

## **Evaluating the Determinants for Access to Subsidised Mortgage Housing in Jos, Nigeria**

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**Abstract:** Nigeria's subsidised mortgage system operates on the assumption that workers would subscribe to a scheme (National Housing Fund [NHF]) as a precondition for access to housing. The subsidised mortgages are limited in supply and the mechanism lacks efficiency and distributional equity. These issues are empirically examined in Jos. A survey was conducted among workers in 24 randomly selected organisations. A total of 543 questionnaires were administered and 410 were retrieved. Analysis employing Pearson's chi square indicates a low-level of participation and a lack of awareness about the NHF scheme. There are negative feelings about the arrangement, and for the entire sample, gender and employment characteristics were found to have statistically significant relationships with participation in the NHF scheme. However, access to subsidised mortgage is influenced only by gender and tier of government employment. It is concluded that participation in the NHF scheme is a necessary but not a sufficient condition for access to mortgages in Jos. These findings call for increased awareness about NHF and improved efficiency in its administration. As the study was limited to the city of Jos, the methodology could be used to corroborate the evidence in other Nigerian cities.

**Keywords:** Housing, Finances, Subsidy, Jos-Nigeria

### **INTRODUCTION**

Access to affordable mortgage housing by low-income households has been an issue of concern in neoliberal Nigeria. This problem arises primarily because the Nigerian mortgage market is still developing, and the interplay of primary and secondary markets obtainable in advanced economies is lacking. As a result of this, the formal credit system in Nigerian cities, including Jos, is reaching a minute population. In the case of Jos, a recent study (Wapwera, Parsa and Egbu, 2011) that sampled 300 households confirmed that 75% of households have utilised informal credit sources over the last decade whereas only 25% have utilised formal sources. In Nigeria as a whole, the underdeveloped mortgage industry generated less than 100,000 transactions between 1960 and 2009. The sector's aggregate loans to total assets fell below 70% as recorded by the Central Bank of Nigeria (CBN). Mortgage to loan funds for the five years ending 2009 averaged at 14.51%, while the total mortgage market was put at N127.5 billion (USD 850 million) (EFInA and FinMark Trust, 2010). The contribution of mortgage financing to Nigeria's Gross Domestic Product (GDP) was 0.39% in 2012 (Centre for Affordable Housing Finance in Africa, 2012: 109).

Consequent to these issues, there are limited sources of medium- to long-term finance for housing in Nigeria. This is exacerbated by the absence of a mortgage securitisation law. The absence of this law is limiting the ability of mortgage supplying institutions (which include primary mortgage institutions [PMIs], saving banks, insurance companies, pension fund custodians and housing

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cooperatives) and the subsidised mortgage sector (the Federal Mortgage Bank of Nigeria, FMBN) to tap into long-term funding from the capital market in order to finance long-term loans. Also corroborating this evidence, the EFlnA and FinMark (2010: 33) found that private mortgage institutions were advancing mortgages at a maximum tenure of 10 years as a result of dearth of long-term funds. This tenure is incompatible with housing mortgages, which require long-term financing. Furthermore, property rights are weak and at the time of this study, there was no clearly stated mortgage foreclosure law in Nigeria.

Amidst these circumstances, the Federal Government of Nigeria thought that a state-run subsidy arrangement (through FMBN) would cater for the needs of low-income households. Nigeria's subsidy policy came into operation by the provision of the National Housing Fund Act of 1992 and the Federal Mortgage Act of 1993. These laws created a provident scheme known as the National Housing Fund (NHF), and FMBN was given the mandate to administer it. The NHF act requires people who are gainfully employed and receiving a monthly income to save 2.5% of their basic monthly income in the FMBN as a precondition for access to a loan. In this sense, the subscribers become key actors and partners in the supply of finance and housing that benefits them (Federal Government of Nigeria [FGN], 2006a; FGN, 1992). The FMBN is completely owned by the state, with its ownership structure comprised of the Federal Government, which has a 50% capital share, the Central Bank of Nigeria (CBN), which has 30% and the Nigerian Social Insurance Trust Fund, which has 20% (FGN, 2011). For the purpose of ensuring that the FMBN has sufficient resources for its operation, the NHF and FMBN acts and the national housing policy of 1991 directed the FMBN to mobilise NHF subscriptions from workers across Nigeria. The FMBN was also directed to mobilise investible funds from commercial banks, insurance companies and foreign investors to create a pool of finance that is referred to as the National Housing Trust Fund (NHTF) (FGN, 2006a: 22). The NHTF is described as a subsidised sector because it supplies loans to NHF subscribers at a rate of 6% for 25–30 years. The arrangement for subsidising housing through the FMBN is further illustrated in Figure 1.

The NHF arrangement is experiencing a number of challenges: firstly, the scheme is suffering from limited financial resources. This problem apparently results from the low participation in the NHF scheme. For instance, the FMBN, an agency responsible for administering the NHF, confirmed to the public that only N 106 billion (equivalent to USD 642.3 million) was mobilised from its inception in 1992 to 2013. Moreover, as of March 2013, there were only 3,772,031 contributors out of the 35 million workers employed in public organisations across Nigeria (Ogunwusi, 2013b). On this basis, it can be inferred that only 10.7% of public sector employees have subscribed to the scheme. A considerable population of prospective home owners employed in the informal and formal private sectors have not yet subscribed to the scheme (Ogunwusi, 2013a). Furthermore, the managers of the FMBN have confirmed to the public via print media that workers from only 28 states (including the federal capital territory) out of the 37 states of the federation have subscribed to the scheme (*Business Day Magazine*, 2014).

