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Socio-Economic Characteristics of Households Determining Housing Satisfaction in Bauchi Metropolis, Bauchi State, Nigeria

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Abstract

Life satisfaction and housing quality are inextricably linked, and socio-economic factors have an impact on both. Low income families in poor quality housing thus bearing the impact of income-related deficits with housing satisfaction. There is potential call for lower-income families to make more frequent housing adjustment in order to be content with less-than-ideal living conditions. In Bauchi, it has been observed that socio-economic characteristics of an individual translates into his earning, thereby influences his choice of location and housing satisfaction. This study's goal was to determine examining the impact of socio-economic characteristics of households on housing satisfaction in the study area. The study employed a quantitative methodology descriptive survey. 380 household heads received a questionnaire, of which 258 were recouped and used for data analysis. Households were surveyed employing stratified random sampling to gather data on the socio-economic characteristics of the households and satisfaction with environmental and physical characteristics. To determine the symbolic importance of the various elements, the gathered questionnaire was subjected to ordinal regression and descriptive statistics. According to the research findings, household's satisfaction is correlated with their housing. There is significant link between socio-economic indicators and households' housing satisfaction in the study area. The socio-economic factors in the study area that had a significant impact on housing satisfaction were gender and farming as a form of occupation. The government was advised to build the social facilities that are needed, repair the ones that are in bad shape, and implement the development control requirements as soon as possible.

Keywords: Housing, socio-economic characteristics of household, housing satisfaction, Bauchi Metropolis, Nigeria

1.0 INTRODUCTION

The reason behind families striving to upgrade their house which may already be sufficient by many criteria such as employment, income, education, marital status, age, life balance, life satisfaction and the perceived quality of society (Ball, 1983). People in all communities have norms or expectations to which they responded to their housing performance. If those standards are not met, a family may become dissatisfied with its current housing and demand a move (Hutchison, 2019). Mobility, which involves relocating to an alternative home, family suitability, which involves changing the size or make-up of the family, and residential adaptation, which involves making changes to existing homes, are three specific performance choices that could increase housing satisfaction (remodeling, renovations or additions) (Hutchison, 2019). The socio-economic parameter of each housing differs and thus provides a social picture at a glance which includes employment, earnings and education (Sakariyau et al., 2021a).

Housing was thought to play a significant role in one's health and quality of life as well as being a source of fulfillment for the individual (Sakariyau et al., 2021a). Housing is one of humanity's three basic needs. Its performance should meet technical as well as general user expectations. The role of housing in providing human convenience through people and nature is critical because it has such a large influence on people's lives and the general well-being (Musa et al., 2021). Housing affordability is the capacity to meet certain housing needs or other demands at a cost or rent that does not place people in undue economic difficulties (Sakariyau et al., 2021b). Residents' perceptions of their neighborhood and living environs influence their housing satisfaction. This shows an excellent degree of agreement between planned and actual conditions, as well as the satisfaction of tenants' basic housing needs (Alabi et al., 2021).

Housing satisfaction occurs when the housing and neighbourhood conditions are in line with cultural and community housing norms. This metric assesses the disparity between actual and desired housing and neighborhood conditions for households (Alabi et al., 2021). Consequently, the assessment of their residential and neighborhood situation determines resident satisfaction with housing. This ensures that there are no complaints and that the actual and ideal conditions are highly compatible. Inconsistency between their present and

envisioned housing situations, on the other hand, may cause unhappiness and adjustment (Hashim, 2017). This research investigated the influence of socio-economic factors on housing satisfaction in Bauchi Metropolis with the goal of identifying strategies to improve the housing situation of households in the study area.

2.0 LITERATURE REVIEW

2.1 Components of Socio-Economic Characteristics

Some of the variables used to measure the socio-economic domain include sex/gender, age, marital status, religion, employment, education, income and family size (Sakariyau et al., 2021a). Socio-economic characteristics depict the pose of an individual with regard to cultural affluence, earnings, material ownership, status and social partaking (Sakariyau et al., 2021a). Socio-economic refers to two entities: social and economic. The socio-economic section covers occupational prestige and community education, while the economic scope includes employment, income and property ownership. It can also be categorized as follows: low, middle, and high (Bonina et al., 2021). Lower-income groups are also more likely to have affiliates and relatives in the coverage than higher-income groups (Albert et al., 2018).

Occupation is broadly defined as just a consistent activity that an individual wants or is excited to complete in order to live properly as a respected citizen (Csikszentmihalyi, 1997). It is essential to keep in mind that what one person finds valuable may be dismissed by another, as a vocation is a relative category that is self-defined subjectively (Chun, 2019). A person's employment has a direct relationship related to his/her socio-economic standing (Hoff & Laursen, 2019). Occupation, according to occupational therapists, is regarded and demonstrated as adding to the quality of life of individuals, communities, and populations (Antolino-Domville, 2019). In terms of education, aside from face validity, there are two main reasons for utilizing schooling as a category for measuring socio-economic class. First, people who finish more years of school may benefit from a range of positive outcomes throughout their life. Their earnings could be higher, jobs would be easier to come by, and their health care would be better (Csikszentmihalyi, 1997). There is every tendency to be brim over effects on the housing and culture as both are as a result of persons and society's dedication to education. In other words, higher levels of education are significantly related to other forms of socio-economic status. To the point where these other variables, for instance, are not easy to measure, they are permanent, contrary to being temporary after revenue regulatory oversight (Hoff & Laursen, 2019). Gradual increases in educational attainment, employment, and literacy labour have less the potential of becoming poor (Buba et al., 2018).

