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Evaluation of the Urban Upgrade Planning Strategies for Old Orozo Township, Federal Capital Territory, Nigeria

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Abstract: The urbanization process in Orozo, Abuja has not been accompanied with a corresponding supply of adequate housing, basic infrastructures and amenities. Consequently, this has led to the development of disorganized, overcrowded, declined, dilapidated, blighted areas and large proportion of slums within the town. Therefore, the Study focused on evaluation of urban upgrade planning strategies for old Orozo township Federal Capital Territory, Nigeria. During the reconnaissance survey the study area was delineated into five (5) zones, with a total of 63,070 housing unit, a total of 380 respondents were sampled Krejcie and Morgan (1970) formula. Questionnaire was used to collect information on socio-economic characteristics of respondents, housing, age type, nature and space availability and evaluate the existing infrastructural facilities in housing of the study area data were analyzed using inferential and descriptive statistics. The results obtained shows that 43%, 49%, 44% and 51% of respondents in Zone A, B, D and E respectively are involved in trade and commerce while 31% in Zone C were artisanal and construction workers. The study area lacks portable water supply, modern sewage, appropriate drainage facilities, refuge disposal and poor road infrastructures. Also, majority of respondents in Zone A (57%), B (53%), C (54%), D (51%) and E (37%) practiced open dumping. The study also revealed that in majority of the respondents in Zone A, B, C, D and E, (79%, 77%, 64%, 84% and 77%) indicated that buildings in the study area are mostly for residential purposes. The study area is dominated with old buildings as respondents in Zone A, B, C, and D (29%, 33%, 34% and 23%) indicated that most of the houses in the study area are 40 to 49 years old while highest percentage of respondents in Zone E (28%) indicated that the houses are up to 50 years. There is a significant relationship between income and housing quality of the study area. Furthermore, appropriate slum upgrade was perceived as the appropriate upgrading measures considering the policies that can be employed to improve the standard of living of inhabitants and enhance the physical condition of the indigenous community of orozo. It is therefore, recommended that public-private initiatives and participatory measures should be embarked upon in the urban renewal process of old Orozo Township, and Government should embark on the provision of inventories of housing stocks in the study area for participatory upgrading and maintenance with owners and inheritors of such properties. Also, Maintenance, reuse and upgrading of such properties can be encouraged through property tax rebates and other incentives.

Keywords*: Urban Upgrade, Planning Strategies.*

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I. INTRODUCTION

According to scholars, Africa, including Nigeria, is a region that is experiencing an alarming rate of urban growth. This is due to the neglect of rural areas in terms of physical development and governmental interventions, as well as to the desire of rural residents to escape the arduous farm work by seeking out better lives and office jobs (Olotuah & Aiyetan, 2007). A strain on resources and infrastructure in city centers is caused by migration and the ensuing shift of city dwellers to urban fringes, which leads to the development of slums, substandard housing, urban blight, infrastructure obsolescence, disaster vulnerability, and serious threats to public health (Ibem, 2003; UN-HABITAT, 2010).

Africa and indeed Nigeria is a region experiencing an alarming rate of urban growth; this according to many scholars is as a result of massive rural- urban drift partly due to negligence of rural areas in terms of physical development and governmental interventions and majorly because of the search for better life and office jobs (a distant from strenuous farm jobs) by the rural dwellers (Olotuah & Aiyetan, 2007). The influx of people migrating with the attendant shift of city dwellers to urban fringes also creates a strain on resources and infrastructure in city centers which result to slum formations, poor housing conditions, urban blight, infrastructural obsolesce, disaster vulnerability and serious threats to public health (Ibem & Aduwo 2012; UN-HABITAT, 2010).

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Urbanization is defined as the physical expansion of urban areas as a result of suburban concentration in cities and rural migration (Elias & Gbadegesin, 2013). It mostly happens because people relocate from villages whose activities are mostly or exclusively focused on agriculture to other, typically bigger communities whose activities are primarily focused on government, trade, manufacture, or related interests. It is also understood to refer to the movement of people from rural to urban areas and the subsequent rise in the proportion of people living in urban rather than rural areas (Cieslewicz, 2002). Rapid urbanization growth in African countries reflects substantial migration to cities from rural areas and also natural population increase through increased births over deaths among city residents (Jinadu, 2004). Of the two major sources of urban population growth, in some countries natural increase plays the greater role while in some others migration from rural areas contributes more. Population growth in urban areas is faster. The lack of urban planning policies, the rapid growth of urban centres and the inadequate political and economic conditions do not respond to regulatory frameworks for progress (UNb 2007). However, Agbola (2005) points out that it is ironic and perplexing that the process of urbanization in the more advanced nations took several decades, allowing for the gradual creation of economic, social, and political systems to address the issues of transitions. But against a backdrop of increased population growth and less established economic, social, and political systems, the pattern of urban agglomerations is unfolding more quickly in the less developed countries. According to Hartshon (1992), referenced in Agbola (2005), this process of urbanization and city growth in underdeveloped countries is known as "false urbanization."

There is hardly a city in Nigeria where water supply and electricity is regular, affordable housing for every resident, accessible good health services to all, where waste is scientifically disposed, accessible and affordable good transport among others. the urban centers, rather than providing comfort and being centers of arts and civilization, have become urban jungles (Agbola, 2005). The challenges to this false urbanization include, high unemployment, environmental degradation, deficiencies in urban services and inadequate housing, deterioration of existing infrastructure, inaccessibility to key resources, social vices, crime and violence (International Human Dimensions Programme (IHDP), 2005).

The euphoria over urban upgrades in most parts of the world usually begins with very high expectations (Couch, *et al.,* 2011). The ideal situation is for the programmes to promote social and economic growth while ensuring the protection of the interests of the residents in the communities and social cohesion (Couch, *et al.,* 2011). On the contrary, the sustainable instances of upgrading have mostly taken place in the middle class and relatively high-class environments (Raco, 2003), with the government and wealthy private sector dictating the pace (Peck, 2006). While issues of socio-spatial dysfunctionalism like slums and squatter proliferation and incidents of “blight” are usually the target of urban upgrades in historic centres (Hosseini *et al.,* 2017), the programmes end up with financial benefits for the stakeholders (Plummer, and Taylor, 2013; He, and Wu, 2005; Shin, 2010).