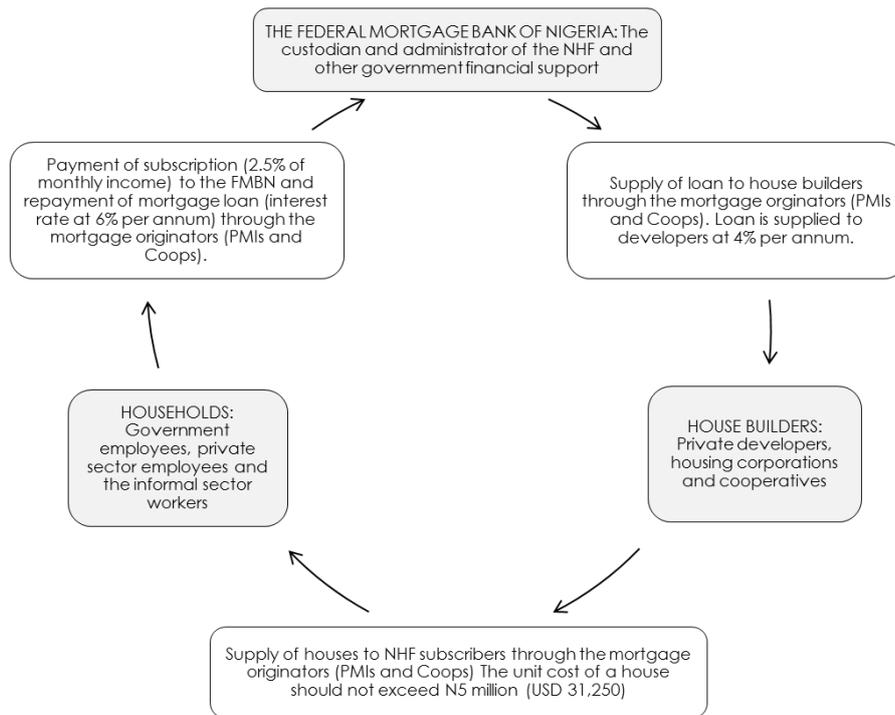


Figure 1. Nigeria's Subsidised Housing Finance Model

Secondly, the opportunity for access to mortgages by subscribers is limited. For example, only about N 100 billion (equivalent of USD 606.0 million) has been disbursed to 73,676 eligible contributors/beneficiaries from inception in 1992 to 2013 (Ogunwusi, 2013b). In a mathematical sense, 73,676 in relation to all the subscribers (3,772,031) is just 1.9%. It is clear then that less than 2% of those subscribed to the scheme have gained access to a mortgage. Lastly, the administrators of the NHF scheme have lamented over public misconceptions regarding the scheme. Some workers assume that the scheme is the same as the defunct National Housing Programme (NHP), which failed to achieve its purpose in the 1980s. Others feel the FMBN, which is responsible for its administration, is the same as the liquidated federal government's primary mortgage institution (Federal Mortgage Finance Limited [FMFL]). Furthermore, some workers are of the view that the NHF scheme itself is a scam (FGN, 2013). These issues among others are the motivation for this study.

In order to examine the issues affecting this arrangement for subsidising housing in Nigeria, it is necessary first of all to underscore that subsidies are meant to improve public health, justice, fairness and market efficiency (Chiquier and Lea, 2009: 248). It is in line with these broad goals that subsidies are most frequently evaluated against four criteria: distributional issues and fairness, public accounting principles of transparency, the economic criteria of efficiency at the micro- and macro-levels, and the market effects of subsidies (Hoek-Smit, 2008: 10). This paper is concerned with issues of distribution and fairness, which will be examined in the

context of participation and access. Focusing on the workers that the subsidy scheme was designed to benefit in Jos (see the description of Jos city in Table 1), the following objectives are pursued: Given that the subsidy scheme in Nigeria is tied to peoples' employment, it is important to examine how employment characteristics (such as tier of government employment, length of employment, grade level attained at work place, satisfaction with salary income and gender attributes) influence workers' participation in the NHF scheme. Secondly, the subsidised housing arrangement operates on the assumption that the participation of workers in the NHF scheme would guarantee them access to mortgages. The second objective is to confirm if participation in the NHF scheme indeed guarantees access to mortgage housing in Jos. The last objective will examine the perceptions of workers about housing finance policy. Prior to addressing these objectives, the next section will compare and contrast the subsidy scheme in Nigeria to what obtains in other developing countries.

Table 1. A Brief Description of the Jos City

Features	Remark
Geography and climate	Jos, the capital of Plateau State is located in central Nigeria; it is about four hours away from the federal capital territory (Abuja) by road; the city lies on latitude 09°52'N and longitude 008°54'E; the average daily mean temperature of the city is 22.78°C; the landform in and around the city is undulating with rock outcrops; and it is connected to other cities of Nigeria by air, rail and road (Climate-Chart.com, 2010; Dung-Gwom and Rikko, 2009).
Population	The population of Greater Jos area in 2007 was 1,315,301; and at 5% growth rate, it is projected that the population of the city would have doubled to 2.7 million by 2025 (Government of Plateau State, 2009).
Housing situation	Residential housing is provided through formal and informal arrangements; however, the informal solutions are dominant over the formal (Wapwera, Parsa and Egbu, 2011; Government of Plateau State, 2009). In 2009, official records (Government of Plateau State, 2009) documents that about 42% of houses were considered of "good" quality. These are houses with built-in toilet, running tap water and electricity supply. During the period, houses of "average" (shared facilities) quality were 48% and 10% were adjudged "bad" (lacking in-house or shared facilities). Some residential areas have developed into slums (24 settlements as documented by Dung-Gwom, 2007: 6); and as a result, the government has started implementing an urban renewal programme in the city (Ahovi, 2013).
Housing need and projection	As the population of Jos city is expected to double from 1.4 million to 2.7 million in 2025, government authorities have projected (on an average household size of six persons) an additional 237,379 households within the city (Government of Plateau State, 2009); and accordingly, the government has launched the construction of 3000 housing units (News Agency of Nigeria, 2014).
Socio-political	During the last 10 years, the city of Jos has witnessed increased instability due to violent attacks by religious extremists known as the Boko Haram (western education is a sacrilege). This is now affecting the overall development of the city, including housing investment and choice of residential location (Aliyu, Kasim and Martin, 2011; Dung-Gwom and Rikko, 2009).

