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Research Article **OPEN ACCESS**

Examining housing deficit in Ado-Ekiti, Nigeria in the light of SDG 11

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ABSTRACT

This paper examines housing deficit in Ado-Ekiti, Nigeria in the light of SDG 11. SDG 11 constructs formed the basis of investigating housing deficit challenges and proffering a sustainable framework to reduce housing deficit in Ado-Ekiti. Economic, demographic and standard of housing facilities variables of housing deficit were analyzed in the study. These include; cost of building materials, home ownership rate, land acquisition or consumption rate, description of area of residence as an indicator of slum housing or urban sprawl and access to green and public spaces, respectively. Data were collected directly from sampled respondents in residential development corridors and analyzed using descriptive statistics and Likert scale. Variables were clearly defined, specified and coded. Questionnaires were subjected to Cronbach's alpha test to ascertain its validity. Economic and demographic variables had 0.77 Cronbach's alpha, while standard of housing facilities had 0.74 Cronbach's alpha validity. Findings from this study revealed that, the cost of building materials was very expensive (38.3%), fair rate of home ownership (48.2%), increased city growth in terms of land consumption rate (54.9%, 2000-date), unplanned city expansion (slum housing) and limited access to green areas (-0.29 mean deviation) were the signs of housing deficit in Ado-Ekiti in the light of SDG 11 components. The study recommends (1) establishment of industries producing quality, affordable building materials and also provision of incentives for improved access to affordable, resilient housing and increase home ownership, respectively in the study area, (2) equity in the distribution of infrastructural facilities at all regions, (3) slum upgrading and the transformation of under-utilized land to affordable, quality housing for all, and (4) implementation of the global flagship initiative "safe cities, green, public spaces" in Ado-Ekiti through concerted effects by relevant stakeholders.

Keywords: affordable housing, housing deficit, sustainable development, urbanization

INTRODUCTION

According to Sustainable Development Goal 11 (2023), cities will be the norm for global living in the future. In 2022, there were 8 billion people on the planet, with more than half living in cities. As a result, it is anticipated that this number would keep increasing, with 70 percent of people living in cities by 2050. The report also noted that 1.1 billion people lived in slums or slum-like conditions in cities due to inadequate access to suitable or adequate housing. Thus, it is anticipated that in the next 30 years, 2 billion people would lack adequate housing. Sasu (2024) and Ogundeji (2023a) also buttressed this submission, that in 2016, 9.8 percent of Nigeria's population, lived below extreme poverty line or in impoverished dwellings. Extreme poverty line results in Nigeria, for 2017, 2018, 2019, 2020, 2021, 2022, and 2023 were 10.2, 10.4, 11.1, 10.6, 11, 11.4, and 11.9 percent, respectively. It is important to note that, majority of these cities are not ready for this rapid population growth and urbanization. As a result, housing deficit exists as population growth, urbanization, migration and inflation outpace the development of housing, infrastructure and services.

United Nations Environment Program (2024) documented that there is a direct correlation between the standard of living in urban areas and the way in which these areas acquire and handle their natural resources, including green spaces. Urbanization trend had resulted in heightened environmental stress and a surge in the need for basic amenities like land, reasonably priced housing, green areas, and infrastructure (Sustainable Development Goal 11, 2023). Globally, cities are growing physically faster than their population. Hence, data from 681 cities between 1990 and 2020 reveals that, from 2000 to 2010, average annual land consumption rates were two percent as opposed to one percent for population growth, and 1.5 percent compared to 1.2 percent for the same period from 2010 to 2020 (Sustainable Development Goal 11, 2023).

This article is an excerpt from the first author's doctoral thesis.

Sustainable Education and Development (2022) noted that at least 603 million households, or 2.8 billion people, lacked access to at least one of the seven requirements for decent housing in emerging economies, due to the housing deficit at the dimension level. As the estimate from these report suggests, this prediction showed that not all households are living in slums and lack access to adequate housing. Rather, the lack of housing is far more widespread, affecting even households living in formal settlements. Olaseni et al. (2023) concluded that 57.4 percent of low-income individuals' lacked access to public housing in Ado-Ekiti. Dania et al. (2023) also affirmed that low income earners in South-South Nigeria, encountered various challenges such as lack of mortgage financing, high cost of building materials amongst others. This hindered access to affordable, decent housing in Nigeria and Ado-Ekiti in particular.

Furthermore, Obiowo (2024) documented that the rate of inflation in Nigeria as of May 2023, was 22.42 percent. In April 2024, the inflation rate had increased to 33.68 percent. This had significantly impacted on the price of building materials. For instance, the price of cement in May 2024, was between ₦7,500-₦8,000 per bag. This is a significant increase of 74.42 to 86.05 percent, from the price (₦4,300 per bag), recorded in May 2023. Also, Nigeria Property Center (2021) observed that housing costs in cities had risen to the point where only the wealthy can afford them. The average cost of a home in Abuja, Lagos, and Port-Harcourt ranges from ₦45,000,000 to ₦90,000,000, respectively. Apparently, the cost of rent and housing increased in Ado-Ekiti as well, for example, the cost of renting a duplex in Fajuyi Estate was between ₦300,000 and ₦400,000, while a three-bedroom bungalow in the same estate was valued between ₦250,000 and ₦300,000. These amount suggested that, housing provision were mainly meant for income classes other than low-income earners, in a state that had not implemented the new basic wage of ₦30,000 (Olaseni et al., 2023).This study therefore examines housing deficit in Sustainable Development Goal 11 (2023) perspective, with a view of investigating key challenges such as land consumption rate, cost of building materials, home ownership rate, access to green areas amongst others, responsible for housing deficit in Ado-Ekiti. Therefore, suggesting sustainable policy guidelines to mitigate housing shortage in Ado-Ekiti, should be prioritized.

