# ASSESSMENT OF THE LOCATIONAL AND PHYSICAL CONDITION OF RURAL HEALTH FACILITIES IN OGUN STATE

PRESENTED BY

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**ABSTRACT**

*This paper investigates issues associated with the physical planning on functionality of rural health facilities in order to promote well-being of the people in rural areas of Yewa land, a sub-region in Ogun State Nigeria. The research aims at assessing existing public health facilities in terms of physical planning policy in Ogun State Nigeria. Objectives of the study include investigation of the locational, spatial distribution, site coverage, distance, accessibility, structural condition and problems associated with the available facilities in the selected areas. Data were collected through administration of questionnaire on randomly selected 22 rural health facilities from the identified 48 rural settlement in the five local government areas of Yewa region in Ogun State proporsively with focus on the, location and physical condition of the existing public healthcare facilities, distance coverage by the users and effectiveness of such. Descriptive statistical tools such as means, percentile and standard deviation were employed to analyze the data. The study revealed among other things that health care facilities were unevenly distributed, poor spatial coverage, poor physical condition of the available ones and insufficient provision as specified by the physical planning policy were also discovered. Recommendations on strategies such as physical improvement and spatial coverage standards, to address the long locational distance, towards attaining the desire goal of effective provision and functionalities of health care facilities, were made for the improvement of rural health care delivery in Yewa land Ogun State Nigeria.*

***Keyword:*** *Rural area, Health Facilities, Assessment, Health care Planning standards*

## INTRODUCTION

Nigeria, government have often failed to recognize the need to treat the rural people equally with their urban counterparts particularly in the provision of development oriented facilities and services. Majority of the existing theories and models of rural development from attention mainly on structural aspects of rural development rather than the spatial expansion of the process of rural development through locational and planning. During the 1990s a concerted effort was made to examine the linkages between access to infrastructure services and poverty reduction. In more recent years, the catalytic role of infrastructure in poverty reduction his received renewed recognition in the millennium Development Goals.

The word “rural conjures different meanings to different people depending on their background, what is regarded rural in developed countries may well be referred to as urban in most developing countries considering the level of infrastructural facilities available in them and demographic characteristics such as size, density heterogeneity and occupational differences.

Therefore rural area could be define as settlement with less than 20,000 inhabitants and whose population are largely homogenous and predominately engaged in primary production, they generally lack adequate infrastructural facilities thus making living in the community very miserable (Makanjuola, & Markus 2011).

## LITERATURE REVIEW & RURAL INFRASTRUCTURE

Rural Infrastructure can be better understood as those specialized "elements" in the development process that bring about improvement socio-economic welfare of the rural dwellers. They are catalysis of development. The presence of certain types of infrastructure such as electricity may not bring about significant improvement in the life of the people unless combined with other variables classified as social infrastructure like health-(Hospital, health centres, maternities, dispensaries) education (all types of schools) and utilities (water, electricity) (Aigbokan, 2008). The importance of infrastructure in economic development has long been recognized, provision of infrastructure services is to meet the demand of business, household and other users is one of the major challenges of economic development such as infrastructure for health services as an important consideration in physical and social economic development planning also contributed to poverty reduction and improvement on living standards of the rural area or inhabitant

## SOCIAL SERVICES

The social services present in any community demonstrate various solutions to the problem of satisfying collective social needs. The social needs include education, health, housing, transportation, social and health services. Ayeni (1991) pointed out that in Nigeria, only about 57% of the population have given to modern healthcare services with urban centre fairing better than the rural areas where rural people travel an average of 5km to reach the nearest primary healthcare facility. Federal Ministry of Health (2004) emphasized on the national health policy established a comprehensive healthcare system based on primary healthcare that is promotive, restorative and rehabitative to the citizen of the country in order to promote productivity, social well-being and living in better environment. The clarification of health infrastructure are base on the primary healthcare of which services are delivered in health centres, clinic, maternity and outpatient department as dispensaries, secondary healthcare focuses on provision of general and specialist healthcare services as in general/state hospitals. The tertiary healthcare provides specialist and teaching hospital services. In Nigeria, health services are delivered through primary, secondary and tertiary health facilities by both the public and private sectors through primary healthcare is the fulcrum of the Nigeria health system, the provision financing and management of primary healthcare services as well as secondary healthcare services leaves much to be desired.