A wide range of variables affect family income, which include family size, member gender and age, household composition, education, health, social capital, assets and endowments, and employment. Weather, pricing, and infrastructure are all communal elements that have a significant impact on household revenue (Antolino-Domville, 2019). Size and composition of families are strongly connected to income of household, according to empirical research. The size of a household and its dependence ratio were shown to lower per capita family income (Csikszentmihalyi, 1997). Among other things, household members' education has been proven to have a favorable impact on household income (Antolino-Domville, 2019). According to Buba et al. (2018), in terms of individual ages, his or her earned incoe (both labor as well as non-labor income) may become insufficient to support his or her immediate relatives, making him or her susceptible to poverty. They went on to say that skilled workers (acquired through formal education and/or training) would earn more income than unskilled labor, as well as their socio-economic status will indeed diverge as a consequence of the disparity in income, and the marginal income earned by skilled labor can make a positive impact on their living situation, whereas unskilled labour may have zero or negative marginal income, and thus their living condition will be worsened. Researchers in the discipline have attempted to define and characterise 'ethnicity' in a variety of ways. These include a distinguishing marker of a community's communal past that is shared and carried down the generations (Donnan & Wilson, 1999), as well as an ethnic group's political and ideological display (Oshri et al., 2022).

In their most recent work, Oshri et al. (2022) examined differences in the relationship between numerous housing condition drivers for singles and married people. The findings demonstrate that there are some differences in the association between several housing-related parameters for married people against unmarried people. Some of the most significant variables that impact household income are family size, the age and gender of members of the household, the composition of the household, education, health, social capital, assets and endowments, and employment. In every society, the household is the smallest unit of outcome and daily decisions have an immediate impact on the household as well as a protracted wider impact (Cheshmehzangi, 2020). Adults in their twenties (both white and non-white) relocated to various metropolitan locations in Britain (Donnan & Wilson, 1999), while aged families and families with children moved from urban centers to the exurbs (both white and non-white). Individuals' housing demand is proportional to their age (Clark & Dieleman, 1996). Muellbauer (2018) studied the effect of demographic trends on the residential market and discovered that newer folks, that are more inclined to reside independently from their families, also have increased housing requirements, and demographic changes have a substantial effect on housing markets (Muellbauer, 2018). Also, as individuals grow older their earned income may not be adequate to support their family members (Buba et al., 2018).

Gender refers to the sexual roles, actions, and beliefs that civilizations and communities consider appropriate for men and women to be socially connected with (Alam et al., 2019). As a result, an entity's sex is socially and culturally produced (Donnan & Wilson, 1999). Gender disparities had been incorporated to other issues found by those interested in illustrating "unfairly organized cities" in order to be sexual preference (Kluegel & Smith, 2009). Age crosses over with sexual identity to generate vibrant inequalities in housing quality; it has a substantial influence on housing correlation. Women who are single, divorced, or widowed who live alone with a large number of older residents are not that much more probable to be subjected than younger women to decent housing circumstances (Antolino-Domville, 2019). Similarly, female headed households families are quite likely to become poor than those headed by men (Buba et al., 2018).

There are two separate but interrelated types of religious doctrine: substance and devotional. Religion is substantively understood to include establishments, social strata, and religious desires (i.e. institutions/officials). From a doctrinal perspective, religion has to do with models of societal and human being acts that assist believer in organizing their everyday lives (Alagbe et al., 2018). Religious affiliation is

more important than ethnic identity and it really helps ethnic to be activated. This resulted in evident ethnic and religious segregation patterns in Bauchi and Jos as well as in most northern Nigerian states (Alagbe et al., 2018).

2.2 Concept of Housing and Housing Condition: The Definition

In regard to its role in offering security and convenience to its inhabitants, the term "housing" has been interpreted differently by various professionals, yet it is crucial per each comprehension (Rogers & Pilgrim, 2021). A shelter or accommodation for human living is sometimes referred to as dwelling. It is a structure that is intended to serve as housing for one or more people (Migdal, 2019). Investing in housing is crucial for the well-being of the local, state, and federal economic systems. Most of the time, it is a human's first significant financial investment and life goal (Migdal, 2019). Although accommodation costs a significant portion of a family's or institution's expenditure, the built environment is a person's most visible material attribute in terms of investment from the public and private sectors (Nazire, 2016).

After food, the first of the three fundamental human needs necessary for continued existence is housing (Anidiobu et al., 2018). A residential environment is defined as the physical structure used for housing along with any necessary or desired services, facilities, machinery, and devices for such families and folk's social, physiological and intellectual health (Rogers & Pilgrim, 2021). There are more than four walls and roofed structures when you break it down. Additionally, it entails the creation of infrastructure services like water, Electricity Supply, highway and shopping centre as well as the provision of housing in a secure setting (Ifeanyi et al., 2022). Housing, together with its sustaining road and rail network, is consequently viewed not just as means of supplying shield (a roof and four walls), but also as a developing and participative process (Nazire, 2016).

The physical condition of the house is one of the numerous factors that go into determining the level of living. Housing should be of sufficient quality to accomplish minimal health criteria and excellent living standards in every community, while also being affordable to all household types (Rush & Misajon, 2018; Umar et al., 2021; Yusuf et al., 2021). Anidiobu et al. (2018) explicitly define the criteria that have to be adhered to. They recommended that homes shouldn't be damp, poorly ventilated, littered, or lacking in essential sanitary facilities. Residential units should, among other things, have daily and safe water supply supplies, sufficient sewer lines, suitable waste management facilities, and road accessibility. The outward appearance of the home is one of many factors that affect housing conditions.

