

Assessing Residents' Level of Acceptance of Agropolitan Social Housing Development for the Greater Port Harcourt City, Rivers State, Nigeria

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Abstract:- The Rivers State government of Nigeria 2008 vision of building a thriving, economically vibrant and diverse world class competitive and attractive model city tagged the 'Greater Port Harcourt City' in the midst of predominant agricultural communities was believed to see the light of the day if community residents primary source of income and basic socio-cultural activities are sustainably absorbed to form part of the mechanism to drive the development plan. This gives room to the rolling out of several strategic plans with agropolitan residential housing development as one which happens to be the focus of this paper. The idea is concentrated in creating an inclusive and self-sustainable agropolitan residential housing development that will be operated on a private sector model which will successfully engage even the poorest of the poor and provide access to decent affordable housing, employment and revenue generation through conscious involvement in agriculture, light support industries, real estate activities, power generation and distribution, waste management and recycling. The aim of this paper is to assess the residents level of acceptance of this agropolitan project with measurable objectives which are to ascertain the residents' personal attributes of income, gender, educational status, marital status and occupation in the study area; ascertain the acceptability of the proposed social housing development amongst potential beneficiaries and explore residents' personality variables in explaining the variation in acceptability of agropolitan social housing development in Greater Port Harcourt City. The study relied on the output of survey questionnaire items retrieved from 258 heads of households in 8 selected communities of the Greater Port Harcourt city. The findings of the study revealed the residents level of acceptance of agropolitan social housing development with modal response as "Yes", accounting for 78.7% of the distribution. The reason for residents' acceptance was captured in the order of modal first to three mention which are "More persons will own better homes (27.3%), it will enable me own my personal house (18.2%) and it will solve the housing problem in the area (16.3%) respectively". Finally, using residents' personality variables (income, education, gender, marital status and occupation) in explaining the variation in acceptability of agropolitan social housing development, the study found out that the level of acceptance of

agropolitan project as controlled by the 'No-income', 'Low-income and Lower-medium income' target groups is high (96%) and with 29% (the mode) in income category falls in "less than ₦30,000" bracket; secondary level education was the mode with 35%. For Gender, males accounted for the mode of 64%; Marital Status accounted for the mode of 55% and finally, amongst all occupations, traders'/ business people accounted for the mode of 25%.

Keywords:- Greater Port Harcourt, Agropolitan, Sustainable Housing, Personality Variables, Residents' Acceptability.

I. INTRODUCTION

The deployment of sustainable development approaches as part of cities and its population growth and development has aligned with the bottom-up approach in order to achieve public acceptance of development programmes and projects (Fraser, Dougill, Mabee, Reed and McAlpine, 2006). The success of development programmes largely depends on the acceptance by the local people and their willingness to participate in them. The views of the local community residents have become significant and therefore considered to achieve effective decision-making as their participation is an important moderator in influencing outcomes (Annamalai, Devkar, Mahalingam, Benjamin, Rajan and Deep, 2016). The Rivers State government of Nigeria in 2008 embarked on a vision of building a thriving, economically vibrant and diverse world class competitive and attractive model Garden cum Tourism city with emboldened conscious land use activities that will make its residents enjoy an enviable quality of life, sustainable development, security and good health with enhanced viable economic global integration. The cumulative area for the new city spans eight Local Government Areas of Rivers State, namely- the entire Port Harcourt Municipality and parts of Obio/Akpor, Ikwerre, Etche, Oyigbo, Eleme, Ogu/Bolo and Okrika Local Government Areas which in total covers an area of approximately 1,900 square kilometres (9,190,000 hectares of land) and to house a projected population of about two million people (Ede, Owei and Akarolo, 2011). This prompted the preparation of a master plan to co-ordinate and integrate a number of projects in the direction of the overall vision. A South African firm by

name Arcus GIBB was consulted and appointed for this purpose and the Greater Port Harcourt City Master Plan was prepared. The plan focused to address two prevailing issues which were i. to engage in the activities of urban renewal and transformation of the older city and ii. the building of a new city for the 21st century with high urban quality and planned open spaces that will become a worthy global player that will be an example to other African countries (GPHCMP, 2008). The Greater Port Harcourt City Development Authority (GPHCDA) was then established on the 2nd of April 2009 by the Greater Port Harcourt City Development Law No. 9 of Rivers State, Nigeria. The GPHCDA was established as a regulatory body with mandate to facilitate the implementation of the Greater Port Harcourt City Master Plan and build the New City called the Greater Port Harcourt City. From the day of its establishment till date, several development proposals and projects have been rolled out; all demanding for the grasp of available land space. One of such is the Public Private Partnership arrangement for the creation of an inclusive and self-sustainable agropolitan residential housing development that will be operated on a private sector model which will successfully engage even the poorest of the poor and provide access to decent affordable housing, employment and revenue generation through conscious involvement in agriculture, light support industries, real estate activities, power generation and distribution, waste management and recycling. The project is an all-inclusive and sustainable agropolitan enclave, to be located in an area zoned for future residential development in the Greater Port Harcourt City Master Plan at the Etche-Oyigbo extensions. The objective, first, is to provide affordable housing for members of the target group and then create sustainable, mainly agro-based livelihoods, which will enable beneficiaries to painlessly take care of their housing and other needs. A secondary motive is to create an iconic residential skyline to complement the proposed beautiful townscape of Greater Port Harcourt City. The site will have easy access to the rest of the new city to take advantage of the latter's proposed robust facilities. The target group are young unmarried, newly married without children, the married with young children and generally, energetic people who are willing to make a living in integrated farming, entailing such aspects as livestock production, poultry farming, pig farming, snailry, rabbitry, apiculture, aquaculture and floriculture. Participants of the self-sustainable agropolitan residential housing development must fall within the income groups of "No income" (less than the minimum wage of ₦30, 000 monthly), "Low Income" (₦30,000 to ₦60000 monthly and "Lower Middle" (₦61000 -90,000 monthly).