**HEALTH FACILITY**

Health is wealth is not an understatement but the ultimate goal of providing health facility is to have access to good health for all. According to World Health Organisation WHO (1948), defined health as state of complete physical, mental and social wellbeing and not merely the absence of diseases or infirmity.

Facility refers to means of opportunity that render anything readily possible (Webster 1995), WHO (2005) agreed that the term facility refers to any health services delivery site operating through the formal health sector. Health care facilities therefore can be regarded as object or structural opportunity that renders health delivery readily possible in terms of medical care services comparising of observational diagnostic and rehabilitative services to the people, this include hospitals, health centre, maternity centre, clinic, dispensaries and health post for relevant communities. Health facilities include all public, private and non-governmental and community-based health facilities defined as a static facility designated building in which health services are cohered. Its referred to as a physical structure and supporting equipment established for provision of health services. (Shrestha 2010, Rizyada 2012 and Makanjuola & Markus 2011). Rural health facility are such facility provided for health care services in rural areas which include health centre, maternity centres and clinics which provisions are the fundamental responsibility of the local government.

The spatial distribution of health facilities site planning, structural condition and accessibility is of paramount important to planners because there inequitable distribution and location over space and maintenance is of concern and has brought about the issue of provision and effective functionality of the facilities, especially in rural areas in Ogun State.

Onakerhoraye (1982), Islam and Aktar (2011) assed the provision and functionality of health facilities, therefore emphasis on the relationship between health facility, population and the functionality based on performance towards assessing the progress in determining the intervention of public health facilities to the communities and mostly rural areas. Hence the concern of this research is towards bringing up and existing knowledge on the State or condition of existing health infrastructure comparising state of the wall, roof, foundation, orientation, space land area, location, accessibility and site planning, to ensure that quality health services are provided in a standard and well located infrastructure facility in order to reduce stress, and mortality, convenience and pleasing environment well landscape to correct obsolute and environmental hazard in rural areas in Ogun State.

## PHYSICAL PLANNING POLICY

Physical planning policy emphasizes standards in the provision of health facilities is to provide adequate health facilities in a community that would support the present and future population, and to create a healthy and satisfying environment in which the health facilities are located as well to relate the residential and public health land use to know the catchments in a manner to have convenient and easy access to the health facilities, and to ensure adequate reserve for expansion of the health facilities in the foreseeable future. (Aluko, 2001).

Ogun State Urban Regional Planning Law 2005 on planning policy identify that proposed site for infrastructural facilities must be placed within its proper geographical, political and functional context. This fixes the site and the facility in relation to adjacent land uses, community transportation and other available infrastructures. Site size help to determine the percentage of land to the develop out of the total land area in order to achieve air space, ventilation, lighting and circulation. Boundaries and adjoining developments are noted for use compatibility. Determining site suitability and development for facility involves identification of site assets, and constraint such as slope, elevation, soil type, ecological of valley landscape leads to erosion, sedimentation marshy and flood areas must be avoided. Site accessibility as routes to the site must be identified. Legal constraints such as setbacks, right of way and building regulation must be taken into recognition.

Ayeni (1991), Wahed A (2011), Oyesile (2013), Aigbokan (2008) expatiate further that health centre should be easily accessible by a black topped road (tied road) of minimum width of an approach road shall be 7.2m in a carriage way or 12meters in a right of way and provision for a minimum of 4 cars parking space. A minimum of 0.460 hacters of land as a site standard for health centre with provisions for staff quarters, security post and open space. The health facilities site (Building) coverage shall be limited to 25% and not exceed 33.3% of the total land area

