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**A STUDY ON INCREMENTAL HOUSING:
A CASE OF ZAMFARA, NIGERIA**

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Master's Thesis

Supervisor

Asst. Prof. Dr. Deniz ÇETİN

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XXXXXXXXXX

DEDICATION

I dedicate this thesis to Allah, the All-Mighty, to my supporting family, close friends, and well-wishers.

My greatest thanks and gratitude to my parents: Late Alh. Muhammad Jawad Yusuf and Alh. Pharm. Muhammad Danlami Idris FPSN. CMC. FIMC. (Matawallen Madawakin Gusau) (SAN Gusau). My gratitude also to my beautiful mothers, Haj. Rukayyat Jawad Yusuf and Haj. Zainab Muhammad Garba. My gratitude also to my beautiful grandmothers, Haj. Aisha Yusuf and Former Sokoto State Chief Judge Justice Aisha Sani Dahiru. My dear sisters—Zulaihat, Hanna, Atika, and Juwayriyyah—and my younger and wonderful brothers—Yusuf, Al-Amin, Bashir, Amir, Ahmad, and Abdullah—you are my strength and foundation.

To my parents, the greatest parents ever, your selflessness, sacrifices, unwavering encouragement, love, and mentorship have shaped me and will continue to do so. May Allah reward you with bounteous blessings.

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ABSTRACT

A STUDY ON INCREMENTAL HOUSING: A CASE OF ZAMFARA, NIGERIA

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This thesis is in line with the current estimated shortage of housing of approximately 28 million units that will grow with population growth and rapid urbanization and with a lack of proper housing provision in Nigeria. The attention to affordable housing is because it caters to low-income earners who make up a significant portion of the population. The study takes into consideration the significance of housing to both individuals and to the state and the state of affordable housing in Nigeria at present. Case studies from various examples of housing project and incremental housing in developed and developing countries are looked into and analyzed so as to formulate an innovative approach to using architecture to provide solutions for this deficit in housing. The principle of formal incremental housing offers a cost effective and accessible solution for the low-income earners. This thesis examines a model of housing that not only provides shelter but also an affordable, cost-effective, approach to housing which would integrate into the cultural and society fabric of Nigeria's urban centers.

Keywords: Incremental Housing, Affordable Housing, Housing Needs, Urbanization in Nigeria, Housing Provision.

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1. INTRODUCTION

Because of the fast urbanization and increase in the population, Nigeria's cities note a high demand for housing, hence making the provision of housing a major obstacle that politicians and urban planners should drive policies that will suitably supply enough housing to accommodate the unintended and phenomenal increase in the population. This research aims to add to the conversation on resolving Nigeria's housing issue by discussing the urgent need for cheap housing, its significance, as well as the current state of affordable housing, and possible solution. It also offers recommendations and a prototype for mass social housing. The right to housing alongside food as a fundamental human requirement, are crucial for a person's survival. More than just a physical structure, adequate housing is pivotal for maintaining the health and moral wellbeing of a populace fostering societal stability, enhancing productivity, and encouraging individual growth. The quality of housing can be seen in how the buildings look, the amenities included, the materials used for walls and roofs, the state of other parts of the building and the overall environment of the house. Housing as a final product is the result of the construction process which includes its structure, design, space, toilets, and other comforts. But housing as an ongoing activity includes the building process, planning for neighborhoods, broader city, and regional planning. Housing also covers building new houses, fixing up old ones and keeping them in good shape to meet new needs. The provision of housing isn't just about building new places to live; it is also about upgrading existing ones and making sure both new and old homes get to the people who need them. The issue of housing is present in both developed and developing countries whether up north or at the global south. Globally, the challenges of housing include not having enough homes, problems of governments not fully understanding or meeting people's housing needs, difficulties in getting land to build on, the expense of houses compared to their size and quality, and the steep interest rates on mortgages. In Nigeria, the housing shortage is mainly due to poverty, weak and inconsistent housing policies, rapid urbanization, the high prices of construction materials, and outdated construction methods (Enwin & Ikiriko, 2023, p. 421).

The most officially populated country in Africa is Nigeria, which equally happens to be among the fastest-developing countries in the whole world. According to the United Nations, Nigeria's population is estimated at 224.6 million and replaces Pakistan as the 6th largest

globally. At this growth rate, the population is expected to swell to 262.58 million by 2030. Multidimensional Poverty Index in Nigeria, 2022: 51.4% of the total population experience different forms of poverty, while its prevalence differs strongly across the entire country. In 2022, Nigeria's Gini coefficient—a measure of income inequality—is 35.1%, placing it 100th out of 163 countries globally. The combination of rapid urban growth, high unemployment, and widespread poverty adds even more strain to an already overstretched housing sector (Kware, 2015, p. 1244).

The Habitat Agenda appeals for better human settlements and shelter declares that everyone should have a right to housing that is safe, secure, healthy, accessible, and affordable. The housing shortage in Nigeria has become more severe due to fast-paced urban growth. In 2010, Bison reported that there were around 10.7 million houses in Nigeria. However, the gap between housing needs and availability has been widening, jumping from a deficit of 7M homes in 1991 to 14M in 2010. According to a 2018 World Bank report, Nigeria would need to build about 700,000 new housing units every year over a span of 20 years to keep up with its growing population. This problem has led to more and more slums and makeshift homes popping up quickly, especially on the edges of the big cities (Adedeji et al., 2023, p. 432).

The contribution, though high, that the real estate sector made, accounting for 5.34% of the growth in the country's GDP during the first quarter of 2022, is still not enough to provide sufficient housing. Even the Federal Government had allocated \$1.13 billion to housing in the 2022 budget, while about \$50.6 billion is estimated to be required to combat the country's current housing deficit of 28 million units. 35.3% of urban households in Nigeria homes are compound houses, 28.8% are in flats or apartments, and 25.9% in a separate house according a featured report of the 2019 Nigeria Living Standards Survey. With just a minority of 32.5% owning their homes in the metropolitan areas, the poll revealed that most of these urban households—at over 49%—are renters. Excessively rising building materials have further worsened the already difficult challenge of adequate housing supply in Nigeria. Furthermore aggravating this scenario are inflation and a changing foreign exchange rate. For example, a basic 50 kg bag of cement now costs more than double, going from ₦2,650 in 2018 to ₦5,500 (equal to \$7) in 2023. Similarly, the cost of 10mm diameter reinforcement bars has shot up from ₦220,000 in 2018 to ₦420,000 (around 552 dollars) in 2022. The

Nigerian Building and Road Research Institute notes that the great expenses are related to the fact that Nigeria imports more than 90% of its building and construction supplies. Industry players have been pressing the federal government nonstop to take into account the utilization of locally accessible building materials as a strong means of lowering housing construction costs. This has pitched the ball into the court of the federal government, which has been seeking to bring such worries to an end, engaging in talks with the major cement producers in the country, forcing BUA Cement to decide on a slump in the price of cement from ₦5,500 (\$7) to ₦3,500 (\$4.6) (Adedeji et al., 2023, p. 435).

The government of Nigeria, therefore, realized the requirement to do something to deflate this housing deficit and hence has placed a number of policies and programs with the aim of decent housing for its citizenry. The National Housing Policies were, indeed, a big step in ensuring a resolution for the housing crisis. These aimed at expanding the availability of inexpensive housing through various tactics, mortgage finance, and slum upgrading. However, with all these attempts, the deficit in housing continues to grow, and most Nigerians cannot access decent, yet affordable, housing. Why the translation of policies on housing into reality is not possible is a result of ineffectiveness in policy implementation. Though these policies might be well-intentioned, their overall execution requires adequate information about the local situation, proper funding, and coordination between various parties concerned. In the case of Nigeria, the efficient execution of such housing initiatives has been generally bedeviled by corruption, low finance, inefficiencies within the bureaucracy, and lack of political will. Each of the above-mentioned elements has resulted in the gulf between policy objectives and actual performance (Enwin & Ikiriko, 2023, p. 423).

The reality of housing in the rapidly growing cities of Nigeria has to do with myriad factors that include land availability, financing mechanisms, construction techniques, and community participation. Land availability is one major issue because, in most of the time, urban land is highly limited in supply and highly expensive. As expected, high land costs make it hard to initiate housing projects in highly valued areas. In addition, poorly defined systems of land tenure and speculative tendencies in land transactions further exacerbate the problem. An equally important factor in the process involves the financial mechanisms that facilitate the translation of housing into actuality. Traditional mortgage financing

mechanisms are out of reach for low-income categories because of high interest rates or strict eligibility criteria, so alternative models like microfinance, community savings schemes, and public subsidies must be unwittingly used to ensure that housing becomes affordable and reachable for all cross-sections of society. This therefore calls for an immediate approach that is holistic in nature, to confront the housing problem head-on. It is tasked with responsibility by way of the National Housing Trust Fund to finance low-income earners with mortgages but the Federal Mortgage Bank of Nigeria is very weak because it is constrained by financial and operational issues. This has consigned the few low-income people who manage to become homeowners to ordinarily acquiring land and building incrementally as and when their finances allow. Those families of higher incomes can usually afford to purchase their house outright with cash and, if they obtain mortgage finance, the mortgage is usually repayable over a period of up to 10 years (Wapwera et al., 2011).

Besides this, another important factor contributing to reducing housing costs is construction techniques. Innovations in developing methods of prefabrication and modular construction, using locally available materials, proven useful means of reducing the cost of construction without compromising standards of quality. These techniques can also be put into use in order to inculcate local entrepreneurship while creating several jobs in the process and stimulating the economy. Community involvement and participation become very great for adding to the success of the projects in terms of affordable housing. Locals are involved in planning, designs, and implementation, ensuring at least a certain business undertaking of housing demands and preference is achieved. Community participation helps in creating ownership as well as responsibility, hence increasing the potential for long-term sustainability of the housing projects (Nwuba & Chukwuma-Nwuba, 2018).

This thesis addresses the urgent need for affordable housing and its significance, role, and prevailing status across these rapidly expanding cities, as well as options that can be deployed to reimagine affordable social housing. The study, in arriving at a solution, sought to provide an architectural response to Zamfara State, Nigeria, to stem the continuous shortage of houses.

1.1 PROBLEM STATEMENT AND RESEARCH QUESTIONS

Rapid urbanization and a very high population growth rate in Nigeria have resulted in an alarming shortage of housing supplies within its cities. Most government initiatives towards addressing the shortage have not translated into workable housing solutions due to lack of finance, red tape, and fraud. These challenges, ranging from the planning and policy issues to the field of architectural design, require affordable and useful housing prototypes. In addition to discussing the necessity of affordable housing, the function and significance of housing, and the situation of affordable housing today, this thesis also proposes a prototype design strategy for affordable housing.

Upon completion of this study, it will aim to address the following questions.

- a. What role can incremental Housing strategy play in making affordable social housing a reality in Zamfara State, Nigeria?
- b. What is the possibility of a successful incremental housing construction being implemented in Zamfara State, Nigeria with a long-time benefit without the community/residents involvement in planning and execution of the projects?

1.2 AIMS AND OBJECTIVES OF THE STUDY

This thesis takes into account housing's function and importance, current provision of affordable housing, and low-income earners' housing needs. In preparation for population expansion in the future, housing—particularly that of vulnerable communities—must receive more attention. This involves ensuring that housing is affordable and of good quality. The main objective is to examine Zamfara's housing shortage and Nigeria at large and to analyze the feasibility and prospects of adopting an incremental housing approach as a viable and long-term solution to Nigeria's affordable housing challenge. This approach aims to address the housing shortage by presenting a flexible, cost-effective strategy that is both theoretically sound and practically feasible for low-income individuals and communities.

Additionally, by providing workable answers to the housing shortage, this study would also add to the fields of architecture and urban planning, especially in developing countries by offering possible solutions to the problem of housing deficit.

1.3 METHODOLOGY

An overview of housing and its characteristics in Nigeria is given at the beginning of this thesis. In order to examine the housing issue in Nigeria, this research article will use a qualitative methodology approach. It will use a qualitative methodology approach to gather a wealth of important data regarding the housing problem in Nigeria through a review of previous academic writings and articles and an indebted literature review.

The study examines Examples of various housing strategies from around the globe to determine which works best for the nation. Besides this, a questionnaire will be employed in this study to have insight into views of different segments of the public regarding current housing status in Nigeria, possibilities of incremental housing adoption, and space prioritization at the initial construction stage. The poll will adopt a straightforward random sample technique. Respondents will come from a variety of age and gender groups, as well as diverse occupational categories, including unemployed people, public and state officials, and the private sector. Graphs will be used to evaluate the data and explain some of the survey's findings and trends at the conclusion.

1.4 BRIEF EXPLANATION ON HOUSING TERMINOLOGIES

Housing for the poor is a persistent issue everywhere in the world, including in developing nations with faltering economies. Urban cities are packed with people vying for limited housing for the impoverished since everyone wants to live there. For those who are fortunate enough, they can find temporary shelters and unofficial colonies on vacant land; for others, it's a rented room or apartment (Doling et al., 2013). Governments frequently pledge to give housing or a refuge for all citizens, but in practice, because of extremely dubious housing regulations, it is much easier to evict residents from these communities, move them somewhere, and then continue the cycle again and again.

Throughout the world, stand-alone public housing high-rises built to house those who were impoverished were failures because the concepts offered were not viable to their target market of that level of income or were not of adequate quality to maintain a minimum level of human decency (Lim, 1987). Due to past growing problems pertaining to the availability of low-cost housing for the poor, many people have been forced to establish informal, illegal housing for themselves, which in due course has resulted in the slumming up of the

population in appalling conditions. Other underlying concerns that have been and are expected to be confronted by these persons include access to lawful land, security of tenure, and availability of credit. If given the chance, these individuals have demonstrated that they are capable of and eager to offer answers to their housing issues (Karamujic, 2015, p. 67).

1.4.1 Housing Significance

Universally, it is agreed that housing is fundamental need for people survival and an essential prerequisite for human existence (Omole 2010). A place of residence provides safety, security, comfort, and dignity, acting as a haven. Housing is an essential part of the environment and has a big impact on people's health, productivity, social behavior, satisfaction, and general well-being. Although housing is usually thought of as a way to provide shelter, for some people it represents much more than that, as it is a major indicator of their social standing and level of life. A house also provides the material foundation for the realization, improvement, and balancing of human, social, economic, and cultural resources (Karamujic, 2015).

As the primary unit of housing, the house is an economic good. It develops as a result of other economic factors interacting to produce it. The end product—in this case, an increase in cost and, thus, price—will follow the same path if those economic variables become unstable or continue to accelerate. Therefore, the underlying economic principles that combine to produce affordable housing are the desirable goal. As long as the economic variables continue to rise, the goal of affordable housing will not be achieved. Housing, other than a dwelling, represents the formation of an environment that comprises not only residential structures but also employment opportunities, security, as well as many other facilities including among others roads, electricity, and clean water. Housing is known to imply shelter with economic opportunities and social services. The level of availability of suitable housing reflects the degree of development achieved by a country. In this regard, the lack of good housing negatively reflects on the standard of living of its inhabitants and slows down the economic development of a country. Housing supply, therefore, is always on top of the agenda of all governments. The developed countries, for example have long-term plans in place that include not only housing but also the infrastructure replacement and up gradation. This affects the economy, security, health, and the quality of life that people lead, and there is a need for suitable and sufficient housing (Ewurum et al., 2020, p. 39).

Housing has long been considered essential, leading governments to take primary responsibility for addressing housing needs during the 19th and early 20th centuries. However, since the late 20th century, a shift toward the enabling approach has emerged in global housing initiatives. This approach is supported by Western governments and international organizations such as the United Nations, the International Monetary Fund, the World Bank, and UN-HABITAT. These organizations aim to expand efforts to address housing challenges, particularly in developing countries where the issue is most severe. Notable programs introduced by these organizations include Agenda 21, the Millennium Development Goals (MDGs), and, more recently, the United Nations' Sustainable Development Goals (SDGs) (Doling et al., 2013).

1.4.2 Affordable Housing

Affordable housing refers to housing that can be obtained by households without compromising their other essential needs. Housing affordability entails the ability to purchase a dwelling that meets the appropriate size and minimum physical and sanitary standards, while still having enough income to meet the minimum consumption requirements for other essential goods and services. The United Nations sets a standard of at least 300 calories per day for an individual's minimum intake (Kirkpatrick & Tarasuk, 2011, p. 293).

The issue of housing delivery and the resulting deficit in housing stock is further compounded by theoretical considerations surrounding perspectives on housing. It is crucial to recognize that an accurate diagnosis is essential for an effective prognosis. The perceptions of various stakeholders including the government, individuals who own homes, private and commercial investors, policy makers, and researchers play an important role in finding solutions to the rising costs of living. Housing can be viewed as a social amenity or a commercial commodity. Given the ongoing dynamics of population growth and urbanization, investors in the housing subsector must be actively involved in providing housing options. For investors, a housing deficit represents an opportunity for investment if the returns are comparable to other investment options; otherwise, their funds will be directed elsewhere. The commercial perspective is a crucial factor that should not be underestimated when considering the housing deficit. This is why housing investors tend to target their attention to the high-net-worth sector that offers higher returns compared to low

and medium-income segments of the housing market. Consequently, this has led to the introduction of substandard housing that fails to meet sustainability criteria (Yahaya Wuni et al., 2018, p. 5).

The term "appropriate size" in relation to a household dwelling simply means that the dwelling should be suitable for the members of the household. Therefore, the provision of adequate housing is crucial for any country, particularly Nigeria, as housing serves as a catalyst for the national economy. The housing industry can stimulate the national economy. Housing represents a significant portion of a country's wealth, and households allocate a substantial portion of their income towards it. Consequently, housing has become a recurring topic in economic, social, and political discussions, often accompanied by intense emotional sentiments (Omole, 2010, p. 274).