## **SUBSIDY PROVISION: THE EXPERIENCE OF NIGERIA AND OTHER DEVELOPING COUNTRIES**

This section attempts to contrast the housing financing practice in Nigeria to that of other developing countries to draw lessons for improvement. A comparison of this nature should help to establish the relevance of the study to the housing industry in Nigeria. A recent study (Centre for Affordable Housing Finance in Africa, 2010; 2012) suggests a commonality in housing financing challenges among African countries. In Nigeria's case, however, the concerns arise first because the country has a considerable population of poor people. In 2012, the population of Nigeria was estimated at 162 million people, and 84.59% of this population was earning below USD 60 per month. The level of poverty in Nigeria is so high that approximately 54.7% of the country's population live on less than USD 2 per day. With this level of poverty, the majority of households are unable to acquire and pay off the cost of a mortgage at the open market price. In 2012, for example, the cost of a 72 m<sup>2</sup> house in Lagos was USD 31,250 and that of a 65 m<sup>2</sup> house outside of Lagos was USD 15,000. This high price automatically deprives poor households access to decent housing (Centre for Affordable Housing Finance in Africa, 2012: 15, 109). This situation appears to be similar across other African countries as confirmed by the World Bank, which documents that only about three percent of the population have sufficient income for a mortgage. In a general sense, the cost of mortgage is high and above the affordability of low income households in most African countries. In 2012, for example, the cost of a newly constructed 65.7 m<sup>2</sup> apartment was USD 32,155 in Algeria; a 220 m<sup>2</sup> apartment in the Gambia was USD 100,000; an 80 m<sup>2</sup> house in Angola was USD 60,000; a 58 m<sup>2</sup> house in Botswana was USD 57,575; a 28.01 m<sup>2</sup> house in Burkina Faso was USD 18,375; a 100 m<sup>2</sup> apartment in Addis Ababa was USD 51,033; a 75 m<sup>2</sup> house in Ghana was USD 17,500; and in Kenya, a 27 m<sup>2</sup> house was USD 22,350. For these countries, more than two-thirds of the population are unable to afford the cost of such houses (Centre for Affordable Housing Finance in Africa, 2012).

It is in view of the above that housing finance subsidies become crucial. However, the Nigerian experience of subsidising housing through the FMBN falls short of expectations. Firstly, a subsidy arrangement should be designed to alleviate funding constraints, but this appears not to be the case in Nigeria. Alleviating funding constraints essentially requires government to put in place a mechanism that enables mortgage lending institutions to have sufficient connections to capital markets to increase funding options and manage the risks related to long-term lending (Chiquier and Lea, 2009: 434). Some successful examples of subsidy programmes that are designed to alleviate funding constraints in emerging market economies include: the *Cagamas* of Malaysia, the *Sociedad Hipotecaria Federal* in Mexico, and the Mortgage Refinance Company in Egypt. These subsidy schemes have achieved success because the government provided a legal framework that enables the mortgage institutions to connect with the capital market. Additionally, for these countries, equity investments and/or guarantees from government or external sources are used to enhance the respective standing of mortgage institutions in the market place (Hoek-Smit, 2008 cites Diamond and Hoek-Smit, 2000). Not much has been done about secondary market development even though an efficient secondary mortgage process is lacking in Nigeria. This is putting an enormous burden on the FMBN and PMIs to

carry the mortgage loans to maturity. It has been observed that: "outstanding mortgage loans remain on the books of mortgage providers no matter the tenure and this limits the ability of the FMBN and PMIs to originate more loans" (EFinA and FinMark Trust, 2010: 38). The Federal Government of Nigeria aspires to link primary and secondary mortgage markets to capital markets, but the absence of securitisation law is impeding this aspiration. At the time of this study, the sale of securitised mortgage debts by the FMBN and PMIs cannot be effectively achieved in Nigeria.

Furthermore, Nigeria's subsidy arrangement lacks the potential to address mortgage credit risk. For a subsidy arrangement to have such potential, the government will need to partner with the private sector to improve the regulations, institutions, and information infrastructure that affect the working of a mortgage. In specific terms, the government should be able to improve on appropriate standards, property registration systems, cadastres, credit information systems, credit bureaus, foreclosure methods, usury laws, and underwriting and servicing methods (Chiquier and Lea, 2009: 436). Little attention is given to these in Nigeria, and specifically, credit risk has been a major deterrent for the expansion of national and local mortgage markets. This is so because there is a lack of credit and property market information, an adequate foreclosure system, and a good mechanism for dealing with credit risk. Countries that have made successful subsidy interventions to control credit risk are seen to give priority to the provision of incentives for the establishment of a credit information system or credit bureau. Lithuania is one country that has been successful in this. Some countries have been able to subsidise credit insurance. For example, the republic of Thailand provides this type of subsidy through the Government Housing Bank. A similar arrangement termed The FOGARIM Guarantee Programme exists in Morocco (Hoek-Smit, 2008).

In Nigeria, the absence of clearly stated foreclosure laws is causing mortgage providers to adopt arbitrary measures to safe-guard their investment, to the detriment of borrowers. The World Bank (2009) confirms this and reports that short-term loans are provided and the maturity mismatch is largely mitigated by use of adjustable rate mortgages where loans rates are typically being tied to banks' prime lending rates. For instance, the average lending rate in the mortgage industry was 19.5% in 2011 (CBN Economic Report, 2011: 18). This is due to the absence of an adequate underwriting mechanism for examining the financial history of the borrower, particularly with respect to his/her record of repaying other loans (World Bank, 2009). The annual report of Central Bank of Nigeria (CBN) (2010: 68) corroborates this evidence. In the CBN report, an analysis of the maturity structure of loans and advances made by saving banks at the end of December 2010 indicates that short-term loan maturity remains dominant in the credit market. Outstanding loans and advances maturing in one year or less accounted for 65.3%, whereas medium-term (one to three years) and long-term (three years and above) accounted for 14.6% and 20.1%, respectively. Saving banks are the key players in the open market mortgage sector, but their credit supply is primarily on a short-term basis. Nigeria can learn from the experience of Lithuania and Thailand to improve on its housing subsidy system. The Moroccan FOGARIM subsidy arrangement is designed to address employment and earning uncertainties. This subsidy caters to self-employed or informally employed borrowers who carry a higher credit risk (Hoek-Smit, 2008).

Nigeria's subsidised mortgage arrangement allows workers employed in formal and informal sectors to subscribe to the NHF scheme, but there is no arrangement for mitigating employment and earning uncertainties as they have in Morocco. Thus, Nigeria could learn from the practice in Morocco. Further, there are supply and access issues around the subsidy arrangement in Nigeria: the first issue is connected to the shortage of finance and a limited supply of housing for the benefit of NHF subscribers. Specifically, the official records published by FMBN in local print media in 2012 indicate that there were 3,647,275 subscribers to the NHF scheme with less than 10% having access to mortgages (Ogunwusi, 2013b). For instance, the cumulative amount of money disbursed for the benefit of NHF subscribers as of November 2011 was USD 392,831,100.13. This amount is composed of Estate Development Loans (USD 279,475,718.28) and NHF mortgage loans provided through PMIs (USD 201,605,381.85). This money was used in financing the construction of 32,831 housing units, and part of it was used to advance mortgage loans to 18,431 NHF subscribers. This was in addition to 9,575 housing units financed through a Mortgage-Backed Bond issued in 2007. In quantitative terms, only approximately 60,837 housing units have been provided through NHF (Ogunwusi, 2012). On a general note, the supply of subsidised mortgages is insignificant when compared to Nigeria's housing deficit estimate of 12–17 million units (Ashkin, 2013: 1; Pepple, 2012: 13). The supply of subsidised housing in Nigeria is also not impressive when compared with emerging economies. For example, the government-run mortgage lender (Infonavit) in Mexico gave out 578,396 mortgages worth around USD 12.6 billion in 2012. This was 16% over its performance in 2011 (Guthrie, 2013). In South Africa, the post-apartheid administration started a housing scheme for middle-to-low income groups termed The Reconstruction and Development Programme (RDP) in 1994. The performance of this programme was impressive, and between 1994 and 2008 approximately two million subsidised houses were provided (Gordon, Bertoldi and Nell, 2011: 28). Nigeria can learn from the experience of these countries to improve on the mechanics for supplying subsidised housing.