## THE ROLE OF LOCAL GOVERNMENT

The Local Government Reform Law of (1976) and Urban and Regional Planning Law of 1992 specified statutory functions and responsibility of the local planning authorities and the local government authorities in their areas of jurisdictions. The essence of the third tier of government in Nigeria is to bring development very close to the people. The grass root supports for most social services are essential if they are to be beneficial to the masses of the people. The local government has a lot of role to play in the provision of essential social services especially primary education, and primary healthcare as health services delivery in health centre, clinics and out patient department in the local government areas. The

basic health services scheme programmes clearly emphasis the need for close involvement of local government, local communities, and in the individual. The road constructions and maintenance have some proportion been controlled and managed by local government as there federal, state and local government roads. Local development is under the control of local government because plan approval documents are from local planning authorities. The local planning authorities regulate and control development in their areas therefore a local government has the duty to implement development plan and policies in their area of jurisdiction since physical plans and social development plans complement each other and provision of social services at the grass root and development control and regulation are within the jurisdiction of local planning authorities. Problems of planlessness, uncontrolled development and negligence in maintenance of social infrastructure arise from improper monitoring by the local government planning authorities.

## THEORY AND CONCEPTUAL MODELS

### Locational Models

Alfred Weber classical theory of location (1909) with application to firm or industry/facilities and services focus on the optimal location as the point where transport costs and accessibility of bringing the necessary raw material/services infrastructures and the supply of goods/services to the consumer/peopel at a minimum. Omuta and Onokerhoraye (1986). Locational decision could be to minimize aggregate travel for a given population while simultaneously ensuring that all consumers have assessed to facilities. The smaller aggregate travels, the more deficient the set of facility locations and the more accessible the services to the users population.

### Central Place Theory

Walter Christailer's Central place theory components have threshold/population requirements of goods/infrastructure and services, range/distance of goods/services and distribution of towns in geographic space/catchments area. The concept of threshold is the minimum population required to make the provision of a good or service minimally profitable and worthwhile. The concept of range of a good is the average maximum distance that prospective consumers are willing to cover in order to consume the good or services. Economic distance is physical distance converted into cost of overcoming friction of space or cost of travel, time wasted and discomfort encountered. Thus if the distance is too great the good or services will not be consumed/patronize.

### Rural Development Planning Theory

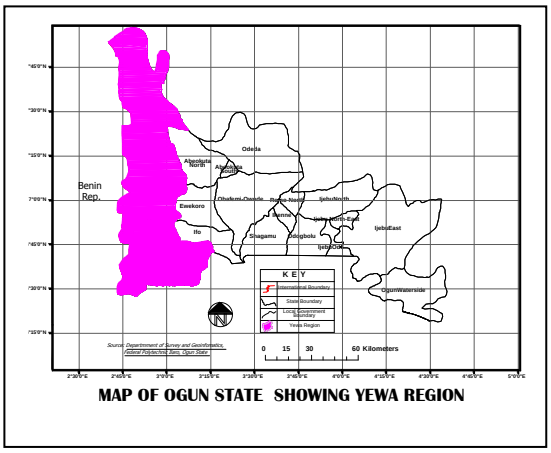
Village re-grouping concept for rural development planning view provision of small-scale infrastructure amenities such as school, market, health centre, police post etc for group of villages. The concept tries to overcomes some constraints such as location, inaccessibility, poverty reduction etc of small-scattered villages of rural areas. Its objective is to create large settlement where small scale industries and infrastructure and services can economical operated. Adedipe (2002).