2.3 Concept of Satisfaction and Housing Satisfaction: The Definition

Many studies describe "satisfaction" as the variety of activities that fit an individual's requirements, while others define it as emotional responses, norms, or mental efforts toward a goal or belief. Because satisfaction levels are commonly evaluated on arbitrary scales, they are frequently used to compare levels across various parts of a sample and to investigate the variables that are linked to greater satisfaction rates (Kubiszewski et al., 2019). An emotional reaction or fondness for an object is characterized as satisfaction. The definition of satisfaction is the realization of an anticipated result that was influenced by prior expectations regarding the quality of the outcome (Pansari & Kumar, 2017). The housing satisfaction is a multi-faceted concept. Based on their observations from previous studies, Gopikrishnan and Paul (2018) compared opinions about the concept of residential satisfaction. According to them, there are four main goals that have been connected to the idea of housing satisfaction. It holds the secret to foretelling a person's general well-being. It is also a predictor of personal mobility, which influences house prices and adjustments in the surrounding area. Third, it serves as an informal unit of measure of private sector achievement as an instrument for gauging locals' acquiescence of current flaws in the advancement of the neighborhood. Finally, housing satisfaction provides as a factor in determining how the resident's upbringing as well as his perspective on movement are related. Numerous factors affect how satisfied people are with their homes. The three categories of factors to take into account are tangible, cultural, and management factors. Physical attributes of a home as well as its surroundings are those that have to do with their appearance (Gopikrishnan & Paul, 2018).

2.4 Theoretical Framework: Theory Reviewed in the Literature

An overview of the previous research was necessary to identify the gap. The researcher developed ideas regarding housing satisfaction based on available literature, which was acquired in order to construct the framework for this study. Housing adjustment is the most relevant theory in terms of housing satisfaction.

2.4.1 Housing Improvement Theory

Morris and Winter (1975) stressed that a housing gap exists when a housing standards for the household do not meet those of the family or the culture. Residential movement, residences acclimation, or household adaptation are examples of housing adjustment traits that can be brought on by substandard housing and dissatisfaction. The main implication of the Family Housing Adjustment hypothesis is that societal, financial, and physiological characteristics of communities and residential units all have an impact on housing gratification. The social and familial norms in this example portray the ‘aspired’ or ‘ideal’ dwelling state that people always strive to attain at any moment in their lives. According to this theory, if a household recognizes that its housing is unsatisfactory, the household can move to a different house, make a household adaptation, or repair the existing one.

2.42 Theory of Housing Deficit

Housing deficit is a concept that Morris and Winter (1975) presented to begin to grasp residences fulfillment and dissatisfaction. According to their housing adjustment model of residential mobility, people evaluate the quality of their housing in accordance with prescriptively defined norms, such as relatives norms, that are equivalent to household level' own norms for housing, as well as societal practices, which are determined by societal standards or rules for living standards. Thereby, there is a residential deficit caused by a discrepancy between the actual housing situation and the cultural and/or familial residential norms, which then in turn will lead to housing discontent.

3.0 HISTORICAL BACKGROUND OF THE STUDY AREA

The capital of Bauchi State, i.e. the Bauchi Metropolis, is situated between latitudes 9°00' and 9°30' north and longitudes 10°25' and 11°20' east of the Greenwich Meridian (Bogoro et al., 2012). It has an inhabitants of 493,810 and a total land area of 3,687 square kilometers (Ogwuche, 2013). The name Bauchi, which is derived from the Hausa word for slavery (bauwanci), has been originally established as a center for accumulating Hausa slaves with in center of a pagan neighborhood (Muhammad et al., 2021). Alternatively, oral tradition still associates the name Bauchi with the first settler, a hunter who was called 'Baushe'. Eight administrative wards make up Bauchi Metropolis (units). They are Hardo Ward, Dan'iya Ward, Makama A, Makama B, Dan Amar A, Dan Amar B, Dawaki Ward and Dankade Ward (Muhammad et al., 2021). Those who have such a variety of traditions, celebrations, historical, work - related patterns, and religious beliefs (Muhammad et al., 2021). The town's settlement pattern is comprised of the walled city and its outlying extension areas. Within the walled city are the Emir's palace, the main mosque, the main market, local courts, elementary schools, and the main prison. In contrast to certain other northern cities in which only native residents reside within the city limits, Bauchi town is home to both native and non-native residents (Muhammad et al., 2021).The state of Bauchi has a lot of arable land for agricultural development. It is estimated that 65 % of the state's total land area is arable. The state, known as the nation's “Food Basket”, benefited from a World Bank-funded Agricultural Development Program (ADP) that exposed its vast subsistence farmers to modern agricultural practices (Olagunju et al., 2016). Today, the government produces excess food and cash crops for industrial purposes. The state has two operational dams, one for consumption water supply to Bauchi Metropolis and the other for irrigation purposes, Waya dam. The third dam, Kafin Zaki, is presently in construction. It is the largest and, in addition to irrigation and fish farming, can generate electricity.

4.0 METHODOLOGY

Quantitative research specifically descriptive survey was employed in this study. The study's sample population is 39,755 households within Bauchi Metropolis. The respondents for this study are heads of households selected from three inhabited areas. The reason for using the density areas is based on the fact that other social science researchers in Nigeria (Bello & Egresi, 2017; Muhammad et al., 2015) have utilized the same approach in selecting study areas. From each residential density zone, two neighbourhoods were chosen for this study. The new and old GRAs were selected from minimal density housing neighbourhoods, from medium density area Dutsen Tanshi and Jahun neighbourhoods were picked, while from the high density areas Kofar Fada and Ilelah neighbourhoods were chosen. In each residential neighbourhood 63 households were selected making a total of 380 households for the study which was done through stratified random sampling. Stratified random sampling was used to select the household heads, that ensures that every subject in a population has an equal chance of being chosen and is the most simple and effective method. Data collection was convey using self-administered questionnaire to fill and return. From February 2020 to October 2020, research team administered the questionnaire. The sample table of Krejcie and Morgan (1970) was used to choose 380 households from the 39,755 households in the research area. Following the extensive collection of data, descriptive statistics (ranking of the mean), and regression (ordinal) were used to analyze the data collected employing SPSS (Statistical Package for Social Sciences) version 22.