The second issue arises from the uneven distribution of subsidised mortgage houses across Nigeria. For example, the houses provided by private house-builders and housing corporations with Estate Development Loans approved by the FMBN were allocated to 12 out of 37 states (the Federal Capital Territory [FCT] inclusive). Jos, the capital of Plateau State, was a beneficiary of this (Salami, 2009: 16–20). Similarly, the NHF loans were made to subscribers in 16 of 37 states (FCT inclusive), and the evidence available suggests that the city of Jos did not benefit from this (FGN, 2006b: 23–25). The distribution process is a potential hindrance to equitable access. This concern is deserving attention by the administrators of the subsidy scheme in Nigeria.

The third issue is the inability to make the initial down payment required prior to taking possession of a mortgage. This problem is not peculiar to Nigeria. Hoek-Smit (2008) reports that the main hurdle for expanding homeownership in developing countries is for households to save enough money to pay for the down payment, title closing costs and/or an upfront premium for mortgage insurance. The republic of Chile provides a form of subsidy to address this concern. In the Chilean experience, an upfront grant subsidy is provided (by the state bank: *Banco del Estado*) on behalf of a low-income household that intends to take up a mortgage. The government of Chile ensures that 20% of all eligible mortgage

applicants are selected for this subsidy. However, low-income households usually receive the largest grants. Additionally, the more needy households and those who had saved more are given priority. This type of arrangement is lacking in Nigeria, and it is worth borrowing.

The last issue with the Nigerian subsidy arrangement is the absence of multiple subsidy options. For example, the South African subsidy arrangement is designed with multiple options that cater to different categories of people. Specifically, the following subsidies options exist in South Africa: consolidation subsidies; individual subsidies; an integrated residential development programme; institutional subsidies; a discount benefit scheme; rural subsidies; subsidies for people with disabilities; people's housing process; farm resident subsidies; and a finance-linked subsidy programme. These subsidies are administered by multiple organisations such as the Department for Human Settlement, the Housing Development Agency, the National Housing Finance Corporation, the National Urban Reconstruction and Housing Agency, the Rural Housing Loan Fund, and the Social Housing Regulatory Authority. The pluralist approach adopted in South Africa promotes equity and access (Nierkerk, 2011).

## **METHODS AND APPROACH**

This study employs a questionnaire for the collection of data. The questionnaire was designed in two parts, both of which centred on the research objectives. In the first part, closed questions were designed for respondents to tick a range of options. In the second part, respondents were allowed to freely express their feelings about the NHF arrangement. The questionnaire method was used because it offers the advantage of collecting a large amount of information from a large sample in a short period of time in a relatively cost-effective way. The study population consisted of public sector workers employed by Federal, State and Local Government establishments in the city of Jos. The reason for choosing public sector workers is because the NHF scheme is worker-focused, and civil servants were first given the opportunity to subscribe to it.

At the time of data collection, there were 82 Federal Government establishments, 54 State Government establishments and 18 Local Government Departments in the study area. The units of analysis in this research are individuals employed by these establishments and not the establishments themselves. Therefore, the aggregate of establishments formed the elements from which the sample population (individuals) was selected. The research employed a multi-stage sampling technique in order to arrive at a suitable sample for the study. The choice of this sampling technique was with a view to overcoming the difficulty of getting access to staff lists for all public establishments in Jos. The multi-stage logic adopted in order to arrive at a sample population is as follows: firstly, lists of organisations that fell under the control of each tier of government (Federal, State and Local) in Jos were compiled into three clusters. The second stage involved stratifying organisations in each cluster into strata of allied professions and related functions. From each stratum, organisations were randomly selected and letters were sent to them requesting permission to conduct the survey. From the Federal Government cluster, seven organisations gave approval, nine from the State Government cluster and eight Council Departments from the Jos North and South

Local Government cluster. The procedure followed is consistent with the logic recommended by Babbie (2007).

The survey covered only organisations where authorities gave permission for workers to participate. Questionnaires were sent out to workers through their staff officers and later retrieved from them. In all, a total of 543 questionnaires were administered and 410 were retrieved. Five out of the 410 questionnaires retrieved were invalid due to incomplete responses. The survey ended up with 405 valid questionnaires, which represent a percentage return of 74.58, and this forms the basis of the analysis. The adequacy of the sample size was determined based on the population in Jos and with inferences from previous studies. The exact population of public sector workers in the city of Jos is not known, but the human population in the city of Jos was estimated at 736,016 in 2006 (Government of Plateau State, 2008: 15). Israel (2010) stated that at five-percent precision levels, a sample size of 400 is an adequate representation of populations above 100,000. Similarly, Taylor (2012) says that, for an unknown target population, 300–500 respondents can work as long as the survey is representative. In this case, there is a human population (736,016 people in 2006) estimate which serves as a clue, and in any case, the population of public sector workers in Jos can only be a fraction of the total estimate. Thus, a sample of 405 is considered an adequate representation.