II. LITERATURE REVIEW

Bottom-Up Development Approach

Taking a more bottom up view for city development can give an opportunity to radically rethink about its development. (Carlo Ratti, Anthony Townsend, 2011). Decentralising economic growth and employment opportunities, integrating spatial and socio-economic planning and preparing and implementing Town/City Development Plans through bottom up approach can prove

beneficial.. Bottom-Up Development was a paradigm that was coined for agricultural and rural development in the late 1970s and early 1980s. It was commonly known as the 'farmer first' approach, or 'bottom-up' development and has greatly influenced the way that rural development is practiced today. Bottom –top approach means involving the communities at the various levels of the development programme and covers the definition phase, implementation, evaluation and the revision of the programme either directly or through those bodies representing collective interests such as the professional organisations, women's' groups, cultural associations, etc. Cohen & Uphoff (1977) and Chambers, (1993) were the early proposals of the theory and framework on participation. While Cohen & Uphoff (1977) had four dimensions of participation viz: decision making, implementation, benefits sharing and evaluation, Chambers (1993) had stages as project identification, prioritizing, planning, implementation, monitoring and evaluation. Hence the local communities are involved through consultation or by involving them in the partnership which makes them to see the programme as their own and put in all efforts to ensure the successful realization of the goals and sustainability of it too (Isidiho and Sabran, 2015). The bottom-top method involves respecting the ideas and culture of the communities involved, incorporating the needs and visions of the rural people in project execution and respecting their sociocultural diversity coupled with their economic life style and then improve on it for the realization of the goals of the project and its sustainability too. It put participation and empowerment firmly in the vocabulary of rural development (and, indeed, of development more generally). Bottom-up approaches emphasize the participation of the local community in development initiatives so that they can select their own goals and the means of achieving them. They also ensure community ownership, and commitment and accountability to the development project as it seeks development from below. The failure of most rural and regional development projects and programmes are as a result of the weakness of top-down approaches. Development projects must be initiated with the participation of the poor as bottom-up approaches ensure that the projects are cost effective, sustainable and replicable. The success of development programmes largely depends on the acceptance by the local people and their willingness to participate in them. Most of the people in the developing countries are out of the formal economic sector. They make their living through self-employment both in rural and urban areas because of limited employment opportunities in the formal economy.

Rational Choice Theory

Rational choice theory was developed by Adam Smith in the 1770s (Russell, 2020). The theory is also known as choice theory or rational action theory, which was developed to explain and understand social and economic behaviour modeling (Abella, 2008). The theory explains that aggregate social behaviour results from individual actions that determine individual choices for goods. The theory assumes that individuals have preferences amongst available alternative choices to make decision on their preferred choices that are complete (Abella, 2008).

These choices made by individuals predict and explain the collective choices of individuals in the society concerning numerous goods based on the social and economic factors he or she has considered as to which one is preferable to become societal preferred choice. For example, if individuals preferred alternative A over alternative B and alternative B over alternative C, then alternative A is the preferred good over the other two alternatives considering all social and economic costs and benefits before decisions are taken for the best possible outcome (Allingham, 2002). The theory provides opportunity to seek for most cost-effective means to achieve a goal without reflecting on worthiness of the goal. Importance of the theory is to help explain how individuals make decision over a range of goods considering costs, risks and benefits of that decision in the society.

Criticism of the theory suggested that individuals are not the decision makers of the society rather politicians and business owners. Decisions may affect the choices of individuals as to which good may be produced. Institutions are the most important decision makers in the society as they regulate the systems which were over simplified in the theory assumptions (Russell, 2020). The weaknesses of the theory according to some scholars are that it is not entirely true that individuals' choices may be the same as some may act irrationally and may not be certain as information is inadequate to make rational decisions (Ogu, 2013).

Thus, it is important that the provision of social housing that is sustainable and meets the demands of the population must consider individual choices that may give a clear picture of what the majority of the people want and the quantity needed before decisions are taken by the producers of social housing to achieve the aim of supplying sustainable social housing. This decision by politicians and stakeholders that are involved in social housing production must weigh the social and economic costs, risks and benefits to individuals and producers considering all factors and resources that are within the environment that may affect and influence their decisions before production.

John Friedmann and the Agropolitan Concept of Regional Development

The agropolitan concept was proposed by Friedmann (1975). It was proposed as a strategy aimed at meeting communities' basic needs. He said needs are basic to the extent that their satisfaction is regarded as essential for human existence. He pointed out three conditions that are necessary for successful agropolitan development. The first is that the rural communities must be territorially closed and integrated. These characteristics give the people the feeling of oneness and the desire to work together for their own common interest. Secondly, land and water resources must be communally owned. By communalizing these resources, the power to determine the critical uses and division of land and water would rest with the community. Thirdly, access to the fundamental buildup of social power must be equal. Where this access is equally circulated, it prepares the ground for entering freely on co-operative relations but if

access to the use of social power is not equal, it enhances the power of the few to control the many.

Furthermore, Friedmann is of the opinion that agropolitan centres are the smallest units that are still capable of providing for the basic needs of all their inhabitants with only very few resources imported from outside the centre. In his opinion, an agropolitan centre can have a population density of 200 persons per square kilometres of cultivated land and can be designed to have a total population of as low as 2,000 as in South Vietnam. The population of an agropolitan centre can also range from 15,000 to 60,000 for rural areas (the population figure will base on the country's definition of rural areas) having in mind the need for face-to-face governance of agropolitan affairs (Friedmann, 1984).

Friedmann went forward in presenting that the principle of territoriality should be applied to problems of economic organisations. This in effect means strengthening the territorial (regional) economy at all relevant levels, that is the agropolitan centre and the level immediately superior to it (district centre). It is based on these that he derived a number of related principles on development; that development should aim at diversifying the territorial economy, attempt to maximise development of physical resources consistent with the principles of conservation, encourage the expansion of regional and inter-regional domestic markets, be based on much as possible or the principle of self-financing and finally, seek to promote self-governance of agropolitan centres such that they have authority over their productive and residential activities (Ikiriko, 2020).

Friedmann, (1984) pointed out that though agropolitan centres are autonomous, they are not sovereign units, but part of a larger territorial system (comprising local, state and national levels) which in turn is linked to the overall world economy. According to him, the roles of the state are productive, developmental, regulative and distributive. It maintains a balance within the system of social relationships so that changes and growth in the territory occur without excessive disruption of the entire system. Although the above development concept and theories dates back to 1975, it is quite important to state that it is not out of place in the present reality where there is a recorded high level of government grandiose infrastructural projects and programmes failure. There is need for sustainability and this can be achieved through community development appraisal, prioritization of needs and full community participation for effective development project implementation and operation.