When data are sorted, numerical or ordinal values are replaced by their rank, which is referred to as ranking in statistics. The assumption of mean ranking is that item with the highest mean value is ranked first and others afterwards. Ordinal regression is a method of statistical analysis that uses a number of variables that are independent to forecast the conduct of ordinal level covariates. The order response category variable is the regression coefficient, as well as the predictor variables can be unequivocal or consistent. Ordinal Regression was used because socio-economic characteristics are independent variables. For the ordinal regression. The assumption is that the independent variable with in exponential function provide data about the input of response variable. The variables with values less than 0.05 significantly contribute to the model's prediction accuracy (Pallant, 2010).

5.0 RESULTS

5.1 Household Socio-Economic Characteristics in Bauchi Metropolis

The socio-economic characteristics of households in the Bauchi Metropolis are discussed in this subsection. Apparently, men predominated among those who made decisions in housing in Bauchi Metropolis. According to the respondent (shown in Table 1), males made up 80 % of the study participants (207) while females made up 19.8%. Similarly, respondents' average age ranges from 31 to 60 years old, according to the study. Furthermore, respondents between the ages of 1 and 30 make up 115 (44.6%) of the study's participants.

Other age groups include 31-60 years (48.1%), 61 and above (7.4%), and over 61 years (19%) of the research participants. These results are similar to those of Bogoro and Babanyara (2011), they are somewhat older than the average age reported by Muhammad et al. (2015). In addition, according to the poll, the majority of the respondents (52.7 %) were married. Single people made up 41.9 % of the total number of people who responded. Divorced people accounted for 3.5 % of the total study population, whereas bereaved people accounted for just 1.5 %. According to Bogoro and Babanyara (2011), the large percentage (75.6.9%) of respondents are Hausa and Fulani, accompanied by 9.3% Jarawa, 6.6% Yoruba, and 8.5% Jarawa.

Additionally, the household's cultural affiliation (ethnic group) reveals that the majority (75.6.9%) of respondents are Hausa and Fulani, preceded by 9.3% Jarawa, 6.6% Yoruba and 8.5% are Jarawa. Other research works, such as Bogoro and Babanyara (2011) have also reported similar findings.

Table 1 Socio-economic characteristics of households in Bauchi Metropolis

	Variables	High Density (%)	Medium Density (%)	Low Density (%)	Total
Sex	Male	26%(67)	30.2%(78)	24%(62)	80.2%(207)
	Female	8.1%(21)	3.1%(8)	8.5%(22)	19.8%(51)
	Total	**34.1%(88)**	**33.3%(86)**	**32.6%(84)**	**100%(258)**
Age	Under 30	10.1%(26)	15.5%(40)	19.0%(49)	44.6%(115)
	31 to 60	20.2%(52)	17.1%(44)	10.9%(28)	48.1%(124)
	61 and above	3.9%(10)	0.8%(2)	2.7%(7)	7.4%(19)
	Total	**34.1%(88)**	**33.3%(86)**	**32.6%(84)**	**100%(258)**
Marital Status	Single	10.9%(28)	15.9%(41)	15.1%(39)	41.9%(108)
	Married	21.7%(56)	16.7%(43)	14.3%(37)	52.7%(136)
	Divorced	0.4%(1)	0.8%(2)	2.3%(6)	3.5%(9)
	Widowed	1.2%(3)	0.0%(0)	0.8%(2)	1.9%(5)
	Total	**34.1%(88)**	**33.3%(86)**	**32.6%(84)**	**100%(258)**
Tribe	Hausa/Fulani	29.5%(76)	30.6%(79)	15.5%(40)	75.6%(195)
	Yoruba	2.7%(7)	0.8%(2)	3.1%(8)	6.6%(17)
	Igbo	0.0%(0)	0.8%(2)	7.8%(20)	8.5%(22)
	Others	1.9%(5)	1.2%(3)	6.2%(16)	9.3%(24)
	Total	**34.1%(88)**	**33.3%(86)**	**32.6%(84)**	**100%(258)**
Occupation	Civil Servant	17.4%(45)	12.0%(31)	11.6%(30)	41.1%(106)
	Businessman/woman	8.5%(22)	8.9%(23)	10.9%(28)	28.3%(73)
	Farmer	3.5%(9)	3.9%(10)	2.7%(7)	10.1%(26)
	Others	4.7%(12)	8.5%(22)	7.4%(19)	20.5%(53)
	Total	**34.1%(88)**	**33.3%(86)**	**32.6%(84)**	**100%(258)**
Income	Less than ₦30,000	8.1%(21)	10.1%(26)	9.7%(25)	27.9%(72)
	₦31,000 to ₦60,000	8.1%(21)	16.3%(42)	14.7%(38)	39.1%(101)
	₦61,000 to ₦90,000	10.1%(26)	3.9%(10)	4.7%(12)	18.6%(48)
	₦91,000 and above	6.2%(16)	3.1%(8)	5.0%(13)	14.3%(37)
	Total	**34.1%(88)**	**33.3%(86)**	**32.6%(84)**	**100%(258)**
Educational Status	Informal Education	1.6%(4)	3.5%(9)	1.9%(5)	7.0%(18)
	Primary School	10.5%(27)	8.1%(21)	7.4%(19)	26.0%(67)
	Secondary School	9.3%(24)	11.6%(30)	6.6%(17)	27.5%(71)
	Diploma	7.4%(19)	8.5%(22)	12.8%(33)	28.7%(74)
	First Degree	5.4%(14)	1.6%(4)	3.9%(10)	10.9%(28)
	Total	**34.1%(88)**	**33.3%(86)**	**32.6%(84)**	**100%(258)**
Religion	Islam	31.4%(81)	31.8%(82)	28.7%(74)	91.9%(237)
	Christianity	1.9%(5)	1.2%(3)	3.5%(9)	6.6%(17)
	Others	0.8%(2)	0.4%(1)	0.4%(1)	1.6%(4)
	Total	**34.1%(88)**	**33.3%(86)**	**32.6%(84)**	**100%(258)**
Household Size	Less than 5 persons	11.2%(29)	10.1%(26)	11.6%(30)	32.9%(85)
	6 to 10 persons	12.8%(33)	15.9%(41)	12.8%(33)	41.5%(107)
	11 to 15 persons	5.4%(14)	3.9%(10)	4.3%(11)	13.6%(35)
	16 to 20 persons	3.5%(9)	3.1%(8)	2.7%(7)	9.3%(24)
	21 persons and above	1.2%(3)	0.4%(1)	1.2%(3)	2.7%(7)
	Total	**34.1%(88)**	**33.3%(86)**	**32.6%(84)**	**100%(258)**