The analysis proceeds to examine fairness in relation to the subsidy arrangement in Jos. This was achieved by analysing the responses collected in the questionnaire survey. The questions asked in the survey were aimed at collecting information on certain attributes (such as tier of government employment, length of employment, grade level attained at work place, level of satisfaction with income and gender characteristics) that can potentially facilitate or restrain one's ability to subscribe to the NHF scheme and benefit therefrom. The attributes of workers were used as the parameters for evaluation; accordingly, the first parameter is the tier of government employment of the respondent. On this basis, participation in the NHF scheme and access to mortgage housing for workers employed by Federal, State and Local Government organisations is examined. The second parameter used for evaluation is the length of employment, and on this basis, participation and access for workers that have been employed for 14 years or less, those employed for 15–28 years and those that have worked for 29 years or more were analysed. The third parameter is based on the staffing structure obtainable in the Nigerian civil service. The staffing structure runs from Grade Level 01–17 (see Adedeji and Olotuah, 2012: 83 for example) in most public organisations, and this has been employed as a measure for determining one's ability to pay off owner-occupied housing (Lewis, 1977: 66, 67); it has also been used to gauge one's financial capacity to access credit for housing (Adedeji and Olotuah, 2012: 82). In this study, the staffing structure is used to evaluate access to housing. Thus, access is evaluated for low cadre workers (GL 01–06), medium cadre workers (GL 07–12) and high cadre workers (GL 13–17). The fourth parameter is based on respondents' feelings about their salary income. In regard to this, participation and access to subsidised mortgages is analysed based on those who feel bad about their income, those who feel neither bad nor good, and those who feel good. Lastly, participation and access to subsidised mortgages is examined on the basis of respondents' gender: male or female.

The variables (attributes of respondents) under study are nominal /categorical in nature. The variables were statically scrutinised to find out whether they have any relationship with participation and access to the NHF mortgages. Pearson's Chi-square and Cramer's statistics were utilised in this analysis for the reason that they are the most appropriate for testing the relationship between categorical (nominal and ordinal) variables (Babbie, 1988; Friendly, 2003). Pallant (2011) concurs with Babbie and Friendly in confirming that Pearson's Chi-square and Cramer's statistics can efficiently determine whether a statistically significant relationship exists between two categorical variables.

The analysis follows this order: firstly, descriptive statistical tools were employed to examine the opportunity for subscribing to the NHF scheme and access a mortgage. At this level of analysis, a comparison was made between the categories that fall within each parameter. The next level of analysis determines the relationship and association that each explanatory parameter (tier of government employed, length of employment, Grade Level, feeling about income and sex) has with participation in the NHF scheme and access to mortgage housing. For this purpose, Pearson's Chi-square and Cramer's statistics were employed; *p*-values and Cramer's *V* were reported. Pearson's Chi-square statistic determines whether two variables are independent; if the significance value is small enough (less than 0.05), then a statistical relationship is said to exist between the variables under consideration. Cramer's *V* statistic takes values from a minimum of 0 to a maximum of 1; the closer the statistic is to 1, the stronger the association between the variables (Field, 2009).

## **PARTICIPATION IN THE NHF SCHEME AND ACCESS TO SUBSIDISED MORTGAGE HOUSING IN JOS**

### **Description of Respondents on the Basis of Evaluation Parameters**

The analysis is based on 405 valid questionnaires, and the sample population consists of 270 male subjects (representing 67.2%) and 132 females (who represent 32.8%). The distribution of subjects according to tier of government employment indicates that 35.6% (144 subjects) were employed in Federal Government organisations; 38.5% (156 subjects) were employed in State Government organisations and 25.9% (105 respondents) were employed in Local Government Council departments. From the sample population, 51.5% (208 subjects) have worked for 14 years or less; 35.6% (144 subjects) have been in a public sector job in the range of 15–28 years while 12.9% (52 subjects) have worked for 29 years or more. The subjects consist of 17.6% (70 subjects) low cadre workers within Grade Levels 01–06; 60.1% (239 subjects) middle cadre workers within Grade Levels 07–12 and 22.4% (89 subjects) high cadre workers. Regarding their incomes, 55.0% (222 subjects) feel "good" about their income; 14.9% (60 subjects) said their income was "neither good nor bad"; 30.2% (122 subjects) felt their income was "bad". These variables summarise the attributes of the workers being examined.

### **Assessing the Level of Participation of Workers in the NHF Scheme**

The question that followed after respondents provided their personal information was a probe to confirm the level of participation in the NHF scheme. From the sampled population, 43.3% (175 subjects) said they were participating in NHF while 56.7% (230 subjects) said they were not. This level of participation is low, and a search for reasons why some workers were not subscribed to the scheme suggests the following. Out of the 230 subjects that were not subscribing, 45.6% (104 respondents) were unaware of the existence of the NHF scheme; 17.9% (40 subjects) did not wish to participate and 35.4% (79 subjects) gave other reasons: "my employer refused to let us participate"; "my place of work is not captured on the NHF scheme"; "the NHF scheme is dead"; "the NHF does not operate"; and "the labour union stopped us from participating in the NHF". These responses appeared in several completed questionnaires, cutting across workers employed in Federal and State Government agencies. The workers employed in the Local Government Council departments wrote in several completed questionnaires that: "there is no NHF provision for the Local Government Council workers". On the basis of this analysis, it is concluded that the primary factor that accounts for the low participation of workers in the NHF scheme is their lack of awareness about the housing finance policy. The views of respondents indicate that public sector employers and labour unions do have an influence on the participation of workers. Additionally, the NHF scheme does not operate in all the public organisations in Jos, and there is an indication that Local Government employees have less opportunity to participate in the scheme. Further analysis will examine why this is so in Jos.

### **The Influence of Tier of Government Employment on Participation and Access**

The fairness of the subsidised mortgage scheme is examined in relation to tier of government employment of the respondents. There were 404 valid cases (subjects who responded to this) and the analysis indicates that: participation is high among Federal Government workers (88 respondents; 50.3%) compared to those employed by State Government (82 respondents; 46.9%) and Local Government (five respondents; 2.9%) organisations (see Table 2). As clearly seen, the Federal Government workers have more opportunity to participate in the NHF scheme than State Government workers, who in turn have more opportunity to participate than Local Government workers. Employees of Local Government Councils are the least favoured by the subscription housing finance arrangement. This corroborates the comments written by Local Government Councils workers who repeatedly indicated that the NHF scheme does not operate at their level. The test of statistical significance also validates this finding: tier of government employment of public sector workers in Jos was found to influence participation in the NHF scheme. Based on the results presented in Table 2, the Pearson Chi-square value obtained is less than impossible (Chi-square = 86.816;  $p = 0.00$ ) and the Cramer's statistic ( $V = 0.464$ ) indicates a strong association.