1.4.3 Housing Deficit

The housing deficit, which refers to the imbalance between housing demand and supply, is intricately linked to the process of urbanization. In traditional rural settings, where housing standards can be met with affordable materials, there is rarely a shortage of housing. In these settings, individuals in need of housing can typically afford to build with assistance from their peers and family members, as the economic system is not solely based on commodities. While in urban areas, the ability of families to acquire housing is influenced by numerous factors, including income level, housing availability, and cost. The growth of housing demand in urban centers is not only driven by natural population growth, but also by rural-urban migration and economic activities that attract labor from other cities. Hence, supply of housing stock is constrained through financing, land, cost of building materials, regulatory permits and infrastructure in cities. These determinants of housing supply make the rate of supply development in housing stock relatively smaller compared to demand. This leads to a deficit in housing. Apart from general approaches, a housing policy acts as a guide that summarizes activities, and also goals without necessarily giving detailed methods of how such goals are achieved. It establishes the limits and parameters within which those responsible for the discretionary activities of the overall action plans will take up the discretionary activities. Housing scholars have noted that some housing policy decisions-whether explicitly stated or otherwise-constitute past efforts by the government whereas other policies serve as statements of objectives or guidelines for individual or organizational

action. As a result, policies are recognized as carefully considered, precisely stated, and formally presented texts (Ewurum et al., 2020).

The housing deficit, primarily observed in urban areas, can be analyzed because of two distinct types of demands, resulting in the segmentation of the housing market. These demands consist of the market for rented accommodation, serving the needs of specific clientele such as starter families and temporary city workers, and the market for owner-occupied housing. This differentiation is of great importance in recognition, since each would require a different approach towards finding deficiencies in both segments in light of demand and supply. In this case, in order to eliminate the deficit of rental housing, it is crucial to offer some incentives for investors to increase the supply of rental houses that include a broad range of housing options, from affordable to upmarket products. In doing so, addressing the gap in homeownership will involve making it easy for families to secure affordable borrowing and partnering with the developers to build affordable housing units. That is, the attempt at bridging this housing gap in Nigeria must be an effort at intervention with many levels of approach, involving demand-side projects which target prospective home owners and families, as well as supply-side projects which target investors and estate developers (Adedeji et al., 2023, p. 436).

1.4.4 Housing Provisions

Provision of housing is a complex process that includes successive but interrelated stages of origination, production, supply, and maintenance of both new and existing housing. It reflects the contextual variables of supply and demand, in which the former finds its premise on the needs and imperatives of housing. The two terms have become widely used in literature that deals with housing and are considered by scholars of all calibers primarily as interchangeable. Therefore, a clear understanding of their definition will help to understand how they might be applied to the subsequent sections of this report with clarity (Makinde, 2014).

The number of residential properties that are accessible in a certain housing market, area, or nation is referred to as the housing supply. On the other hand, housing delivery is a process wherein there is development of a dwelling unit, placing one or more households in it, and, if necessary, renovating or rehabilitating the structure so as to extend its useful life. Last but

not least, housing demand is defined as the quantity of housing—both in terms of type and quality—that households are wanting and able to purchase or rent in the free market without any form of government subsidy. Housing demand thus considers both personal preferences and financial capacity. When a household cannot afford decent home on the free market, it is said to have a housing need if there is currently insufficient or inadequate housing to accommodate them. This comprises people who are unable to improve their circumstances on their own and reside in unsuitable or inadequate housing (Gu et al., 2015).

On the other hand, housing requirement embraces both housing demand and housing need. It indicates the total number of houses required by all households to be adequately housed irrespective of the household's payable capacity. In other words, it is the total size of housing needed to house the population in line with the minimum standard laid down by the Government or local policies. Housing provision modes encompass various methods by which residential units are created, developed, and made available to individuals. In developed nations, these modes primarily involve government intervention, housing associations, and private developers due to the presence of a well-structured system. Conversely, in developing countries, housing provision modes can be classified into conventional and unconventional approaches. The traditional approach towards supply is through statutory and structured institutions, such as government/public sector organizations, private sector developers, and cooperatives; whereas the informal method is through individual efforts set amidst an unorganized development framework that inevitably yields squatter or slum settlements (Makinde, 2014, p. 50). Some of the various housing sectors include:

- a. Private Sector: Housing provision through the private sector involves individuals, property developers, or collaborations between developers and house or landowners as the initiators. This mode of housing provision is predominantly speculative, although there are exceptions when non-governmental organizations are involved. The products of this mode can range from individual residential buildings to large-scale speculative developments. In many developed countries, this mode contributes a significant proportion of the overall housing provision, ranging from approximately 20 to 60 percent. Such is the case of the UK, where the majority construction and management of housing come from the private sector. Most developing countries mainly depend on the private sector for additions to the housing stock, but most of this development caters

to the average and high-paying groups (Owotemu et al., 2022). Therefore, it serves as a primary means of meeting housing demand.’

- b. Joint Venture: This method of housing provision involves public agencies and private companies working together. The government supplies the necessary land and offers tax breaks, but private companies are in charge of funding the building of the homes. These private companies come into this collaboration with the knowledge that they will be able to offer the remaining units to a designated group of beneficiaries at pre-agreed prices, while also being able to sell a predetermined share of the projects on the open market. In many industrialized nations, like the US and the UK, this partnership between governmental agencies and private businesses is the main means of housing provision. However, in order to meet their housing needs, a rising number of emerging nations are also employing this technique (Julie Anne McBride & Eric Oetjen, 2021). This provisional approach helps to meet the housing need.
- c. Public Sector: Under this approach, government housing organizations directly plan, coordinate, and oversee the construction of new homes for the broader public. Through these organizations, the government houses middle-class and lower-class individuals by building homes directly or by executing assisted self-help and settlement upgrading initiatives. However, in developing countries, public housing provision accounts for only about 10 percent of the total housing stock and sometimes it represents as high as one-third of the dwellings provided. This style of housing provision has not experienced substantial success throughout the years in certain emerging countries in South Asia and in Africa like South Africa, Ghana, and Nigeria (Owotemu et al., 2022). Nevertheless, attempts to meet housing needs, notably through the provision of low-cost housing, are always evolving.

2. INCREMENTAL HOUSING

The concept of incremental housing or incremental development is typically linked to low-income households in emerging nations. The reason why the incremental development approach—also referred to as progressive development or auto construction in the literature—continues to be used by planning scholars is that, for the majority of low-income households, it is frequently the best option available, especially when there is insufficient government support for affordable housing or housing finance. A home can be developed gradually according to demands, time, money, and resources thanks to incremental development techniques. Households may begin with a single room and progressively add on to and enhance their homes, room by room, floor by floor, and wall by wall, as clever design adaptation. They might even occasionally build a new apartment and upgrade their houses with the money they get from rent. Although self-help housing is a common term used to describe the incremental growth process of affordable housing, self-managed housing would be a better term given that the process usually entails labor from both hired workers and residents (Mukhija, 2014, p. 13).

An unfinished starter home that invites residents to actively participate in the building process is known as an incremental home. Low-income households must make modifications to their base house, which typically consists of a kitchen, bathroom, dining room, and bedroom, in order to create a fully functional apartment. This housing solution recognizes the importance of the construction technologies, design strategies, urban location, and finance mechanism (Marinovic, 2020, p. 173)

The term "incremental housing" describes solutions where the government has created "assistance for owner-builders" programs. This housing solution is appropriate in cases when the government established an atmosphere that encouraged home ownership, often known as "nuclear families with state support." By giving individuals the ability to "acquire, extend, improve, and service their dwellings and neighborhoods over time," (CHF International, 2004, p. 51). It serves as an open-ended housing platform that enables individual households to personalize their homes.

As a general rule, if a low-income household participates extensively in the building process, the unit should be regarded as an incremental dwelling. Usually, these incremental houses have a dining area, a bedroom, a bathroom, and a kitchen. Margarita Greene and Eduardo

Rojas defined incremental housing as a program fostered to support "the gradual process of construction, extension, and upgrading of dwellings that is undertaken by many families," (Greene & Rojas, 2008). The importance of a self-build practice, specific urban location, community organization, microfinance mechanism, design techniques, and construction methods are all acknowledged in this housing solution. As a practical, unplanned, and pressing solution to a severe housing crisis following World War I, incremental housing was initially established in Europe and the Soviet Union before being adopted in the US. After examining how this program has developed in various nations, the author determined three requirements for incremental construction: obtaining state funding, controlling household leisure time, and disseminating building technique information. Owner-builders who used the dwelling for their personal accommodation have been subsidized by housing grants in Finland from the 1920s. State housing loans were initially intended for non-profit housing promoters, such as municipalities, and starting in 1922, they were also given to housing self-promoters. Discipline and standardization were enforced on self-build housing through housing funding for detached home builders, such as the Own-home Fund. Time management was required, which was noted in western France following World War II. Owner builders filled in after work and on the weekends, while contract building workers, hired for specific tasks, worked regular hours during the week. The third requirement for starting a self-building project is that all households should have access to construction methods (Marinovic, 2020, p. 167).

By encouraging individual households and communities to make decisions and take responsibility for the housing aspects that they are best suited to handle, the incremental housing approach is founded on the idea of increasing the responsibility of individual households and communities. This may also be a "step-by-step" arrangement of the house to be constructed for humans. The grudging recognition that informal housing delivery systems outperformed public attempts to construct homes in a number of ways—including being self-managed and placing minimal demands on already strapped public administrations, being flexible and responsive to the shifting needs and uncertain fortunes of impoverished urban families, and meeting the demands of the rapidly expanding urban populations of developing towns and cities—was the impetus behind the state's involvement in incremental housing strategies. Therefore, the processes of self-build and community involvement are both included in incremental housing. Ordinary families in urbanizing

nations prefer to live in huge unfinished houses or even large shacks than small finished ones, according to observations of their behavior when allowed to act as they like. Another name for these homes is "core-houses (Hasgül, 2016, p. 20).

“Formal contractors were supposed to build the core house. The expansions were to be financed as well as the main house. The project developer's designs were to be followed in the construction of the additions. Enabling a limited self-help contribution by the occupied household, bolstered by the stimulation of the materials supplier and small contractor sectors, was the primary innovation in practice at the time. The idea behind the financial innovation was that the type of core offered would somehow correspond to the household's ability to purchase it. Thus, core housing was a restricted and tightly controlled type of aided self-help. There is a robust network of this procedure that helps people get over their financial difficulties while also connecting them with the government and specialists to create the homes of their dreams (Hasgül, 2016, p. 21).

Building housing communities and residents through incremental housing is a crucial step in urban development. Although it is neither rapid, instantaneous, or comprehensive, the owner still has an option. A beginning core shelter is where it all begins. A kitchen/bathroom unit or even a vacant lot with the possibility of a utility connection could serve as the initial core. However, a multipurpose area with simple kitchen and bathroom amenities is advised. Depending on their want and available funds, owners manage the growth of their homes (Goethert & Director, 2010, p. 23).

By connecting families' energies with extensive city planning, incremental housing is a cost-effective method of quickly resettling a large number of families at a minimum housing and services level. It offers the greatest degree of flexibility in choosing a home and secure title. The city's growth becomes predictable and efficiently make use of its limited financial resources and administrative capabilities. However, incremental housing goes beyond only housing. Additionally, it helps communities and residents create social networks that can support small-scale business opportunities and services (Goethert & Director, 2010, p. 24).

The integration of housing policies and programs that support incremental housing can effectively contribute to the achievement of the universal provision of suitable housing for all households within cities or countries. This can be facilitated through the recognition and

appreciation by governments and communities of the method employed by most of the population to construct and enhance their homes. It is important for these stakeholders to acknowledge that while the rapid construction of incomplete housing solutions may only offer a fraction of the amenities provided by finished homes, it effectively addresses the urgent requirement of household for basic shelter (Van Noorloos et al., 2020, p. 38).

One way to think of incremental housing is as an upside-down version of the official home-building and financing procedure. In the official procedure, the owners get access to all of the house's features from the first day of occupancy, which is funded by a lengthy mortgage loan amortization time during the house's use. On the other hand, in the incremental construction process, the house is purchased with only the most basic features and is later upgraded at a pace determined by the families' financial capabilities, either through self-help, microloans, or savings. This means that the finished house is not obtained until the very end. Realistically, the burdensome incremental housing procedure would not be required if low-income households had access to finance that enabled them to purchase completed homes. Households are compelled to employ this tactic due to their household income and the shortcomings of the official housing production and financing systems, which do not reach low-income households. The requirement for impoverished households to employ the incremental construction system is sustained by the slow rise of the bulk of the population's income and the delayed progress of housing sector changes (Greene & Rojas, 2008, p. 92).

2.1 BRIEF HISTORICAL DEVELOPMENT OF INCREMENTAL HOUSING

Incremental housing has its roots in traditional and informal housing practices observed throughout history, particularly in low-income and resource-constrained communities. It evolved as a pragmatic solution to growing urbanization, population increase, and the difficulty of conventional housing systems to meet the demands of the low-earning people. Incremental housing allows families to build their homes in phases, starting with the shelter and gradually expanding and improving as resources become available. The concept gained prominence in the mid-20th century when architects and urban planners began recognizing the limitations of top-down mass housing projects (Baross, 1987). Influential figures such as John Turner, a British architect and urban planner, advocated for self-help housing approaches, emphasizing the empowerment of communities to build their own homes over

time. Turner argued that governments should support informal housing efforts by providing secure land tenure, basic infrastructure, and technical assistance rather than enforcing rigid housing standards (Turner & Ficher, 1972).

Programs like the ‘sites and services’ schemes, initiated in nations such as India, Pakistan, Latin America during the 1970s, were significant milestones in the development of incremental housing. These programs provided plots of land with essential infrastructure like water and sanitation, allowing residents to construct homes incrementally. Incremental housing became especially relevant in rapidly urbanizing regions of Asia, Africa, and Latin America, where formal housing markets could not keep pace with growing demand (Turner, 1976).

Land occupancy and construction typically initiate the incremental housing process, with infrastructure and servicing being planned later, frequently contingent on the regularization of land tenure. In a same vein, residents' beliefs of stable tenure influence how much they spend on upgrades. Similarly, although this is hotly contested, it is commonly believed that having stable property tenure increases access to financing. Additionally, the active participation of enterprises, state assistance through municipalities, lending institutions, and other social networks is contingent upon secure tenure. Since the 1960s, it has been essential to the majority of programs aimed at improving informal settlements. The site-and-services programs that were put into place in numerous cities in developing nations during the 1970s and 1980s (and even later in certain African. The significance of safe and lawful tenancy served as the foundation for the sites-and-services programs that were put into place in many developing-nation cities during the 1970s and 1980s (and even later in some African nations like South Africa). However, it's crucial to understand that informal settlements and incremental housing are not the same thing. Many homes constructed using incremental methods are situated on legitimate lots with solid land tenure. Furthermore, it is becoming more widely acknowledged that de facto tenure security can be attained without official land titling, making it neither the primary nor the exclusive means of achieving secure tenure. The incremental housing process frequently goes on for years without official tenure, especially in nations or urban areas where evictions are rare (Van Noorloos et al., 2020, p. 41).

Over time, incremental housing has been recognized not only as a practical solution for affordable housing but also as a means to foster community involvement, social inclusion, and economic resilience. Modern approaches often integrate technical assistance, participatory planning, and microfinance options to make the process more efficient and accessible. Today, incremental housing continues to evolve, adapting to new challenges such as climate change, urban migration, and the need for sustainable development practices (Turner, 1972).

Incremental housing has been effectively implemented in several regions around the world, particularly in developing nations. A good example is that of the Quinta Monroy project in Chile by Alejandro Aravena. It provided low-income residents with partially constructed homes that were to be expanded and customized in phases. Not only did this make it more affordable but also allowed residents to adapt their homes to their personal needs and aspirations (Mota, 2021).

In Africa, incremental housing has been implemented in countries like South Africa and Kenya. The Incremental Housing in South Africa project, for example, provided low-income families with basic housing units that they could expand over time. The success rate of incremental housing projects depends on several factors, including community involvement, access to finance, and government support. When these factors are in place, incremental housing can be a highly effective solution to the housing crises in developing countries (Greene & Rojas, 2008).

2.1.1 Advantages of Incremental Housing

Incremental housing as a strategy for housing could provide numerous advantages which include:

- a. **Affordability:** With incremental housing, a person can begin with a small, basic home and add to it over time. The cost of the infrastructure would go down if the house was created gradually. By dividing up the construction process into smaller chunks, families can pay in instalments since it is difficult for many to acquire formal financial instruments like mortgages. The main advantage of incremental construction is its capacity to modify the home-building process in accordance with the household's financial means. For example, poor families will pay less for a full house while at the

same time allowing their children to go to school. Poor families earning below average income have limited resources to utilize and are thus threatened with either paying for a complete house that they are not able to afford or put food on the table, let alone pay school fees for their children. The progressive strategy is a more realistic pathway to homeownership for low- and middle-income families in Nigeria since it offers a chance to start with a small and relatively affordable unit rather than being forced to pay for a completed house (Marinovic, 2020, p. 166).