5.2 Housing Satisfaction in Bauchi Metropolis

The results of the research area's housing survey conducted are presented in this subsection. Table 2 reveals the level of contentment with living conditions in Bauchi's high-density areas. The research area's households agreed that their satisfaction with the following was moderate (M=3.25, SD=1.47), and the sandcrete block wall came out on top. Renderings with paint were came 2nd (M=3.24, SD=1.08) and tiles were ranked 3rd (M=3.23, SD=1.43), respectively. The fourth-ranked category was unpainted renderings (M=3.23, SD=1.97), whilst also restrooms and other similar amenities were ranked fifth (M=3.15, SD=1.18). The household is unsatisfied with their pipe borne water (M=2.38, SD=1.54) and came in 20th place: the kerosene lamp (M=2.23, SD=1.33) came in the 21st place. Correspondingly, the WC restroom was ranked 23rd with (M=2.06, SD=1.50), the corrugated iron sheet (CIS) was ranked 24th with (M=1.97, SD=1.27) and the

aluminum was ranked 22nd with (M=2.10, SD=1.43). The aforementioned table thus demonstrates that the majority of members of the household were only moderately satisfied with their actual housing.

Table 2 Housing satisfaction in high density area of Bauchi Metropolis

Physical Characteristics	N	Mean	Std. Deviation	Ranking	Remark
Sandcrete	88	3.2500	1.47196	1	Moderate
Rendered and painted	88	3.2386	1.08272	2	Moderate
Tiles	88	3.2386	1.43834	3	Moderate
Rendered without paint	88	3.2273	.97941	4	Moderate
Toilet and bathroom facilities	88	3.1591	1.18308	5	Moderate
Electricity from public main	88	3.1364	1.19560	6	Moderate
Kitchen without modern facilities	88	3.0682	1.22985	7	Moderate
Cemented	88	2.9659	1.48129	8	Moderate
Terrazo	88	2.8977	1.35646	9	Moderate
Pit toilet	88	2.8750	1.35454	10	Moderate
Well	88	2.8409	1.50773	11	Moderate
Generator	88	2.8409	1.19276	12	Moderate
Burnt bricks	88	2.8295	1.27055	13	Moderate
No finishing at all	88	2.8295	1.03081	14	Moderate
Well-equipped kitchen	88	2.8182	1.32652	15	Moderate
Waste disposal facilities	88	2.7841	1.29054	16	Moderate
Candle	88	2.5682	.93213	17	Moderate
Bore hole	88	2.4318	1.52221	18	Dissatisfied
Clay/Mud block	88	2.3864	1.50426	19	Dissatisfied
Pipe borne	88	2.3864	1.50426	20	Dissatisfied
Kerosene lamp	88	2.2386	1.33041	21	Dissatisfied
Aluminium	88	2.1023	1.43070	22	Dissatisfied
WC toilet	88	2.0568	1.50370	23	Dissatisfied
Corrugated iron sheet	88	1.9773	1.27737	24	Dissatisfied

Table 3 Housing satisfaction in medium density area of Bauchi Metropolis

Physical Satisfaction	N	Mean	Std. Deviation	Ranking	Remark
Tiles	76	3.3026	1.13160	1	Moderate
Kitchen without modern facilities	76	3.2895	1.01739	2	Moderate
Generator	76	3.2632	1.98480	3	Moderate
Rendered and painted	76	3.2237	1.26067	4	Moderate
Pit toilet	76	3.1447	1.29310	5	Moderate
Sandcrete	76	3.1184	1.04521	6	Moderate
Electricity from public main	76	3.1184	1.19963	7	Moderate
Rendered without paint	76	3.0526	.92224	8	Moderate
Cemented	76	2.9079	1.38735	9	Moderate
Well-equipped kitchen	76	2.8421	1.34712	10	Moderate
Toilet and bathroom facilities	76	2.7895	1.19237	11	Moderate
Well	76	2.7500	1.47986	12	Moderate
Candle	76	2.7368	1.15895	13	Moderate
Burnt bricks	76	2.6974	1.40494	14	Moderate
No finishing at all	76	2.6974	1.21128	15	Moderate
Corrugated iron sheet	76	2.5658	1.52609	16	Moderate
Kerosene lamp	76	2.5526	1.20438	17	Moderate
Clay/Mud block	76	2.5000	1.47422	18	Moderate
Terrazo	76	2.4474	1.42730	19	Dissatisfied
Waste disposal facilities	76	2.3553	1.29310	20	Dissatisfied
Aluminium	76	2.3289	1.33055	21	Dissatisfied
Bore hole	76	2.1711	1.42724	22	Dissatisfied
WC Toilet	76	2.0921	1.39693	23	Dissatisfied
Asbestos	76	1.9868	1.23821	24	Dissatisfied

Table 3 details the satisfaction of households in the medium density area of Bauchi Metropolis. The clan reports a modest level of satisfaction. The tiles were ranked first with (M=3.32, S=1.13). The kitchen without contemporary facilities was ranked second (S=3.29, S=1.01). The generators received a third-place score of (M=3.26, S=1.98). Their happiness with their rendered and the modest performance of painted (M=3.22, S=1.26) placed them in fourth place. They placed 22nd with (M=2.17, S=1.41) because They were dissatisfied with water quality from their borehole. The WC toilet was ranked 23rd with (S=2.09, S=1.39) also ranked 24th with (M=1.98, S=1.23) was asbestos roofing. The table thus demonstrates that the majority of households are content with the neighborhood's attributes.