Urban upgrade programmes are data dependent and its level of success in most cases depends on the quality of the data used which in turn depends on the objectivity of their acquisition. Data quality depends on the level of objectivity observed during their collection which is a reflection of the extent to which operator’s bias and prejudices are eliminated during survey (Ben, 2013).

Urban regeneration is a plan to address complicated urban issues, such as unhygienic, inadequate, or outdated housing, poor transit, sanitation, and crime. Evidently, past renewal initiatives have resulted in a number of positive outcomes, including improved public health, well-planned cities, and good and aesthetically pleasing environments, traffic congestion solutions, a draw for tourists and new business investors, shorter travel times, a decrease in slum formation, and a decrease in disorderliness, among others (Agbaje, 2003). Regeneration or renewal programmes in city centers also rebrand places by upgrading the identity of the place with new urban cultures or revival of existing ones (Hahn, 2012). However as beautiful as the positive consequences may deem to be, urban renewal programs also come with series of negative consequences and severe brunt mostly felt by the poor urban dwellers. Part of which is homelessness, displacement and loss of job experienced by the poor without being compensated (Ibem, 2003). Past renewal programs in Nigeria have also brought about inconvenience due to increased distance from new homes to place of work and schools thereby resulting in increased transport fares or increased trekking time, loss of socioeconomic ties, disconnection with cultural ties, displacement of menial workers among others. (Ibem, 2003; Agbaje, 2013). The negative consequences of urban renewal programs have caused unending trauma to some parents, leading them to untimely deaths while leaving behind under aged and dependent children to cater all by themselves (Agbaje, 2013).

Rapid urbanization in developing nations is putting great strain on the availability of housing in those nations. Urban decay in Nigeria has been a process rather than a deliberate act that might be stopped by decree or legislation. The situation in Nigeria's major cities, including Abuja, Lagos, Ibadan, Port Harcourt, Aba, and Enugu, offers a variety of issues that are important to note. These include slums, overcrowding, urban deterioration, and lawlessness, all of which result in the depletion of land and natural resources.

Abuja master plan was designed for a well-structured Urban center but this has failed to be actualize, while some parts of the city were well planned and managed like the Abuja Municipal Area Council (AMAC) and township, others were unplanned and poorly managed native town/areas such as the colonial policy of spatial and social segregation laid the foundations to the problems of urban planning and slums development in the study area (Freeman, 2012). The native areas were allowed to grow without formal regulations,

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and due to the upsurge of population into FCT as a result of administrative activities, trade, education and commercial services. Following the creation of FCT in 1976, urbanization was unprecedented posing on the city rapid physical expansion and the development of peripheral slums at the edges of the city. Today there are over 30 slum areas in FCT, and over 70 percent of the city dwellers live in these slums (FCDA, 2022; Freeman, 2012). In view of the failure of the government to provide the necessary layout schemes, served plots and infrastructures, members of public had to turn to the private estate developers for their development needs. Besides, many have argued that the model of planning schemes recommended by the plan were too demanding on public resources where government was to acquire land, service it and then allocate plots to prospective developers. This has only led to such scheme being hijacked by the rich and middle class to the detriment of the urban poor (Sambo, 2011).

In Orozo, Abuja, the urbanization process has not been matched by a corresponding supply of adequate housing, fundamental infrastructure, and amenities. As a result, the city now contains a significant number of slums and regions that are chaotic, crowded, declining, decaying, and blighted. Sambo (2011), claims that due to population pressure and the overly high demand for housing, residents were forced to look for supply elsewhere, largely outside the Abuja Municipal Area council, which includes Orozo, where land was available at lower prices.

It is noteworthy, however, that the majority of experts such as urban planners, architects, surveyor among others have concentrated on offering various strategies for lessening the impact, with little to no attention given to the regeneration plan and its corresponding impact on urban center architecture. In order to determine how effective, the interventions had been in enhancing the urban environment and having an impact on the people' quality of life, this study aims to analyze the urban renewal strategy planning for the Old Orozo township of the FCT, Abuja. On this tack, research was conducted to create an urban redevelopment planning strategy for Orozo Township in the Federal Capital Territory of Abuja. This following form the research questions for the study;

II. MATERIALS AND METHODS

A. Study Area

Orozo is located in Abuja Municipal Area Council, FCT. It is about 12km and a 10-minute drive from the city Centre. Orozo was a traditional Gwari settlement which like most traditional settlements of the FCT underwent urban renewal (URP, FCDA, 1989). It covers an approximate area of 16.2 Sq.km. Orozo settlement is located in the south – eastern fringes of the Federal Capital Territory (FCT), Abuja, Nigeria. It is one of the emerging satellite towns that is presently accommodating both indigenous and non-indigenous. It is bounded in the north by Gidan Mangoro relocation scheme, Gidan Daya village and Gidan Daya relocation scheme, while in the South by part of Karu-Agwai hill chain whereas, in the west by a continuation of the Karu Agwai hill chain that serves as a Buffer between urban fringes that adjoin Federal Capital City (FCC) Abuja and Orozo settlement and in the east by Nasarawa State. In view of the fact that Orozo settlement is surrounded by planned areas by FCDA, there is need to upgrade the core indigenous setting.

The Site of Orozo Core indigenous settlement is in the eastern axis of Orozo Township and it is demarcated by Byadna stream in the north flowing eastward and Gidan Daya scheme, while south and west is demarcated by Nyanya-Karshi express road, and the eastern part is bounded by Nasarawa State. The site covers an approximate Area of 167.11 hectares.

The architecture of the Orozo indigenous settlement is a mixture of traditional round clay made huts and modern rectangular structures covered by Corrugated iron roofing sheets. Beside the compact residential development of the settlement, the most important components/ land marks are:

- SA-Orozoyi's Palace, within the Orozo indigenous settlement,
- The public primary and junior secondary schools with class rooms blocks planned and developed,
- Religious Institutions: Churches, Mosque,
- Police post,
- Primary health care,
- Private Clinics,
- Private schools,
- Grade 1 Area Court,
- Public utilities – Boreholes, public toilets, transformers, Drainages and waste disposer sites
- Road types,
- At the central part of the settlement there is a market along Nyanya-Karshi express way

Almost all the buildings around the express way are commercial and few elements of recreation. Towards the eastern part of the settlement is dominated by residential houses as well as North and South part of the settlement.