Table 2. Relationship between the Tiers of Government Employed with Participation in NHF Scheme and Access to Subsidised Mortgage in Jos

Tier of Government Employed	Participation in NHF Scheme		Accessed/Plan to Access NHF Mortgage	
	Yes (%)	No (%)	Yes (%)	No (%)
Federal Government organisation	88 (50.3)	56 (24.5)	09 (64.3)	122 (36.4)
State Government organisation	82 (46.9)	74 (32.3)	05 (35.7)	130 (38.8)
Local Government Council department	05 (02.9)	99 (43.2)	00 (00.0)	80 (24.8)
Total	175 (100)	229 (100)	14 (100)	332 (100)
Relationship and association of variables	Relationship between tier of government employed and participation in NHF scheme (Chi-square = 86.816, $p = 0.00$ ; $V = 0.464$ )		Relationship between tier of government employed and access to mortgage (Chi-square = 6.282, $p = 0.04$ ; $V = 0.134$ )	

Access to NHF mortgages is examined in relation to tier of government employed, and for this analysis, 59 cases were missing and 346 were valid. The results indicate that only 14 subjects have accessed or plan to access an NHF mortgage (see Table 2). Out of the 14 subjects, more than half (nine respondents; 64.3%) were employees of Federal Government organisations, five (35.7%) were employed in State Government organisations and none was employed in an LGC department. A Chi-square value of 6.282 ( $p = 0.04$ ) and Cramer's statistic of  $V = 0.134$  were obtained from the tests of relationship and association. On the basis of this finding, it is concluded that the subsidised housing scheme is not equitable to workers on the basis of tier of government employment. Federal Government employees appear to derive higher benefits from the NHF scheme over those employed in Local and State Government organisations. Additionally, those employed in LGC are the most deprived.

### Effect of Length of Employment on Participation and Access

The purpose of this analysis is to find out if length of employment gives undue advantage for participation in the NHF scheme and access to mortgage housing in Jos. Three respondents did not respond to the question, which leaves 403 valid cases for the analysis. The examination of participation in the NHF scheme (Table 3) indicates that: 43.1% (75 respondents) of subscribers have worked for 14 years or less; 40.8% (71 respondents) have worked between 15 and 28 years; and a small fraction of 16.1% (28 respondents) have worked for 29 years or more. The test of relationship (Chi-square of 8.687,  $p = 0.013$ ; Cramer's statistics of  $V = 0.147$ ) is statistically significant, indicating the presence of a relationship and an association between the length of employment and participation in the NHF scheme.

Table 3. Relationship of Length of Employment with Participation in NHF Scheme and Access to Subsidised Mortgages

Length of Employment	Participation in NHF Scheme		Accessed/Plan to Access NHF Mortgage	
	Yes (%)	No (%)	Yes (%)	No (%)
Less or equal 14 years	75 (43.1)	132 (57.6)	07 (50.0)	167 (50.0)
15 to 28 years	71 (40.8)	73 (31.9)	06 (42.9)	121 (36.2)
29 years and above	28 (16.1)	24 (10.5)	01 (7.1)	46 (13.8)
Total	174 (100)	229 (100)	14 (100)	334 (100)
Relationship and association between variables	Relationship between length of employment and participation in NHF scheme (Chi-square = 8.687, $p = 0.01$ ; $V = 0.147$ )		Relationship between length of employment and access to mortgage (Chi-square = 0.599, $p = 0.74$ ; $V = 0.041$ )	

In regard to those that have accessed or plan to access an NHF mortgage, the results (Table 3) are consistent with the participation: there were 348 valid cases out of 405; only 14 respondents confirmed to have accessed or plan to access an NHF mortgage, and 50.0% (seven respondents) are those that have worked for 14 years or less; 42.9 (six respondents) have been employed in the range of 15 and 28 years; and only one respondent, representing 7.1%, is among those that have worked for 29 years or more. However, there is no statistically significant relationship ( $p = 0.74$ ) between length of employment and access to NHF mortgage in Jos. The association between these variables is also weak as confirmed by Cramer's statistic ( $V = 0.041$ ). On the basis of this finding, it is concluded that a longer period of employment does give undue advantage for participation in the NHF scheme, and such advantage is not confirmed for access to a mortgage in Jos.

#### The Influence of Position Attained (By Grade Level) at Work Place

The opportunity for participation in the NHF scheme and access to mortgages on the basis of position attained at the work place is examined in this section. Eight respondents did not respond to the question and are treated as missing. As illustrated in Table 4, only 173 workers out of 397 were subscribed to the NHF scheme, and the response rate for subjects who reported that they were subscribed to the NHF scheme is 12.1% (21 respondents) among low cadre workers; it rises to 63.0% (109 respondents) in the middle cadre and decreases to 24.9% among the high cadre. This suggests that as subjects attain higher positions in a public sector job, they tend to gain more opportunity to subscribe to the NHF scheme, but middle level cadre subjects have the highest rate of subscription. The position attained at the work place (by Grade Level) was found to have a statistically significant relationship with participation in the NHF scheme ( $p = 0.04$ ), and Cramer's statistic ( $V = 0.124$ ) also suggests the presence of an association between position attained at the work place and participation in the NHF scheme.

Table 4. Relationship of Position Attained at Work Place with Participation in NHF and Access to Subsidised Mortgages

Position Attained at Work Place	Participation in NHF Scheme		Accessed/Plan to Access NHF Mortgage	
	Yes (%)	No (%)	Yes (%)	No (%)
Low cadre (Grade Level 01–06)	21 (21.1)	48 (21.4)	03 (21.4)	57 (16.6)
Middle cadre (Grade Level 07–12)	109 (63.0)	130 (58.0)	07 (50.0)	206 (60.1)
High cadre (Grade Level 13–17)	43 (24.9)	46 (20.5)	04 (28.6)	80 (23.3)
Total	173 (100)	224 (100)	14 (100)	343 (100)
Relationship and association of variables	Relationship between Grade Level attained at work place and participation in NHF scheme (Chi-square = 6.060, $p = 0.04$ ; $V = 0.124$ )		Relationship between Grade Level attained at work place and access to mortgage (Chi-square = 0.621, $p = 0.73$ ; $V = 0.043$ )	

The result obtained (Table 4) from evaluating the opportunity for access to mortgages is consistent with that of participation in the NHF scheme. With only 357 valid cases and 14 workers who have accessed or plan to access an NHF mortgage, the analysis reveals that the rate of access to mortgages was 21.4% (three respondents) among the low cadre subjects; 50% (seven respondents) among the middle cadre; and 28.6% (four respondents) for high cadre workers. However, the test of statistical significance ( $p = 0.73$ ;  $V = 0.043$ ) indicates the absence of a relationship or association between position attained at the work place and access to an NHF mortgage.