Definition of Agropolitan

Saefulhakim (2004) defines Agropolitan development by breaking the term into two terms, agro and metropolis. Agro in Latin means a managed land or crop cultivation. Metropolis alludes to an essential linkage of different community activities. In this manner, Agropolis can be characterized as an essential issue that serves rural based economic centres. The development of Agropolitan can in

this way be characterized as the advancement of different aspects that bolster the part of an Agropolis as an administration community or service centre for a locality comprising of agrarian based economic action. As per Anwar (2004), Agropolitan districts can be characterized as focal spots or central places that have a various leveled structure. An Agropolis, specifically, is alluded to as small scale urban-towns that can develop because of its capacity of organizing the fundamental exercises of agro-business principle activities. Along these lines, an Agropolitan districts can be characterized as a useful and functional framework comprising of at least one rural based urban areas in a specific agrarian district, which is portrayed by the presence of a spatial pecking order for agriculturists' settlements units. The spatial order is made out of an Agropolitan centre and encompassing production foci.

As indicated by Rustiadi (2004), Agropolitan development is a model that depends on decentralization and urban framework arrangement in provincial ranges, all of which prompt to urbanization. For this situation, urbanization is viewed in a positive angle, in which the rustic zones which are the rural areas encounter change towards getting to be distinctly urban. This, thus, overcomes the diseconomies of scale related with urban improvements, such as excessive migration to the urban areas, pollution, traffic congestions, slums and squatter settlements and resource depletions. Taking a look at literature are different meanings of agropolitan. Consolidating the different definitions, Dardak (2007) said that the term agropolitan can be characterized as follows:

- An Agropolitan district is an area in light of a functional framework that comprises at least one agricultural based urban regions (agropolis) in a specific agricultural area, which is thus portrayed by the presence of a practical linkage framework and a spatial chain of command of settlements, gainful units and agro-business frameworks. This district can be made with or without formal arrangements or planning.
- An agropolis is a focal area that serves the encompassing agrarian based economic activities centres.
- Agropolitan development is a rural advancement approach that components the development of agriculture-based urban areas (Agropolis) as a piece of an urban framework, with the target of making an adjusted local improvement through a synergetic rural-urban linkage.

Agropolitan Social Housing as a Type of Social Housing Development

Based on the concept of agropolitan, a agropolitan social housing is a housing development associated with

agro-based development that provides not just accommodation for all class of the society but diversity, opportunity, inclusiveness, affordability, sustainability and security of tenure; and these attributes happens to be the salient objectives of social housing provision (Burkey, 2005). It is not out of place to state that such development meets the different types of social housing. This is so because it will create avenues of productivity, employment creation, product marketing, public-private partnership, technical knowledge transfer, self-help and autonomous (Friedmann, 1984). To a large extent, these are key elements of sustainability. Most government projects fail because they lack these basic elements.

Social Housing

A broad range of literature reveals that social housing has no common internationally acceptable definition (Drudy and Punch, 2002; Murphy, 2003; Li, 2007; Malpass and Victory, 2010; Oxley, Elsinga, Haffner and Van, 2010). For example, most European Union (EU) countries have no standard form of describing social housing. The provision across Europe is subject to several political, economic, cultural and demographic developments as a result of which it has undergone a lot of reformative programmes (Czischke, 2009). Different terminologies have also been used to describe social housing, such as: ‘Housing at Moderate Rent’ in France; ‘Common Housing’ or ‘Not-for-Profit housing’ in Denmark; ‘Housing Promotion’ in Germany; ‘Limited-Profit Housing’ or ‘People’s Housing’ in Austria; ‘Protected Housing’ in Spain; ‘Public Utility Housing’ in Sweden; ‘Council Housing’ or ‘Local Authority Housing’ in the UK (Pittini and Laino, 2011). Different providers of social housing across Europe have been local authorities, municipalities, housing co-operatives, associations, commercial enterprises and not-for-profit organizations.

According to Lawson (2009), social housing in Australia is defined to include a variety of non-market housing:

- i. Public Housing: state-owned and managed for the purposes of providing affordable housing to the low- and moderate-income groups;
- ii. Community Housing: dwellings which are state-owned, but managed by the community “not-for-profit” based organizations, for affordable housing purposes;
- iii. Transitional Housing: dwellings, which are owned and managed by “not-for-profit” organisations for affordable housing purposes with a significant public assistance for purchase and construction; and
- iv. Social Housing: provision of secured affordable housing on a long-term lease with government subsidies, where not-for-profit or private sector organizations are performing management roles.

Table 2.1: Defining Social Housing

Factors	Definition Criteria	Applicable Countries
Ownership	Non-profit organizations and local authorities	The Netherlands, England and Sweden
Construction	Who constructed the dwellings	Austria and France
Nature of Plant	Below market levels	Ireland and England
Funding	Relevant funding and or subsidy	France, UK and Germany

Target Occupiers	1) All households 2) Low income households and less privileged	Austria and Sweden
Motive/Purpose	Social service and not-for-profit	All countries

Source: Whitehead C. and Scanlon K, 2007

There are different types of social housing which includes Private Social Housing (Elsinga and Wassenberg, 2007, Pattison, Strutt and Vine, 2010), Public Social Housing (Powel, 2010; Malpass and Victory, 2010), Self-help Social Housing (Li, 2007, ICA Housing, 2012) and Marketised Social Housing (Oxley *et al*, 2010, Haffner *et al.*, 2009). Diversity, opportunity, inclusiveness, affordability, sustainability and security of tenure are the key objectives of social housing provision (Burkey, 2005).

Agropolitan Social Housing and Sustainability

Sustainable Development (SD) is a pattern of resource utilization that aims to meet human needs while preserving the environment so that these needs can be met not only in the present, but also for generations to come (United Nations. 1987). To achieve sustainability in social housing development, several authors have looked at the subject from different perspectives such as economic ((Harris, 2000, Ebsen and Rambol, 2000; Zaid and Graham, 2011), environmental (Adele and Pallemarts, 2009; Abidin, 2009; and Zaid and Graham, 2011) and social (Pattinaja and Putuhena, 2010 and Lami and Abastante, 2017)

The literature (Abidin, 2009; Adele and Pallemarts, 2007; Zaid and Graham, 2011) has documented a number of social objectives for achieving sustainability in social housing such as improvement of the quality of life, including poverty reduction, provision of appropriate planning for promoting cultural differences; provision of a healthy and secured working environment that will promote human wellbeing; provision of skills acquisition and employment opportunities; provision of adequate basic services and facilities for meeting special needs; improvement of the quality of where people live, creation of an active, inclusive and safe environment, fairness, tolerance, and cohesion with a strong local culture and other shared community activities; and a well-connected place--with good transport services and communication linking people to jobs, schools, health and other services.