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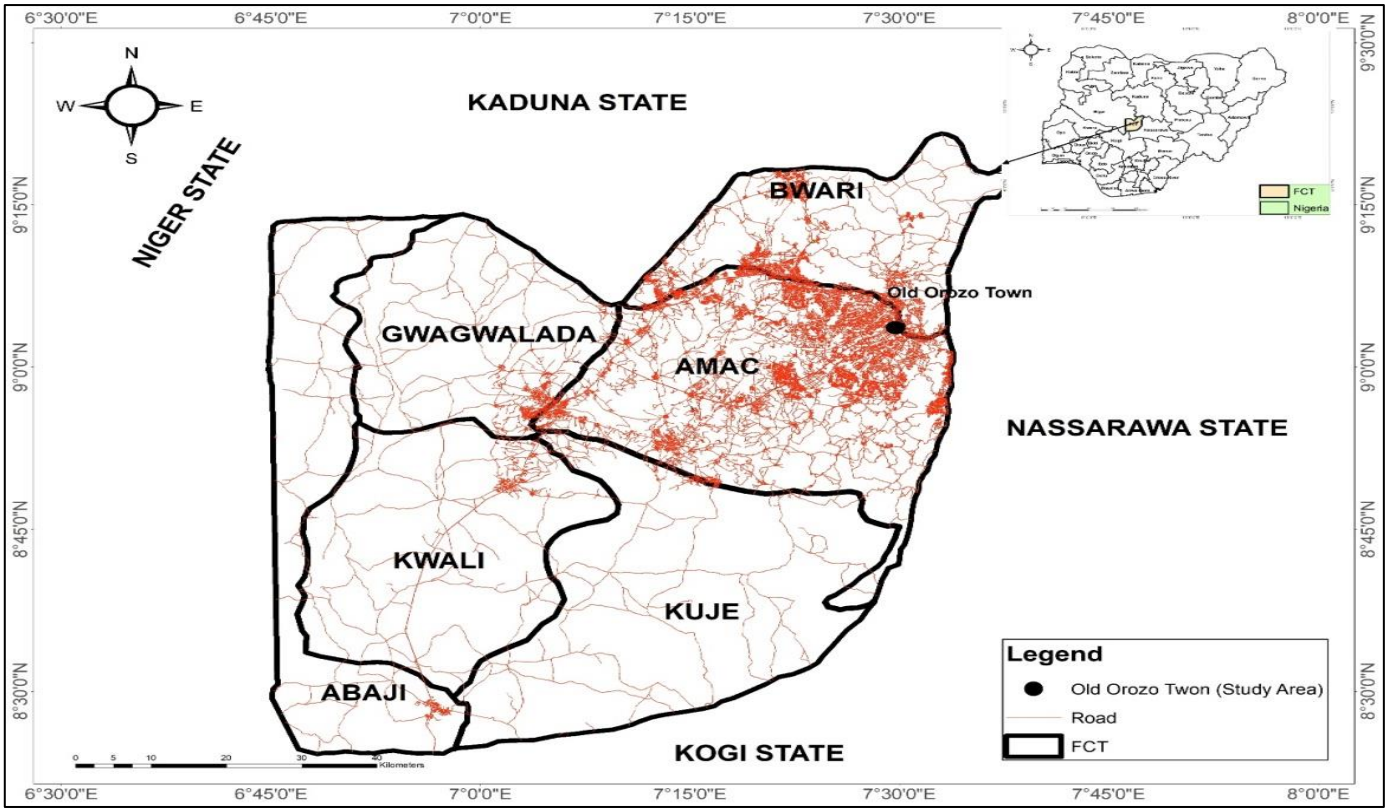

Fig 1: FCT Showing the Core-Indigenous Settlement of Orozo in Relation to FCC
Source: AGIS, 2021