- b. **Flexibility:** Another major incremental housing benefit is that it should allow the tailoring of a home to specific resident needs and preferences. Residents might start with a simple, functional home base to which they could add rooms or features as the family expands or funds increase. This means that a family might start with just the most necessary rooms—a kitchen, bathroom, room by the next year, they may add another room. For housing, each family has different needs and cultural necessities intertwined with them. Utilizing incremental housing, families can get involved both in the planning and building and thus personalize parts of the house to adapt to their needs. The ability to make the house fit the occupants' specific needs and desires gives the residents a partial sense of ownership and social connection with the house (Wibowo & Larasati, 2018).
- c. **Community involvement:** The process of incremental housing encourages participation and involvement on the part of the community during planning and construction. In the process, the residents tend to be very much involved in decision-making, providing their resources, experience, and expertise in improving the housing condition of the community. Incremental housing schemes usually aim at utilizing local resources and engaging local businesses to stimulate the regional economy. The schemes aim at engaging with local businesses and utilizing available resources in an efficient manner. Not only does it make the regional economy stronger but also offers job opportunities and local skill development. It also enables regional businesses and artisans to drive sustainable economic development while fostering social cohesion in the community. Community-run programs would result in more individually tailored designs, more appropriate to a person's culture. Involving a community in planning and construction would enable units to be tailored for resident's particular social and cultural needs. In

this participatory approach, persons involved in planning and constructing are likely to look after their property and the community as a whole (Wibowo & Larasati, 2018, p. 7).

- d. Incremental upgrading: This housing approach allows residents to upgrade and improve their homes incrementally. The housing allows residents to participate in improvements as their capabilities permit, thus encouraging long-term housing investment while reducing financial stress. Perhaps with greater availability of funds to improve comfort or utility, residents may increase the amount of space or useful areas in their home. The process of incremental housing allows residents to change the living arrangements to accord with demands and economic fortunes that may change. In residential home investment, small-scale renovations are continuously invested. Homeownership allows continuously improving houses as resources allow, rather than as one capital investment. This method instills a deep sense of ownership and pride and brings better after-sales maintenance and care in the long term (Van Noorloos et al., 2020, p. 38).
- e. Scalability and Quick deployment: As the housing units are modular, incremental housing also ensures this important advantage for scalability. The large demand for housing can be met by scaling up and merely replicating incremental housing. Prefabricated components and a standardized approach will speed up and streamline the construction process. This means that many housing units can be built at the same time, something which would greatly alleviate the urgency of the housing shortage and thus provide homes for more people much faster. Because standard components could be bought in bulk if desired, and labor costs are potentially lower, incremental housing can be financially attractive. This will, through applying incremental housing scalability, drastically reduce the accumulation of demand for houses in Nigeria and provide adequate, affordable housing (Van Noorloos et al., 2020, p. 39).

2.2 EXAMINING INCREMENTAL HOUSING APPROACHES

This section tries to outline the view of the responding on the strategy of incremental housing. Many elements and features in the approach of the strategy of incremental housing are described subsequent to a structured nature of analysis.

a. Initial Stage: Land Acquisition

The initial stage of the incremental housing strategy involves securing land ownership or having access to land for construction, which as the foundation for housing development. Low-income group often begin by informally settling on public or underutilized lands, with some governments tolerating such occupations due to humanitarian reasons or urban pressures. Over time, as their economic conditions improve, some of these settlers' transition to formal ownership by purchasing the land or regularizing their status. However, rapid urbanization driven by factors such as migration, economic instability, and population growth has intensified the proliferation of informal settlements, creating significant gaps between housing provision and demand. These challenges emphasize the need for innovative and inclusive approaches to address the housing deficit while fostering equitable land access. Without such interventions, informal settlements risk becoming entrenched, further straining urban resources and social infrastructure (Wibowo & Larasati, 2018).

b. Second Stage: Incremental Housing Construction System

The second phase of the incremental housing program is to construct basic shelters with informal structures and temporary foundations to address immediate housing needs. The shelters are typically constructed using available materials to offer minimal coverage against weather conditions such as wind, sunlight, and rainfall and to offer privacy. Over time and as families increase in numbers and their financial status improves, their original shelters gradually undergo remodeling and upgrading to accommodate their rising needs. This process reflects the adaptive and resourceful nature of incremental housing, where construction evolves based on necessity, affordability, and long-term aspirations. It is a dynamic approach that enables households to transition from temporary shelters to more permanent and functional homes at their own pace (Wibowo & Larasati, 2018).

c. Third Stage: Employing Local Builders to Gain Construction Experience

The third stage of the incremental housing approach emphasizes collaborative construction, where homeowners actively participate alongside trained local laborers to build their homes. This process often involves unpaid assistance from family members and friends, with nearly every household member contributing to the construction effort in some capacity. This kind of cooperation not only lowers expenses but also gives participants a feeling of community and ownership. This stage of housing development is socially inclusive and resource-efficient, as it is mostly dependent on the collaboration and dedication of homeowners and their support systems. In order to achieve cheap and sustainable housing solutions, this partnership-based concept emphasizes the value of teamwork (Marinovic, 2020).

d. Fourth Stage: Progressive Financing Mechanisms

Housing finance has been one of the major preconditions that people have to realize a home. In fact, it has been considered as one of the major problems that a person can find himself in. As aforementioned, money will be needed at every stage, whether in purchasing the land, the incremental upgrade, paying the hired labor, and utilities consumed, such as water and electricity. Based on information obtained from residents themselves, household savings are the main source of finance for each stage of the incremental process or otherwise, including the purchase of the land to begin with. Government financial support, when available, is typically allocated to broader community programs, which are rarely implemented. Financial challenges are further exacerbated by the absence of microcredit options and the irregular incomes of low-income households, which deter them from taking loans for housing improvements. This financial instability limits their ability to make significant investments in their homes, making incremental housing a slow and resource-dependent process (Wapwera et al., 2011).

2.3 INCREMENTAL HOUSING PROJECT EXAMPLES

Through comparative analysis, this chapter emphasizes how design approaches, implementation strategies, and community engagement shape housing outcomes. The thesis argues that, while projects such as Pruitt-Igoe's rigid, exclusionary model led to failure, incremental housing projects succeed by integrating resident agency and adaptability.

In the example of Pruitt-Igoe Housing Project (USA, 1950s), the Leinweber firm was commissioned for the architectural design of the project in 1950. Predetermined for the

architects were project size and location, number of residential units to be included, and project density—all non-negotiable requirements set by the St. Louis Housing Authority. These were, however, very expensive, hence public housing projects gained wide support despite those financial limitations since they created the social fabric of the post-war era. But the project had to be reassessed because of the financial issues. In order to overcome these budgetary constraints, the density was raised to 55 units per acre. Yamasaki and his team were compelled by these modifications to abandon their first plan and come up with a new one for the public housing project (Li, 2019, p. 191).

The Public Housing Administration (PHA) persisted in applying pressure to reduce costs even after the architects changed their plans for the project to include high-rises. Pruitt Houses and Igoe Apartments were constructed at a cost of approximately \$36 million, Pruitt Homes at \$21,689,412.14 and Igoe Apartments at \$14,438,145.58. They were influenced by housing policies that were aimed at controlling economic spending. In this context, Pruitt-Igoe was a public housing complex. It spanned 57 acres and was situated in the northern part of the city, predominantly in an African American community, and was to be utilized for slum clearance under the postwar urban renewal program. Federal support was obtained by St. Louis in 1950 to build 5,800 public housing units. Of these units, the St. Louis Housing Authority designated around half for Pruitt-Igoe. It was anticipated that this 2,700-unit complex would house 15,000 people, surpassing the earlier slum regions' population density (Cherniawsky, 2020, p. 3).



Figure 2.1: Pruitt-Igoe (Elemental, 2013).

Pruitt-Igoe's early years were characterized by a relative sense of satisfaction among its residents, despite the usual drawbacks of high-rise, low-income housing, such as high density, noise pollution, heavy traffic, and a lack of nearby amenities like pharmacies, grocery stores, schools, and childcare facilities. The community benefited from a peaceful blend of traditional families, low-income persons, single-parent homes, and welfare recipients—a blend that was formerly seen to be a sign of efficient public housing administration. Through the government 235 program, property speculators enticed locals to purchase dilapidated homes in the surrounding neighborhoods, many of which were wildly overpriced and unmanageable. Simultaneously, the federal government changed the requirements for entrance to public housing, enabling numerous welfare-dependent families to come in who had previously been turned away. Consequently, Pruitt-Igoe turned into a repository for those rejected by other housing projects within the city. Demographic changes and suburbanization were some of the conditions that laid the groundwork for the decline in occupancy rates, this in turn led to a host of subsequent problems such as maintenance, increased crime and stigmatization. The persistent issues of destruction, escalating crime, and financial woes led to several attempts to revamp Pruitt-Igoe. In 1965, the complex received the first in a series of federal grants aimed at refurbishing the physical structure and

initiating social programs to support the inhabitants and mitigate the increasing rent delinquencies. Nevertheless, these initiatives had minimal impact: the decline in occupancy persisted, criminal activity rose, and basic management and upkeep were largely ignored. By 1969, a protracted nine-month rent strike by residents at Pruitt-Igoe and two other public housing projects in St. Louis further taxed the Housing Authority's meager resources and drove the number of unoccupied units to H.U.D. threatened to close the development. To ascertain the most cost-effective method of demolition—whether through implosion or traditional wrecking ball techniques—all remaining residents were relocated to eleven structures within the complex (Cherniawsky, 2020, p. 5).

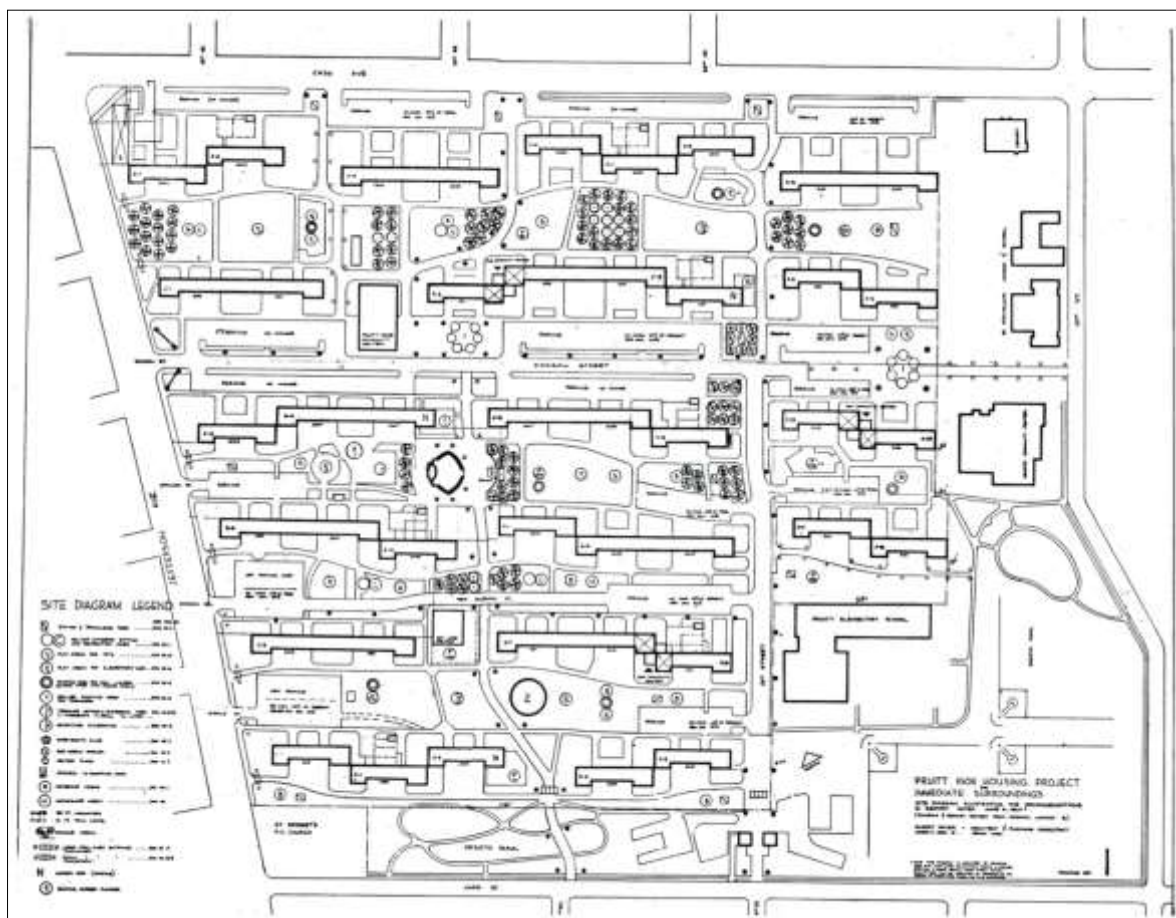


Figure 2.2: Pruitt-Igoe Site Plan (Elemental, 2013).



Figure 2.3: Pruitt-Igoe Destruction, 1972-1976 (Elemental, 2013).



Figure 2.4: Pruitt-Igoe Destruction, 1972-1976 (Li, 2019).



Figure 2.5: Map Location of Pruitt-Igoe (Google Earth, 2024).

By evaluating a selection of global case studies, the study contrasts incremental housing strategies with traditional mass housing models to highlight their successes and failures. The projects under evaluation include

- a. PREVI Housing Project (Peru, 1960s-1970s) — The PREVI Housing project (Lima, Peru, 1960s-1970s) was an experimental initiative involving international architects to design modular, expandable homes for low-income families. Its creative strategy, which prioritized community cooperation, adaptability, and high-density, low-rise design, made it a global standard for incremental housing.
- b. Villa Verde Housing Project (Chile, 2010s) — A successful incremental housing initiative by Elemental, which prioritized resident participation and flexible design to empower low-income communities.
- c. Quinta Monroy (Chile, 2003) — Alejandro Aravena’s pioneering “half-house” model, offering basic but expandable structures that allow families to incrementally upgrade their homes.

2.3.1 PREVI Housing Project (Peru, 1960s-1970s)

During the 1968–1975 PREVI Housing Project-Lima, Peru, a globally diversified group of the period’s most famous architects, including Christopher Alexander from the US, Charles Correa from India, Atelier 5 from Switzerland, and James Stirling from the UK, had the



Figure 2.7: Aerial view of PREVI Housing Project (Peter Land, 2012).



Figure 2.8: PREVI Housing Project Walkways View (Antonia Herten, 2012).

The dearth of resources that defines social housing projects has a number of effects on the general standard of the homes, especially their propensity to lose value over time and their incapacity to adjust to families' changing demands. Families' attempts to alter their properties must be considered when designing projects that maintain the integrity of the built environment while being flexible. Recognizing that housing is a dynamic process that influences the efficacy of public spending is even more important. As property values rise, residents' quality of life is directly impacted, either by higher living standards or by more money that permits moving to a better home for the family, or a more affluent area (Takeuchi & Guatelli, 2020).

The PREVI community was designed to grow; its urban design opposes a higher density while allowing for the interventions of individual families, raising the neighborhood's and the properties' values. For low-income families, it is an illustration of how such value increases have enticed future generations to stay in the same neighborhood, halting the cycle of decline that happens when family incomes rise and their homes can no longer accommodate their new goals.



Figure 2.9: PREVI Housing Project Play Ground (Antonia Herten, 2012).



Figure 2.10: Small Plaza with Concrete Furniture (Antonia Herten, 2012).

The PREVI project was successful in providing metropolitan-scale infrastructure and services, as well as a complex system of public areas that connect each plot and indicate the several ways to get about, which would have been extremely challenging to accomplish in a low-income neighborhood otherwise. It was the foundation of an incomplete city that was intended to be self-completed; nonetheless, the community eventually went beyond the original plans to create a vibrant economy and a viable neighborhood, demonstrating the delicate balance between free market design and economic planning. The PREVI experience highlights the need of having a planning team that takes a holistic approach to urban planning since only with a deep and cooperative comprehension of the urban phenomenon outside of the residential can optimal strategies be developed that allow the project's eventual users to continue its development. PREVI's technique encompassed the following scales: the neighborhood scale (service delivery), the metropolitan scale (connectivity), and the nearby scale (plaza and pedestrian corridor network), and the housing scale (extension methods) (Gyger, Helen, 2013).

The needs of the family greatly influence how a residence is transformed. However, a home's potential development is also influenced by its placement amid a diversified urban

environment. The many elements of community design have a direct impact on the establishment of new applications outside of residential. Convenience stores have been built on the premises in PREVI that front the peripheral roads that connect the neighborhood to the city. There are several stores on the main pedestrian strip as well, but they are more like neighborhood corner stores. Since the houses surrounding the central park have been converted into a school and a few nurseries, more time is spent in public, which is used for a range of purposes. Understanding the geographical patterns of new uses like these enables the design of a neighborhood that is ready for change, free from overly restrictive or generic zoning, and that encourages entrepreneurship (by creating new family companies) to boost the local economy (García-Huidobro et al., 2011, p. 28).



Figure 2.11: Intimate Public Spaces (Antonia Herten, 2012).



Figure 2.12: Pedestrian Spaces (Antonia Herten, 2012).

There are several reasons why the PREVI project is significant. It was first and foremost situated within the broader framework of the informal city's logic. Along with all the various or standard styles of architecture and urban planning, the self-constructed city—which consists of homes built by their residents—played a significant role at the time, particularly in that context. It continues to be relevant in Third World cities today. The procedure is the second explanation. The PREVI was the outcome of a somewhat intricate process that involved 13 local and 13 international architects, multiple competitions, and, in the end, the creation of a new community made up of patchwork-like pieces created by numerous agents. Peter Land was commissioned by the United Nations to successfully oversee the design and implementation process. He put out a strategy with several components that were all related to the general form's larger scale. The outcome was a fascinating amalgam of elements that came together to form a whole. The impact is still evident now, and self-construction and the years that have passed have increased its significance and level of attention. The third factor contributing to the project's significance is the public area's function as a unifying element, similar to cement, which unifies the documentation of the constructed elements. When viewed with the emotion of an archeological gaze, these tiny voids—which were

created by Aldo van Eyck using prefabricated parts from a limited palette—continue to speak of the architecture's strength and potential (Kahatt, 2011).