Attributes of Beneficiaries of Social Housing Globally

The attributes of beneficiaries of social housing vary from country to country depending on the social demography, government policy and legislation, mode of provision, whether government funded or partnerships with private organisations or housing cooperatives.

There are real benefits in providing a balance or mix of housing tenure, especially in new settlements where housing can be used to bring the broad spectrum of society together, and break down prejudices. In the Netherlands it has an even larger role it plays and makes up to 40% of the stock and 57% in a city like Rotterdam. 51% of immigrants in the Netherlands live in social housing, and make up 31% of the residents (Shelter, 2018). This compares with 27% and 16%

respectively in the UK, which highlights the important role played by private rented housing.

In Austria, where social housing makes up 23% of the housing stock, 80-90% of the population are eligible (Shelter, 2018). The Scheme is targeted at low income earners but 80 – 90% of the population are technically eligible. Two years of residence in Vienna is required to access the subsidized housing. In Singapore, the scheme targets low-income families and their first homes, age (35+) being the common requirement, relationship status, employment status, income level and residency status.

In Denmark, Social Housing is prioritized for young students, elderly, disabled, single parents, refugees and residents in need because of urban renewal displacement on first come first serve basis. In Germany, the target groups for social unit and subsidies are defined by legislation as households who cannot secure themselves with adequate accommodation and needs support, particularly the low-income households, households with children, single parents, pregnant women, the elderly, the homeless and other persons in need. In Switzerland, everyone qualifies but 20% of units are subsidized to allow for those living on welfare benefits.

III. STATEMENT OF THE PROBLEM

Onyike (2012) observed that the 20th century saw a lot of failed attempts by the Nigerian government to deliver affordable housing to a majority of her citizens, and worse still for the “No and Low income” groups. Ademilayi (2010) argues that housing policies have not been able to meet set targets of affordable housing delivery to the low-income groups and with the high population growth rate and unprecedented unemployment, the insignificant response by government makes the housing deficit more cumbersome. Ibem (2011) further stated that non availability of mortgage loans, high interest rates, inadequate infrastructure and difficulties in obtaining building plan approvals and Certificates of Occupancy (C of O) are some factors responsible for the failure of housing policies and programmes in delivering affordable housing to the “No and Low income” groups in Nigeria (as defined in the 2012 Housing Policy Document).

The recorded history of formal intervention in the housing sector in Nigeria dates back to the colonial administration after the unfortunate outbreak of the bubonic plague of 1928 in Lagos. This necessitated the establishment of the Lagos Executive Development Board (LEDB) that signified the ushering of Nigerian public housing programmes intervention (Onibokun, 1975; Aribigbola, 2000). The policies were modest with the ultimate aim of addressing the housing problem at a national scale (Orange and Udegbe, 2004). The policy focus then, was on the

provision of expatriate quarters (Oni, 1989) and some housing for selected indigenous staff in the Railways, Marine, Police and Armed Forces (Aribigol, 2000). The construction of senior civil servant quarters in the capital city of Lagos and regional headquarters like Kaduna, Ibadan and Enugu were some of the practical efforts made and at the same time some form of rent subsidy and housing loans were provided (Bello, 2019). Most of the housing delivery programs in Nigeria are rarely sustainable since they lack the basic elements of sustainability. The idea of affordable and sustainable housing recognizes the needs of households whose incomes are not sufficient to allow them to access appropriate housing in the market without assistance. In the Greater Port Harcourt City area, there is unprecedented homelessness among the 'No-income', 'Low-income and Lower-medium income' groups. The Rivers state government has set a goal to reduce this homelessness but still, most of her estates are not targeted towards the public but rather, government officials or workers. The 'No-income', 'Low-income and Lower-medium income' groups dream of owning their houses in the Greater Port Harcourt City area is nearly impossible.

IV. AIM AND OBJECTIVES OF THE STUDY

4.1 AIM OF THE STUDY

The aim of this study is to assess residents level of acceptance of agropolitan housing development in the Greater Port Harcourt City, Rivers State, Nigeria.

4.2 OBJECTIVES OF THE STUDY

- The objectives of the research are to:
- i. ascertain the residents' personal attributes of income, gender, educational status, marital status and occupation in the study area.
 - ii. ascertain residents' acceptability of agropolitan social housing development for potential beneficiaries and
 - iii. explore residents' personality variables in explaining the variation in acceptability of agropolitan social housing development in Greater Port Harcourt City.

V. DESCRIPTION OF THE STUDY AREA (GREATER PORT HARCOURT CITY)

Under the leadership of former Governor, Chibuike Amaechi, plans were announced for the creation of a new city to be called Greater Port Harcourt City. The total area of the Greater Port Harcourt City is 1,900 km², spanning all or parts of eight Local Government Areas in Rivers State, including Ogu Bolo, Eleme, Ikwerre, Etche, Obio/Akpor, Okrika and Okrika. (See Fig. 1.1 and 1.2). The Greater Port Harcourt City Development Authority (GPHCDA) was established by law in April 2009 with a mandate to facilitate the implementation of the Greater Port Harcourt City Master Plan and build the new city. The Greater Port Harcourt City hosted several of the events at the 17th National Sports Festival tagged "Garden City Games" at the recently completed Adokiye Amiesimaka Stadium. Greater Port Harcourt City has a total land mass that spans eight (8) Local Government Areas namely, Port Harcourt City, Obio/Akpor, Etche, Ikwerre, Ogu Bolo, Eleme and Oyigbo.

Total number of communities in the GPHC are 71 as shown in Table 3.1.