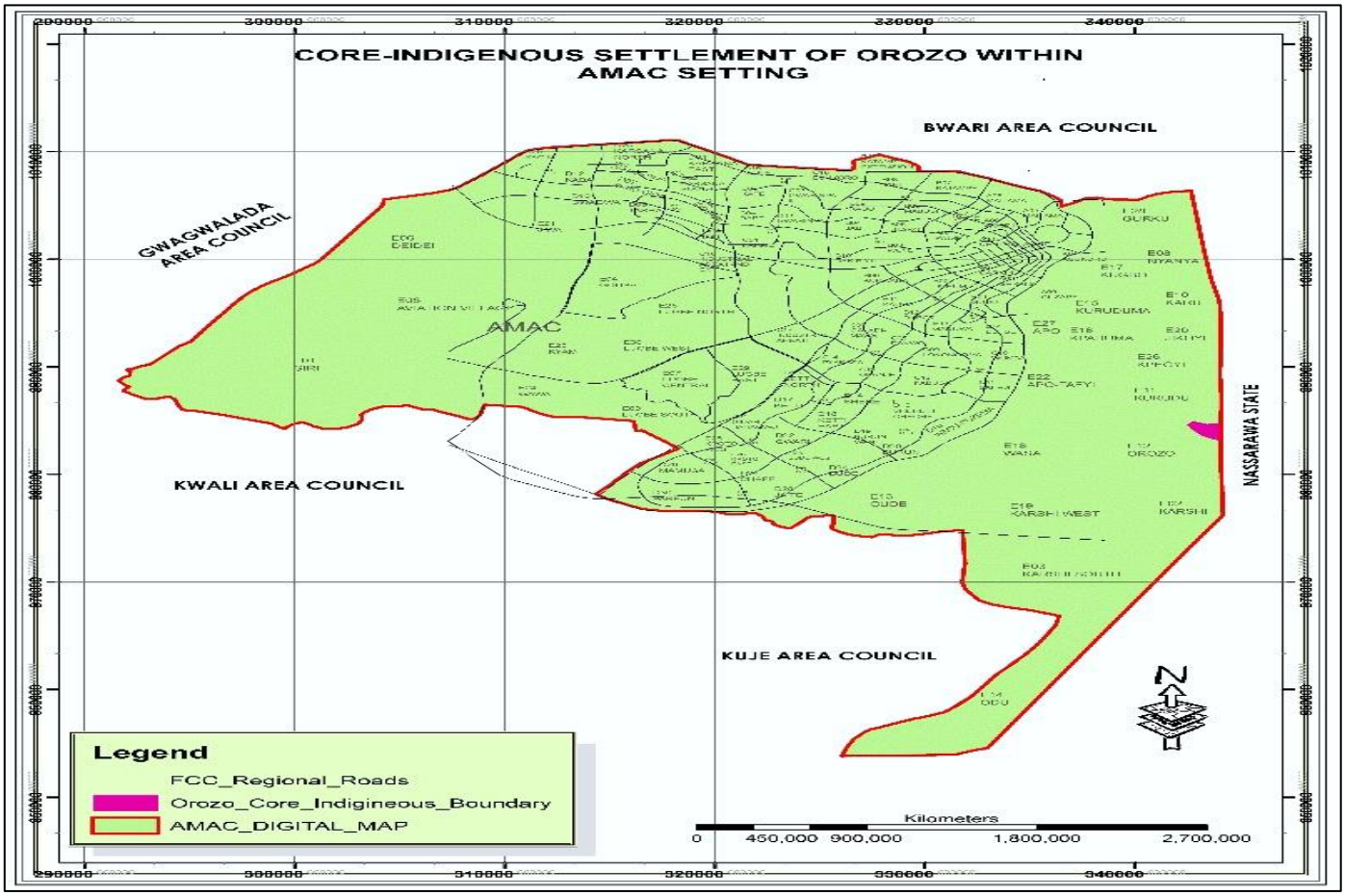

Fig 2: AMAC Showing the Study Area in its Local Context
Source: AGIS, 2021

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B. Sampling Procedure

The study used primary data, collected directly from the field (Kothari, 2004). This involved the use questionnaire and field observation to obtain information on the urban upgrade strategy for old Orozo Township, FCT, Abuja.

A joint site reconnaissance survey/inspection was carried out to delineate the boundaries of the study Area and acquaint self with the problems of Orozo Community. This is to acquaint self with the existing situation on ground and for proper delineation of the study site in order to assist on primary data collection, analysis and administration of questionnaire. During the reconnaissance survey in 2021, digitalization of the study area was done, Orozo Core Indigenous Township was delineated into five zone (5) and then the housing unit was collected in each zone, the total housing unit in the study area is 63,070. (FCDA/AGIS).

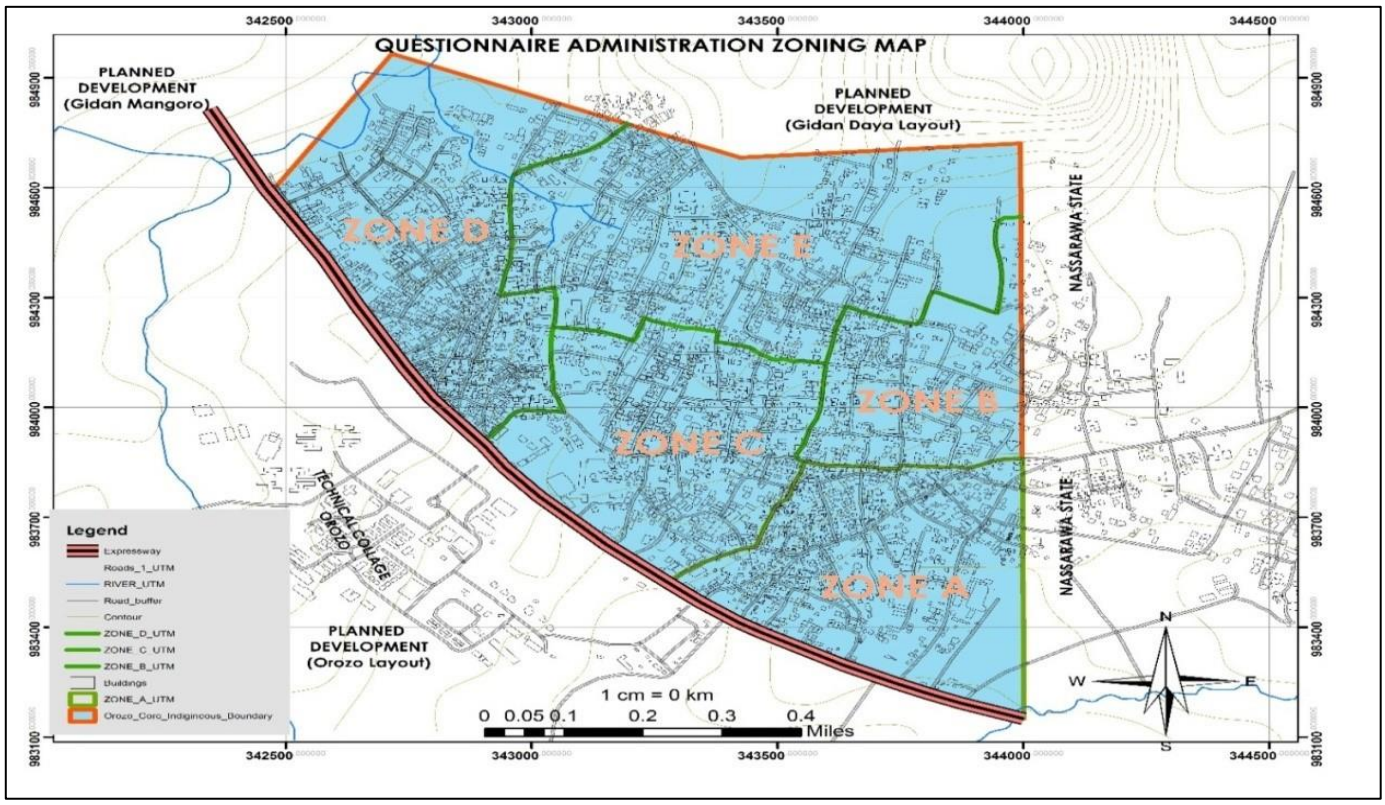

Fig 3: Questionnaire Administrative Zooning Map
Source: STDD/FCDA, 2021

Sampling size was derive using Krejcie and Morgan (1970). The sample size of housing unit of 63,070 on Krejcie and Morgan table is 380.