LITERATURE REVIEW

SDG 11 Constructs Relevant to Sustainable Housing Delivery

National Geographic Society (2024) noted that Sustainable Development Goal 11 (2023) agenda offered guidelines and targets for urban planning to support cities experiencing population growth in line with the United Nations sustainable development agenda for 2030. The report also mentioned that the 2019 SDG 11 progress review shows that urban areas are growing globally faster than their population. Consequently, cities grew 1.28 times faster than their population between 2000 and 2014.

According to Joint Sustainable Development Fund (2023), Sustainable Development Goal 11 (2023) targets relevant to housing deficit challenges in Ado-Ekiti, were highlighted below:

1. Ensuring that all individuals possesses sufficient access to basic services, affordable and safe housing, and slum rehabilitation or upgrading by 2030. Rapid urbanization has outpaced housing, services and infrastructural development. These led to a rise in slum housing or poor housing conditions and also impacted urban equity. Therefore, supporting projects targeted at upgrading slum settlements, prioritizing access to basic services and quality, affordable housing development would help in achieving the goals of this section.

2. Promoting integrated, sustainable human settlement planning and management as well as inclusive, sustainable urbanization in all nations by 2030. Urban expansion has increased the rate of land consumption and also surpassed the population growth rate. Therefore, poorly planned urbanization has exacerbated urban poverty, poor urban planning and inequalities in the distribution of resources such as housing, infrastructural facilities and so on, for the increased urban population. Hence, as cities continue to expand, there is need to effectively manage and transform urban spaces.

3. Providing universal access to safe, inclusive and accessible green, public spaces for women, children, older persons and persons with disabilities by 2030. Expansion of cities had resulted in land use conversion, with limited public, green spaces in urban areas (Sustainable Development Goal, 2018). It is noteworthy that public, green spaces were associated with numerous benefits such as city attractiveness, enhanced health and well-being, social cohesion and equality amongst others. Therefore, improved access to green, public spaces for vulnerable urban population such as women, children, aged and disabled persons would promote healthy, sustainable environment.

4. Providing financial and technical support to least developed countries in building sustainable and resilient buildings with the aid of locally made building materials. The construction industry had significantly impacted raw materials extraction, human comfort and the consumption of natural resources. Therefore, providing technical and financial support to least developed countries in constructing resilient buildings would improve house ownership rate and also reduce inflationary trends in building construction.

Figure 1 illustrates the overall goals or targets of SDG 11.

Figure 1. SDG 11: Sustainable development and cities (United Nations Environment Program, 2024)

Sustainable Affordable Housing

Joint Sustainable Development Fund (2023) observed a boom in mega-cities as a result of the Developing countries cities expanding quickly with more people moving from rural to urban areas. Even more, there were ten mega cities in 1990 that had a population of at least 10 million. In 2014, there were 28 mega cities with a combined population of 453 million. The growing population in these areas presents challenges for all levels of government. Hence, creating safe, affordable housing and upgrading slum settlements were necessary for safe, sustainable cities, through inclusive, participatory urban management and planning.

Federal Mortgage Bank of Nigeria (2024) stated that the prices of two and three bedroom bungalows built along Ado-Ikere Road was expected to be sold at ₦8.6 and ₦9.8 million, respectively. These were highly unaffordable for the low-income group that dominated Ado-Ekiti residential development corridors (RDCs). Additionally, Center for Affordable Housing Finance in Africa (2019) documented that the cost of the cheapest two-bedroom bungalow in Nigeria was ₦2,900,000 and only 26.95 percent could afford it. Consequently, most medium and lower income groups were left without access to affordable homes as a result of the increase in house prices, which includes the cost of land, labor and building materials. Similarly, Akinluyi et al. (2022) submitted that low income earners dominated Ado-Ekiti urban core areas, and these areas were characterized by poor quality housing as a result of the inability to afford decent housing and high cost of building materials across the country most especially in Ekiti-state, Nigeria. This had led to a decrease in house ownership and the poor quality of the existing housing stock in Ado-Ekiti.

Poverty Statista (2024) as cited in Sasu (2023) documented that poverty rate in Nigeria is expected to increase significantly in 2025. Hence, 93.7 million Nigerians might live on a minimum of 1.90 US dollars per day. This would adversely impact housing condition and increase housing shortage in Nigeria and Ado-Ekiti in particular. **Figure 2** illustrates extreme poverty level in Nigeria from 2016-2025.