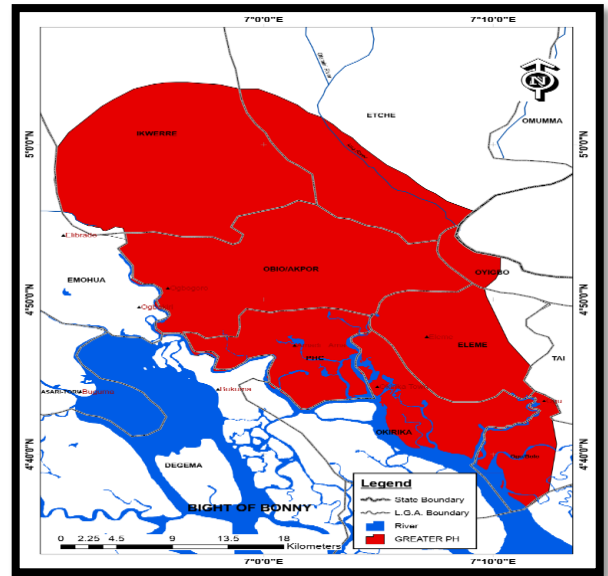


Fig. 5.1: Map of Greater Port Harcourt City
Source: GPHCDA, 2008

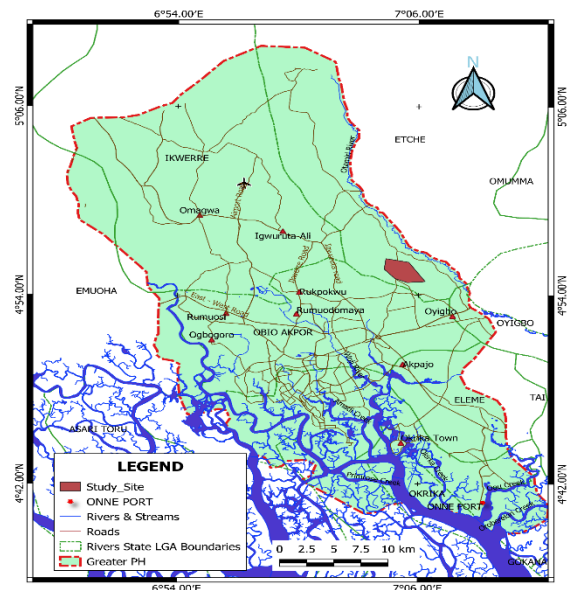


Fig. 5.2: Map of Greater Port Harcourt City showing Proposed Site for Agropolitan Project
Source: GPHC Master Plan, 2019

VI. RESEARCH METHODOLOGY

The population for which generalization was made concerning the result of this study is the sum total number of resident in the Greater Port Harcourt city area. Heads of households served as the unit of analysis. The stratified multi-stage sampling procedure (Kish, 1965) was adopted for the extraction of sampled population of head of households in selected communities of GPHC (See Tables 6.1 and 6.2). Two stages were therefore involved.

Stage 1-- Obtaining a 10% (*a priori* decision) sample of the component communities of GPHC in each stratum. The number in each stratum was rounded to one whole number to ensure representation of each stratum.

Stage 2 --Obtaining the number of households to be studied after applying the Taro Yamane (1967) formula which aided the researcher to determine the appropriate number of cases to be studied at the precision level of 5%.

Table 6.1: Sampling Details 1

S/No.	Local Govt. Area (Stratum)	Names of GPHC Communities	No. of GPHC Communities	10% Sample With Rounding
1	Port Harcourt Municipality	Port Harcourt Township, Rumuibekwe, Abuloma, Amadi-Ama, Diobu, Elakahia, Nkpolu Oroworukwo, Ruumukalagbor, Ogbunabali, Orogbum, Oromineke, Oroworukwo	12	1
2	Obio/ Akpor	Eneka, Rumuodomaya, Elemenwo, Rukpokwu Rumuosi, Iriebe, Rumuagholu, Ogbogoro, Eliozi, Rumuokwursi	10	1
3	Etche	Igbo-Etche, Abara, Elele-Etche, Umuebulu, Chokocho, Ikwerengwo	6	1
4	Ikwerre	Igwuruta, Igwuruta-Ali Omagwa, Ipo, Aluu, Ozuoba, Omademe	7	1
5	Ogu-Bolo	Ogu Town, Bolo Town, Wakama, Agokien, Mbikiri, Owo-Ogono, Iwokiri	7	1
6	Okrika	Okrika, Okujagu, Abam-Ama, Omodara-Ama, Kalio, George, Obo, Ele, Ibuluya, Ogoloma, Donkiri, Mabegbeboko	12	1
7	Eleme	Nchia, Ebubu, Esama, Eteo, Onne, Ogale, Alode, Aleto, Akpajo, Alesa	10	1
8	Oyigbo	Oyigbo Town, Komkom, IzuomaAyama, Okoloma, Umusia, Iwuoma- Estate	7	1
	Total		71	8

Source: GPHCDA, 2009

Table 6.2: Sampling Details 2

S/N	Stratum	Names of Selected Communities	Population (1991 Census)	2019 Population (Projected @6.5% Annual Growth Rate)	Total No. of Households from listing	No. of Households from on Yamane formulae	Sampling %
1	Port Harcourt Municipality	Mgbundukwu (Mile 2 Diobu)	9,600	55,682	8,808	120	1.5
2	Obio/Akpor	Rumuodomaya	4,548	25,519	4,828	65	1.5
3	Etche	Abara	1,866	10,823	1,940	26	1.5
4	Ikwerre	Igwuruta-Ali	2,805	16,269	2,480	34	1.5
5	Ogu-Bolo	Wakama	2,717	15,759	2,266	31	1.5
6	Okrika	Okujagu	5,794	33,785	3,191	43	1.5
7	Eleme	Akpajo	5,195	30,298	3,092	42	1.5
8	Oyigbo	Okoloma	3,474	20,149	2,488	34	1.5
	Total		35,999	208,284	29,093	395	1.5

Source: Researchers Conceptualization and 1991 NPC Population Projection, 2020

Mathematically the Taro Yamane (1967) formula was used as given by:

$$n = \frac{N}{1 + N(e^2)} \tag{1}$$

Where,

n = Sample size

N = Population size

e = The assumed error margin or tolerable error which is taken as 0.05

Computation

$$n = \frac{29,093}{1 + 29,093(0.05^2)} = \frac{29,093}{1 + 29,093(0.0025)} = \frac{29,093}{1 + 72.7} = \frac{29,093}{73.7} = 395$$

The representative number of cases for questionnaire administration was 395 heads of households. The systematic probability sampling (Kish, 1965) was applied to the ordered list of households in the 8 communities, which constituted the probability sampling frame. Since the sampling fraction was approximately 1%, a random start was made in the interval 1 - 100. Thereafter, every 100th case was picked until the probability sample size of 395 was achieved. There were 63 non-response cases, yielding a non-response rate of 16%. This translates to 332 valid cases but analysis will be based on percentage distribution of categories of respondents' monthly household income due to inclusiveness of the "no income", "low income" and "lower middle income" categories.