Table 1: Sampling Size of the Study Area

Zones	No of housing Units	Sample Size
Zone A	16,027	96
Zone B	13,161	79
Zone C	10,542	64
Zone D	12,998	78
Zone E	10, 342	63
Total	**63,070**	**380**

Source: FCDA/AGIS, (2021)

Simple random sampling was adopted in selecting the first respondent and systematic sampling was employed in selecting the subsequent ones at an interval of 158. Random numbers were generated from Microsoft excel and tabulated on the table of random numbers; respondent that fall on the random numbers were administered questionnaire. Data collected were analyzed by the use of Statistical Package for Social Sciences (SPSS) version 10.1.

III. RESULTS AND DISCUSSION

A. Demographic and Socio- Economic Characteristics of the Study Area

➢ *Gender*

The result on Table 2 revealed male respondents had highest percentage in Zone A, B and D with 59%, 63% and 79% while female respondents were more in Zone B and E

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with 69% and 63% respectively, showing that majority of the study respondents are males. Since the majority of respondents were men, the results show the crucial role that men played in the urban redevelopment of the study area.

➢ *Age*

According to the study, highest percentages of respondents in Zone A (46%), B (51%), C (45%) and D (54%) respectively are within age 26 to 45 years while highest percentage of 38% in Zone E are above 60. Hence, the result presented shows that majority of the respondents were between the ages of 26- 45 years old has this category has the highest percentage. This is the active and working population, implying economic age group, which also signifies that the respondents know the importance of slum upgrade in improving quality of life and therefore will be responsive to improvements and will be willing to cooperate with the government for area upgrade.

➢ *Occupation*

Highest percentages of respondents of 43%, 49%, 44% and 51% in Zone A, B, D and E respectively are involved in trade and commerce while Zone C recorded highest percentage of 31% who are artisanal and construction workers.

The result implied that trading is the dominant occupation among the surveyed respondents. The main market serving the Orozo Core Indigenous Township area is located inside the project area. The market operates every 5 days. Orozo Core Indigenous Township is a regional market and the center for the distribution of grains, firewood produce and construction materials (Laterite, sand, timbers, and metal projects). The market sold farm produce, food items, houses utilities, clothing, leather wares, handcrafts, farming implements to building materials. An open market is also attached to the Street trading and attendant obstruction of traffic are problems common to the market's precincts. The traders' responses to survey interviews cited non-availability of stalls and spaces in the market and also lack of finance to acquire stalls as the bane of their plight.

➢ *Monthly Income*

The result Shows that highest number of respondents in all sampled zones earned between 5,001 to 10,000 incomes monthly, followed by those who earned between 10,001 to 20,000 monthly. The income generating activities of the people in the communities of the study area was mostly trading and commercial activities, so the monthly income distribution of the respondents within the study area was also taken into consideration. Thus, highest percentages (56%, 59%, 45%, 41% and 57%) in all sampling site earned between 5,001-10,000 monthly and lowest percentages of 1% in Zone A and others 0% who earned above ₦50,000.

Table 2: Socio - Economic Characteristics of the Respondents

	S/N	Zone A (5)		Zone B (4)		Zone C (3)		Zone D (4)		Zone E (2)	
sex		**Frequency**	**(%)**	**Frequency**	**(%)**	**Frequency**	**(%)**	**Frequency**	**(%)**	**Frequency**	**(%)**
	Male	55	59	26	31	39	63	61	79	24	37
	Female	41	41	53	69	25	37	17	21	39	63
	Total	96	100	79	100	64	100	78	100	63	100
Age	19-25	23	24	20	25	21	33	11	15	11	17
	26-45	45	46	41	51	29	45	43	54	21	34
	46-60	20	21	11	14	9	15	15	19	7	11
	above 60	8	9	7	10	5	7	9	12	24	38
	Total	96	100	79	100	64	100	78	100	63	100
Occupation	Trade and Commerce	43	43	40	49	16	25	43	54	32	51
	Public service	10	11	7	10	12	18	10	13	12	18
	Agriculture	17	18	14	18	15	24	14	18	7	11
	Professional work	2	3	1	1	1	2	0	0	0	0
	Artisanal/construction	24	25	17	22	20	31	11	15	12	20
	Total	96	100	79	100	64	100	78	100	63	100
Income Structure	<5,000	14	15	11	15	6	9	5	6	7	11
	5,001-10,000	55	56	46	59	29	45	32	41	35	57
	10,001-20,000	22	24	20	24	21	33	11	15	11	17
	20,001-30,000	1	1	0	0	8	13	30	38	10	15
	30,001-40,000	2	2	1	1	0	0	0	0	0	0
	40,001-50,000	1	1	1	1	0	0	0	0	0	0
	Above 50,000	1	1	0	0	0	0	0	0	0	0
	Total	**96**	**100**	**79**	**100**	**64**	**100**	**78**	**100**	**63**	**100**

Source: Field Survey 2021

The study is dominated with low-income earners as majority of the settlers earned 5,000 to 20,000 monthly, most of which are artisans. The lowest income earners are found in the unskilled labour employments (artisans) and the agricultural employment, while highest income earners are found in the public service, the profession services, as well as

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trade and commerce. This reflects the socioeconomic conditions of slum area, as people that cannot afford to live in well planned modern structure. This is also emphasized in a findings done by Lawanson (2006), who opined that the most serious problems confronting cities, towns and their inhabitants as identified in Agenda 21(1996) include the following: Inadequate financial resources, lack of employment opportunities, spreading homelessness and expansion of squatter settlements, increased poverty and a widening gap between the rich and poor, growing insecurity and rising crime rates, inadequate and deteriorating building stock, services and infrastructure.