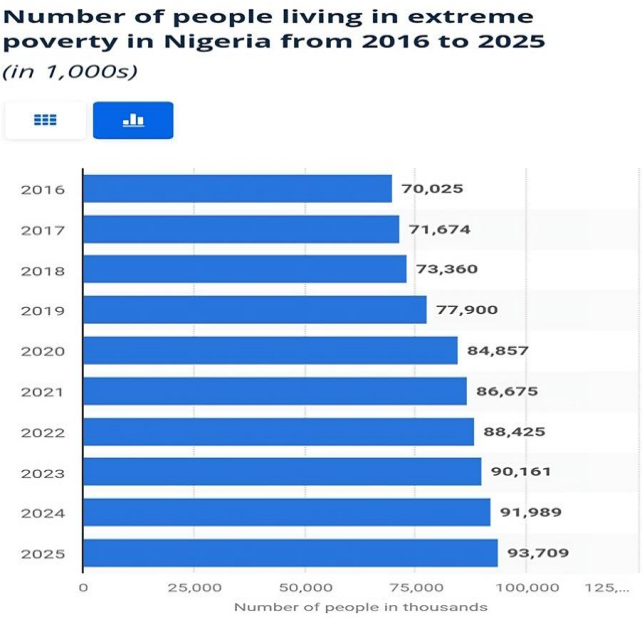

Figure 2. Extreme poverty figures in Nigeria from 2016-2025 (Sasu, 2023)

Adabre and Chan (2019) concluded that the integration of sustainable features into reasonably priced housing gave rise to the idea of sustainable affordable housing (SAH). **Table 1** reveals the various techniques embedded in SAH.

METHODOLOGY

The Research Locale

Southwestern Nigeria is home to Ado-Ekiti, the administrative center of Ekiti State (**Figure 3** and **Figure 4**). It is surrounded by Ido-Osi Local Government Area and Oye Local Government Area to the north. To the west are Ijero and Ekiti West; to the east and south are Ikere, Igboyin, and Ekiti Southwest (Encyclopedia Britannica, 2022).

Table 1. Sustainable affordable housing techniques (Dania et al., 2021)

Techniques	Contents	Authors
Social	Encouragement of cohesiveness, inclusivity, and social capital	Choi (2020)
	Renovation of historic structures	Nair et al. (2005)
	Encouragement of diversity in housing development and high density development	Adabre et al. (2020)
Economic	Giving developers incentives	Trudeau (2018)
	Growth of a stable financial market	
	Giving households incentives or housing subsidies	
Environment	Energy-saving measures in buildings	Ganiyu et al. (2017)
	Creation and application of regional resources	Chan et al. (2017)
	Effective planning and use of land	Roufechaei et al. (2014)
	Reduction of natural disasters and waste management engagement of the private sector	SCGO (2013)
Institutional	Formulation of sound housing policies	Charoenkit and Kumar (2014)
	Transparent/robust procurement process	Czischke and Van Bortel (2018)
	Decentralization of accountability and power	
Technological	Encouragement of innovative technology	Obeng-Odoom (2010)
	Personnel training and retraining	Boamah (2010)
	Encouraging the expansion and advancement of regional and primitive technologies	Boamah (2010)
	Encouragement of the utilization of recyclable, renewable, and reusable materials	Boamah (2010)

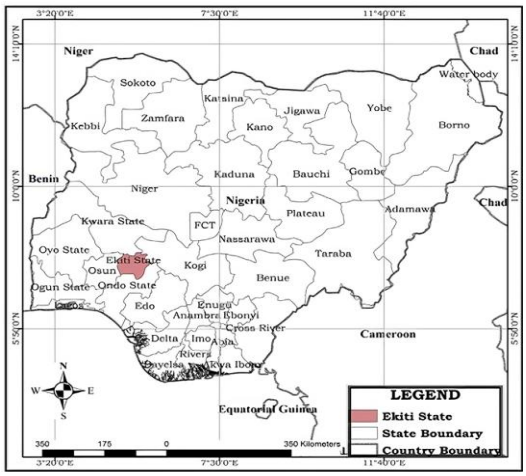

Figure 3. Ekiti State within the context of the nation (Okosun, 2020)

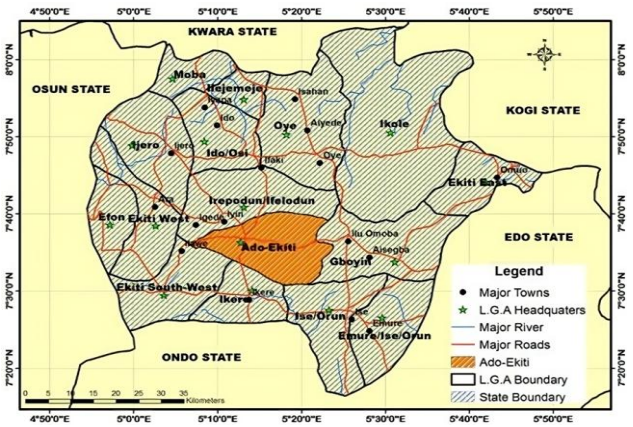

Figure 4. The regional context of Ado-Ekiti (Okosun, 2020)

It is situated 92 miles (148 km) east of Ibadan. It is situated between longitudes 5^0 3^1 and 5^0 22^1 East of the Greenwich meridian and latitudes $7^0 19^1$ and $7^0 29^1$ North of the Equator. Ado-Ekiti was 2.5 square kilometers (sq. km) in 1956, but by 1996, it had grown to about 19.6 sq. km (Oriye, 2016). The city has a tropical climate with two distinct seasons. April through October is the rainy season; November through March is the dry season. High humidity temperatures ranges from 69.80^F (210^C) to 82.40^F (280^C). The South Westerly wind and the North-East Trade winds blow during the rainy and dry seasons, respectively. Ado-Ekiti is home to several rounded, steep-sided, including Ayoba Hill, which harbors the State Government House. The sources of numerous streams, such as Ureje, Omiolori, Ajilosun, Awedele, and Amus were found on highly undulating slopes (Government of Ekiti State, Nigeria, 2023).