#### Gender, Participation in the NHF Scheme and Access to Subsidised Mortgages

The fairness of the housing finance arrangement is examined in relation to gender. There were 401 valid cases and a higher number of male respondents as seen in previous analyses. In regard to participation in the NHF scheme (see Table 5), the majority were male subjects (73.8%) and only male subjects have had access or plan to access an NHF mortgage. A statistically significant relationship exists between respondents' gender and participation in NHF ( $p = 0.01$ ;  $V = 0.125$ ). There is also a statistically significant relationship between gender and access to NHF mortgages ( $p = 0.01$ ;  $V = 0.132$ ). All these are in favour of males as opposed to females.

Table 5. Relationship of Respondents' Sex with Participation and Access to NHF Mortgage

Respondents' Sex	Participation in NHF Scheme		Accessed/Plan to Access NHF Mortgage	
	Yes (%)	No (%)	Yes (%)	No (%)
Male	127 (73.8)	142 (62.0)	13 (100.0)	226 (67.9)
Female	45 (26.2)	87 (38.0)	00 (00.00)	107 (32.1)
Total	172 (100.0)	229 (100.0)	13 (100.0)	333 (100.0)
Relationship and association of variables	Relationship between respondents' sex and participation in NHF scheme (Chi-square = 6.224, $p = 0.01$ ; $V = 0.125$ )		Relationship between respondents' sex and access to mortgage (Chi-square = 6.047, $p = 0.01$ ; $V = 0.132$ )	

### THE TARGETING OF SUBSIDIES

The analysis conducted confirms that employment characteristics (tier of government employment, length of employment and position attained at the work place) and gender influence participation in NHF. However, only tier of government and gender were found to influence access to an NHF mortgage in Jos. On the basis of this finding it can be concluded that the NHF arrangement is not equitable. Beyond this, the Nigerian experience of subsidising housing through the FMBN and the NHF scheme falls short of some basic principles for targeting of subsidies. Subsidies should be designed to serve the interests of the public, and there should be a mechanism for monitoring its implementation to ensure compliance and effectiveness (World Bank, 2013). This principle is lacking in Nigeria as substantiated by the low level of awareness about the NHF housing finance scheme in Jos. The previous analysis revealed that 223 out of 405 respondents were not subscribed to the NHF scheme. And almost half (104) of those who were not subscribed to the scheme confirmed that they were unaware of its existence. People have to be aware of the subsidy scheme in order to benefit from it, but this is not the case with the housing finance policy in Nigeria.

The analysis conducted to examine the effect of tier of government on participation in the NHF scheme revealed a statistically significant relationship. This prompted a further probe into the relationship of tier of government employment and reasons for not participating in NHF scheme (see Table 5). As indicated in Table 6, about half (49.0%) of those who were not aware of the existence of the NHF scheme were employees of Local Government organisations. The lack of awareness was seen less (28.8%) and less (22.1%) frequently among those employed in State and Federal Government organisations, respectively. The subsidy arrangement is more accessible to the Federal and State Government employees even though they expressed a high rate of not wishing to participate (35.0% and 37.5%, respectively) compared to the Local Government employees (27.5%) (see Table 6).

The World Bank (2013) provides that subsidies should be designed and administered based on "solid and rigorous information about what types of service

people want and are willing to help pay for, what they are willing to use, what is the affordability for the target group, and what can be scaled up in the long term". On the basis of lack of awareness, it can be concluded that this principle is grossly undermined by the Nigerian housing finance policy.

Table 6. Reason for Not Participating in NHF on the Basis of Tier of Government Employed

			Tier of Government Employed			Total
			Federal	State	Local	
<b>Reason Not Participating in NHF</b>	Not aware of its existence	Count	23	30	51	104
		Percentage within reason not participating in NHF	22.1	28.8	49.0	100.0
		Percentage within tier of government employed	41.1	40.5	54.8	46.6
	Do not wish to participate	Count	14	15	11	40
		Percentage within reason not participating in NHF	35.0	37.5	27.5	100.0
		Percentage within tier of government employed	25.0	20.3	11.8	17.9
	Other reasons	Count	19	29	31	79
		Percentage within reason not participating in NHF	24.1	36.7	39.2	100.0
		percentage within tier of government employed	33.9	39.2	33.3	35.4
Total	Count	56	74	93	223	
	Percentage within reason not participating in NHF	25.1	33.2	41.7	100.0	
	Percentage within tier of government employed	100.0	100.0	100.0	100.0	

The principle of equity in relation to subsidy provision requires that government should encourage access for targeted segments (such as low-income households) of society (World Bank, 2013). In Nigeria, the NHF scheme is meant to facilitate access for low-income households, and in Jos, this segment appears to be high among the Local Government workers compared to State and Federal Government workers. However, the housing finance scheme is evidently not being targeted at the Local Government segment. The findings

presented in Table 7 substantiate this claim: on the basis of satisfaction with income, there is a high response rate among the Federal Government (56.2%) employees compared to those employed in State (40.4%) and Local (3.6%) government organisations. In a similar manner, the level of participation in NHF is consistent with the level of satisfaction with income: 61.5% for Federal government; 37.5% for State; and 1.0% for employees of Local Government Councils. As evident in Table 6, the Local Government employees are highly dissatisfied with their incomes compared to State and Federal Government employees. This finding suggests that the poorer households are among the Local Government employees, and therefore, a case can be made for the NHF subsidies to be targeted at them.

There is a feeling of fear and worry about the inconsistent nature of government policies in Nigeria. This concern was expressed by a respondent who said: "Government policies have been very unstable and I cannot trust the housing policy". Closely related to this is a concern of mistrust regarding the housing finance policy. One respondent observed that: "... when a worker subscribes to it, the money is eaten by corrupt officials". There is also a fear arising from the lack of transparency and accountability on the part of NHF administrators. This is raised in the following response: "The operators of the NHF scheme are not honest at all, after being on waiting list for a long period one's turn will never come". Furthermore, the arrangement for supplying mortgage housing to NHF subscribers is not appealing to the workers in Jos. As indicated earlier, the housing finance policy permits the FMBN to approve loans to developers on behalf of subscribers who have applied for a loan. Some respondents expressed concern over this: "... the NHF arrangement is good but the policy for release of funds to contributors only through estate developers is not fair because it does not allow one to build to his/her specification and taste". Another respondent said: "I would like to decide on the type of house to buy. With the NHF scheme it is not like that because developers build to their specifications and not to our taste"

The issues raised by workers are a potential setback to participation in the NHF scheme and access to subsidised mortgages. The workers in Jos are more inclined to use alternative sources of finance compared to the NHF mortgages. The subjects were asked to identify sources of finance they have used or plan to use in acquiring houses. For this question, 349 subjects responded out of 405, and the results presented in Figure 2 indicate that the use of personal savings is high at 49.9% (174 subjects) followed by those who combined different sources of finance at 18.3% (64 subjects) and those who use alternatives sources such as Cooperatives/Thrift (15.5% = 54 subjects). This finding suggests that the NHF scheme has limited significance when compared to alternative sources, and perhaps, that it is less reliable compared to the alternatives.