2.3.2 Villa Verde Housing project (Chile, 2010s)

The Chilean corporation Arauco hired Elemental in 2009 to design a housing plan for its forestry workers near Constitucion, a tiny city in southern Chile, after being inspired by the Quinta Monroy project's success. The result was Villa Verde—a designed community of 484 residences, three community buildings, and open spaces, including playgrounds and sports fields. Elemental's plan was supported by both public and private financing, with a highly sophisticated design solution. It would incorporate the "half a good house" concept, widely applied to slum renewal, into a mixed-fund housing program to assist both needy firm employees and others who had been displaced in a recent earthquake. This added a dimension for post-disaster recovery. Arauco funding allowed for the construction of roughly 40 square meters for each dwelling (Marinovic, 2020).



Figure 2.13: Villa Verde Incremental Housing (Wibowo & Larasati, 2018).

The design was to encourage homeownership over renting with the subsidies serving more or less as a stepping-stone to the private housing market so that residents can take advantage of possible capital appreciation. The objective of the program was to have owners rehabilitate and enhance their homes with quality upgrades. Because of Chile's susceptibility

to strong earthquakes, light-weight timber framing was used in the construction of the resettlement project, which was spurred by a large earthquake in 2010. This approach is appropriate for the densely forested area since it is seismically resilient and enables locals with modest building experience as well as local contractors to gradually expand and modify the project, in line with the community's ability to make incremental investments (Elemental 2013).

The principal architectural form taken is that of a "row house" format, including shared walls with the houses to either side-similar materials and well-thought-out plan and façade design designs. Each house has a base structure of 3 x 7, 42 square meters in total for the two-story area. Each unit has a unique aspect due to its gabled roof, which mainly consists of continuous rows of gables. The dwellings were aligned to minimize sunlight exposure and natural vistas, even though the urban plan was designed for mass manufacturing and utility provision. This meant that a lot of ground leveling was necessary. There are recreation grounds and community facilities spread out around the estate (Wibowo & Larasati, 2018, p. 4)

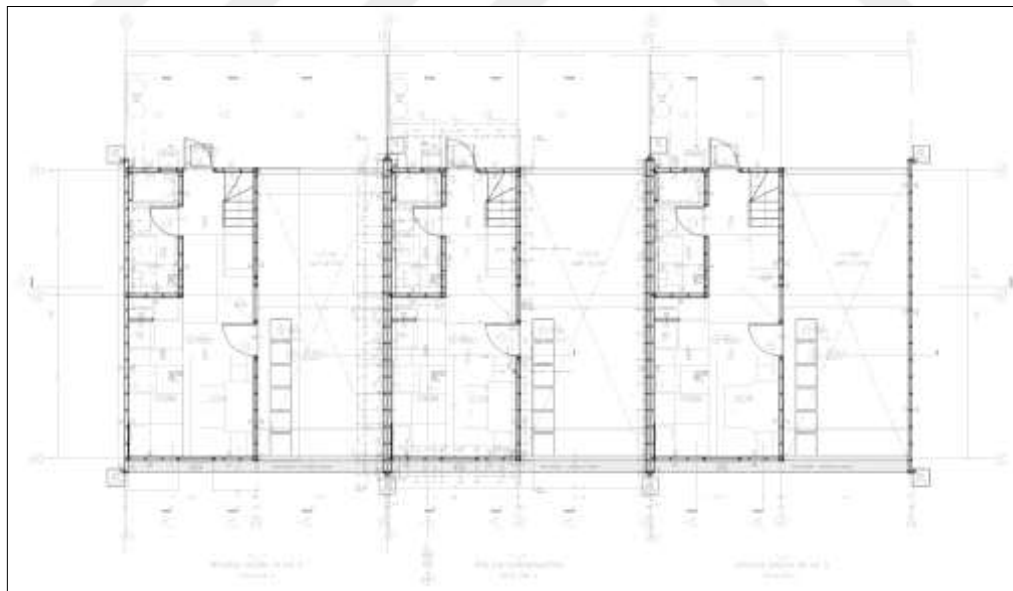


Figure 2.14: Villa Verde Floor Plan (Wibowo & Larasati, 2018).

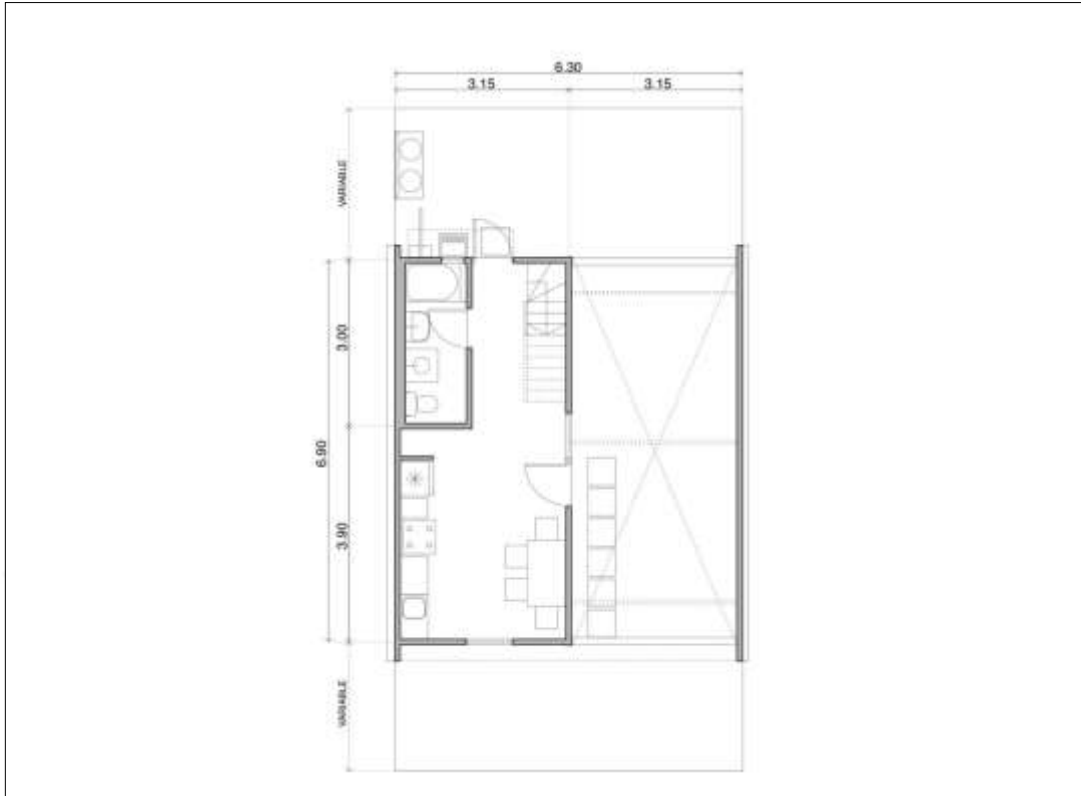


Figure 2.15: Villa Verde Single Floor Plan (Wibowo & Larasati, 2018).



Figure 2.16: Villa Verde Incremental Housing (Elemental, 2013).



Figure 2.17: Villa Verde Incremental Housing Construction (Elemental, 2013).

The base house: Elemental has considered the expectations and needs of households when implementing incremental housing projects. This approach is divided into four key phases:

Phase A - focuses on organizing families living in informal settlements and preparing them for their transition to new housing arrangements.

Phase B - entails providing these families with a basic structure known as a 'base house.' This is a rudimentary living space that includes the essentials but remains incomplete.

Phase C - is about supporting these households as they invest in expanding their base house to meet evolving needs, such as family growth or increased income.

Phase D - looks towards the future, allowing for the customization and personalization of the base house as the residents' circumstances and desires change (Marinovic, 2020, p. 171).

The base house's original spatial layout determines how well this incremental housing approach works. This first apartment is purposefully left incomplete to enable inhabitants to make incremental improvements and investments based on their individual needs and financial capacity. Margarita Greene emphasizes that the core of the incremental housing process is this phase, which involves customizing and enlarging the foundation dwelling.

Here, the input and efforts of the residents turn the basic structures into dwellings that fit their individual goals and lives (Marinovic, 2020, p. 172).

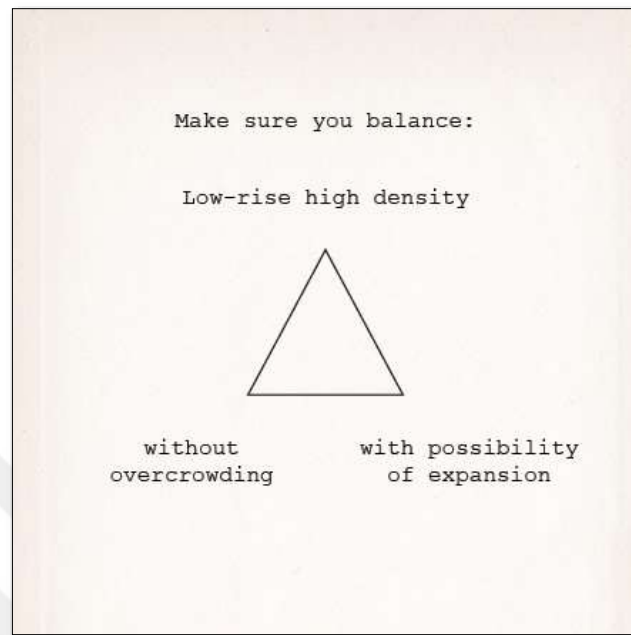


Figure 2.18: Incremental Housing Design Principle Triangle (Elemental, 2013).

2.3.3 Quinta Monroy Housing Project (Chile, 2003)

Alejandro Arevena designed the incremental housing project Quinta Monroy in Chile. Alejandro's architecture was primarily based on the principle that people should come before status or beauty. The crises in the majority of developing nations and the demand for housing worldwide serve as the project's guiding principles. The goal of affordable housing was to include common people in the planning, design, and construction process based on their socioeconomic situation (Carrasco & O'Brien, 2021).



Figure 2.19: Quinta Monroy Housing Project (Carrasco & O'Brien, 2021).



Figure 2.20: Quinta Monroy Housing Project Site Plan (Carrasco & O'Brien, 2021).

Such urban architecture is needed worldwide. As urbanization has never been more prevalent, over 200 million people—two-thirds of all urban residents—reside in slums, exacerbating today's housing crisis more than ever. Single-story buildings, poor construction, poor design, unsuitable locations, crowding, and a lack of security are common characteristics of affordable or low-income housing. Around the world, architects have been coming up with creative solutions to the problem, such as 3D-printed homes in China, straw walls for building, and affordable coverings for dirt floors in Rwanda (Wibowo & Larasati, 2018).

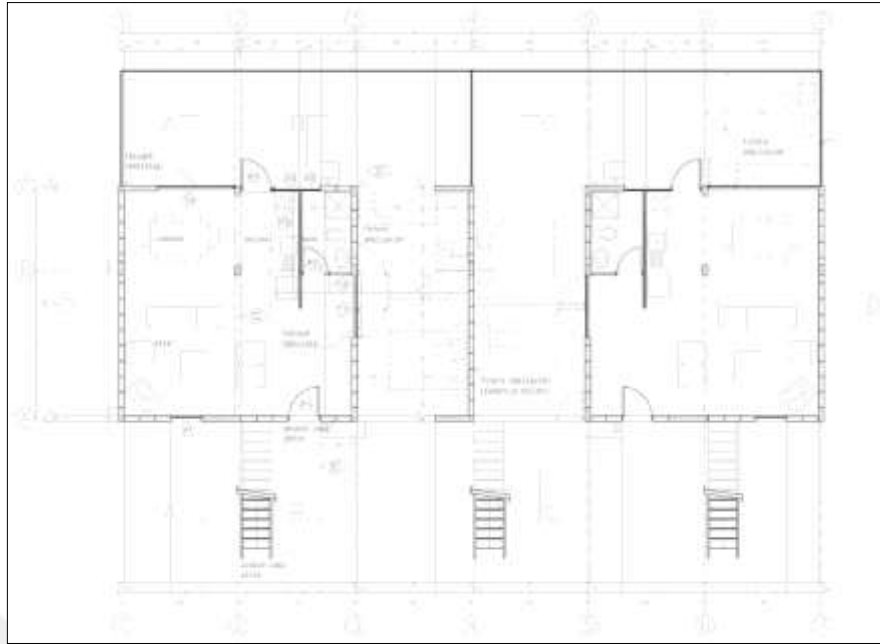


Figure 2.21: Quinta Monroy Housing Project Floor Plan (Carrasco & O'Brien, 2021).



Figure 2.22: Section View of Quinta Monroy Housing Project (Wibowo & Larasati, 2018).

Alejandro's methodologies were old, just like the houses themselves. Incremental construction refers to the process wherein homeowners modify and expand their residences in accordance with their preferences and resources over time. The process is crucial as the impoverished cannot afford to purchase completed dwellings outright. Similar to others, low-income individuals also seek to make modifications and expansions, which occur over time as resources become increasingly accessible to them. Alejandro offers inhabitants

partially constructed homes, which the owners then finish over time. This method offers participants quality housing and living conditions while granting them the possibility to possess customized dwellings. Residents of one of Alejandro's developments refurbished gray buildings by making room sizes bigger, adding colors, finishes, and furniture. The transformation improved neighborhoods to make them more beautiful while addressing the community's unique needs (Carrasco & O'Brien, 2021, p. 7).



Figure 2.23: Quinta Monroy, Iquique Project (Carrasco & O'Brien, 2021).



Figure 2.24: Interior View (Wibowo & Larasati, 2018).

These types offer numerous advantages. The construction approach arranges the buildings in rows, allowing the upper stories or foundations to be added later. The goal is to enhance initiatives that decrease land occupation and give lower-income groups access to places of

employment and other admissions that would otherwise be costly. The field of mass housing and social housing has not yet adopted incremental housing concepts. The development of incremental housing has been hampered by a reluctance to embrace new architectural techniques, materials, and technology. Alejandro wants more administrations and governments to adopt incremental housing and raise the living standards of the low-income population (SAIDU, 2022).

In Alejandro's opinion, incremental housing: Approximately 3 billion people reside in cities worldwide today, and at least 1 billion of them are below the poverty level. According to estimates, there would be 5 billion urban dwellers and about 2 billion individuals living below the poverty line. According to these estimates, we will need to develop a metropolis that can accommodate one million people each week until 2030, with a budget of about 10,000\$ per family. Given the severity of the housing shortage at this time, it will take both building capacity and personal resources in addition to those of government and market to overcome such issues. This would make people part of the solution instead of part of the issue. Proper management of all resources at hand can help to stem the crisis. But with the absence of adequate resources to accommodate rising demand for housing, displacement and shrinking of housing space have become common. Shrinking of housing space is referred to as downsizing, and it can deteriorate living conditions and force residents to shift to lower-quality areas that have lower-cost land. Tragically, this tends to move them far away from economic opportunities that attracted them to urban areas to begin with. (Elemental, 2013).



Figure 2.25: Quinta Monroy Housing Project (Wibowo & Larasati, 2018).

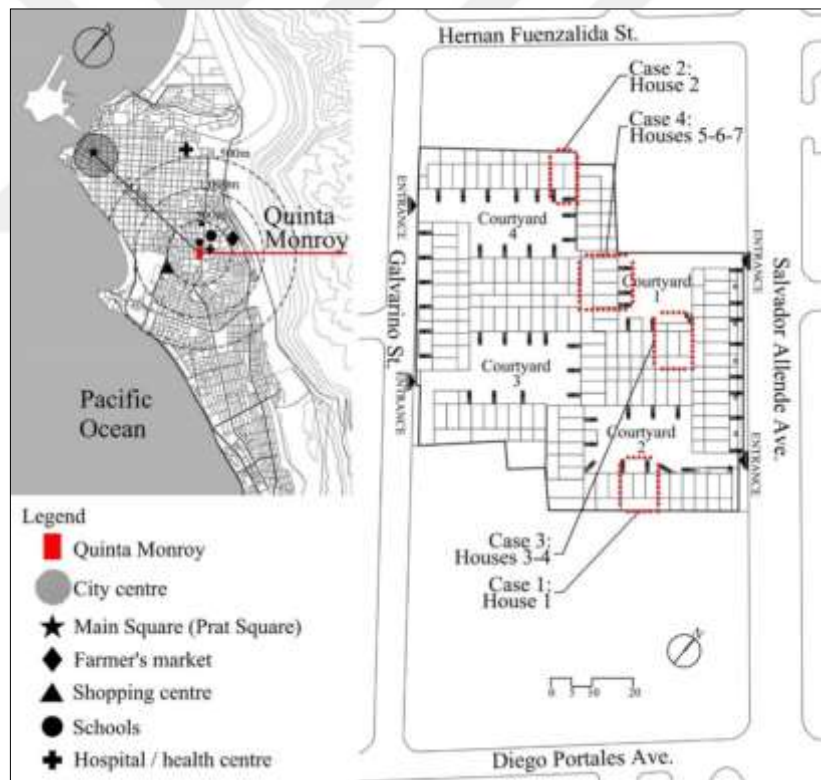


Figure 2.26: Map of Quinta Monroy Housing Project (Carrasco and O'Brian, 2021).

Alejandro put up the idea of incremental housing as a solution to the housing scarcity. Alejandro asserts that three aspects must be given priority if it is not feasible to solve everything at once:

- a. Work that must be done in partnership.
- b. Actions that will have lasting positive effects on the community.
- c. Aspects that are more challenging to implement.

These principles form the foundation of Incremental Housing, designated as the "ABC" approach:

- a. The structure of the building must be open-plan to facilitate expansion later. If a small initial project is started, provision must be made to permit organic expansion.
- b. The design should uphold quality living standards with such essential amenities as good parking areas, large-size rooms, bath tubs, and other functional amenities.
- c. Urban Design: Public spaces have to be integrated around private areas to allow social interactions and consensus building among communities.
- d. Balance in Long-term Development: The original building must be planned with care so that infrastructure that is needed is present. This allows residents to develop, adapt, or complete their homes willingly and not necessarily out of compulsion.
- e. Location: The location must be carefully selected in order to effectively serve residents. A poorly planned location would result in higher access costs to facilities, essentially defeating the aim of the project (Marinovic, 2020).