Based on estimates from the National Population Commission (2006), the city's total projected population was 516,000 in 2022. The bulk of the population of Ado-Ekiti is

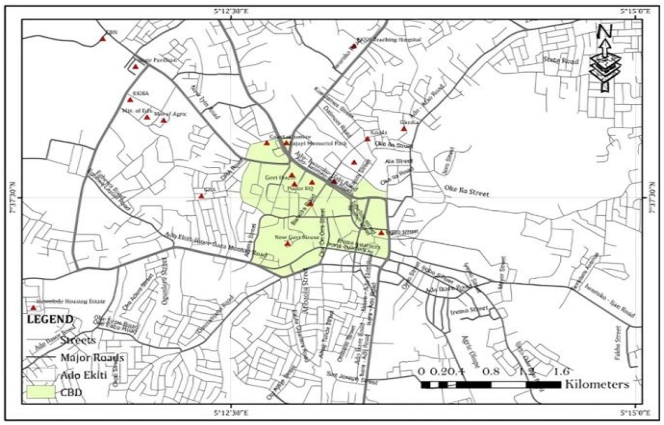

Figure 5. Ado-Ekiti map displaying major roads, streets, and survey of buildings (Digitized by Abe, 2022)

made up of the Edo people and the Yoruba sub-ethnic group known as the Ekiti's. In 1950, Ado-Ekiti had 19,502 residents; as of 2023, there were 535,916. With an annual growth rate of 3.82 percent, this represented a 19,916 increase over the population estimate of 516,000 in 2022 (United Nations World Urbanization Prospects, 2023). In a similar vein, Olamiju (2021) determined that Ado-Ekiti's dual role as the state and local government headquarters had forced the gathering of government agencies and parastatals and drawn residents from nearby towns and villages. The population had increased as a result, increasing competition for housing and other city amenities. **Figure 5** showed the growing number of people and buildings in Ado-Ekiti's main streets and roads.

Research Methodology

The study employed a mixed approach; quantitative and qualitative techniques in data collection. Primary data were collected from seven residential corridors of Ado-Ekiti, these were Odo-Ado-Ikere, Ilawe-Iyin, Ikere-Ilawe, Afao-Ijan, Ijan-Odo-Ado, Iworoko-Afao and Iyin-Iworoko RDCs, respectively. These formed the zones for sectors connected with main roads, connecting Ado-Ekiti with major towns around the urban area. Also, these RDCs served as the target population for this study. On the other hand, secondary sources of data for this study were obtained from Published books, high quality journals, texts, dissertations, seminar papers, ministries, departments, and agencies amongst others.

The geographic information system building survey, which was carried out for this study, provided the sampling frame. This calculated the number of buildings in the research area. Also, the average family size in Ado-Ekiti was estimated at 7 by Sekumade (2014), Olajuyigbe (2011), and Fasakin (2000). A 0.5 percent sample was drawn from each of the RDCs in the research region. This came to 1254 research participants in total, of which 1,244 questionnaires were obtained (**Table 2** and **Figure 6**).

Table 2. Sample size derivation in the seven RDCs of Ado-Ekiti (Field Survey, 2023)

Zones	Residential development corridors	Population of buildings	HHDs number	Sample size (0.5% of HHDs)
1	Afao- jan	4,525	31,675	158
2	Ijan-Odo Ado	1,560	10,920	55
3	Odo Ado-Ikere	4,925	34,475	172
4	Ikere-Ilawe	6,175	43,225	216

Table 2 (continued). Sample size derivation in the seven RDCs of Ado-Ekiti (Field Survey, 2023)

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3	Odo Ado-Ikere	4,925	34,475	172
4	Ikere-Ilawe	6,175	43,225	216
5	Ilawe-Iyin	1,598	11,186	56
6	Iyin-Iworoko	5,680	39,760	199
7	Iworoko-Afao	11,370	79,590	398
Total		35,833	25,0,831	1,254