Table 4 Housing satisfaction in low density area of Bauchi Metropolis

Physical Satisfaction	N	Mean	Std. Deviation	Ranking	Remark
Toilet and bathroom facilities	94	3.6809	.88248	1	Moderate
Rendered and painted	94	3.5745	1.20473	2	Moderate
Tiles	94	3.5426	1.48588	3	Moderate
Well-equipped Kitchen	94	3.5000	1.41231	4	Moderate
No finishing at all	94	3.3617	1.12500	5	Moderate
Electricity from public main	94	3.3404	1.21419	6	Moderate
Generator	94	3.2872	1.20592	7	Moderate
Kitchen without modern Facilities	94	3.1596	1.24696	8	Moderate
Sandcrete	94	3.1489	1.48075	9	Moderate
Pit Toilet	94	3.0957	1.38400	10	Moderate
Candle	94	3.0319	.96667	11	Moderate
Waste Disposal Facilities	94	3.0213	1.42918	12	Moderate
Rendered without Paint	94	2.9787	1.42164	13	Moderate
Burnt Bricks	94	2.9574	1.45849	14	Moderate
Bore hole	94	2.8723	1.45346	15	Moderate
Aluminium	94	2.6809	1.71152	16	Moderate
Cemented	94	2.6596	1.50664	17	Moderate
Well	94	2.6170	1.52475	18	Moderate
Terrazo	94	2.4681	1.47890	19	Dissatisfied
clay/Mud Block	94	2.2979	1.48708	20	Dissatisfied
Corrugated Iron Sheet	94	2.2234	1.43050	21	Dissatisfied
Kerosene Lamp	94	1.9894	1.30750	22	Dissatisfied
Asbestos	94	1.8191	1.29484	23	Dissatisfied
Pipe Borne	94	1.6915	1.20952	24	Dissatisfied

The contentment of households in the low density area of Bauchi Metropolis was reported in Table 4. The family's satisfaction level is moderate, according to them. The toilet and bathroom facilities were ranked first with (M=3.68, S=1.88) points. The rendered and painted walls was ranked second with (M=3.57, S=1.20). The tiles were ranked third with (M=3.54, S=1.48). Their satisfaction with well equipped kitchen was similarly moderate (M=3.50, S=1.41), putting it in fourth place. They were dissatisfied with their use of kerosene lamps, which was ranked 22nd (M=1.98, S=1.30). Asbestos was classified 23rd with (M=1.82, S=1.29) and pipe-borne was ranked 24th with (M=1.98, S=1.23). As a result, the table shows that the majority of the households are satisfied with their neighborhood's qualities. However, they are displeased with a number of aspects of their neighborhood.

5.3 Test of Difference among the Research Areas

As stated earlier, questionnaires were administered in three different density areas of Bauchi Metropolis; namely, Old and New GRA, Dutsen Tanshi and Jahun, and Kofar Fada and Ilelah, in order to accumulate reliable data for this research. Before proceeding to the analysis of the data, it is worthwhile to examine whether the responses obtained from these locations are homogeneous or differ significantly. This will assist the researchers in choosing the mode of analysis, that is whether to combine the data from the three states together and whether it is necessary to independently analyze the data or whether it can be done all at once.

Table 5 Test of homogeneity of variances

Levene Statistic	df1	df2	Sig.
0.693	2	255	0.051

With respect to their responses on the reliant factor, Table 5 discloses the test of homogeneity of variance among respondents in the existing three density areas. When the p-value reported is less than 0.05, When the p-value is higher than 0.05, Levene statistics' decision rule stipulates that the null hypothesis of no significant difference between groups should be rebuffed. However, the result in this case had a marginally significant value of 0.05, which does not fully explain the variability. Welch statistics, which test the robustness of equality of means among groups, are computed to confirm the result, as shown in Table 5.

Table 6 Robust tests of equality of means

	Levene Statistic	df1	df2	Sig.
Welch	0.099	2	255	0.906

The robust test of equality of means between respondents across the three density areas is shown in Table 6. When using Welch statistics, if indeed the p-value is larger than 0.05, the null hypothesis of no significant difference between groups is accepted. With a p-value of 0.906, it thus demonstrated that no discernible differences in respondents' responses across the three density areas based on the results in Table 6.

All variables tested revealed that there are no notable differences of opinion regarding the ideas asked among respondents from the three density areas. As a result, the ordinal regression for all three density areas is now merged in a single analysis.