2.4 SECTION RESULT

Exploring mass housing and incremental housing projects (Pruitt-Igoe housing project) in contrast, (PREVI housing project, Villa Verde housing project, and Quinta Monroy housing project) has provided important understandings of the difficulties and opportunities in housing development. As these case studies show, context-sensitive design, community participation, and flexibility are important when housing needs are addressed, especially in low-income and resource-constrained places.

Pruitt-Igoe, a truly large-scale housing project, descriptively depicts an important cautionary tale, comprehensively showing the many pitfalls of strictly top-down approaches, seriously inadequate maintenance, and virtually absent community engagement. Its failure

points out the necessity of housing solutions that are always flexible, invariably sustainable, in addition to being fully responsive to all socio-economic circumstances of residents. In contrast, the incremental housing projects demonstrate how communities can be empowered to take part in their own housing development. The emphasis of projects like, Villa Verde and Quinta Monroy is on providing a fundamental structural underpinning that enables homeowners to gradually add on to and modify their homes, encouraging a sense of flexibility and ownership. Comparably PREVI housing project demonstrate how cultural and environment factors can be integrated to provide housing options that are not only practical but also sustainable and culturally appropriate.

These teachings are especially pertinent to Zamfara State, Nigeria. Rapid urbanization, lack of funding, and population growth are some of the state's major housing issues. Because it offers scalable, cheap, and participatory housing alternatives, incremental housing presents a workable solution. The government can offer core housing units in a staggered manner, allowing residents to expand as their financial circumstances improve. This ensures long-term sustainability while lessening the initial cost impact. Involving local people in the design and execution process can also improve cultural relevance and provide a sense of ownership, which lowers the possibility of abuse of desertion.

Together, these international models promote hybrid approaches in Zamfara, which combine community-driven customizing with state-supported infrastructure (tenure security, foundations). Zamfara can create incremental housing that is affordable, flexible, and resilient to its particular socio-political and environmental issues by taking note of Pruitt-Igoe's mistakes and implementing the participatory concepts of PREVI/Elemental. In addition to meeting urgent housing requirements, such a strategy would enable local communities to responsibly influence their built environment. Additionally, using traditional building methods and local resource can boost local economies and lower expenses. Finally, institutional capacity, efficient legal frameworks, and inter-sectoral collaboration among the public, private, and community sectors will be needed to effectively implement incremental housing in Zamfara State, Nigeria.

Ultimately, this case study demonstrates that incremental housing is not simply a functional response to housing shortfalls but also a tool of community empowerment and sustainable

development. By applying such lessons, Zamfara State can develop housing policies that respond to its particular challenges and ultimately enhance residents' quality of life.



3. BRIEF HISTORY OF NIGERIA

The Federal Republic of Nigeria is a West African nation that shares borders with Cameroon and Chad to the east, Niger and Benin to the north, and the Atlantic Ocean to the south with a coastal length of approximately 800 kilometers. It covers a land area of approximately 923,770 square kilometers and is Africa's largest country and 32nd largest worldwide. It is divided into 774 local government areas, 36 states, and the Federal Capital Territory. It is split into six geopolitical zones for administrative purposes: North-Central, North-East, North-West, South-East, South-West, and South-South (Adedeji et al., 2023, p. 433).



Figure 3.1: Map of Africa Highlighting all Nigeria (Sunny Ibeneme, 2018).

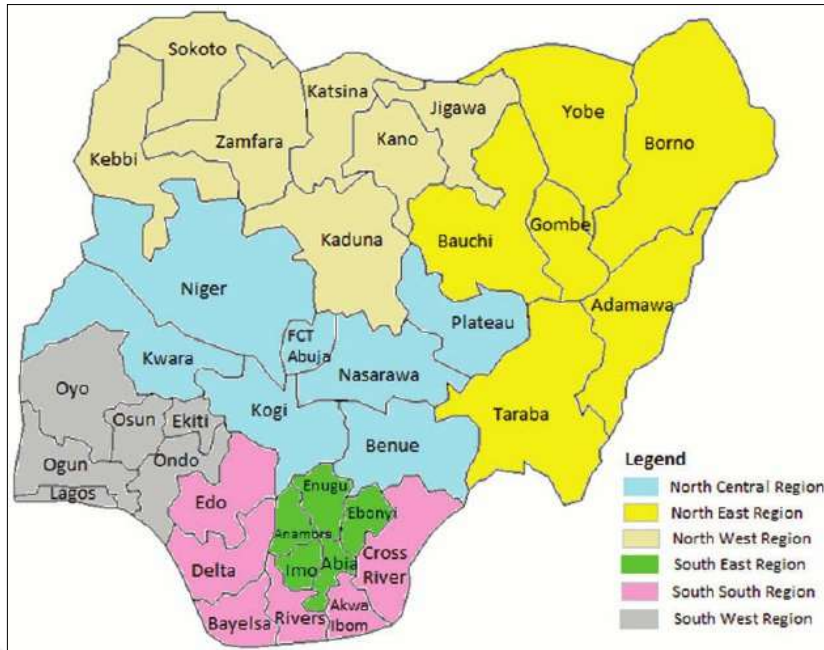


Figure 3.2: Map of Nigeria Showing all State, FCT, and the Demographic Regions (Ezra gayawan et al, 2014).

The country operates under a system of government which is made up of 3 distinct branches: The National Assembly, the Executive, and the Judiciary. In order to maintain checks and balances in governance, these branches are intended to supervise and counterbalance one another. The Hausa-Fulani in the north, the Igbo in the southeast, and the Yoruba in the southwest make up its three main ethnic groupings. These regions are known as the North, the Southeast, and the Southwest. Nigeria has a patchwork of approximately 300 ethnic groups, including numerous minority tribes, that extend beyond these main groupings (Omole, 2010).

Over 200 distinct ethnic groups called Nigeria home prior to the arrival of colonial control; each of these groups operated as a separate community with its own distinct history and culture. Nigeria was ruled by the British as two distinct states, the Northern and Southern Protectorates, during their colonial rule. For administrative cost-saving measures, several protectorates were combined in 1914, creating provinces in the process. The Southern Province was then divided into the Eastern and Western Provinces in 1939. The British established unique administrative structures for various areas, leading to disparate regional developments. Nigeria's growth was significantly impacted by the colonial era, which began in the 19th century. Numerous managements, financial, and urban development methods

were created by the British colonial authority. The government-built ports, railroads, and roadways that would primarily help them economically during that time. These were put in place to make raw material extraction and exportation easier (Ali et al., 2019). This led to an uneven growth and development across the country (Adedeji et al., 2023, p. 432).

Table 3.1: List of Nigerian Demographics (Metu, 2016).

S/no	Region	States	Capitals	No of LGA
1	North East	Adamawa	Yola	21
		Bauchi	Bauchi	20
		Borno	Maiduguri	27
		Gombe	Gombe	11
		Taraba	Jalingo	16
		Yobe	Damaturu	17
2	North Central	Benue	Makurdi	21
		Kogi	Lokoja	21
		Kwara	Illorin	16
		Nasarawa	Lafia	13
		Niger	Minna	25
		Plateau	Jos	17
3	North West	FCT	Abuja	06
		Jigawa	Dutse	27
		Kaduna	Kaduna	23
		Kano	Kano	44
		Katsina	Katsina	34
		Kebbi	Birnin Kebbi	21
4	South East	Sokoto	Sokoto	23
		Zamfara	Gusau	14
		Abia	Umuahia	17
		Anambra	Akwa	21
		Enugu	Enugu	17
		Ebonyi	Abakaliki	13
5	South West	Imo	Owerri	27
				16
		Ekiti	Ado-Ekiti	16
		Lagos	Ikeja	20
		Ogun	Abeokuta	20
		Ondo	Akure	18
6	South South	Osun	Oshogbo	30
		Oyo	Ibadan	33
		Akwa Ibom	Uyo	31
		Bayelsa	Yanegua	08
		Cross River	Calabar	18
		Delta	Asaba	25
		Edo	Benin City	18
		Rivers	Portharcourt	23

After gaining independence in 1960, Nigeria adopted the British political system. Abubakar Tafawa Balewa served as the first prime minister, while Nnamdi Azikiwe was the governor general. Nigeria started down a path of rapid modernization and prosperity. This resulted in large national investments in healthcare, education, and infrastructure. Urban centers started

to expand as a result of economic diversification and industrialization. This system, however, was short-lived since the first of several military coups occurred in 1966. The nation was governed by a series of military administrations for 29 of the 33 years leading up to 1999, when democracy was fully restored (Ali et al., 2019).

Nigeria's primary source of income prior to the 1970s was agriculture due to the abundance of arable land in the north that could be used for both domestic and exportation purposes. Following the 1970s oil boom, which made the nation the richest in Africa, all focus switched from agriculture to oil. People have moved from rural to urban regions as a result, seeking better opportunities. Nigeria is rapidly becoming a more urbanized country; in 1993, just 38% of the population lived in urban areas; today, nearly 50% do (Farrell, 2018).

3.1 DEMOGRAPHY OF NIGERIA

Nigeria is the most populated nation in Africa and the sixth most populous in the world, with an estimated population of over 220 million. According to United Nations estimates, nearly 400 million will be inhabiting the country by the end of 2050. The Economic Trading Report from 2016 states that roughly one person in every 43 people on the planet is descended from Nigeria. With a population that increased from 143.3 million in 2006 to 182 million in 2016 and 223 million in 2023, Nigeria has seen tremendous population growth over time. The population density per square kilometer has increased as a result of this population expansion, going from 149.3 in 2004 to 180.3 in 2012 and 246 in 2023. This quick population growth has two drawbacks: it puts pressure on the infrastructure and services that are already in place, particularly in urban areas, and offers prospects for economic growth and a sizable labor force. The need for housing is under tremendous strain due to population increase and density. Unfortunately, the demand for housing has outpaced the supply, leading to an increase in slums and inadequate housing across the nation (M.H. et al., 2022).

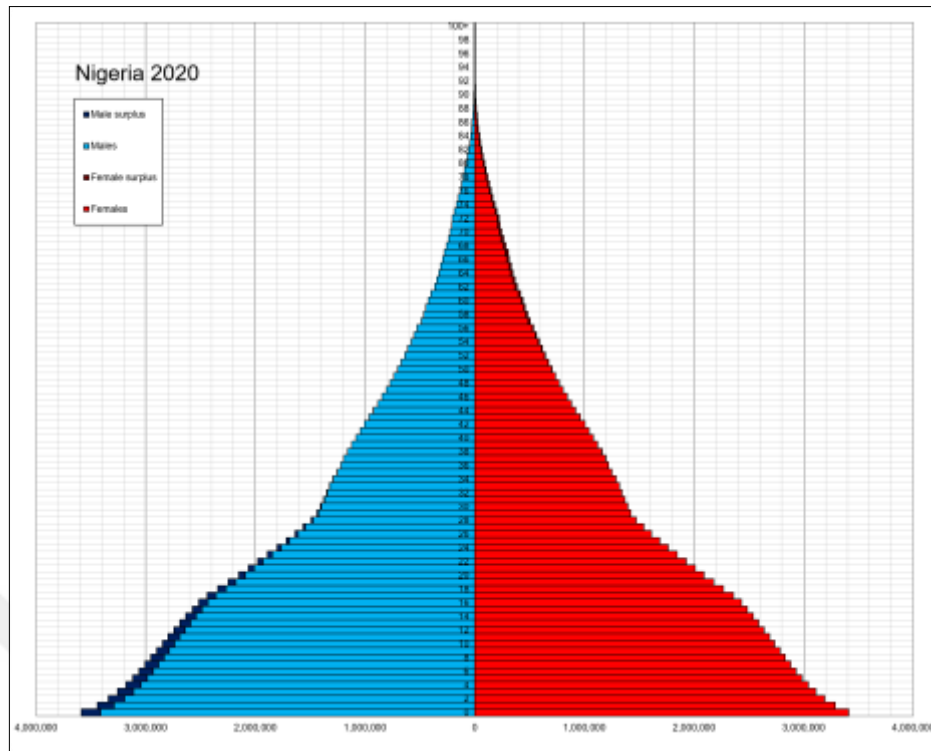


Figure 3.3: Nigeria Single Age Population Pyramid (TechCabal).

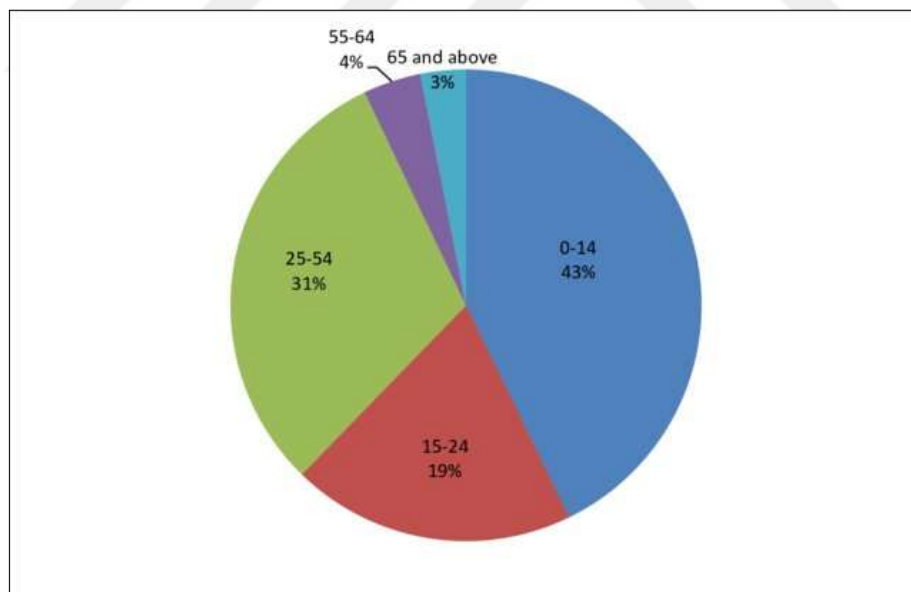


Figure 3.4: Nigeria Population in Percentage Distribution by Age (Oyewale Abioye, 2018).

3.1.1 Urbanization in Nigeria

Urbanization refers to population movement from rural to urban regions, a deep social transformation that has been observed worldwide. Urbanization is generally explained by

population movement to cities from rural regions, leading to population rise in cities. According to the United Nations report, population in cities around the world has grown four times since mid-20th century. It is significant that over 90% of this rise has occurred in metropolitan cities of developing nations. Demographic statistics indicate that in 2007 population in cities was at par with that of rural regions and has continued to rise ever since with a projection to reach over 5 billion by 2030. The population growth is predominantly in Asia and Africa that will have the greatest urban population. Over half of world's population is already living in cities today, and by mid-21st century nearly 70% of people will be living in cities. Urban growth is particularly rapid in cities of Asia and Africa with projections that urban population in developing countries will increase at a compound annual rate of 2.3% between 2000 and 2030 (Aliyu & Amadu, 2017).

There are several difficulties brought on by Nigeria's unrestrained urbanization and city expansion. Millions of people live in poor and cruel conditions as a result of urban regions growing without adequate planning, mostly in slums and improvised communities. These slums are typically located on unapproved, fragile sites, such as flood-prone locations, with a serious shortage of housing and basic facilities. Poverty and a lack of knowledge about the dangers involved among the populace are the main causes of the living conditions in these hazardous areas (Bocquier, 2005).

The provision of land and housing in metropolitan areas is mostly driven by the informal housing sector, which accounts for 20–40% of the physical growth of a city. These neighborhoods are mostly occupied by the impoverished and frequently lack basic amenities. These housing settlements don't draw formal financial institutions because of their informal nature. As a result, in these areas, mortgages usually avoid funding. This means that the meaningful funds for housing, whether ownership or rental, come from individual savings, phased construction, and other unconventional techniques. However, worse still, ineffective lobbying, and the general inadequacy of initiatives meant to encourage structured development of urban centers have worsened the already existing challenges. According to the 2008 report published by the United Nations Human Settlements Program entitled "The State of African Cities", notable cases of both urban sprawl and urban corridor development have taken place in areas (Doling et al., 2013).



Figure 3.5: Urbanization in Nigeria's Largest Cities (UN DESA 2018).

3.2 AFFORDABLE HOUSING IN NIGERIA

The right to access housing, which is affordable, is among those that any person should have. Simply explained, affordable housing can be termed as a house for sale or rent intended to fall within the reach of those that lack the resources to get private housing. However, the phrase "affordable housing" provokes misunderstandings and different interpretations. It is referred to differently in various definitions from different platforms including; land-use planning, public housing regulations, aid program as well as academic research which considers home ownership, private rentals, and public rentals. Affordable housing tends to take into account the need of the people whose earning is inadequate or nil to offer them suitable dwelling. In addition to being reasonably priced, affordable housing should have all the amenities necessary for occupants' health, safety, and hygiene. Access to basic utilities such as potable water, energy for cooking, heating, and power, sanitary conditions, laundry facilities, and sufficient space for food storage and trash disposal must all be guaranteed to occupants of such housing. Furthermore, it is crucial that affordable housing be located in regions that are easily accessible to childcare centers, medical facilities, work possibilities, educational institutions, and other essential community services (Enwin & Ikiriko, 2023, p. 422).