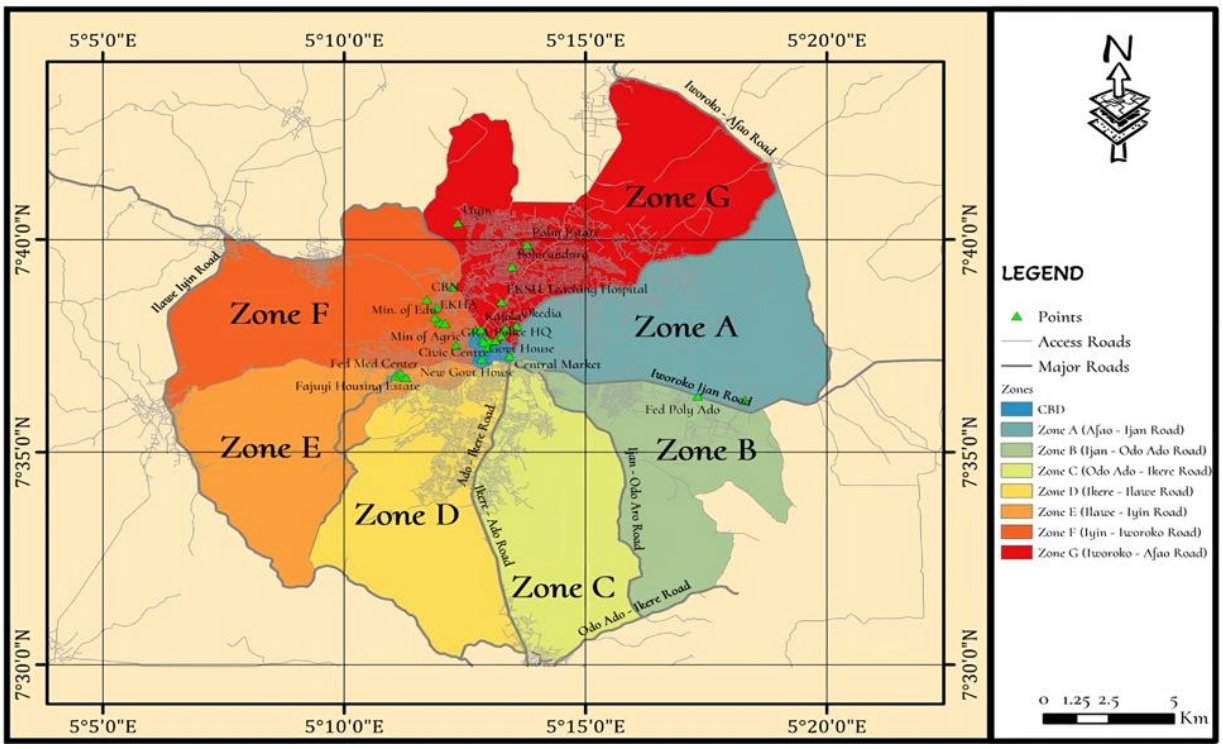

Figure 6. Map showing the sectoral zones obtainable along the RDCs in Ado-Ekiti (Digitized by Abe, 2022)

Haruna (2023) pointed out the limitations of using small sample sizes of 400 from scientific formulae. He stressed that a large population, like that of Jos metropolis and inevitably Ado-urban, will not be well represented by small samples. This is especially true for a city like Ado-Ekiti, which is very urban and has many different ethnic, religious, and linguistic groups. Residents' opinions would therefore not be represented by the small sample size. The validity of the questionnaire was ascertained using Cronbach's alpha test. With a value of 0.77, a high correlation exists between the economic, demographic factors and housing shortage in the research area. Also, Cronbach's alpha of 0.74 existed between standard of dwelling facilities and housing deficit in the Ado-Urban, showing that the questionnaire was reliable and maintained a higher internal consistency.

Additionally, the study area was divided into strata or development corridors using stratified random and purposive sampling techniques, which aided in the selection of vital respondents. This study explores economic, demographic and standard of housing facilities variables that could help in implementing SDG 11 targets designed to mitigate housing deficit challenges in Ado-Ekiti. Therefore, the following variables were identified, specified and scaled (see **Table 3**).

Descriptive statistics and the Likert scale were used to analyze factors impacting housing deficit.

Table 3. Determination, specification and coding of variables on shortage of housing in Ado-Ekiti (Field Survey, 2023)

S/N	Variable name	Variable specification	Measurement scale	Type of scale	Statistical tool for analysis
1	COSTBUM	Cost of building materials	1: very expensive, 2: expensive, & 3: moderately expensive	Ordinal	Descriptive statistics
2	HOS	Home ownership status	1: yes, 2: no, & 3: undecided	Nominal	
3	LANDA	Land acquisition	1: 1960-1969, 2: 1970-1979, 3: 1980-1989, 4: 1990-1999, & 5: 2000-date	Interval	
4	DESAC	Description of area of residence	1: CBD, 2: transition, & 3: periphery	Nominal	
5	STAHOF	Standard of housing facilities	1: strongly dissatisfied, 2: dissatisfied, 3: moderately satisfied, 4: satisfied, & 5: strongly satisfied	Ordinal	Likert scale

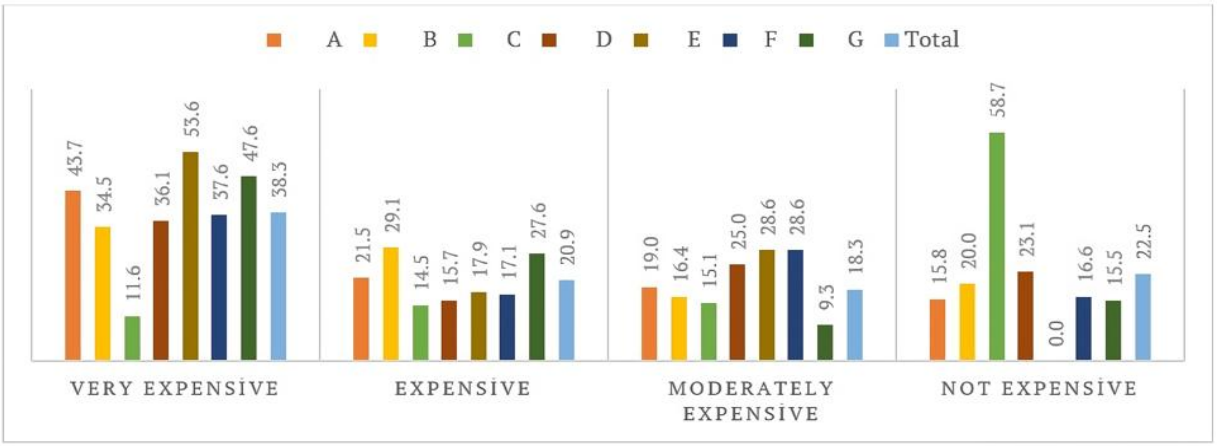

Figure 7. Cost of building materials used in house construction (Field Survey, 2023)

RESULTS AND DISCUSSION OF FINDINGS

This study will examine three areas of SDG 11 constructs and targets as practicalized in Ado-Ekiti.