Table 7 Effect of socio-economic characteristics of households on housing satisfaction in the study area

		Estimate	Std. Error	Wald	Df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[hs1 = 2.00]	-2.926	1.931	2.297	1	.130	-6.710	.858
	[hs1 = 3.00]	.968	1.923	.254	1	.615	-2.801	4.738
	[Gender= Male]	1.406	.391	12.920	1	.000	.639	2.173
	[Gender=Female]	0[a]	.	.	0	.	.	.
	[Age= Under 30]	-.265	.649	.167	1	.683	-1.537	1.007
	[Age=31-60]	.024	.584	.002	1	.967	-1.120	1.168
	[Age=Above 61]	0[a]	.	.	0	.	.	.
	[Status=Single]	-2.420	1.088	4.944	1	.026	-4.554	-.287
	[Status=Married]	-2.294	1.070	4.601	1	.032	-4.391	-.198
	[Status=Divorce]	-2.726	1.338	4.153	1	.042	-5.348	-.104
	[Status=Widow]	0[a]	.	.	0	.	.	.
	[Tribe=Hausa/Fulani]	-.443	.505	.771	1	.380	-1.433	.546
	[Tribe=Yoruba]	-1.111	.730	2.316	1	.128	-2.542	.320
	[Tribe=Jerawa]	-.383	.660	.337	1	.562	-1.677	.911
	[Tribe=Gerawa]	0[a]	.	.	0	.	.	.
	[Occupation= Civil Servant]	-.855	.422	4.116	1	.042	-1.681	-.029
	[Occupation=Business]	-.977	.437	4.984	1	.026	-1.834	-.119
	[Occupation=Farmer]	-2.799	.613	20.835	1	.000	-4.000	-1.597
	[Occupation=Other specify]	0[a]	.	.	0	.	.	.
Location	[Income=Less than 30,000]	.768	.472	2.648	1	.104	-.157	1.692
	[Income=31,00-60,00]	.353	.434	.660	1	.416	-.498	1.203
	[Income=61,000-90,000]	.131	.504	.068	1	.795	-.857	1.119
	[Income=91,000 and above]	0[a]	.	.	0	.	.	.
	[Education=Informal]	.666	.696	.915	1	.339	-.699	2.031
	[Education=Primary/Secondary]	.144	.548	.069	1	.793	-.930	1.217
	[Education=Diploma]	.362	.517	.488	1	.485	-.653	1.376
	[Education=First Degree]	.362	.514	.496	1	.481	-.646	1.370
	[Education=Master Degree and Above]	0[a]	.	.	0	.	.	.
	[Religion=Islam]	.547	1.135	.232	1	.630	-1.677	2.770
	[Religion=Christianity]	2.044	1.219	2.811	1	.094	-.345	4.434
	[Religion Others Specify]	0[a]	.	.	0	.	.	.
	[Family=Less than 5]	.646	.888	.529	1	.467	-1.095	2.387
	[Family=6-10]	1.168	.879	1.763	1	.184	-.556	2.891
	[Family=11-15]	.902	.933	.933	1	.334	-.928	2.731
	[Family=16-20]	.830	.967	.737	1	.391	-1.065	2.725
	[Family=21 and above]	0[a]	.	.	0	.	.	.

The influence of household socio-economic factors on housing satisfaction in the city of Bauchi was investigated using ordinal regression analysis. Socio-economic characteristics served as an exploratory variable and housing satisfaction as a predictor factors. The ordinal regression analysis was employed to garner the model specification, the model correlation test, and the factors in the equation outcome to see the way each of the explanatory factors or predictors impacts the response variable The model produced pseudo R-Squares of 0.182 and 0.221 with a Chi-square of 51.712. Both are significant as stated by a p-value of 0.001, which is significantly less than the anticipated value of 0.05 reported by Pallant (2010). This reveals changes in respondents' socio-economic attributes explain 18.2% to 22.1% of variations in housing satisfaction obtained by the model. In other words, socio-economic variables accounted for 18.2% to 22.1% of differences in housing satisfaction in the study area. This demonstrates that the respondents' socio-economic attributes had effect on their housing satisfaction in the study area. Furthermore, the model was able to demonstrate that socio-economic characteristics and housing satisfaction had a substantial link. The socio-economic distinctiveness of gender (male) and occupation (civil servants, business and farming). Farming as a form of occupation and gender contributed significantly to model's predictive ability. Age, marital status, tribe, other kinds of profession, income, education, religion, and family size were not statistically significant explanatory factors. This means that the male gender is the significant one, while all occupations were significant since 0.026 and 0.042 are less than 0.05. This is consistent with Lv et al.'s (2022) study that gender is a factor in housing satisfaction. Bai et al. (2022) also claimed that occupation had a strong relationship with housing satisfaction.

5.4 Test of Model Coefficient

Table 8 indicates the test of model coefficient which was used in checking whether the model with explanatory variable gender, marital status, tribe, income, education level, religion, household size, occupation and housing) is an improvement over the baseline model (the null model). The goodness-of-fit test of the model shows that the model is fitted and good for the analysis as it produced a highly significant p value of 0.001.

Table 8 Tests of model coefficients

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	414.459			
Final	362.747	51.712	25	.001

5.5 Model Summary

The Pseudo R-Square in logistic regression is shown in Table 9, and it illustrates how much variance in the result is explained by the explanatory factors. Gender, age, marital status, tribe, employment, income, education, religion, and family size were able to explain 18.2% to 22.1 % of the variances in the research findings.

Table 9 Model summary

Step	Cox & Snell R-Square	Nagelkerke R-Square
1	.182	.221

6.0 DISCUSSION

6.1 Socio-Economic Characteristics of Household in Bauchi Metropolis

Civil servants account for 41.1% of respondents in the whole study area, with 17.4% in the high density region, 12% in the medium density area, and 11.6% in the low density area, according to the results of the households' occupation. Farmers made up 10% of the total study area, with 7% in the low medium density region, 10% in the medium area, and 9% in the high density area. In the high density region, 37% of respondents have a business, whereas in the medium density area, 31% have a business. Retirees, students, craftsmen, and artisans make up 2.5% of the population in the study region, with 12 in the high density area, 22 in the medium density area and 19 in the low density area.