Affordability of housing is mostly determined by income. A prevalent technique for evaluating home affordability involves examining the proportion of a household's earnings allocated to housing-associated costs. If housing costs too much for a family to afford, then

they shouldn't be able to pay for other necessities like food or healthcare. It's important to understand that "cheap" does not mean "low quality." Affordable housing should, in general, be livable, furnished with basic amenities, and located in areas that facilitate convenient access to necessary services, all of which contribute to a respectable standard of living. This includes being close to places of employment, medical facilities, and educational institutions (Adedeji et al., 2023).

This has prompted a controversy as to whether the dwellings should be inexpensive, low cost, social, or mass housing, according to the ministry of electricity, works, and housing. The word "mass" would suggest that we need to increase the quantum of housing being produced, delivered, and made available. We recognize its importance and are determined to solve it. But when it comes to concepts like "affordable," "social," or "low-cost," we think it's critically important to comprehend the viewpoint of our community. In order to find out what our inhabitants anticipate in terms of housing prices, we intend to conduct a nationwide survey and assess whether or not those expectations can be met. The pursuit of adequate and reasonably priced housing continues to be an unattainable goal for innumerable families in Nigeria. With great awareness of the large gap between supply and demand for affordable housing, it can be indicated for Nigeria. Because of such shortages, many Nigerians may have to suffer from high rents, inadequate living conditions, lousy quality of dwelling, and overall general housing insecurity, according to the Center for the Study of Social Policy (Ajayi Oluranti et al., 2016).

Affordable housing is essential to a country and its people, not just a building. Without it, people struggle financially, relationships within families and communities deteriorate, job prospects decrease, the economy falters, and environmental degradation worsens. The shortage of affordable housing in Nigeria is a widespread and serious issue and not merely a minor inconvenience. Realizing its importance, the primary goal of the national housing policy is to offer lower- to middle-income households quality moderately priced housing. Since many of these families are not financially independent, owning a home seems like a far-off goal. A more practical solution for them would be to expand the homes they presently reside in, which are frequently shared with other families, usually close relatives (Adedeji, 2023, p. 352).

3.3 SOCIAL HOUSING IN NIGERIA

Social housing is a generic term describing rental housing that may be owned or managed by the state or organizations solely for making it available to low-income earners. Social housing is sometimes used interchangeably with public housing, and it represents a housing arrangement where the property is owned by the government which could be at state or local government level. Basically, social housing involves housing options that are structured and funded in a manner that allows individuals with low or no income to have access to them while still being able to meet other essential requirements. Social housing is characterized by its emphasis on affordability and accessibility. This represents a critical instrument in addressing housing inequalities and alleviating the burdens of housing inadequacy (Ajayi Oluranti et al., 2016).

The social housing project was introduced in response to the historical underrepresentation of this group in previous housing initiatives. It appears that social housing is becoming a feasible option for the government to guarantee adequate housing for even the most disadvantaged members of society. Social housing is a cooperative endeavor between the public and private sectors that provides financial incentives to those in society who are less fortunate to get housing. The phrase "less privileged" usually describes those who make very little money, don't have a job, or are unable to independently find accommodation because of things like age, unemployment, poverty, or disability. But in this case, it's especially about Nigerians who make less than the minimum wage—that is, those who earn between salary grade levels 01 and 07 in the public sector or a similar amount in the private sector—and who donate 2.5 percent of their earnings to the National Housing Fund. It's important to remember that those using this program to get housing are required to have a steady source of income, either official or informal, in order to make their monthly housing payments. Nigeria's state-sponsored housing history began with the development of Festac Town in Lagos, which was built to house the World Black Festival of Arts and Culture participants in 1977. The housing units in this development included terraced houses, bungalows, semi-detached houses, and high-rise flats. In addition, the proposal featured a variety of social amenities, including playgrounds for children, police stations, places of worship, and educational institutions. Electricity, phone lines, and sewage systems were all taken into consideration as essential utilities (Omole, 2010).



Figure 3.6: Festac Housing Estate in 1977 (Nigeria Property Center).

Despite these extensive developments, it was evident when the housing was finished and during the first phase of distribution in the late 1970s that it was not affordable for the different income categories for whom it was designed. In response, the Federal Housing Authority recommended that in order to lessen the financial burden on purchasers, the state should subsidize some costs, such as infrastructure and land acquisition. With a nominal interest rate of less than 5% annually and a 20-year amortization period for mortgage payments, the suggested financial model meant that buyers would only have to pay for the fundamental expenses of the building's structure. Following its approval by the military government, this framework was implemented in all 12 of Nigeria's states at the time, and it still has an impact on housing laws in all 36 states as of right now. Festac Town is a notable example of a social housing project that broke new ground in Nigeria and had a big influence on the socioeconomic structure of the nation. It brought in a new allocation mechanism that improved the mortgage and housing markets and increased low-income people's access to homes (Adedeji, 2023, p. 356).

The lowest income earners in the country needed homes, therefore the Nigerian National homes Policy of 2011 was created to satisfy their requirements. The policy describes how subsidies might be used to increase the affordability and accessibility of housing, acknowledging that government action is essential. The main objective is to guarantee dignity and social stability by improving the well-being of the impoverished and vulnerable populations—that is, women, single mothers, the elderly, and the disabled—by giving them access to decent housing. The goal of the strategy was to provide opportunities for government agencies to show their support for social housing in order to address the significant housing shortfall, which was estimated to be between 16 and 17 million units in 2011. It aims to encourage investment, job creation, socioeconomic growth, and the use of regional building materials and technologies (Odoyi & Riekkinen, 2022).



Figure 3.7: Social Housing by Ministry of Work in Zuba (Niarametrics).

Completing unfinished housing developments, offering reasonably priced serviced plots, and resolving financial concerns are examples of strategic activities that might help low- and no-income earners. The policy promotes long-term mortgage options, the growth of microbusinesses within housing developments, and the participation of non-governmental organizations and other groups in the building of social housing. Offering a range of architectural designs at reasonable prices in order to accommodate different cultural requirements is emphasized. In addition, the policy backs community urban upgrading

initiatives, the creation of housing cooperatives and associations, and the distribution of land for affordable housing (Adedeji, 2023, p. 360).

Despite these initiatives, the strategy has come under fire for placing an excessive amount of emphasis on house creation in the absence of a long-term plan for the upkeep and administration of these social housing complexes after they are built. A paradigm that guarantees the ongoing provision of affordability, safety, accessibility, comfort, and security of tenure is necessary for sustainable development in the housing industry (Odoyi & Riekkinen, 2022).

3.4 PUBLIC HOUSING IN NIGERIA

The private housing sector has always been at the forefront in house construction, while the government has focused on mass public housing. Public housing projects were unable to assert a strong influence on the urban housing market through such means as reducing rental rates or starting a downward trend in the housing market. According to the Nigerian National Housing Policy, more than 90% of the nation's housing is supplied by the private sector. In this context, the term "private sector" refers to a variety of entities, including individual homebuilders, small construction businesses, real estate agencies, financial institutions, and business groups that make profitable investments in residential real estate. This indicates that, with the exception of those run by government agencies, almost all housing providers are included under the phrase "private sector" in this debate (Giannetti et al., 2018). The major actors in this sector includes individual houses, private profit firms, government owned residences and in general-mass housing (Wakely, 2016).

3.4.1 Individual houses

Within the Nigerian urban housing sector, individual and family initiatives are the most important source of private housing supply. According to the NHP report, this industry has continuously dominated Nigeria's housing market, making up more than 90% of the nation's total housing stock. Although these individual endeavors mostly provide rental housing in urban areas, their motivation is self-interest, leading to a diverse range of housing that accommodates different price brackets, from opulent residences to humbler and even unofficial, subpar lodgings. In urban households with low and middling incomes, individual contributions are particularly apparent. The bulk of urban households are situated in these

submarkets. To recoup their investment costs and increase their income, many homeowners rent out extra rooms or flats inside their homes. These property owners frequently grow their businesses by building and renting out additional homes for profit, particularly in impoverished areas and unofficial communities. These landlords frequently began their careers in these neighborhoods before moving to more affluent ones. The strategy of financing a first home through personal savings and independent work has its origins in traditional rural housing practices, which have greatly influenced comparable metropolitan traditions (Makinde, 2014).

3.4.2 Private Profit Firms

Particularly in the past few years, the private sector's role and magnitude in Nigeria's housing development have grown. A variety of developers are involved in this industry, including big local banks, multinational organizations, small and medium-sized property development firms, and traditional large-scale construction companies. Urban residential developments and other large-scale housing projects are among their specialties. Dantata & Sawoe, Jide Taiwo & Co., CmB Building Limited, and Ochacho Homes are a few of the companies in this category. These companies mostly concentrate on building upscale residential buildings in posh neighborhoods of big cities like Lagos, Abuja, and Port Harcourt, frequently on government-provided or prepared property. As a result, they primarily serve the upper echelons of the private housing market and are engaged in creating housing for corporate staff as well. Real estate in Nigeria is one of the biggest sectors in the Nigerian economy. Gated communities, which Nigerians call 'estates' are now the fastest growing types of housing in Nigeria. In Abuja alone, there are more than 200 estates, they are very popular because they offer a wide range of benefits for the population who can afford it. However, with the high cost of land, these estates are typically more expensive thereby only the middle- and high-income earners can afford them. They are very sought after by those who can afford it because they offer security, modern homes and a sense of community for the residents. Gwarimpa housing estate which is the single largest housing estate in west Africa with a size of 1090 hectares. Gwarimpa is so big that it is regarded as a district now in Abuja and it has more estates inside of it (Mahadevia et al., 2018).



Figure 3.8: Brains and Hammers Estate (TechCabal).

3.4.3 Government Owned Residence

These homes, which belonged to the federal or state governments and were leased or owned expressly for their employees. The majority of these residences are allotted to government employees and civil servants who hold specific posts and levels. They are provided for a low rent, which is usually taken out of their pay each month. This housing plan benefited a sizable portion of federal officials, perhaps 25%. Government residential areas (GRAs) and staff quarters for low-income employees of governmental agencies are the two types of government-owned housing. GRAs constitute feature of Nigeria's towns and date back to the days of the colonial period, when European Quarters were constructed in the 1920s to house increasing numbers of colonial administrators and business executives. These neighborhoods have some of the lowest urban dwelling densities, with about one unit per two hectares, thanks to their Western-style detached homes situated on large plots with lots of open space. Senior government employees have continued to receive subsidized high-end housing after independence thanks to these GRAs. You will now discover that many state government buildings, politicians, and wealthy individuals are situated in these GRAs. These

places are usually fully protected, well-served, and have adequate road networks (Odoyi & Riekkinen, 2022, p. 10).

The goal of the second type of government-provided housing is to give the most basic and reasonably priced housing possible to lower- to middle-level employees of various government organizations and parastatals, in close proximity to their places of employment. These are modest one- or two-bedroom units on smaller plots that are arranged as detached, semi-detached, block of flats, or terraced residences, in contrast to the more distinguished GRAs. Even though these neighborhoods are densely populated, they usually have all the utilities and basic amenities that make living there more comfortable than in other impoverished and crowded places, and because of subsidies, they are also more affordable (Ajayi Oluranti et al., 2016).



Figure 3.9: NNPC Quarters Abuja (TechCabal).

Nevertheless, with a shift in policy to reduce federal involvement in direct housing provision and in line with market-friendly civil service reforms, the government has implemented a monetization policy in the Federal Civil Service. This reform translates existing benefits like subsidized housing into cash allowances. It entails the sale of all government-owned and rented accommodations, previously offered at subsidized rates to about 25% of civil servants, through public auctions. Now, civil servants must secure their own housing but are

compensated with an accommodation allowance that ranges from 50% to 75% of their Annual Basic Salary, based on rank. Although the government defends this policy as a more efficient resource distribution and equitable provision method, it has faced criticism for potentially exacerbating the housing situation for civil servants who were better off under the subsidized system, as they may now have to resort to inferior housing in less desirable areas due to market rate pricing. The policy set the motion for a downward spiral in the housing structure in the country as it led to a shortage increase of housing units especially for the lower income class (Mahadevia et al., 2018).

3.4.4 Mass Housing

The other sector of public housing is the mass public housing initiative provided by the government for the general populace. This can be said to be the most talked about form of public housing, built by various government agencies at the federal and state levels. The actual building is carried out by private contractors who secure these projects through governmental bids. Upon completion, these properties are for rent or purchase to the public at below market rate (Wakely, 2016).



Figure 3.10: Mass Housing Unit in Abuja (TechCabal).

Nigeria's history with widespread public housing has been characterized by both aspirations and obstacles. The government's efforts to create cheap housing through a variety of tactics

have been beset by problems with process manipulation, misallocation, corruption, and poor coordination between the various levels of government. The Federal Housing Authority (FHA) and State Housing Corporations were involved in the founding of these organizations, however the public housing initiatives were not always executed to the full potential. For instance, only roughly 14% of the planned housing units were constructed between 1971 and 1995. These programs had lofty goals, such the 59,000unit construction plan for 1971–1975, which was only completed to a 12% degree. A scheme from the 1980s allocated ₦1.9 billion for over 200,000 units, but only 32,000, or 20% of the total, were completed. Further discontinuation of such programs came in the form of political tussles and shifts in government. The 1994 initiative of public housing with a target of 121,000 units was soon being seen as a failure themselves and required deep restructuring. FMWH and state governments continued to lay new projects for public housing throughout the late 1990s and early 2000s despite this failure. Put differently, the chronic problems in direct public housing provision in Nigeria represent a reflection of the complex interaction existing between policy, implementation, and socio-political dynamics. Due to structural inefficiencies and barriers at several levels of administration, providing housing at a reasonable cost to the public has proven to be an uphill battle (Ewurum et al., 2020).

4. ZAMFARA STATE HOUSING, A CASE STUDY

After examining the studies of earlier mentioned case studies, the study area of Gusau also seems to hold potential for the incrementation of housing. Gusau has been experiencing increasing uncontrolled overpopulation due to regional insecurity and natural migratory flows. The majority of displaced people cannot afford to settle in the city because it is more costly than their original homes. As a result, informal settlements have increased, leading to a high housing shortage with a majority of people being homeless. Gusau has been a refuge to people from neighboring states and villages over the past ten years due to it being relatively secure compared to ongoing insecurity in the country. The city's economic opportunities in business, mining, and agriculture have continued to attract more migrants, but affordable housing remains scarce.

4.1 HISTORICAL BACKGROUND OF GUSAU

Amongst Kano, Katsina, Gobir, Kebbi, and Zazzau Hausa city-states, Zamfara is reported to be among the oldest. The earliest people to inhabit Zamfara were reported to have been giant and hunting people who inhabited Dutsi as their original capital. The territory extended to River Rima bend to the northwest and to River Ka to the southwest, a River Sokoto tributary. The Zamfara Kingdom was established in the 11th century and flourished as a city-state until the 16th century. The capital relocated over time to Dutsi and Birnin Zamfara, reflecting the fortunes of the kingdom. The current state was established in the early 18th century after Birnin Zamfara was devastated by the Gobir Kingdom. Anka became the new capital by the second half of the 19th century (Fada & Abbas, 2023).



Figure 4.1: Map of Nigeria Showing Zamfara State (2024) (Google maps).

Yandoto City was one of several academic and commercial centers in Zamfara that attracted many scholars to the state. The city became part of the Sokoto Caliphate after Usman Dan Fodio's conquest in 1804. The city was originally settled by Usman Dan Fodio in Sabon Gari, where a garrison headquarters had already been established by Sarkin Zamfara Abarshi to act as a launching point to attack Gobir and Kebbi at the initial stage of the Jihad. The people of Zamfara had long desired to be free, and their independence was eventually achieved in 1996 with the formation of Zamfara State by the government of the late General Sani Abacha, breaking it off from Sokoto State. The state occupies 38,418 square kilometers and borders Kaduna State to the south, the Niger Republic to the north, Katsina State to the east, and Sokoto State and the Niger Republic to the west. Zamfara has a population of 5,833,500 as per the 2022 census and consists of fourteen local government areas. The newly established town of Gusau after colonization by the British developed into a main administrative and commercial center with road and rail connectivity. With the creation of

states during the Gowon Administration, Zamfara Kingdom became part of the then North West State and later the Sokoto State (U B Ibrahim et al., 2014).

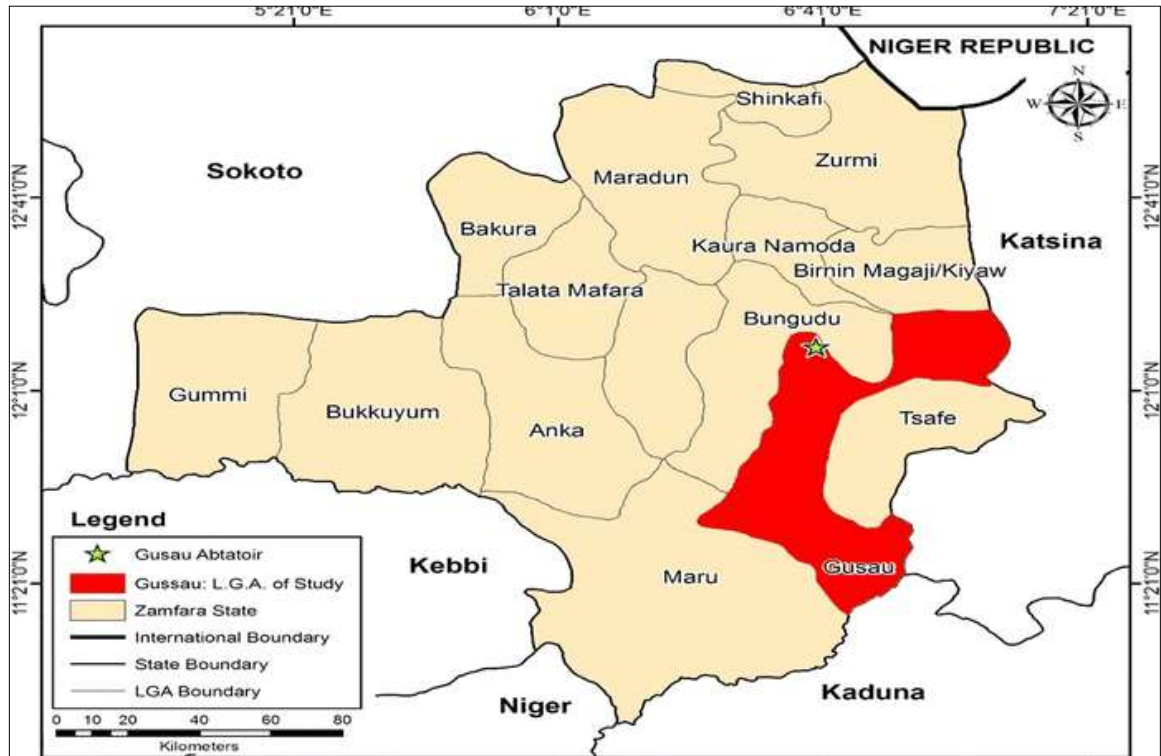


Figure 4.2: Map of Zamfara State Highlighting Zamfara State (2024) (Google maps).