Table 7.1.1a (the shaded area, totaling 258) qualify for further analysis (with respect to opinions and perceptions of the Agropolitan Housing Development)

In this study, the independent variables are stated in conceptual model 1 and are;

- i. Income,
- ii. Gender,
- iii. Educational status,
- iv. Marital status, and
- v. Occupation

The pair-wise relationships between the independent variables and dependent variable: "Rating of Acceptability of Agropolitan Social Housing Development" was tested. In this study, values for statistical significance were automatically displayed in computer printouts (using the microcomputer-adapted Statistical Package for the Social Sciences (SPSS), Version 22, making it possible to reject or not to reject the null hypothesis at the significance level of 0.05.

Multivariate Analysis – Conceptual model 1 did not only posit pair-wise relationships between the named independent variables and dependent variables, but also that collectively these independent variables can explain variation in the dependent variables.

This is the standard type of multivariate problem for which Multiple Classification Analysis (MCA) (Andrews *et al.*, 1967) was developed. MCA is a multiple regression-related type of technique. The difference is that while the latter requires measurement of variables (dependent and independent) on the interval scale, MCA allows *independent* variables to be measured with any scale – nominal, ordinal or interval – and the *dependent variable* with an interval scale or as a dichotomy. The technique is robust enough to accept dependent variables measured on the ordinal scale.

MCA was found particularly useful in this research because the independent variables were measured with nominal and ordinal scales and the dependent variables with ordinal and interval scales, data unsuitable for classical multiple regression.

Mathematically, MCA is given by:

$$Y_{ij\dots n} = \bar{Y} + a_i + b_j + \dots + e_{ij\dots n} \quad (3)$$

Where, for Conceptual Model 3 for instance,

Y_{ijn} = The score on the dependent variable (Acceptability of Social Housing Development) of an individual who falls in category i of predictor A (Income), category j of predictor B (Gender), etc.

\bar{Y} = Grand mean of the dependent variable (Acceptability of Social Housing Arrangement)

a_i = The "effect" of membership in the i^{th} category of predictor A.

b_j = The "effect of membership in the j^{th} category of predictor B

e_{ijn} = Error term for this individual

The Multiple Classification Analysis technique yields three key coefficients such as: Eta (η), Beta (β) and multiple R squared

- (a) Eta and Eta²: Eta indicates the ability of the predictor, using the categories given, to explain variation in the dependent variable. Eta is the correlation ratio and indicates the proportion of the total sum of squares explainable by the predictor.
- (b) Beta and Beta²: these are directly analogous to the eta statistics. Beta provides a measure of the ability of the predictor to explain variation in the dependent variable after adjusting for effects of all other predictors.
- (c) A multiple correlation coefficient, R². This coefficient estimates the proportion of variance in the dependent variable explained by all predictors together.

MCA will be used to examine:

- i. The *bivariate relationships* between the predictors (independent variables) and the dependent variable;
- ii. The *extent* to which, taken together, the independent variables explain variation in the dependent variable, and
- iii. The *order of importance* of the predictors in explaining variation in the dependent variable.

Figure 6.1 presents Conceptual Model 1. It posits that some personal attributes such as income, gender, educational status, marital status and occupation are important to explain the variation in the acceptability of the proposed agropolitan social housing development amongst potential beneficiaries. Information obtained through testing the model could inform better design and management of social housing in the study area

Conceptual Model 1

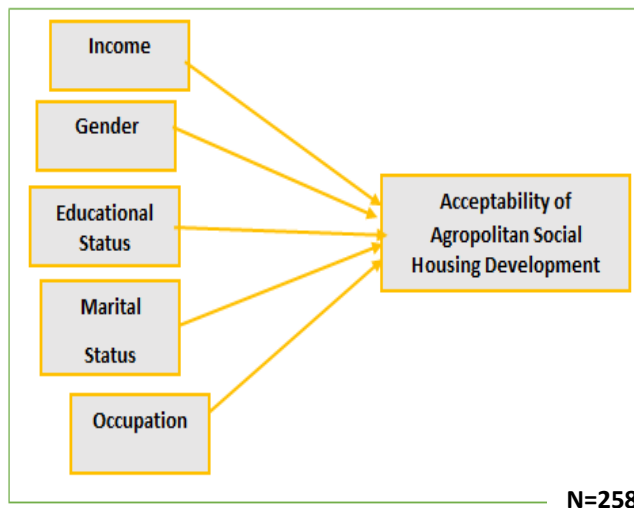


Fig 6.1: Conceptual Model Positing that Selected Personality Variables Can Individually and Collectively Explain the Variation in Potential Respondents’ Acceptance of the Agropolitan Social Housing Development
Source: Researcher, 2020

VII. FINDINGS OF THE STUDY

7.1 Personal Attributes of Respondents in the Study Area

The findings of the study in this section shows residents’ personal attributes of income, gender, educational status, marital status and occupation in the study area.

7.1.1 Monthly Income

Considering the percentage distribution of categories of respondents’ monthly household income due to inclusiveness of the “no income”, “low income” and “lower middle income” categories, it is the shaded area totaling 258 respondents whose response will qualify for further analysis. See

Table 7.1.1a

Table 7.1.1a: Percent Distribution of Categories of Respondents’ Monthly Household Income

S/No.	Income Category (₦)	N	%
1	Less than 30,000	70	21.1
2	30,000 - 49,999	62	18.7
3	50,000 - 69,999	59	17.8
4	70,000 - 99,999	67	20.2
5	100,000 - 129,999	38	11.4
6	130,000 - 159,999	28	8.4
7	160,000 - 189,999	4	1.2
	Missing data	4	1.2
Total		332	100

Source: Researcher’s Field Survey, February, 2020

The modal monthly income category was “Less than ₦30, 000”, representing 26.7% of the distribution. Those who earned “₦70, 000 – ₦99, 999” and “₦30, 000 – 49,000”, accounted for 25.6% and 23.7%, respectively (Table 4.7).