In addition, a review of household income reveals that the research participants earn between N61,000 and N91,000 on average. More specifically, 27.9% of respondents make less than N30,000 per month. Those with incomes ranging from N31,000 to N60,000 account for 39.1% of study participants, those with incomes ranging from N61,000 to N90,000 account for 48% of research participants, and those with incomes ranging from N91,000 and above account for 14.3% of study participants. This finding is consistent with Muhammad et al. (2015).

The educational level of the family unveils that 18 (7.0%) of respondents had attended informal schools. Participants with a primary school diploma make up 26% of the study's participants. 27.5% of the participants in the study have a secondary school diploma. Those with a diploma certificate account for 28.7% of the survey participants, while those with a first degree account for 10.9%. This is consistent with Muhammad et al.'s (2015) results, as according to which the majority of household heads in the Bauchi Metropolis high density area had a post-secondary school certificate.

In addition, the survey found that 91.9% of families in the study region follow Islam, with 82 from the medium density area, 81 from the low density area, and 74 from the high density area practicing the faith. 17% of the respondents from the entire research area density region profess to be Christians. This is consistent with Muhammad et al.'s (2015) results, as according to which the majority of respondents in the Bauchi Metropolis are practicing Islam. Muhammad et al. (2015) and Bogoro and Babanyara (2011) are among the studies that produced similar outcomes.

Also disclosed by the study is that the majority of respondents (85.3%) have less than 5 members in their households, while 107.5% (41.5% of study participants) have 6-10 members, 35.6% (13.6%) have 11-15 members in their households, 24.3% (9.3%) have 16-20 members in their households, and 7% have households with more than 21 members. The typical housing size for this research participant is 6-10 people. It evidently agrees with Bogoro and Babanyara's (2011) findings.

6.2 Housing Satisfaction in Bauchi Metropolis

The findings from the analysis show that housing situation in the three existing densities is generally fair while few are good and poor, especially the high and medium densities whose essential infrastructures are unsatisfactory by modern standards. The study also revealed that the low density area are moderately satisfied with their housing condition compared to the household in the medium and high density area who were dissatisfied with their housing condition. This demonstrates that the respondents' socio-economic attributes had an impact

on their housing satisfaction in the study area. Furthermore, the model was able to exhibit that socio-economic characteristics has an effect on housing satisfaction.

6.3 Effect of Socio-Economic Characteristics on Housing Satisfaction

The influence of socio-economic characteristics of households on housing satisfaction in Bauchi Metropolis was investigated using ordinal regression analysis. The preceding technique was used to enter socio-economic characteristics as an exploratory variable and housing satisfaction as a predictor variables. The ordinal regression model was employed to generate the model summary, the model coefficient test, and the variables in the equation result to see how each of the explanatory factors or predictors effects the dependent variable The model yielded pseudo R-Squares of 0.182 and 0.221 respectively, with a Chi-square of 51.712, both of which are significant as demonstrated by a p-value of 0.001, which is much below the suggested maximum of 0.05 (Pallant, 2010). This reveals that changes in respondents' socio-economic attributes explain around 18.2% to 22.1% of variations in housing satisfaction predicted by the model. In other words, socio-economic variables can account for 18.2% to 22.1% of differences in housing satisfaction. This demonstrates that the respondents' socio-economic attributes had an impact on their housing happiness in the research location. Furthermore, the model was able to demonstrate that socio-economic indicators and housing satisfaction had a substantial link. The socio-economic characteristics variables of gender and farming as a form of occupation contributed significantly to the model's predictive ability. Age, married status, tribe, other kind of profession, income, education, religion, and family size were not statistically significant explanatory factors. This is consistent with Lv et al.'s (2022) result that gender is a factor in housing satisfaction. Bai et al. (2022) also claimed that occupation had a strong relationship with housing satisfaction.

7.0 CONCLUSION

The present research effort sought to investigate the impact of household socio-economic characteristics on housing satisfaction in Bauchi, with the goal of identifying solution to improve families' housing conditions and satisfactions. It will also assist urban policymakers across Africa (rather than just Bauchi) in developing strategies to improve housing satisfactions. The need to investigate this case in Bauchi, Nigeria, arises from the fact that Bauchi is a significant case that represents many similar cities across Africa. According to the study's findings, the majority of households are employed and have a source of income, but their income is low and their household size is big. The research also recommended that the government should invest in providing the needed infrastructure which will accomplish the rising demand for infrastructural amenities in the study region.

The current study also shows that socio-economic considerations had a significant effect on housing conditions and satisfaction. The outcomes of the ordinal regression analysis demonstrated a summary of ordinal regression and coefficient model that is outstanding and very well, as depicted by the pseudo R-square and Chi-square values. In light of the study's results and conclusions, the following recommendations were noted to assist improve the housing issue in Bauchi Metropolis. Individuals should play an active role by enhancing their housing needs and providing common amenities in Bauchi's residential neighborhoods as part of a community involvement strategy. Not only to resolve shortcomings revealed by the study's findings, but also to meet the rising demand for the burgeoning major infrastructure in the region under study, the provision of integrated urban infrastructures and utilities is considered necessary. The majority of their key infrastructures, particularly at high and medium densities, are unacceptable by current standards. The authority has an evident duty to take care of the country's significant wealth inequities because poor housing situations are intrinsically tied to poverty and are truly affected by it. Economic regeneration, or the creation of new job possibilities, is desperately required in the area. This will aid in the improvement of the citizens' financial base and capital creation potential, allowing them to better provide for basic household needs and adequate building upkeep.

7.1 Areas for Future Research

The effect of household socio-economic characteristics on housing satisfaction in Bauchi was examined in this study. In order to ascertain how housing satisfaction affects housing adjustment behavior, more research is required to examine the impact of household socio-economic characteristics on housing condition, satisfaction and adjustment. Further research works could include a qualitative component, as this study only used a quantitative approach.

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