101 - ₦500, 17% spend less than ₦100 while 16.1% spend above ₦1000 on transportation. This analysis reflects the road condition in the study area (see plate 4.1) as short distance with bad road attracts higher fare and therefore associated with low accessibility.

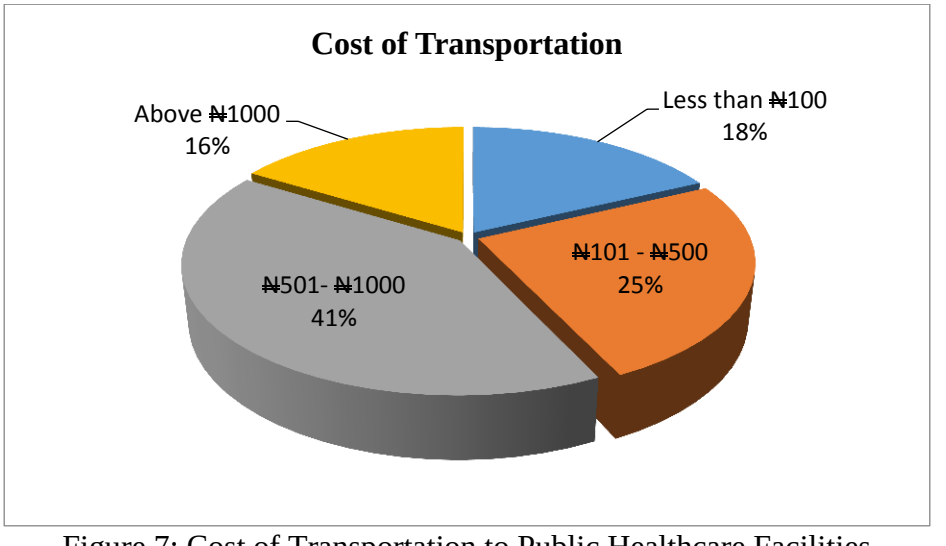


Figure 7: Cost of Transportation to Public Healthcare Facilities
Source: Authors' Field Survey (2021)

A distance of above 5000m to access healthcare facilities. It can be deduced from the above analysis that majority of the respondents travelled below 5km to access healthcare services. This finding is similar to that of Aminu and Asogba (2020) who reported that majority of farmers in rural area of Yewa south local government visit Primary Healthcare facilities largely due to distance. This is an improvement to what is reported by Okafor (1984) as cited by Olujimi (2007). This improvement may not be unconnected with the introduction of Ward Minimum Healthcare Package (WMHCP) in 2007. However, more than 11% of the respondents still travelled above 5km to access healthcare services.

This implies that some of the respondents bypass the nearest healthcare facilities to facilities located in urban centers or neighbouring country (Republic of Benin). The reason for this according to findings is poor quality of health services being offered.

5.0 RECOMMENDATIONS AND CONCLUSION

5.1 Recommendations

Based on the foregoing and discussion of finding of this study, the following recommendations were made.

Construction of New Healthcare Facilities

This study recommends the construction of new healthcare facilities in deprived area. Two primary healthcare facilities should be provided in the study area.

Optimum Locations for Proposed Public Health Facilities in Yewa South Local Government Area

Attempt was made to identify suitable site for public health facilities in the study area. The criteria for selecting suitable site as identified by Fadahunsi et al., (2017) and Ogun State Regional Plan (2005) was adopted. The criteria include the following: Heath care facility should have a minimum set back of 45 metres from a major road, river and railway line; It should be in less than five (5) kilometres of residential areas and a distance of 500 metres minimum and 5 kilometres maximum should be maintained between two primary health facilities. Also, the site elevation and topographic is considered to ensure that the area will be suitable for health facility(ies).