Table 7.1.1b Percent Distribution of Respondents’ Monthly Income Category

S/No.	Category	N	%
1	Less than 30, 000	69	26.7
2	30,000 - 49,99	61	23.7
3	50,000 - 69,999	58	22.5
4	70,000 - 99,999	66	25.6
5	Missing Cases	4	1.5
Total		258	100

(Source: Researcher’s Field Survey, February, 2020)

7.1.2 Gender

Figure 7.1.1 shows the distribution of male and female respondents. Males represented 69.9% of respondents, while 30.1% were females.

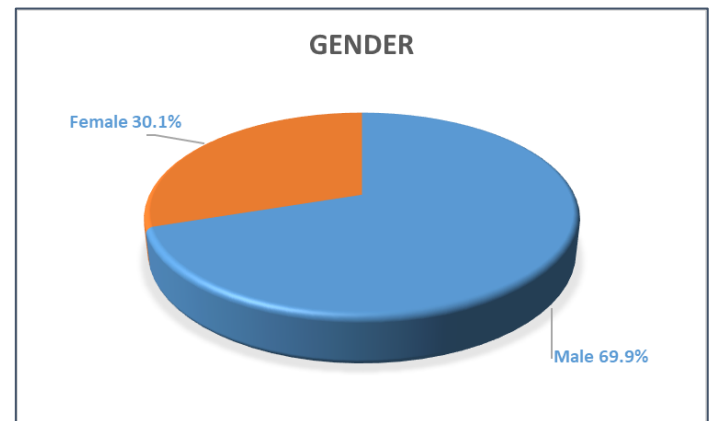


Fig. 7.1.1: Percentage Distribution of Gender of Respondents

Source: Researcher’s Field Survey, February, 2020

7.1.3 Educational Level

The modal educational level of respondents was “Basic”, representing 36.6% of the distribution. Those with “Secondary” and “Bachelor’s Degree” education accounted for 32.8% and 24.8%, respectively (Table 7.1.2).

Table 7.1.2: Percent Distribution of Respondents’ Level of Education

S/N	Level	N	%
1	None	8	3.1
2	Basic	94	36.6
3	Secondary	85	32.8
4	Bachelor’s Degree	64	24.8
5	Post Graduate Degree	4	1.5
6	Missing Cases	3	1.1
Total		258	100

Source: Researcher’s Field Survey, February, 2020

7.1.4 Marital Status

The modal marital status was “Married”, accounting for 55.7% of respondents. Those who reported themselves as “Single” accounted for 30.2 % and divorced 14.1%.

Table 7.1.3 Marital Status

S/No.	Marital Status	N	%
1	Married	144	55.7
2	Singles	78	30.2
3	Divorced	36	14.1
	Total	258	100

Source: Researcher’s Field Survey, February, 2020

7.1.5 Occupation

Table 7.1.4 shows the distribution of respondents’ occupation. The mode was “Trader/Business”, representing 23.3% of the distribution.

Table 7.1.4: Percent Distribution of Respondents’ Occupation

S/No.	Occupation	N	%
1	Civil and public servant	32	12.2
2	Corporate worker	58	22.5
3	Trader and business	60	23.3
4	Farmer	14	5.3
5	Artisan	37	14.5
6	Self employed	43	16.8
7	Fishing	9	3.4
8	Missing Data	5	1.9
	Total	258	100

(Source: Researcher’s Field Survey, February, 2020)

7.1.6 Age of Respondents

Table 7.1.5 shows percentage distribution of age cohorts of respondents. The modal age cohort was “35 – 44

years”, accounting for 41.2% of the distribution. Following closely were the “25 – 34 years” and “45 – 54 years” cohorts, accounting for 31.7% and 15.6%, respectively.

Table 4.3: Age Cohort Distribution of Respondents in the Study Area

S/No.	Age Cohort(Years)	N	%
1	18 – 24	18	6.9
2	25 – 34	82	31.7
3	35 – 44	106	41.2
4	45 – 54	40	15.6
5	55 – 64	6	2.3
6	65 and above	3	1.1
7	Missing Cases	3	1.1
	Total	258	100

Source: Researcher’s Field Survey, February, 2020

7.2 Acceptance of Agropolitan Social Housing Development

Respondents were asked if they would accept Agropolitan Social Housing Development in the area. The modal response was “Yes”, accounting for 78.7% of the distribution. Respondents were asked to state the reason for their acceptance. Table 7.2.1 show the modes among the first, second and third mentioned reasons which were:

- i. Modal first mention: “More persons will own better homes” (27.3%)
- ii. Modal second mention: “It will enable me own my personal house” (18.2%)
- iii. Modal third mention: “It will solve the housing problem in the area” (16.3%)

Table 7.2.1: Reasons for Acceptance of Agropolitan Social Housing Development (Percentage Distribution of First, Second and Third Mentions)

S/No.	Reason	% First Mention (N=258)	% Second Mention (N=258)	% Third Mention (N=258)
1	The scheme will not work	3.2	0	0
2	It will help the low-income earners	15.0	12.8	7.3
3	It will enable me own my personal house	10.2	18.2	11.4
4	It will enable me provide accommodation for my children	3.2	7.4	4.9
5	It will create employment	2.7	2.0	5.7
6	More persons will own better homes	27.3	11.5	16.3
7	Affordable houses for all	4.3	17.6	2.4
8	It will lead to reduction in rent by landlords	2.7	7.4	11.4
9	People will stop paying rent instead paying for their personal homes	3.7	3.4	11.4
10	It will solve the housing problem in the area	25.7	5.4	16.3
11	It will help me move to a cleaner neighbourhood	1.1	9.5	7.3
12	New estate will decongest the neighbourhood	1.1	3.4	0
13	Installment payment is good	0	1.4	2.4
14	The unemployed can take advantage of the opportunity	0	0	3.3
	Total	100	100	100

(Source: Researcher’s Field Survey, February, 2020)

7.3 Using Residents’ Personality Variables in Explaining the Variation in Acceptability of Agropolitan Social Housing Development in Greater Port Harcourt City