Zamfara is a state located in Northwestern Nigeria with Gusau as its capital. The All Progressives Congress is represented in the state by Governor Dauda Lawal. The state was originally part of Sokoto State until it was separated to become an independent state in 1996. The Fulani and Hausa dominate Zamfara's population. Gobirawa people predominantly inhabit Shinkafi Local Government, while Zamfarawa people can be found in Anka, Gummi, Bukkuyum, and Talata Mafara Local Governments. Historically, Gobirawa migrated to their present location from Gobir Kingdom. The population of Burmawa is predominantly located in Bakura, while Fulani people can be found scattered around the state, particularly in Bungudu, Maradun, and Gusau. The Katsinawa, Garewatawa, and Hadejawa people dominate Tsafe, Bungudu, and Maru Local Governments. Zurmi and Kaura Namoda host members of the Alibawa community (Fada & Abbas, 2023).

4.1.1 Formal and Informal Settlements in Zamfara State

In Zamfara State, similar to other regions in Nigeria and worldwide, housing is categorized into formal and informal settlements, each exhibiting unique characteristics, access to services, and socio-economic conditions. Formal settlements adhere to established urban masterplans or planning frameworks, typically aligned with state urbanization policies. These areas generally encompass government-planned housing estates, regulated expansion zones, and residential districts that comply with standards established by planning authorities. Housing estates in planned areas follow architectural designs with adherence to building codes and construction procedure with assured access to basic services such as roads, electricity supply, and water supply. Middle and upper-class people who can afford buying at least a house in planned and regulated areas are those who pour into the estate (Adedeji, 2023).

Issues in Zamfara's formal housing process include ineffective governance, a lack of building regulation enforcement, and corruption. These factors contribute to or adversely affect compliance with the urban planning guidelines. These settlements have been developing over time, at a snail's pace and irregularly, with some areas of allotment still remaining scanty or inefficient in providing basic amenities. The cost of building materials, lengthy procedure of purchasing land, and securing building permits drive formal housing far beyond reach of low-income individuals and hence force them to settle in informal spaces (Anka & Gusau, 2019).

Slums or squatter settlements started multiplying more quickly in Zamfara from the beginning of the decade due to many socio-economic and environmental factors. Informal settlement, as a form of unplanned housing developed without any adherence to any planning requirements, has become a chronic feature in the state, particularly along the fringes of Gusau and other rapidly emerging towns. The growth of population, rural-urban migration, lack of agricultural lands, and drought conditions drive people from rural areas into towns and cities for economic reasons (Adedeji, 2023, p. 358).



Figure 4.3: Informal Settlements in Gusau (Author, 2024).

The informal housing section accommodates those people who cannot afford to stand the cost of living in the formal housing areas of Zamfara State. The majority of such inhabitants include people who earn very low incomes from subsistence farming, informal trade, mining activities, and other related low-income generating activities. Mining activities, in particular, attract intra-state and rural-urban migrants, leading to unplanned population growth in urban areas. Most migrants find living in informal settlements more attractive and affordable, instead of living in a formal house with the absence of basic amenities like paved roads, clean water, proper sewage systems, and reliable electricity (Kware, 2015).



Figure 4.4: Informal Settlements in Gusau (Author, 2024).

The configuration and living condition in informal settlement areas often reflect the economic constraints of the residents. Most of the houses are made from improvised

materials, like mud bricks, corrugated iron sheets, or wood. Besides, residents also build incrementally themselves as long as they can afford to. Houses are usually overcrowded as several families share small rooms in order to reduce rental expenses. Many residents would say that, despite challenges, the informal lifestyle meets their needs sufficiently through flexible housing modifications and low costs for basic services. Schools, healthcare facilities, and markets may have access to them in an informal manner, with the quality and reliability of those services often compromised (Anka & Gusau, 2019).

4.1.2 Settlement Data of Zamfara Region

Zamfara State is one of the northwestern states in Nigeria that is primarily rural and has lately undergone phenomenal demographic, social, and economic transformations. Continuous population growth related to migration and high birth rates has occurred without the rapid urbanization characteristic of larger cities such as Abuja. In addition, socio-cultural practices such as polygamy make for large households and, thus, further raise demands on already strained infrastructure and social services. This is a population growth not complemented by adequate housing provisions or proper urban planning, hence creating a huge shortage in the supply of housing (Orisakwe et al., 2017).



Figure 4.5: Displaced Migrants (Author, 2024).

With Zamfara being an economic endeavor for agriculture and artisanal gold mining, the place has been the destination of migrant people, particularly in the capital city and other major towns. With most of them not having decent, well-planned housing estates or low-cost housing programs, many of the residents live in informal settlements or squalid, poorly looked-after houses. Government interventions in the housing sector are minimal and, as a result, underperformance in the housing stock-either in quantity or quality-compared to demand is witnessed. This shortage in the housing supply translates into higher rental prices, thus forcing many families to live in precarious conditions devoid of basic amenities. The so-called basic amenities of electricity, clean water, and waste management are in grossly insufficient supply in housing areas. This causes the absence of potable water and appropriate sewage to increase the risks of waterborne diseases, with the rainy season being the high-risk period. Indeed, most of these communities rely on very old infrastructure, while new development efforts have stalled over the years due to insecurity, mismanagement, and weak governance (Anka & Gusau, 2019).



Figure 4.6: King Fahad Abdul-Aziz Hospital (Author, 2024).

The health sector truly reflects the infrastructural challenges that face the state. Although there is some health infrastructure, they are poorly equipped and poorly manned, unable to respond to the challenges of the growing population. The majority of people in the State, particularly in rural areas, have no access to health care services, and the health system has been stretched to cater to emergencies like outbreaks of infectious diseases and rising maternal mortality rates. The transport network in Zamfara is still very underdeveloped, with narrow and poorly maintained roads that do not allow the free movement of commodity

goods and people. This eventually affects access to economic opportunities and basic services, thereby contributing to poverty in many areas. These are exacerbated by the continuous banditry crisis that has discouraged private sector investment and resulted in the displacement of whole communities. Most of these displaced persons are now living in temporary camps, which adds to the congestion in housing and burdens public services. Without peace and stability, it is very difficult to undertake major infrastructure development, including housing programs (Anka & Gusau, 2019, p. 257).

These interrelated issues require a comprehensive response. The government will have to invest in affordable housing schemes, urban planning, and infrastructure to accommodate the rising population. It is also essential to enhance security and make healthcare facilities, education, and clean water accessible. Investments by public-private partnership could help in scaling up the provisions of housing and also help improve already existing infrastructure. If this is not done on time, the rising population will sooner or later outgrow the resources, and the sullen socio-economic problems of Zamfara citizens will hit the worse.

4.1.3 Characteristics of Zamfara State

a. Geographical Location

Zamfara State borders Sokoto, Kebbi, Katsina, Niger, and Kaduna states and the Niger Republic to the north. It lies within the Sudan Savannah bio-climatic zone with wide expanses of grasslands scattered with shrub and tree covers that are extremely well-suited to animal husbandry and agriculture. The state has a semi-arid type of climate with distinct rainy and dry seasons. The rainy season typically lasts between May and September while that of dry weather lasts between October and April with sporadic harmattan wind breaks (U B Ibrahim et al., 2014).

b. Demographics and Population

Zamfara mostly comprises a Hausa-Fulani demographic, among minor ethnic groups such as the Gwari, Kanuri, and Yoruba. Islam is the predominant religion, and the culture is profoundly entrenched in Islamic traditions. Polygamy and extended familial arrangements are prevalent, contributing to the state's elevated population growth rate. Gusau, the state capital, functions as the administrative and economic center, while neighboring towns such

as Talata Mafara, Kaura Namoda, and Anka are significant in regional trade and government (Bakura, 2022).

c. Economic Endeavors

Agriculture constitutes the foundation of Zamfara's economy, with extensive cultivation of crops like millet, sorghum, maize, rice, groundnuts, and cotton. Livestock farming, including cattle, sheep, and goats, forms a major economic activity with much trade being carried on in animal products. There is a large mining industry, notably for artisanal gold. Zamfara has huge deposits of gold, lead, and zinc, among others, but all these are dominantly excavated in an informal manner that has left the environment devastated and the population facing health challenges. The informal sector absorbs a great deal of the state's labor force, essentially through small-scale trading, local craftsmanship, and agriculture. However, potential growth in this area is minimal due to limited or no access to formal financing institutions and markets (Orisakwe et al., 2017).



Figure 4.7: Farm Land in Furfuri, Gusau (Author, 2024).

d. Infrastructure and Social Services

Infrastructure developments in Zamfara are minimal, roads are not so well developed, health centers are few and very far apart, and the electricity and potable water supply is not reliable.

Even the health and education sectors are suffering from some drawbacks because of inappropriate budgetary allocation and less personnel and infrastructural setup, although quite a few hospitals and schools exist. There is a shortage of housing in the state; most of its people stay in miserable huts. The rural areas are also highly neglected, which shifts the population to the capital and other major locations within the country (Orisakwe et al., 2017).



Figure 4.8: Hut Housing in Some Parts of Zamfara State (Author, 2024)..

e. Challenges in Security

Within the last couple of years, Zamfara has become the hotbed of banditry, kidnapping, and cattle rustling; these have really retarded the socioeconomic development of the State. Insecurity in the state has forced many rural dwellers to flee into either urban areas or IDP camps, thereby increasing the demand for housing and straining government services. With the state government only just initiating insecurity-addressing activities in cooperation with federal authorities, the situation remains volatile, continually affecting agricultural production and investment potential (A. Bashir & .A. Umar, 2022).

f. Cultural Heritage and Celebrations

Zamfara State is rich in cultural heritage because the people are conscious of preserving traditional Hausa-Fulani ceremonies through music, dance, and crafts. Durbar celebration during Eid holds a great significance for them because it features horse shows, music from

the ethnicity, and dressing up colorfully. Handicrafts traditions justify the local economy and represent the artistic heritage of the area: hand weaving, leather work, and ceramic work. When Zamfara introduced Sharia law into its legal system, it completely altered the social and political configuration of northern Nigeria, and soon enough, other state governments began to follow suit. This is one state that acts as a cultural hub, retaining most of the customs and practices native to the Hausa-Fulanis, to which the northern part of the country retains essentially (Bakura, 2022).

g. Religious and Juridical Frameworks

Zamfara became the first Nigerian state to introduce Sharia as its official legal system in 1999, and as such, it greatly influenced governance, social interactions, and public policy in Zamfara State. The decision led other northern states to introduce Sharia, showing the deep-seated entrenchment of Islamic principles into public life (Bakura, 2022, p. 139).

h. Significance of Agricultural Production in Zamfara State

Zamfara is important in Nigeria's agriculture because it contributes a great deal toward the production of nearly most of the essential commodities and animals of the entire country. More often than not, the agricultural production in Zamfara helps in food security for other parts of the country. Mining Industry and Economic Potential The gold reserves and other mineral resources of Zamfara provide significant economic potential. Despite the association of artisanal mining with environmental and public health hazards—exemplified by the lead poisoning crisis of 2010—the sector continues to be a vital source of employment and income. Enhanced regulation could enable the mining industry to significantly contribute to the state's economy (Orisakwe et al., 2017).

i. Optimal Positioning and Commercial Prospects

Zamfara's proximity to the Niger Republic border positions it as a significant participant in cross-border commerce, especially in livestock, grains, and various agricultural commodities. The state's closeness to commercial routes puts it as a prospective center for business between Nigeria and adjacent West African nations (A. & .A., 2022).

j. Obstacles and Function in National Security

The security issues in Zamfara, like as banditry, kidnapping, and communal violence, underscore the necessity for efficient government and national security measures. The state's instability has repercussions throughout northwestern Nigeria and necessitates coordinated

efforts to restore calm, positioning Zamfara as a central topic in security reform negotiations (A. Bashir & .A. Umar, 2022, p. 230).

k. Effects on Regional Development and Migration Trends

The rural-urban migration in Zamfara State reflects the larger trends of population mobility in northern Nigeria. The demand for housing, basic infrastructure, and other public services rises as a result of the migration wave into places like Gusau, further taxing the state's meager resources. This migration pattern affects regional urbanization trends and highlights the necessity for sustainable development policy (U B Ibrahim et al., 2014).

l. Prospects for Economic Diversification

Zamfara, with agriculture and mining already bolstering its economy, possesses the potential to diversify into agro-processing, trade, and tourism, particularly by capitalizing on its cultural legacy and handmade crafts. Nonetheless, this necessitates expenditures in infrastructure, education, and the development of human capital (Orisakwe et al., 2017).

4.1.4 Infrastructural Conditions in Zamfara State

In general, Zamfara State's infrastructure isn't very good and has to deal with a number of problems.

a. Roads

A lot of roads, especially in country areas, aren't paved or aren't well taken care of, which makes getting around hard, especially when it rains. Some roads in cities like Gusau are paved, but the network isn't big enough to keep up with the growing population.

b. Electricity

The state's power supply isn't always reliable, so many places depend on generators or other energy sources like solar panels.

c. Water Supply

It's not easy to get clean water, especially in rural places. Most are using wells, which are generally neither clean nor functional, or boreholes and streams.

d. Healthcare

Although Zamfara has some public hospitals and clinics, they are characteristically understaffed, under-funded, and lack basic medical tools and equipment-all of which make healthcare less effective.

e. Education

The state has both primary and junior secondary schools, but most of them are poorly attended and dépourvus equipment; hence, that makes it difficult for many children to have a good education.

f. Housing

Due to the shortage of homes, many of them dwell in slums and other areas that lack good sanitation facilities or infrastructure (Anka & Gusau, 2019).



Figure 4.9: Infrastructural Condition In Zamfara State (Author, 2024).



Figure 4.10: Housing Conditions in Zamfara State (Author,2024).



Figure 4.11: Informal Settlements in Zamfara State (Author, 2024).

Zamfara State is a complex territory with a lot of opportunities for development. While there is great potential in agriculture, mining, and trade, the developments affecting it are stunted by underdevelopment in infrastructure, security, and governance. These are quite fundamental issues that need to be resolved if not only the standard of living of the citizens is to be realized but also the entirety of the economic potentials of the state towards the regional and national development. Infrastructure in Zamfara is struggling to keep at pace with augmenting needs. Bad leadership, safety concerns, and a lack of financial resources have further increased challenges to growth. Through good administration, security reforms, and strategic investments in critical areas, Zamfara may become a significant contributor to Nigeria's socio-economic framework.

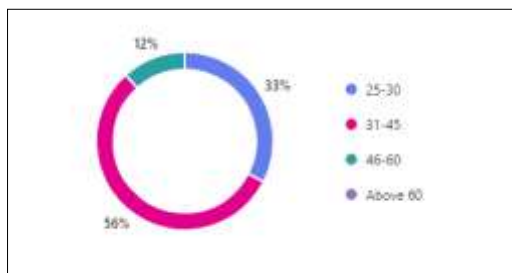
4.2 SURVEY ANALYSIS TO HOUSING SOLUTIONS IN GUSAU

Accounts in this chapter are based on information gathered from case study of Zamfara state and respondents living in different housing circumstances in Zamfara State, the majority of whom are from the low-income group. Each inquiry to the residents was divided into five sections including: demographic understanding of the respondent, current housing condition, respondent's perception of incremental housing, incremental housing adoption potential in Zamfara State, Nigeria, and prioritization of space using incremental housing strategy. This survey is also intended for the users, along with the professionals to determine the progress taken place in the state of Zamfara. These surveys focus on the household possessions. For example, the kind of Ownership Type etc., Average Income/Earnings etc. Even Incremental trends were also spoken about. For example, whether any economic aid or otherwise has been in effect? Satisfaction with the present condition of their housing, Problems they face with their current housing, their background knowledge on incremental housing strategy, their opinions on incremental housing as a viable solution for housing in Zamfara, Support that will be necessary to implement it, insight to their interest in participation, etc. The study concluded with a comprehension of challenges to the community and potential solutions including financial assistance, technical assistance, and community programs to implement an incremental housing plan.