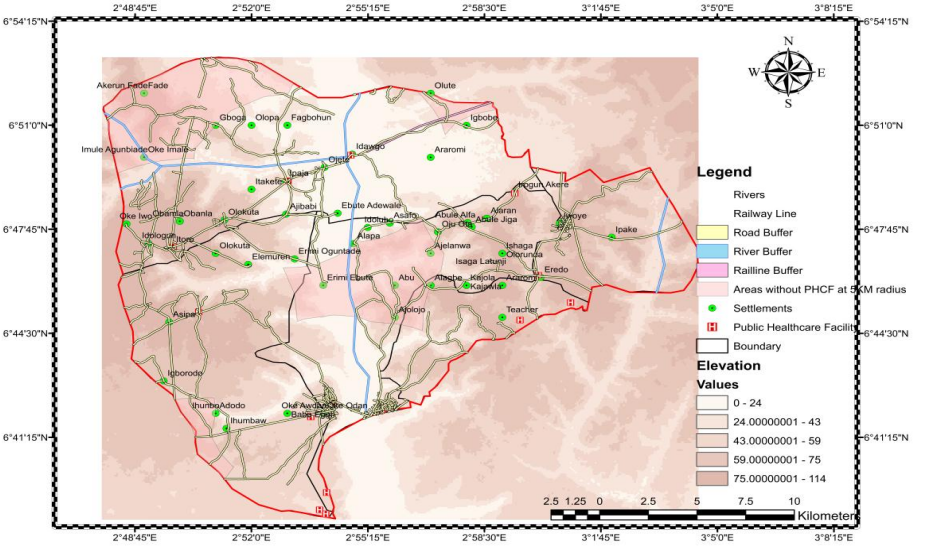


Figure 8: Overlay of Buffered Road, Buffered Rivers, Buffered Railway Line, Site Elevation and Areas without Public Healthcare Facilities

Source: Authors' Analysis (2021)

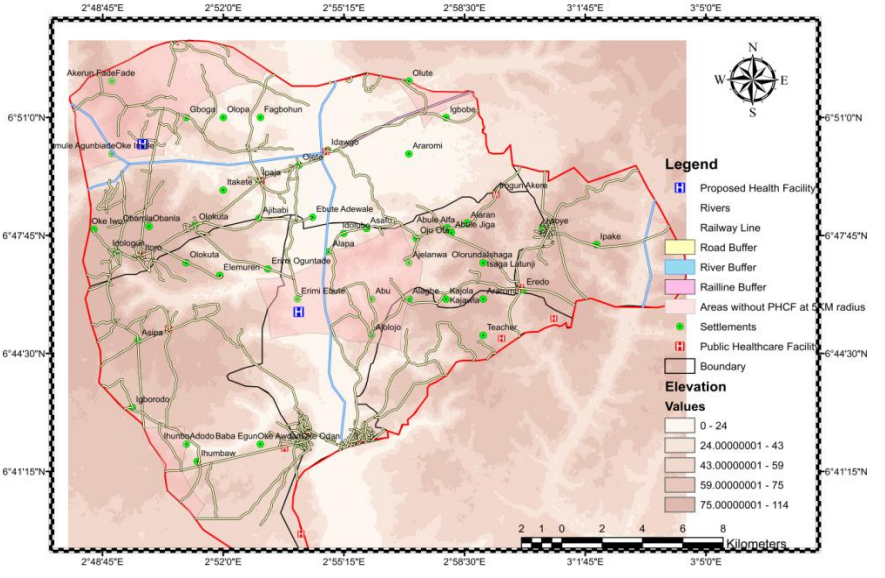


Figure 9: Locations of the Proposed Public Healthcare Facilities
Source: Authors' Analysis (2021)

In order ensure spatial efficiency in the distribution of healthcare facilities and one hundred percent potential access to healthcare facilities in the area. Two Primary Healthcare Facilities were proposed in the identified deprived areas as shown in figure 9.

5.2 Conclusion

This study has attempted to evaluate the planning implications of the locations of rural public healthcare facilities in Yewa South Local Government Area. The study revealed that the locations of existing public healthcare facilities in the study area afford majority of the respondents access to public healthcare facilities within 5000 metres radius. Although, it identified the need for more public healthcare facilities especially in the areas that are currently underserved by the existing public healthcare facilities. The recommendations of this however, hold hope for rural settlements that are currently underserved by existing healthcare facilities Yewa South Local Government for better accessibility to healthcare services and improved quality of life.

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