B. Housing Surveys of the Study Area Vis-À-Vis, Condition of Housing, Age Type, Nature and Space Availability

➢ *Quality of Building*

Table 3 shows that highest percentage of housing unit in zone A (38%), C (46%) and D (36%) respectively indicated that quality of house in the study area is fair, highest respondents in zone B (32%) indicated that the housing quality is poor while highest percentage of respondents in zone D (42%) indicated that the housing quality is good.

➢ *Building Type*

The finding in table 3 shows that highest percentage of housing unit in all zones (98% for Zone A and 100% for zone B, C and D) indicated that bungalow (single floor) houses is widely used among the residents of the study area. The result is similar to UNCHS, (1989) and Ogunleye, (2015) which noted - that majority of urban inhabitants live in tenement shelters despite the ongoing programme in the study area.

➢ *Materials Used for Construction*

Highest percentage of housing unit in zone A, C, D and E representing 52%, 58%, 60% and 60% respectively indicated that laterite is widely used for construction of building in the study area while highest percentage of housing units in Zone B (54%) indicated concrete block.

➢ *Roofing Materials*

Corrugated Iron Sheet is widely used in all zones as highest percentage of housing units (95%, 93%, 82%, 82% and 65%) in indicated that roofing material in the study area is corrugated iron sheet. While there are also some housing units that indicated aluminum is used for roofing in the study area.

➢ *Physical Structure*

Highest percentage of housing units in zone A, B and D representing (43%, 51%, and 43%) respectively indicated that the physical structure of houses in the study area need minor repairs, while highest housing units in Zone C and E (37% and 46%) respectively indicated that the physical structure of house in the study area need major repairs.

➢ *Age of Building*

The result of analysis for age of building shows that highest percentages on housing units in Zone A, B, C, and D (29%, 33%, 34% and 23%) indicated that most of the houses in the study area are 40 to 49 years old while highest percentage of housing units in Zone E (28%) indicated that the houses are 50 years and above.

Table 3: Housing Conditions of the Study Area

	S/N	Zone A		Zone B		Zone C		Zone D		Zone E	
Quality of Building		**Frequencies**	**(%)**	**Frequencies**	**(%)**	**Frequencies**	**(%)**	**Frequencies**	**(%)**	**Frequencies**	**(%)**
	Good	27	28	20	24	13	21	13	17	26	42
	Fair	37	38	29	37	30	46	34	44	25	40
	Poor	32	34	30	39	19	30	31	39	12	18
	Under construction	0	0	0	0	2	3	0	0	0	0
	Total	96	100	79	100	64	100	78	100	63	100
Building type	Bungalow (single floor)	94	98	79	100	64	100	78	100	63	100
	One story (2floor)	2	2	0	0	0	0	0	0	0	0
	Two floor (3floor)	0	0	0	0	0	0	0	0	0	0
	Total	96	100	79	100	64	100	78	100	63	100
Materials used for construction	Concrete Block	46	48	43	54	27	42	29	38	27	40
	Laterite(Earth)	50	52	30	39	37	58	47	60	38	60
	Wood	0	0	6	7	0	0	1	1	0	0
	Others	0	0	0	0	0	0	1	1	0	0
	Total	96	100	79	100	64	100	78	100	63	100
Roofing materials	Corrugated Iron Sheet	91	95	73	93	52	82	63	82	40	65
	Aluminum	4	4	6	7	10	15	15	18	23	35
	Thatch	0	0	0	0	1	1	0	0	0	0
	Others	1	1	0	0	1	1	0	0	0	0
	Total	96	100	79	100	64	100	78	100	63	100
Structure	Physically sound	23	25	21	26	17	27	22	28	11	17
	Need Minor repairs	41	43	40	51	23	36	33	43	23	37

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	Need major repairs	32	32	18	23	24	37	23	29	29	46
	Total	96	100	79	100	64	100	78	100	63	100
Age of Building	50 Above	22	23	24	30	21	31	11	14	17	28
	40-49	29	29	26	33	22	34	18	23	14	22
	30-39	18	19	19	24	13	21	16	21	16	26
	20-29	8	9	9	12	2	3	17	22	7	11
	10-19	14	15	1	1	6	11	8	10	8	12
	0-9	5	5	0	0	0	0	8	10	1	1
	Total	96	100	79	100	64	100	78	100	63	100

- *Type, Nature and Space Available in Indigenous Compounds*

The findings showed the indigenous compounds in the study area are rectangular nucleated compound. The study area is dominated with the Gbagyi's who are known for rectangular in shape houses but the granaries are circular in shape. Each household in the study area is made up of a compound which consists of houses arranged around courtyard. Each compound had iron roof covered on rectangular huts rooms which are spread around common spaces or courtyards. Houses are made of mud but most common houses are made with the use of sandcrete blocks of walls (Odaudu and Musa, 2018) as seen in plate (1, 2, 3).

Plate 1

Plate 2

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Plate 3
Plate 1,2 and 3: Housing Structure in Orozo Township

C. Existing Infrastructural Facilities in Housing of the Study Area

Table 4, shows that highest percentage of housing units in Zone A, B, C, D and E (50%, 60%, 49%, 51% and 55%) respectively indicated that pit latrine served as the commonest method of sewage disposal in the study area.

➢ *Sewage Disposal*

Table 4: Sewage Disposal Methods in the Study Area

	S/N	Zone A		Zone B		Zone C		Zone D		Zone E	
Method Of Sewage Disposal		**Frequencies**	**(%)**	**Frequencies**	**(%)**	**Frequencies**	**(%)**	**Frequencies**	**(%)**	**Frequencies**	**(%)**
	Pit Latrine	48	50	48	60	31	49	42	51	35	55
	Septic Tank On-Site System)	10	11	11	15	6	9	10	13	11	19
	Central Network (Water System)	0	0	0	0	5	8	8	10	9	14
	Nearby Bush	38	39	20	25	22	34	20	26	8	12
	Total	96	100	79	100	64	100	78	100	63	100