**STUDY AREA**

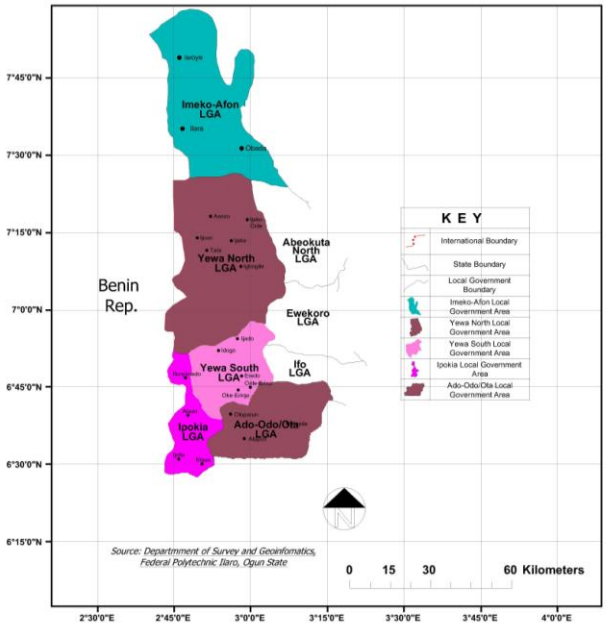
The study area is located between latitude $6^{o}48$" North of equator and between latitude $2^{0}57$" East of the Greenwich Meridian. The latitudinal location implies that the study area fall within the tropical region situated on a lowland area approximately 280m above the sea level. (Google Earth 2015)

Ogun West Senatorial district also known as Yewa Region, Ogun State Nigeria, shares boundaries with Oyo State in the north, Ogun Central Senatorial district as Egba Region in the east, Lagos State in the South and Republic of Benin in the West. The emergence of the Egbado Divisional Council in 1958 under the Local Government edict no 9 of 1976 marked the turning point when major communities in the divisional council areas redelineated into sub regional boundaries carved out five local government areas such as Imeko Afon, Egbado North, Egbado South, Ado-Odo/Otta and Ipokia. Major settlement within the region are Ilaro, Otta, Ado-Odo, Igbesa, Ipokia, Oke-Odan, Ifonyintedo, Owode, Idogo, Aiyetoro, Ibese, Imeko, Ijoun, Afon, Iwoye, Igbogila, Idiroko as major settlement closer to Yewa River. Ogun State government in an extraordinary Ogun State of Nigeria Gazette (vol 22 page 109) change the name to Yewa North, Yewa South, Imeko Afon, Ipokia and Ado-Odo/Otta local government area. Since, the five local government areas has been refered to as Yewa Region of Ogun State. The people engaged in agricultural activities due to availability of fertile land good for both cash and food crops and tropical climate that dominated by high temperature, high humidity, and heavy rainfall that denote by wet and dry seasons. Apart from being Yoruba other dialets are Aworis, Egbado, Egun, Ketus, Ohoris, Anagos and Ilaro.

MAP OF NIGERIA SHOWING OGUN STATE



MAP OF OGUN STATE SHOWING YEWA REGION



MAP OF YEWA REGION SHOWING FIVE (5) LOCAL GOVERNMENT AREAS AND THE SELECTED LOCATIONS OF HEALTH FACILITIES

The selected settlements according to LGA are:

| | | |
|---|---|---|
| **Imeko Afon LGA** | - | Ilara, Iwoye and Obada |
| **Yewa North LGA** | - | Aworo, Ijako-Orile, Ijoun, Ijaka, Tata and Igbogila |
| **Yewa South LGA** | - | Ijado, Idogo, Eredo, Orile Erija, Oke-Erinja and Ipaja |
| **Ipokia LGA** | - | Ifoyintedo, Alaari, Ijofin and Maun |
| **Ado-Odo/Ota LGA** | - | Alapoti, Kajola and Oloparun |

## METHODOLOGY

The study is based largely on primary-data. Data were collected through questionnaire administration personal observations and oral interviews. Personal observation included visit to the selected rural settlement to see things at first hand to reveal what perception could not reveal. The questionnaire has two parts; Part "A" contained issues relating to socio- demographic characteristics of the people and health facilities while Part "B" was designed in checklist format to assess the physical condition of the health infrastructure in the settlement. The questionnaire administration covered randomly selected 22 health facilities from the identified 48 rural health facilities, which means 45.8% samples size was carried out in the five local government areas of Yewa region in Ogun State purposively. The respondents were selected randomly from the host rural settlement. Data collected were analyzed using descriptive statistics.