Cost of Building Materials Used in the Construction of Buildings: SDG 11A (Access to Basic Services, Safe, and Affordable Housing)

Figure 7 revealed a large proportion of the respondents agreed that the building materials for house construction was very expensive. This accounted for 38.3 percent across the developmental corridors in Ado-Ekiti, as shown in **Figure 7**. This was followed by respondents' attestation that, the cost of building materials was not expensive (22.5%), expensive (20.9%), and moderately expensive (18.3%). The observation made by Okpara (2023) and Ogundeji (2023b) that high rates of inflation impact the price of necessary building materials and that more than 60 percent of the cost is attributed to building material imports was true. Similarly, Adeyemi et al. (2022) and Ibimilua and Ibitoye (2015) affirmed that the cost of materials used in building construction in Ado-Ekiti is very expensive. Also, Ugonabo and Emoh (2013) affirmed that the development of affordable sustainable housing in developing countries had been hampered by a lack of technological know-how, uncertainty surrounding technological performances and inadequate comprehension of sustainable technological processes in producing affordable building materials. The finding from this study showed that SDG 11 content on affordable materials to build sustainable and resilient houses was far from being met in Ado-Ekiti.

Home Ownership Status of Respondents: SDG 11A (Access to Basic Services, Safe and Affordable Housing)

Home ownership gives a clear view of the number of house owners and renters, to ascertain the level of housing shortage and quality in the study area. House ownership rate was high in Ikere-Ilawe, Ilawe-Iyin, Afao-Ijan, and Ijan-Odo-Ado RDCs, representing 50.6, 72.7, 52.8, and 60.7 percent (see **Table 4**). Additionally, the study area was divided into strata or development corridors using stratified random and purposive sampling techniques, which aided in the selection of important respondents. These were transition and periphery areas with middle-high income earners residing mostly in them. Thus in terms of SDG 11, there was a fairly sufficient ownership level in the peripheral and core areas of Ado-Ekiti. Odo-Ado-Ikere, Iyin-Iworoko, Iworoko-Afao RDCs showed a lower rate in home ownership. Thus, there was a fair rate of land ownership or house ownership in Ado-Ekiti (48.2 percent). Adegoke and Agbola (2020) confirmed the low rate of house ownership as one of the factors causing housing deficit in Nigeria. Nigeria ranks lowest at 25 percent especially when compared to Kenya (75%), Brazil (74%), and South Africa (70%). Home ownership status had been affected by so many factors such as high cost of land and building materials, access to finance etc. Furthermore, Ibimilua and Ibitoye (2015) reported that the high cost of building materials, high interest rates, and inflation had severely hindered the housing delivery in Nigeria. Significant improvement in house ownership is needed to realize SDG 11 target on access to affordable housing.

Table 4. Home ownership status of respondents (Field Survey, 2023)

Variables / RDCs	Home ownership status of respondents: Frequency (%)							
	Afao-Ijan Road	Ijan-Odo-Ado Road	Odo-Ado-Ikere Road	Ikere-Ilawe Road	Ilawe-Iyin Road	Iyin-Iworoko Road	Iworoko-Afao Road	Total
Yes	80 (50.6)	40 (72.7)	66 (38.4)	114 (52.8)	34 (60.7)	98 (49.2)	167 (43.0)	599 (48.2)
No	78 (49.4)	15 (27.3)	106 (61.6)	102 (47.2)	22 (39.3)	101 (50.8)	221 (57.0)	645 (51.8)
Total	158 (100)	55 (100)	172 (100)	216 (100)	56 (100)	199 (100)	388 (100)	1,244 (100)

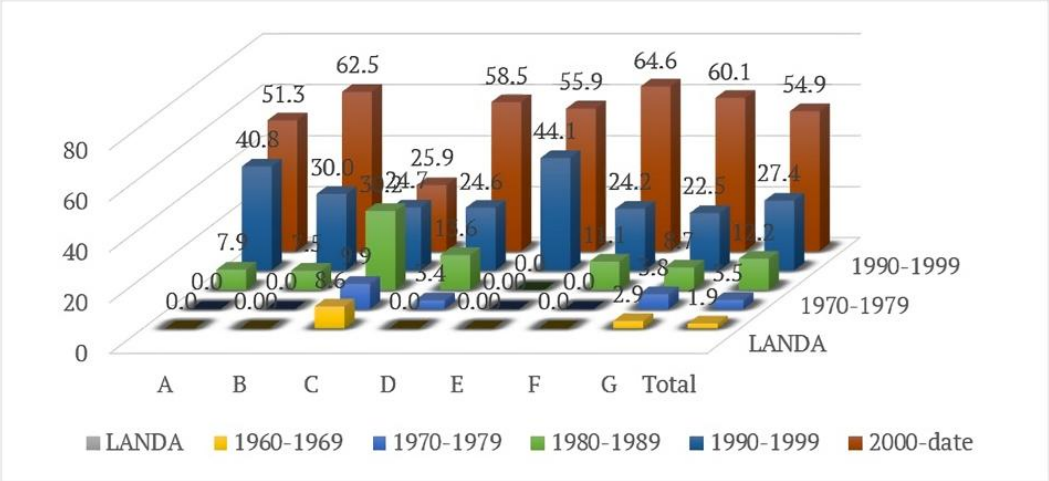

Figure 8. Land acquisition in the research area (Field Survey, 2023)