Source: Field Survey, 2021

➢ *Water Supply*

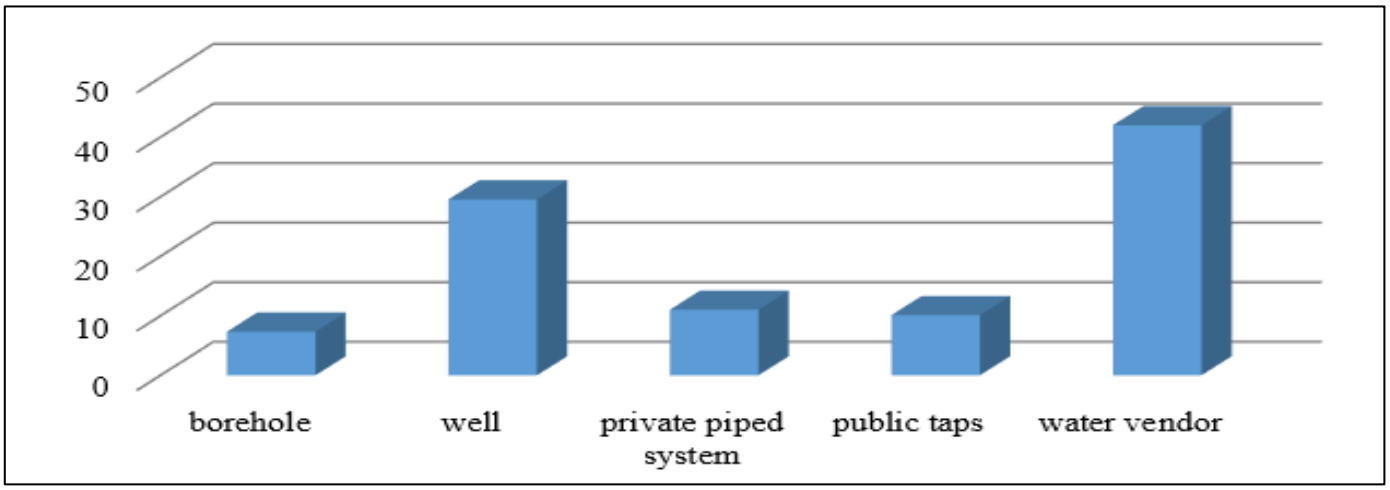

Fig 4: Proportion of water Accessibility in the Study Area
Source: Field survey, 2021

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Figure 4 shows that 42% of water provision in the study area is through water vendor popularly known as Meruwa, 29.54% through well, 11.02% through private piped system, 10.11% through public taps and 7.33% through borehole.

➢ *Drainage Facilities*

The findings showed that facilities for storm drainage exist only along the tarred major roads, that is the dual carriageway Nyanya-Karshi Road. The road drainage channels have been frequently blocked with domestic refuse and garbage indiscriminately dumped into the channels. Some of the drainage channel have poor gradients and are unable to channel wastes effectively. Incidences of blocked channels and stagnant waste water therefore, abound with attendant filth and stench (Plate 4).

Plate 4: Typical Drainage Pattern within the Settlement of Orozo Township
Source: Field survey, 2021

➢ *Electricity Supply*

Nearly all the houses (99.79%) are connected to the electricity supply network of the Power Holding Company of Nigeria (PHCN). Only 10 houses (0.21%) were found without electricity service connection. 94.0% of the respondents opined that power supply from the PHCN is epileptic and poor. There are 4 Electricity Transformers in the Orozo Core Indigenous Township (plate.5).

Plate 5: Transformer station within the Settlement of Orozo Township
Source: Field Survey, 2021

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➢ *Refuse Disposal*

Table 5, shows that highest percentage of housing units in Zone A, B, C, D and E (57%, 53%, 54%, 51% and 37%) respectively indicated that open dumping is the commonest method of waste disposal in the study area.

Table 5: Refuse Disposal Methods

	S/N	Zone A		Zone B		Zone C		Zone D		Zone E	
Method Of Refuse Disposal		**Frequencies**	**(%)**	**Frequencies**	**(%)**	**Frequencies**	**(%)**	**Frequencies**	**(%)**	**Frequencies**	**(%)**
	On Ground/Open Dump	56	57	43	53	35	54	41	51	23	37
	Refuse collection Bin	11	12	7	10	12	19	15	20	9	14
	Take to Designated Collection Point	21	11	26	32	17	27	23	29	20	32
	Others (Burning etc)	8	9	3	5	0	0	0	0	11	17
	Total	96	100	79	100	64	100	78	100	63	100

Source: Field Survey 2021

➢ *Traffic and Transportation Network*

Transportation is an important social infrastructural element on which economic development depends. Its need is derived from the demand for the movement of goods, services and passengers. As earlier noted the project site has no single good road except Nyanya-Karshi dual carriageway that traverse and bound the township. These include Nyanya-Karshi road, Chief Palace Road and a host of other named/unnamed roads, streets and lanes.

Plate 6: Mode of transportation in Orozo.
Source: Field Survey, 2021

➢ *Test of Hypothesis*

- H01: There is no significance variation between the Income of Respondent and housing condition of the study area.

Table 6: Paired Sample Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
income – housing condition	8.416751	59.79787	29.89894	-10.98426	179.31926	2.815	3	.067

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Assessing the income of Respondent and housing condition of the study area, calculated t value of 2.815 was obtained while the table value under the critical value of‘t’ distribution table was 1.717, since the calculated’ value of 2.815 is higher than 1.717, there the null hypothesis is rejected and the alternative hypothesis is accepted which means Income of respondent affect housing condition of the study area.

- H02: There is no significance variation within the housing condition of the five zones within Orozo town.

Table 7: Paired Sample Test for Hypothesis Two

Groups	***Count***	***Sum***	***Average***	***Variance***		
ZONE A	29	707	24.37931	682.0296		
ZONE B	29	581	20.03448	480.1059		
ZONE C	29	469	16.17241	277.5764		
ZONE D	29	574	19.7931	427.0985		
ZONE E	29	455	15.68966	253.436		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	1431.476	4	357.869	0.843933	0.499581	2.436317
Within Groups	59366.9	140	424.0493			
Total	60798.37	144				

From the analysis, the F-calculated is 2.43 while the table value at α=0.05 is 0.499. It then means that since the calculated value of 2.43 is higher than the table value 0.499, therefore the hypothesis is rejected, we therefore concluded that there is significance variation within the housing condition of the five zones within Orozo town. This implies that some zones housing condition are better than some zones, based on the result zone A recorded a better housing condition compared to other zones.