## RESULTS AND DISCUSSION

**Table 1: Descriptive Statistics**

| | Range | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| **Site coverage (land space) ($m^2$)** | .0980 | .0640 | .1620 | .098389 | .0291087 |
| **Year health facility was provided** | 28.00 | 10.00 | 48.00 | 39.8636 | 10.19770 |
| **Number of settlement sharing the facility** | 3.00 | 1.00 | 4.00 | 2.4273 | 1.10428 |
| **Distance of facility to the benefiting settlement(km)** | 4.00 | 1.00 | 5.00 | 2.6100 | .96126 |
| **Distance to the core area of the settlement (metre)** | 275.00 | 75.00 | 350.00 | 214.9273 | 66.71777 |

***Source*: Extracted from SPSS, Version 20**

Descriptive statistics of table 1 shows the range, minimum, maximum , mean and standard deviation of analysed items of site coverage, health facility provision year, number of settlement sharing the facility, distance to the benefiting settlement, and distance to the core area of the settlement. Analysis indicates that the minimum and maximum site coverage for the sampled health facilities within the local government were $0.064m^2$ and $0.162m^2$ respectively, with an average of $0.0984m^2$. The average site coverage shows that the provided health facilities land space were not in-line with the standard laid out. This shows that there are no enough land area for health centre as prescribed by physical planning office

However, the average year those facilities were provided was estimated to be approximately 30 years, with a minimum and maximum of 10 and 48 years respectively.

In addition, there analysis also revealed that the maximum number of settlement sharing a facility were four (4) on an approximate average of 2 settlements. This indicated that few of the sampled health facilities were used by a one settlement.

Measured distance of health facility to the benefiting settlement showed that the maximum distance covered is 5km on an average of 2.61km. The measured distance was not in line with governments laid out standard as majority of the health facilities were too far to the benefiting settlement. Although, analysis to the core area of the settlement measured in metre revealed that there is an average 214.9273m distance all the examined health facilities to the core area of the settlement with minimum and maximum 75m and 350m respectively.

**Table 2: Frequency and Percentage Distribution of physical condition of the health centre**

| S/N | Items | Variables | Frequency | Percentage (%) |
|---|---|---|---|---|
| 1 | **Foundation** | Intact and covered | 16 | 14.5 |
| | | Partially exposed | 58 | 52.7 |
| | | More exposed | 24 | 21.8 |
| | | Cracked | 12 | 10.9 |
| | | **Total** | **110** | **100** |
| 2 | **Wall** | Painted | 39 | 9.1 |
| | | Plastered only | 40 | 19.1 |
| | | Peeled | 21 | 36.4 |
| | | Cracked | 10 | 35.5 |
| | | **Total** | **110** | **100** |
| 3 | **Window and door furniture** | Good frame planks | 3 | 2.7 |
| | | Good doors and windows | 12 | 10.9 |
| | | Cracked planks | 49 | 44.5 |
| | | Falling frame planks | 40 | 36.4 |
| | | Cracked doors | 6 | 5.5 |
| | | **Total** | **110** | **100** |

| | | | | |
|---|---|---|---|---|
| | | Intact as designed | 6 | 5.5 |
| | | Concaved | 4 | 3.6 |
| | | Partly blown off | 12 | 10.9 |
| | | Cracked planks | 6 | 5.5 |
| 4 | **Roof** | Completely blown off | 16 | 14.5 |
| | | Leaking | 49 | 44.5 |
| | | Falling ceiling | 17 | 15.4 |
| | | **Total** | **110** | **100** |

***Source:*** **Field Survey , 2019**

Analysis on the assessment of the physical condition of the health centre can be seen in table 2. About 52.7% of the respondents' said that the building foundation is partially exposed, 36.4% and 35.5% of them said that the wall as peeled and cracked respectively, and the windows and door furniture were not in good shape and majority of the roof leaking as opined by 44.5% of the total respondents'.