Land Acquisition: SDG 11C (Providing Universal Access to Safe, Inclusive and Accessible Green, Public Spaces for Women, Children, Older Persons, and Persons With Disabilities by 2030)

Analysis on urbanization rate in Ado-Ekiti revealed that there was an increase in the acquisition of land and the construction of buildings over the years. Ado Urban is an ancient town and has existed for over 100 years. Therefore, traditional land acquisition had been the method of accessing land in ancient times. RDCs such as Odo-Ado-Ikere had a good number of its landowners acquiring land through inheritance. Since the creation of the state in 1996, land acquisition had been significantly pivotal to urbanization rate and population growth in Ado urban. **Figure 8** revealed the significant increase in the land area of RDCs and the development activities that had taken place over time. Acquisition in the year 2000 to date is the modal land acquisition across the seven RDCs in Ado-Ekiti, constituting 54.9 %, this was followed by 27.4 % in 1990-1999, 12.2 % in 1980-1989, 3.5 % in 1970-1979 and 1.9 % in 1960-1969, respectively (see **Figure 8**).

However, Awe and Akinluyi (2022) observed that Ado-Ekiti's urban growth was oriented toward the transportation corridors. The report also emphasized Homer Hoyt's 1933 sector theory which held that physical development spreads in the direction of transportation lines, is evident in urban growth and structure of the city. Ado-Ekiti had become heavily urbanized due to the desire for better living conditions, infrastructure, social well-being, etc. Consequently, Ajayi (2023) confirmed that the increasing population density in urban areas had led to scarcity and high cost of land. For this reason, the impoverished had difficulty accessing adequate housing even as housing demand rose. Data analysis from this study revealed that more lands were acquired in the periphery areas of Ado-Ekiti and RDCs such as Ikere-Ilawe, Ilawe-Iyin, Afao-Ijan, Ijan-Odo-Ado, and Iworoko-Afao RDCs. These development corridors had become more urbanized over the years. It is noteworthy that the majority of the residents in urban areas prefer to settle in the periphery areas. Accessibility to land envisaged by SDG 11 in the green areas for women, children, older persons and persons with disabilities has not been promoted in the development corridors of Ado-Ekiti. Green areas needs accessibility that promotes inclusiveness.

Conclusively, the result from this study shows a gap to be filled for Sustainable Development Goal 11 (2023), which highlights an inclusive, sustainable urbanization as well as an integrated, sustainable human settlement planning and management in all countries by 2030, to be filled.

Description of Residential Areas: SDG 11B (Promoting Integrated, Sustainable Human Settlement Planning and Management as Well as Inclusive, Sustainable Urbanization in All Nations by 2030)

Sustainable Development Goal 11 (2023) and Popoola et al. (2017) noted that urban population growth had resulted in lateral and structural settlement growth, along with related problems like slum housing, urban sprawl, and peripheral development. As a result, Popoola (2013) reported that Ado-Ekiti's continued unrestrained expansion, had led to a confirmation that the area's development plans had not yielded the anticipated positive results.

The results of this study, however, were consistent with the existence of urban sprawl in Ado-Ekiti's peri-urban areas. In the study area, 44.1 percent of the respondents lived in the RDCs' peripheral areas. Subsequently, there were 36.4 percent in the transition area and 19.5 percent in the CBD. **Figure 9** displayed this distribution.

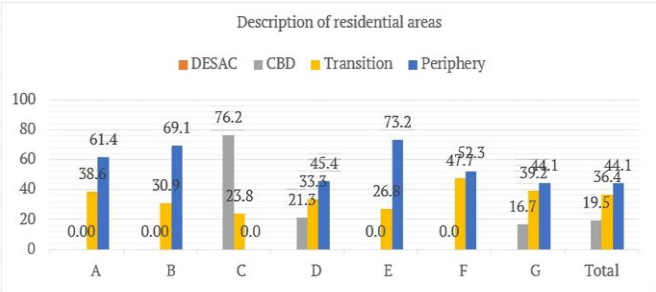

Figure 9. Description of residential area (Field Survey, 2023)

Figure 10. Derelict or slum settlements at Ago Area (Ijan-Odo Ado RDC, Ado-Ekiti) (Field Survey, 2023)

Remarkably, the bulk of respondents reside in the periphery of each RDC, including Ago-Ebira along the Ijan-Odo-Ado RDC (**Figure 10**).

According to Agboola (2019), Ado-Ekiti has experienced urban sprawl as a result of population growth, rising housing costs, and a need for more land for infrastructure. Okikiola and Alo (2020) agreed that the loss of green spaces was as a result of the growth of Ado urban periphery. Adabre et al. (2020) asserted that high-density housing development and a variety of housing options were two social strategies of SAH that would address the inadequacy of decent housing for the urban poor. Conclusively, this study falls short of SDG 11 on creating positive economic, social and environmental links between urban, peri-urban and rural areas. Thus, strengthening national and regional development planning needs proper coordination of the periphery as development moves towards the rural areas.