IV. DISCUSSION OF RESULTS

The study is dominated with low-income earners as majority of the settlers earned 5,000 to 20,000 monthly, most of which are artisans. The lowest income earners are found in the unskilled labour employments (artisans) and the agricultural employment, while highest income earners are found in the public service, the profession services, as well as trade and commerce. This reflects the socioeconomic conditions of slum area, as people that cannot afford to live in well planned modern structure. This is also emphasized in a findings done by Lawanson (2006), who opined that the most serious problems confronting cities, towns and their inhabitants as identified in Agenda 21(1996) include the following: Inadequate financial resources, lack of employment opportunities, spreading homelessness and expansion of squatter settlements, increased poverty and a widening gap between the rich and poor, growing insecurity and rising crime rates, inadequate and deteriorating building stock, services and infrastructure.

Evaluating the available infrastructures in the study area shows that the study lacks portable water supply and have to depend on water from vendor popularly known has mai-ruwa. The result conforms to finding by Omotoso and Akanbi (2018) where slum area resident relied on water from private business. Also, the study area lacks modern sewage disposal and majorly used pit latrine and nearby bushes, lack appropriate drainage facilities, refuge disposal, poor road infrastructures as major road is untarred. The findings are in line with those made by Lawanson (2006), who believes that other issues facing Nigerian cities and towns include poor water supply and sanitation, unplanned urban growth and a rising susceptibility to disaster, inappropriate land use, unstable land tenure, rising traffic congestion, rising pollution, and a lack of green space. Access to an excreta disposal facility (sanitary toilet) is a fundamental human right of everyone and the primary indicator of sustainable development. The study area is plagued by air pollution from open defecation and is likely to face water and soil pollution from the washing down of water during rainfall and the disintegrations of feces on the soil (Kilakime *et al.*, 2015). The accessibility and caliber of this facility have significant effects on the standard of the living situation.

The study area is dominated with the Gbagyi’s who are known for rectangular in shape houses but the granaries are circular in shape. Each household in the study area is made up of a compound which consists of houses arranged around courtyard. Each compound had iron roof covered on rectangular huts rooms which are spread around common spaces or courtyards

The present conditions of the study area show that Core Indigenous Township of the study area is most especially in the core indigenous areas of Orozo is to say the least, unsatisfactory. With many of the houses having no vehicular access, lack of potable water, lack of drainage facilities, widespread indiscriminate refuse and garbage dumps and pollution of the stream banks and courses by garbage and human faeces, the housing environment is generally unsightly, unhygienic, stench, polluted and disease-prone. The housing environment cries for upgrade; this is evident in the survey by which 100% of the resident heads of households craved for improvement in their housing environment. The finding agrees with Adebisi *et al.*, (2022) from their observation and analysis of the Osun case, urban poor, though more inconvenienced with structural changes, also appreciates and values the social, economic and infrastructural advantages of urban renewal.

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The findings show significant relationship between income and housing condition of the study area. It shows that income is major indictors that affect quality of housing in a place. The findings agree with Sani *et al.*, (2011) as they emphasized that many poor and low-income families excluded from access to land and housing in the formal sector find refuge in the informal settlements where land and housing can be purchased and built according to means and capacity. The study also shows that there is significance variation within the housing condition of the five zones within Orozo town. This implies that some zones housing condition are better than some zones, based on the result zone A recorded a better housing condition compared to other zones.

The study also suggested that redevelopment be used as the proper upgrading means and policies to improve the physical state of the indigenous village of Orozo And the level of living of its residents. These were concentrated on public infrastructure, traffic and transportation system, water supply, electricity supply, sewerage, storm water drainage, solid waste management, community facilities, educational facilities, health facilities, recreation and entertainment facilities, socio-cultural facilities, library, places of worship, cemeteries, post office, fire department, and area court. Many household occupants have refused to allow the demolition of their homes because they believe their house has a connection to their ancestors, despite the fact that the people are not being included in the process, which has led to many issues, this is in consonance with finding by Olukoya, *et al*, (2012).

V. CONCLUSION AND RECOMMENDATION

The study looked into how to develop an urban redevelopment planning strategy for the historic Orozo Township in the Federal Capital Territory of Abuja. Only four (4) of the eleven studied infrastructures those for government institutions, healthcare and telecommunications were adequate, according to the results. When the urban regeneration initiatives in the study area were evaluated, it was evident that only four (4) of them the establishment of institutions for government, health care, education and telecommunications could be deemed to have been successful. However, if residents are involved and it is properly implemented, the urban upgrade policies in place still offer some optimism for the future of urban regeneration initiatives in the study area.

It can be concluded that there is significant relationship between income and housing facilities of the study area which has affected the level of functionality of urban upgrade strategy for old Orozo Township, FCT, Abuja.

Therefore, it is appropriate to suggest some policy ideas that, if put into practice, would offer some optimism for the future of urban renewal initiatives in the former Orozo Township, FCT, Abuja. It is advised to take the following policy factors into account:

- Public-private initiatives and participatory methods should be implemented in the old Orozo Township, FCT, Abuja, as urban renewal process.
- Urban Upgrade programs ought to be inclusive of all community segments in order to promote economic growth and sustain an environment that is both aesthetically pleasing and healthful.
- Government should embark on the provision of inventories of housing stocks in the study area for participatory upgrading and maintenance with owners and inheritors of such properties. Maintenance, reuse and upgrading of such properties can be encouraged through property tax rebates and other incentives.
- New markets and economic clusters in the community should be more inclusive through the adoption of existing traders' networks and cooperatives in the development of proposed markets, shopping complexes and malls not just by mere speculation or the use of private developers. The inclusion of these people facilitates their individual and collective engagements and resources and ensures a more sustainable development.
- Incentives and infrastructures to enable people who wish to embark on housing development in places within communities other than the capital city should be encouraged and facilitated in appropriate area of the community. Adequate publicity should be given to these measures even before they are embarked upon especially through extensive consultations with residents and citizens of the community.

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