**Table 3: Regression Result (Dependent= Rate of patronage):**

| Variables | B | Std. Error | t | Sig. |
|---|---|---|---|---|
| (Constant) | 3.221 | .502 | 6.421 | .000 |
| Distance of facility to the benefiting settlement | 2.064 | 2.101 | 20.436 | .002 |
| Accessibility of health facility | 1.050 | .1106 | 9.906 | .037 |
| Condition of means of accessibility | 0.032 | .106 | .3019 | .287 |
| Condition of health facilities | 2.066 | 2.054 | 38.259 | .007 |

***R*** *= 0.539* ***R-square*** *= 0.519* ***Adjusted R-square*** *= 0.418*

***F*** *= 5.5057 (df = 4, 105)* ***P-value*** *= 0.021*

The model specification of table 3 is written as:

$$ROP = \beta_0 + \beta_1(D) + \beta_2(AHF) + \beta_3(CMA) + \beta_4(CHF)\varepsilon_i \quad \text{equ……..(1)}$$

Where:

ROP = Rate of Patronage

D = Distance of facility to the benefiting settlement

AHF = Accessibility of Health Facility

CMA = Condition of Means of Accessibility

CHF = Condition of Health Facilities

Substitution the coefficients into the model, we have;

$$ROP = 3.221 + 2.064(D) + 1.050(AHF) + 0.032(CMA) + 2.066(CHF) \quad \text{equ…..(2)}$$

The model specified from table 3 above is given by equation (1) with the substituted coefficients in equation (2). This model gives a reasonable projection of Rate of Patronage for a unit increase in Distance of "Health Facilities to the Benefiting Settlement", "Accessibility", "Condition of health facilities", which is statistically significant based on the computed 't'(20.436, 9.906, and 38.259) values. In fact, the relationships exhibited by the predictor measure of ROP is in line with prior expectations as ROP is expected to have impacted positively as exhibited in the estimates. However, its coefficient of determination ($R^2 = 0.519$) implies that 51.9% of the variation in measure of ROP of the health centres is accounted for by D, AHF, CMA and CHF. This model clearly shows that the model is adjudged a best fit as confirmed from the F=5.5057 (df = 4, 105) P-value <0.05 significance value. In addition, coefficient of "Means of Accessibility condition" (0.032) was found to contribute insignificantly (t = 0.3019, P-value > α = 0.05 level of significance) to the model. The insignificance of the coefficient might be as a result of the opinion raised by the respondents' about the bad state of the accessibility condition which serves as a means of low patronage of the rural dwellers to the centres. Moreso, coefficients of the aforementioned predictors of the rate at which the respondents'' visits/uses the health centres were found to be positively inclined. This also indicates that, if the laid down rules of sighting health centres in the rural areas are followed with good maintenance culture, rate of patronage will increase and distance to nearest health centres will be drastically reduce.

**SUMMARY OF FINDINGS**

1. Physical structure such as buildings and other infrastructures such as pipe borne water, good access roads, electricity and transportation are deficient in most location.
2. Poor location of healthcare infrastructure leads to under utilization of health care services
3. There is poor facility management and maintenance culture and lack of standardization for health infrastructure
4. Many health facilities are located far from the grouped rural communities (catchment area and hard to reach areas (water/topographical nature constraints areas).
5. Cost of transportation due to distance and condition of road and attitude of health workers discourages users from patronages
6. Unkept condition of the structure (building) and its entire locational site environment discourage patronage, most of the structures are in obsolescent.

7. Encroachment by other near by activities (land use) deprive the health centre the privacy, security and conducive environment.

**RECOMMENDATION**

- The local government and the local planning authorities should work hand in hand (together) in the enforcement and implementation of physical planning policy and standards in the provision of infrastructure (plot standard and land use compatibility).
- There should be periodic checking, renovation, upgrading of health facilities and other infrastructures in the rural areas. Attention should be focus not only on urban infrastructure but rural people also deserve a better roads and services.
- Provision, location and maintenance of health facility should be joint responsibility of the authorities (LPA and LGA) and the communities.
- Location and site of infrastructure should not be politically bias but on merit and equity among the various communities.
- Ecological study of the site area should be consider in all ramifications on implementation of physical development plan.

**CONCLUSION**

Rural areas deserve provision of standard health infrastructure and better services that would enhance physical and social economic growth of the area in a manner that would encourage patronage and use of infrastructure provided and reduction in mortality and poverty in Yewa region in Ogun State Nigeria.

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