Standard of Housing Facilities: SDG 11A (Access to Basic Services, Safe and Affordable Housing)

Findings on the standard of housing facilities presented in **Table 5** shows that 14 out of 24 indicators that measured satisfaction of the standard of housing facilities in the study area had a positive deviation from the mean due to a high level of resident's satisfaction on these housing facilities. On the other hand, the remaining 10 indicators had a negative deviation of the mean. It is noteworthy that access to green and public spaces ranked 18th on this classification of housing facilities standard with -0.29 deviation from the mean. Thus, this depicts a low level of resident's satisfaction. Olisa et al. (2023) noted that rapid urbanization had depleted the green spaces in Nigeria's urban areas. To buttress this, Olufemi et al. (2018) saw signs of inadequate greenery in Ado-Ekiti as a result of pressure on urban landscape as well as rapid urbanization. It is noteworthy, that more than 50 percent of children, women, girls in developing countries such as Nigeria and invariably Ado-urban lacks access to green spaces and decent housing (Sustainable Development Goal 11, 2023).

Adegun et al. (2021) highlighted that effective planning of green spaces and natural landforms within cities were essential to sustainable urbanization, spurring interest in green infrastructure. Furthermore, low satisfaction of Ado-Ekiti residents on access to green areas calls for the implementation of SDG 11 on providing universal access to safe, inclusive and accessible green, public spaces for women, children, older persons and persons with disabilities by 2030.

Table 5. Ranking of residents' standard of housing facilities in Ado-Ekiti (Field Survey, 2023)

Standard of housing facilities	SD	D	MS	S	SS	SWV	MWV	DEV	R
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Sizes of living and dining spaces	6	36	519	539	141	4,496	3.61	0.77	1st
Access to healthcare/educational facilities	15	78	492	494	165	4,448	3.58	0.74	2nd
Power lightning in living and dining spaces	4	46	512	606	76	4,436	3.57	0.73	3rd
Open spaces/recreational and shopping facilities	56	122	402	548	116	4,278	3.44	0.6	4th
Ventilation in-house	7	147	542	490	58	4,177	3.36	0.52	5th
Natural lightning in the bedroom	21	169	615	405	34	3,994	3.21	0.37	6th
Level of privacy	114	318	364	289	159	3,793	3.05	0.21	7th
Thermal comfort in the residence	24	271	615	319	15	3,762	3.02	0.18	8th
Sizes/numbers of bedroom	60	337	487	298	62	3,697	2.97	0.13	9th
Protection against termite infestation	86	257	524	366	11	3,691	2.97	0.13	10th
Natural lightning in the kitchen	17	298	683	223	23	3,669	2.95	0.11	11th
Access to portable water supply	108	359	379	326	72	3,627	2.92	0.08	12th
Sizes of kitchen and storage	52	274	669	240	9	3,612	2.9	0.06	13th
Power supply/sufficiency	100	398	602	94	50	3,328	2.68	-0.16	14th
Management and maintenance of facilities	39	427	727	51	0	3,278	2.64	-0.20	15th
Refuse disposal facilities	90	443	609	102	0	3,211	2.58	-0.26	16th
Protection against dampness in the building	183	395	471	167	28	3,194	2.57	-0.27	17th
Access to public and green spaces	**239**	**384**	**365**	**215**	**41**	**3,167**	**2.55**	**-0.29**	**18th**
Noise pollution disturbance in the building	254	335	463	186	5	3,082	2.48	-0.36	19th
Community activities	47	175	747	256	19	2,989	2.4	-0.44	20th
Road network	246	523	391	81	3	2,804	2.25	-0.59	21st
Sanitation/drainage facilities	249	517	443	35	0	2,752	2.21	-0.63	22nd
Security/fire protection measures	254	266	501	214	9	3,190	1.49	-1.35	23rd
Total	2,271	6,575	12,122	6,544	1,096	82,675	65.4		

Note. SD: Strongly dissatisfied (1); D: Dissatisfied (2); MS: Moderately satisfied (3); S: Satisfied (4); SS: Strongly satisfied (5); SWV: Summation of weight value; MWV: mean weight value; DEV: Deviation; R: Ranking; Mean of MWV = 2.84; & Cut-off point = 2.84

CONCLUSION AND RECOMMENDATIONS FOR SOCIAL POLICY

This study examined the housing deficit in Ado-Ekiti, considering SDG 11 constructs. It linked the various SDG with the existing situation in the city. The study concluded that the cost of building materials was very expensive (38.3%), fair rate of home ownership (48.2%), increased city growth in terms of land consumption rate from 2000-date (54.9%), unplanned city expansion (slum housing) at Ado-Ekiti periphery and limited access to green areas (-0.29 deviation from the mean) were the signs of housing deficit in Ado-Ekiti in the light of SDG 11 constructs. The study prefers sustainable policy guidelines for housing deficit reduction in Ado-Ekiti. These would help in reducing housing deficit and transforming, managing Ado-urban spaces.

1. Establishment of industries producing quality, affordable locally made building materials would increase home ownership rate and also reduce the high cost of house construction. Also, incentives such as credit facilities, subsidies on land price and technical assistance should be provided to the residents of Ado-Ekiti. Implementation of these measures would improve access to affordable, decent housing for all income groups in the city.

2. Regional distribution of resources and investment on infrastructural and housing facilities, would reduce the increased land consumption rate and urbanization in Ado urban.

3. Slum settlements in Ado-Ekiti should be upgraded. Similarly, under-utilized land should be converted to quality, affordable housing units. These can be achieved through improved urban planning and management in a way that is both inclusive and participatory. The public and private sector should collaborate to foster a sustainable housing delivery.

4. Furthermore, based on findings on limited green spaces. This study recommends the implementation of the global flagship initiative "safe cities, green, public spaces" to generate innovative results through partnerships with federal, state, and local governments, women's groups and other organizations such as community based organizations and non-governmental organizations.

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