Table 7. Participation in NHF Scheme by Tier of Government Employed and Controlling for Level of Satisfaction with Income

Level of Satisfaction with Income				Tier of Government Employed			Total
				Federal Government	State Government	Local Government	
Good	Percentage currently participating in NHF	Yes	Count	59	36	1	96
			Percentage within currently participate in NHF	61.5	37.5	1.0	100.0
			Percentage within tier of government employed	56.2	40.4	3.6	43.2
	No	Count	46	53	27	126	
		Percentage within currently participate in NHF	36.5	42.1	21.4	100.0	
		Percentage within tier of government employed	43.8	59.6	96.4	56.8	
Neither	Percentage Currently Participating in NHF	Yes	Count	15	21	1	37
			Percentage within currently participate in NHF	40.5	56.8	2.7	100.0
			Percentage within tier of government employed	78.9	77.8	7.7	62.7
	No	Count	4	6	12	22	
		Percentage within currently participate in NHF	18.2	27.3	54.5	100.0	
		Percentage within tier of government employed	21.1	22.2	92.3	37.3	

(continued on next page)

Table 7. (continued)

Level of Satisfaction with Income				Tier of Government Employed			Total
				Federal Government	State Government	Local Government	
Bad	Percentage currently participating in NHF	Yes	Count	14	24	3	41
			Percentage within currently participate in NHF	34.1	58.5	7.3	100.0
			Percentage within tier of government employed	70.0	61.5	4.8	33.6
	No	Count	6	15	60	81	
		Percentage within currently participate in NHF	7.4	18.5	74.1	100.0	
		Percentage within tier of government employed	30.0	38.5	95.2	66.4	
Total			Count	144	155	104	403
			Percentage	100.0	100.0	100.00	100.0

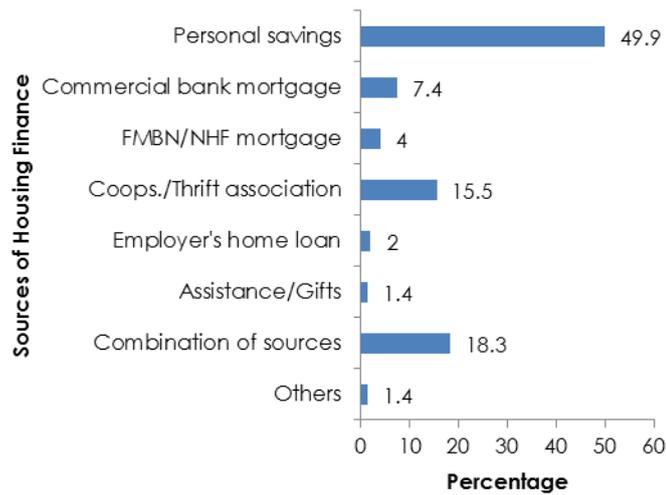


Figure 2. Sources of Housing Finance Used by Workers in Jos

## CONCLUSIONS

This study was conducted to identify the variables influencing access to subsidised mortgage housing in Jos, Nigeria. In achieving this goal, the practice of subsidising housing in Nigeria was examined in relation to the experience of selected emerging economies. On the basis of this comparison, the study concludes that the design of Nigeria's housing finance subsidy lacks the potential to alleviate funding constraints by the subsidy provision agency (the FMBN); it exposes the mortgage institutions (the FMBN and PMIs) to mortgage credit risk; and it provides less mitigation (to high risk mortgage takers) against employment and earnings uncertainties. Recommendations and suggestions in relation to these findings are provided in previous discussions.

Furthermore, the study found that there is a limited supply of subsidised housing for the benefit of NHF subscribers; an uneven distribution of subsidised mortgage housing across Nigeria; the inability of low-income subscribers to make initial down payments required prior to taking possession of a mortgage; and the absence of multiple subsidy options. These issues account for the poor supply of mortgage housing in Jos, and they also constrain access to the small number of houses supplied for the benefit of NHF subscribers. It is recommended that government should give attention to these problems. The experience of other developing countries as outlined in the study can help Nigeria to effectively tackle these problems.

The empirical study conducted identified a number of variables that influence workers' participation in the NHF scheme and access to subsidised mortgage housing in Jos. Firstly, there is a low level of participation in the NHF scheme in Jos, and one key factor that accounts for this is the lack of awareness about the housing finance policy. Secondly, participation in the NHF scheme on the basis of tier of government employment, length of employment, position attained at the work place and on the basis of gender is not equitable for the public sector workers in Jos. Thirdly, there is an acute shortage in the supply of subsidised housing in Jos, and access to the limited volume supplied is not equitable on the basis of gender and tier of government employment. Fourthly, the subsidy is not well targeted at the low-income segment, which is found to be high among Local Government employees. In addition, the workers in Jos are worried about the inconsistent nature of government policy, corruption among administrators of the subsidy scheme, lack of transparency and accountability, and the unappealing process of approving NHF loans to subscribers. These issues are partly responsible for the limited use of the NHF scheme compared to alternative financing solutions in Jos.

Overall, the subsidised mortgage system can potentially extend homeownership opportunities to low-income households in Jos. However, there is a need for increased participation of workers in the NHF scheme, and the government also needs to improve the effectiveness of the NHF mortgage system. The findings suggest the necessity for FMBN to carry out sensitisation and awareness campaigns about the NHF scheme. This could lead to a change in the negative perception that workers hold about the scheme. The FMBN can also gain the trust and confidence of the public through this process. In addition, there is a need to set ethical standards around the subsidised mortgage system. This will improve the transparency of the FMBN and its affiliated PMIs and developers. The

roles of employers and labour unions are critical to the success of the NHF scheme. Therefore, it would be helpful for the government to put in place a mechanism for collaboration between the FMBN, the labour union and the employers. This may help to influence employers to allow their employees to participate in the NHF scheme. The lack of fairness resulting from gender and employment characteristics needs to be addressed by making participation in the NHF scheme equitable for all workers. Lastly, there is a need for oversight of the housing allocation mechanism to checkmate any tendency toward favouritism.

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