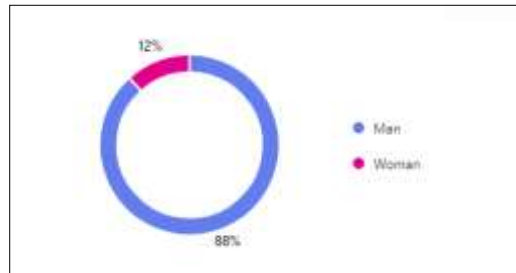
i. . Demographic Information (70 responses)

The demographic information gathered gives a full picture of the respondent's profile. In terms of their distribution by age, over half of participants (56%) were between 31 and 45 years and therefore were the most active group. Conversely, individuals aged 46-60 years represented the minority, indicating lower participation from older stakeholders. Regarding gender, the data revealed a notable imbalance, with men comprising 88% of the respondents, this reflects both men's dominance in the targeted professions and their overrepresentation as homeowners in the population, underscoring their dominant presence in the sample. In the context of occupation, consultants constituted the largest professional group, accounting for 16% of the respondents, while civil engineers represented the smallest group, making up only 3%. This distribution reflects a higher level of engagement from consultancy professionals compared to other occupational categories. Furthermore, the income range analysis indicated that the majority of respondents (72%) reported earning between N50,000 and N200,000 or above, suggesting that the surveyed population predominantly falls within the lower to middle-income bracket. This income profile is critical in understanding the economic capacity of stakeholders for adopting incremental housing solutions.

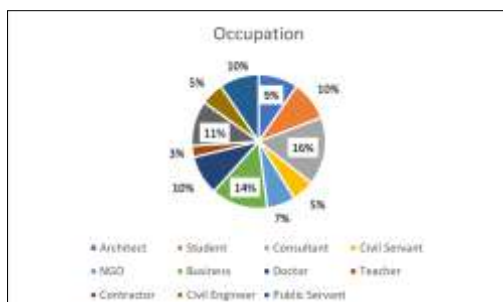
Age:



Gender:



Occupation:



Income Range:

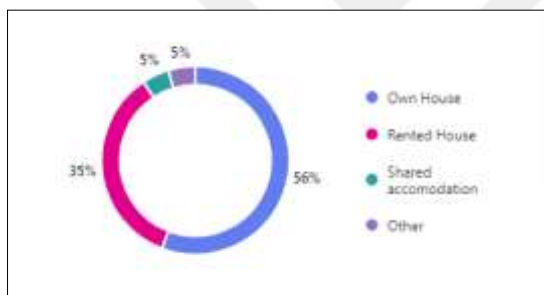


Figure 4.12: Demographical Responses with an average of 70 responses

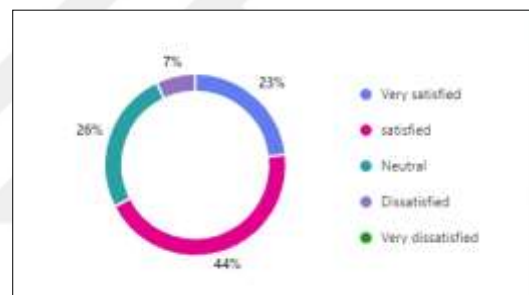
ii. Current Housing Condition (70 responses)

The analysis of housing types reveals that a majority (56%) of respondents are homeowners, while a minority (5%) reside in shared accommodations, such as family houses. Most respondents expressed satisfaction with their living conditions, with only 7% reporting dissatisfaction. However, this high satisfaction rate contrasts with the significant challenges identified, such as high rent (33%) and overcrowding or lack of basic amenities (11%). This apparent contradiction can be attributed to cultural and religious norms in Zamfara State, where openly expressing dissatisfaction is discouraged, and individuals are expected to work privately toward improving their circumstances. Despite the reported satisfaction, the underlying housing challenges highlight the urgent need for affordable and improved housing solutions that align with the cultural values and realities of the population.

Current House:



Current Living Satisfactory:



Current Housing Issues:

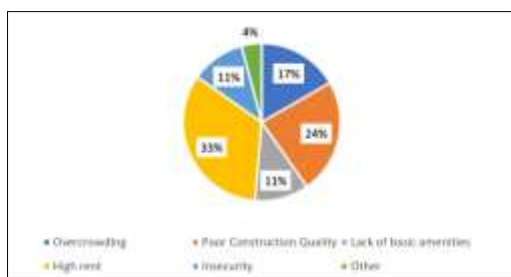


Figure 4.13: Housing Condition Responses with an average of 70 responses

iii. Awareness and Percentage of Incremental Housing (70 responses)

Awareness levels among respondents regarding incremental housing indicate that a majority (65%) are familiar with the strategy, with media serving as the primary source of information for 535 of them. Among the perceived benefit, 33% highlighted the strategy's flexibility for

future expansion, while 23% emphasized its affordability. Conversely, the main challenges identified include limited access to financing (34%) and insufficient technical knowledge for implementation (24%). These findings underscore both the potential and the barrier associated with adopting incremental housing within Zamfara State, Nigeria.



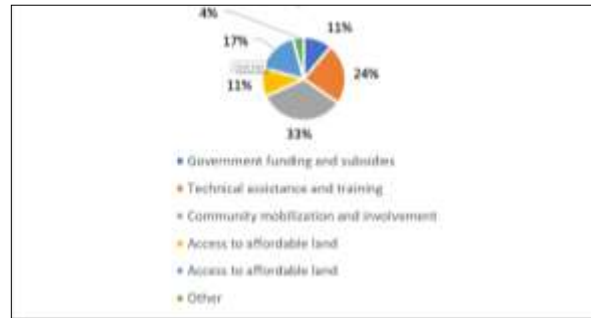
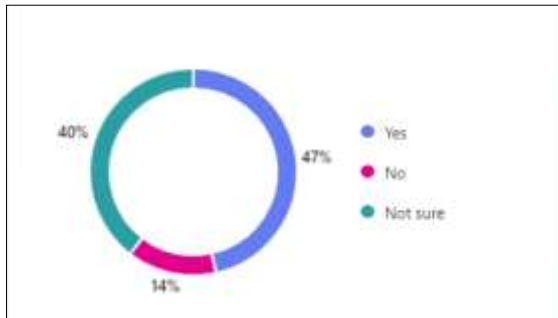
Figure 4.14: Incremental Housing Awareness Responses With an Average of 70 Responses.

iv. Potential for Incremental Housing (70 responses)

Responses regarding the viability of incremental housing present promising findings, with a significant portion of respondents 47% affirming that it could serve as a practical solution to the housing challenges in Gusau. Additionally, 33% identified community mobilization and involvement as critical support mechanisms for the successful implementation of incremental housing strategies. Notably, an overwhelming majority (72%) expressed strong interest in participating in an incremental housing project or program, highlighted substantial community readiness and enthusiasm for this approach.

Could it be a Viable Solution in Gusau:

Support Needed:



Participation Interest:

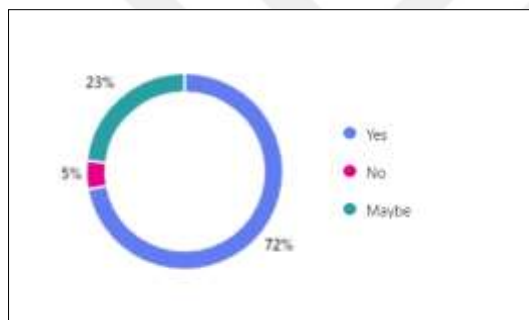


Figure 4.15: Incremental Housing Potential Responses With an Average of 70 Responses.

v. Functional Space Prioritization (47 responses)

Consistent feedback on prioritizing spaces such as ante-rooms, living rooms, bedrooms, bathrooms, kitchens, and expansion area suggests a shared vision of respondents' immediate needs. The responses to the survey provide a comprehensive understanding of the stakeholders' perspective on incremental housing in Gusau, Zamfara State. The demographic insights and feedback on current housing conditions emphasize the urgent need for affordable, adaptable housing solutions. Respondents awareness of incremental housing, coupled with their perceived benefits and challenges, has informed the incremental strategy. Furthermore, the prioritization of functional spaces, such as living rooms, bedrooms, bathrooms, and kitchens during the initial construction phase, aligns with resident's immediate needs.

Table 4.1: Space Prioritization Responses with 7 Responses (Author, 2024).

S/N	Responses
1	Ante-room, Living room, Bedroom and bathroom, Kitchen, Expansion space before the next building.
2	Ante-room, Living room, Bedroom and bathroom, Kitchen, Expansion space before the next building.
3	Ante-room, Living room, Bedroom and bathroom, Kitchen, Expansion space before the next building.
4	Entrance porch, Living room, Bedroom and bathroom, Kitchen, Expansion space before the next building.
5	Ante-room, Living room, Bedroom and bathroom, Kitchen, Expansion space before the next building.
6	Ante-room, Living room, Bedroom and bathroom, Kitchen, Expansion space before the next building.
7	Entrance porch, Living room, Bedroom and bathroom, Kitchen, Expansion space before the next building.

4.3 SECTION RESULT

The survey findings provide a critical insight into the housing dynamics of Gusau, Zamfara State, and underscore the transformative potential of incremental housing a culturally sensitive, economically viable strategy to address systemic housing challenges. Key learnings reveal that while most respondents (56%) are homeowners and express satisfaction with their current housing (93%), underlying issues such as high rent (33%), overcrowding, and inadequate amenities (11%) persist. This paradox reflects cultural norms discouraging overt dissatisfaction, masking the urgent need for interventions that respect local values while addressing material deficiencies.

Demographically, the dominance of middle-aged (31-45 years), male stakeholders (88%) and consultants (16%) highlights the importance of tailoring awareness campaigns and participatory process to engage underrepresented groups, such as women, older adults, and civil engineering (3%). The income profile, with 70% earning below N200,000 monthly which is equivalent to 134\$ using the current exchange rate, reinforces the necessity for low-cost housing solutions. Incremental housing aligns with this demographic reality, as its phased construction model allows residents to invest gradually, reducing immediate financial burdens.

Awareness of incremental housing is relatively high (65%), with media as the primary information source-a valuable channel for scaling education. Respondents recognize its

benefits, including flexibility (33%) and affordability (23%), but cite barriers like limited financing (34%) and technical knowledge gaps (24%). Addressing these challenges through subsidized loans, partnerships with microfinance institutions, and skills-training programs will be pivotal to adoption.

Crucially, 72% of respondents expressed willingness to participate in incremental housing projects, signaling strong community buy-in. This enthusiasm, combined with prioritization of functional spaces (living rooms, bedrooms, bathrooms, and kitchens), reflects alignment between the strategy's phased approach and residents' immediate needs. By enabling families to first build essential spaces and expand later, incremental housing empowers them to adapt homes to evolving needs without compromising cultural values of privacy and dignity.

For Zamfara State, implementing incremental housing could alleviate overcrowding, reduce rents burdens, and improve access to basic amenities-directly enhancing quality of life. Nationally, scaling this model offers Nigeria a blueprint for addressing its 28-million-unit housing deficit sustainable. Incremental housing's community-driven nature fosters social cohesion, while its affordability reduces reliance on informal settlements, promoting urban planning and economic resilience. By integrating local priorities with scalable solutions, Zamfara State can catalyze broader socio-economic development, setting a precedent for inclusive, culturally attuned housing policy in Nigeria.

In sum, incremental housing is not merely a construction strategy but a holistic tool for social empowerment, economic inclusion, and sustainable urban development-a pathway to transforming housing challenges into opportunities for lasting progress.

5. CONCLUSION

This thesis critically examines Nigeria's urgent demand for affordable housing based on its significance, status, and availability. It addresses the threat imposed by urbanization and proposes an architectural intervention to reduce housing deficit through provision of low-cost housing to low-income earners. The study examines the implementation of alternative housing strategy as a viable solution and incremental housing as a valid intervention to reduce housing shortage in Zamfara State, Nigeria. The study began by examining the historical development of incremental housing, highlighting its root in traditional and informal housing practices. It then analyzed various incremental housing approaches, emphasizing the importance of community involvement, progressive financing, and incremental upgrading.

a. Global precedents and Case Studies

The study reviews successfully incremental housing projects, such as PREVI housing project in Peru, Villa Verde housing project in Chile and Quinta Monroy housing project in Chile. These examples highlight the strategy's adaptability, affordability, and sustainability. They demonstrate how phased construction, community involvement, and flexible financing empower low-income families to gradually expand their homes in line with their financial capabilities.

b. Nigeria's Housing Crisis

Nigeria is confronted with the issue of fast urbanization, which strains the country's already limited supply of housing. In Nigeria, the population is growing, and with it, so is the demand for decent, reasonably priced homes. Nigeria has one of the highest housing shortages in Africa, with a population of over 220 million people and a housing deficit of over 28 million units. Due to population increase, current housing delivery efforts are unable to keep up with the demand. For this reason, it is critical that all relevant housing sector players work together to address this issue as soon as possible. It is not a simple undertaking to meet the demand for homes, particularly given current costs of construction. The exchange rate in the country is at an all-time high which makes procurement of building materials even more expensive. This means that developers have to spend more on construction materials and when the houses are finished, the end users would also have to pay more for it. Housing cost

has been one of the most active challenges in the supply of housing to the public. People with low-income earning, the most vulnerable in the nation, cannot afford to construct a home from scratch; most of them cannot even afford purchasing the land in the first place. Sometimes, rent is exceedingly costly for low-income people, particularly in the metropolitan regions. This access to home financing and mortgages advantages high-income people who, at times, do not need it. This calls for the government to ensure that these finance houses in housing and mortgages are accessible to low-income earners who need it most. The outcomes of this thesis imply that incremental housing plan might be a viable solution to the housing issue in Zamfara State, Nigeria. By implementing an incremental housing approach, the state government may offer affordable housing alternatives that are flexible to the requirements and financial capacities of low-income families.

While such a measure would dramatically lessen the housing deficit problem of the nation, it is vital to highlight that low-income earning residents comprise a respectable fraction of the population dealing with this difficulty in Gusau and Nigeria as a whole. It may even be claimed that the scarcity in housing is mainly related to policy planning and its execution, which is partially attributable to the lack of political will on the side of the stakeholders. provided the 2024 budget, N100 billion naira was provided to the Ministry of Housing, which will be utilized in building roughly 50,000 apartments. For a nation that is meant to be creating close to 1,000,000 housing units per year to eliminate the 28 million housing gap in the next 20 years, the budget would actually be quite insufficient to fulfill such an objective.

c. Collaborative Solutions: Government and Private Sector

While the government needs to seize the problem, it cannot do so single-handedly. It has to set the stage and provide the incentives that will lead the private sector to venture into house construction. If the business sector and civil society come forward to supplement governmental efforts, the major housing difficulties besetting the country can be overcome. Encourage collaborations amongst NGOs, private developers, and the government to maximize resources, expertise, and innovation in housing projects. PPPs have the ability to combine the advantages of several industries to provide housing solutions that are more

efficient. Achieving the ambitious objective of affordable, decent housing requires significant modifications to the systems that distribute income and provide homes.

This requires a deliberate and effective governance strategy to ensure policy implementation rather than just policy establishment. Basic infrastructure like security, roads and power should be made easily available to invite investors. First, policymakers and government have to make sure that low- and middle-income earners have their interests prioritized in every housing reform policy. For this purpose, government has to design affordable housing policies to suit low-income earners and vulnerable people in society. Subsidies should be provided in various ways to both the developers as well as the end users. Provide tax breaks, subsidies, and other incentives to private developers who invest in incremental housing projects aimed at low- and middle-income families.

More private sector involvement and investment in affordable housing may be encouraged by these incentives. Subsidies are now in place for the housing industry, but they are not reaching the most deserving people since the people in charge of giving them out do so through fraudulent methods. Due to the high price of crude oil and the elimination of petroleum subsidies, there is currently a budget surplus. This presents a rare chance to invest significantly in the National Housing Trust Fund and other housing initiatives. This will encourage the creation of affordable housing across the nation and make large mortgage investments easier. The Renewed Hope Agenda has stated that it will collaborate with the business sector to ensure that the general population has access to affordable housing.

d. Incremental Housing Strategy

Incremental housing should be a part of housing policy implemented by federal and state governments. This plan calls for building simple, livable apartments that can be enlarged when residents' financial circumstances improve. This technique makes it feasible for low- and middle-income families to become homeowners in a progressive and cost-effective way. The study's results show that the incremental housing idea might be a beneficial technique for enabling low-income Nigerian workers access to adequate and inexpensive dwellings. The idea is that the average worker who does not have enough to build a full house, would pay for half of a house instead. That half of a house would contain the basic living amenities such as a room, kitchen, and bathroom, then along the line the resident would be able to save and expand the house to their preference.

For these low-income people, this offers the best opportunity for future development and property ownership. Because incremental housing is participatory, homeowners can make changes to their home to better suit their social and cultural requirements. This idea would offer the most economical way to help Nigeria's housing deficit. For towns that needed infrastructure, the government would supply the land; private companies would next construct half the homes, which would be less expensive than a full house; and finally, the locals would complete their homes themselves. This results in significant cost savings for all stakeholders.

In Nigeria, incremental housing offers a viable and affordable alternative to traditional housing. Thus, suggestion for incremental housing option offer a fresh perspective on the housing shortage. Urban inhabitants' current issue is instantly resolved by such a model, which also presents the ideas of sustainability, adaptability, and cultural appropriateness.

e. A Path Forward

The extent of this thesis urges legislators, architects, and urban planners to collaborate in order to accomplish this objective and provide affordable housing for all Nigerians. This approach emphasizes the importance of affordability, utilizing local resources, and community involvement—all of which are outlined in this proposal for a paradigm change in housing. The basic human need for shelter becomes more important as our country becomes more urbanized. Hence, stakeholders are given practical and relevant solutions based on the insights that will be obtained from such a study.

Incremental housing provides a feasible, culturally appropriate solution to lower Zamfara State's and Nigeria's housing shortfall and enhance living circumstances for low-income households. By facilitating progressive homeownership, it addresses affordability while maintaining cultural norms. Nationally, this strategy corresponds with Nigeria's 'Renewed Hope Agenda' and Sustainable Development Goals (SDGs), fostering inclusive urbanization. Success requires collaboration among policymakers, architects, developers, and communities to prioritize affordability, local resource, and participatory design. Through incremental housing, Nigeria can transform its housing crisis into an opportunity for equitable, sustainable progress.

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