1	There is no significant relationship between gender and Acceptability of Agropolitan Social Housing Development	5.546	0.019	0.05	Decision Rule: Reject H ₀ if Computed Significance Level is < 0.05	Reject H ₀
2	There is no significant relationship between age and Acceptability of Agropolitan Social Housing Development	4.039	0.544	0.05	Decision Rule: Reject H ₀ if Computed Significance Level is < 0.05	Cannot Reject H ₀
3	There is no significant relationship between educational attainment and Acceptability of Agropolitan Social Housing Development	18.274	0.001	0.05	Decision Rule: Reject H ₀ if Computed Significance Level is < 0.05	Reject H ₀
4	There is no significant relationship between income and Acceptability of Agropolitan Social Housing Development	21.579	0.000	0.05	Decision Rule: Reject H ₀ if Computed Significance Level is < 0.05	Reject H ₀
5	There is no significant relationship between marital status and Acceptability of Agropolitan Social Housing Development	7.935	0.047	0.05	Decision Rule: Reject H ₀ if Computed Significance Level is < 0.05	Reject H ₀
6	There is no significant relationship between occupation and Acceptability of Agropolitan Social Housing Development	37.388	0.000	0.05	Decision Rule: Reject H ₀ if Computed Significance Level is < 0.05	Reject H ₀

Source: Researcher’s Field Survey, February, 2020

With respect to Conceptual Model 1, Table 7.3.1 shows the results of Chi square tests for relationships between independent variables: Gender, Age, Educational Attainment, Marital Status, Income, and Occupation and the dependent variable: Acceptability of Proposed Social Housing Scheme. The table shows that the null hypotheses of no relationships between the aforementioned independent variables and the dependent variable were rejected at the alpha level of 0.05, except for the independent variable: Age, in respect of which the null hypothesis could not be rejected. Age, therefore, was dropped from further analyses.

Multiple Classification Analysis (MCA) (See Table 7.3.2) indicated that the five independent variables, excluding Age, could collectively explain 23% of the variation in the dependent variable, the most important variables in explaining the variation being Income, Educational Level, Gender, Marital Status and Occupation of respondents, in that order.

Table 7.3.2: Predicting Acceptability of Agropolitan Social Housing Development, Using MCA

Predictor	Eta	Beta
Sex of Respondents	0.230319	0.1106323(5)
Educational Attainment	0.348555	0.117596(4)
Income of Respondents	0.394510	0.436836(1)
Marital status of respondents	0.279596	0.200165(3)
Occupation of Respondents	0.323126	0.227541(2)
Variance Explained (R ²) = 0.23486		

(Source: Researcher’s Field Survey, February, 2020)

Note: The numbers in parentheses indicate the order of importance of the predictors in explaining variance in the dependent variable

Using a dichotomous scale (“Acceptable”, “Not Acceptable”) to measure the dependent variable, and cross-tabulating with the independent variables revealed the following: Regarding Income, it was found that across all income brackets, 96% of all respondents considered the agropolitan social housing scheme “Acceptable”; of this number those belonging to the “less than ₦30,000” bracket accounted for 29% (the mode). With respect to Education, across all levels, 96% considered the agropolitan social housing scheme “Acceptable” with those with secondary level education accounting for the modal percentage of 35%. For Gender, 96% of all respondents considered the agropolitan social housing scheme “Acceptable” with males accounting for the mode of 64%. With respect to Marital Status, 96% of all respondents thought that the agropolitan social housing scheme was “Acceptable” with married persons accounting for the mode of 55%. Finally, amongst all occupations, 96% of all respondents thought that the agropolitan social housing scheme was “Acceptable” with traders/ business people accounting for the mode of 25%.

VIII. DISCUSSION OF FINDINGS

The success of most sustainable development programmes and projects largely depends on the acceptance and participation of the local people. The Rivers State government of Nigeria 2008 vision of building a thriving, economically vibrant and diverse world class competitive and attractive model city tagged the ‘Greater Port Harcourt City’ in the midst of predominant agricultural communities was believed to see the light of the day if community residents primary source of income and basic socio-cultural activities are sustainably absorbed to form part of the mechanism to drive the development plan. The study concept (Agropolitan social housing development) is a self-sustainable agropolitan residential housing development that

will be operated on a private sector model geared towards providing affordable housing for members of the target group (poorest of the poor viz-a-viz the 'No-income', 'Low-income and Lower-medium income' groups with the creation of an employment and revenue generation avenue that is mainly agro-based, light support industries, real estate activities, power generation and distribution, waste management and recycling which will enable beneficiaries to painlessly take care of their housing and other needs. It has a secondary motive of creating an iconic residential skyline to complement the proposed beautiful townscape of Greater Port Harcourt City. The target group are young unmarried, newly married without children, the married with young children and generally, energetic people who are willing to make a living in integrated farming, entailing such aspects as livestock production, poultry farming, pig farming, snailry, rabbitry, apiculture, aquaculture and floriculture. The question of what is the level of residents' acceptance of this self-sustainable housing scheme becomes relevant for investigation.

This study is quantitative and descriptive with primary data collected from 258 head of households of the study area. Statistical analysis was done using Chi-square to test for relationships between independent variables: Gender, Age, Educational Attainment, Marital Status, Income, and Occupation and the dependent variable: Acceptability of Agropolitan Social Housing Scheme. Again, Multiple Classification Analysis (MCA) was used to explore residents' personality variables (independent variables) in explaining the variation in the dependent variable - acceptance of agropolitan social housing development in Greater Port Harcourt City.

IX. CONCLUSION

This study has ascertained the level of residents' level of acceptance of agropolitan social housing development proposed for the Greater Port Harcourt City. In order to achieve that, the study found out the residents' personal attributes of income, gender, educational status, marital status and occupation in the study area which forms the independent variables. Table 7.1.1 to Table 7.1.4 and Fig 7.1.1 shows the modal status of the variables. After obtaining their personality attributes, a direct question was posed to them to ascertain their acceptance of the agropolitan social housing development. The modal response was "Yes", accounting for 78.7% of the distribution. Their acceptance of the project was high with reason in the modal order of first mention: "More persons will own better homes" (27.3%), second mention: "It will enable me own my personal house" (18.2%) and third mention of "It will solve the housing problem in the area" (16.3%). Finally, exploring residents' personality variables in explaining the variation in acceptance of agropolitan social housing development in Greater Port Harcourt City, the study found out that excluding age, Income, Educational Level, Gender, Marital Status and Occupation of respondents have significant relationship with residents' acceptance of the project and that the majority (96%) of all respondents considered the agropolitan social housing

development "Acceptable". The acceptance and willingness of the residents to participate is an indication for the success of the implementation of the project. Active community participation in project planning and implementation may improve project design through the use of local knowledge; increase project acceptability; produce a more equitable distribution of benefits; promote local resource mobilization; and help ensure project sustainability (Bamberger 1986).

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