Impact of Public-Private Partnership on Housing Development in Calabar Municipal Local Government Area of Cross River State, Nigeria

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ABSTRACT

This study examines public-private partnership and housing development in the Calabar Municipal Local Government of Cross River State. The study objective is to determine the extent to which public-private partnership has affected housing development in Calabar. The study methodology is quantitative; survey research design was used, and data for the study were generated from a primary source. The instrument of the primary data collection used was a questionnaire. Questionnaires were distributed to a sample of 384 respondents selected from the population of 304,119 of Calabar Municipal LGA. The stratified random sampling technique was used to draw a sample from the population. Data were analysed using both descriptive and inferential statistical tools and multiple Regression analysis was used to test the hypothesis. The test result revealed that the t-statistic of the independent variable stood at 4.229 with a p-value of 0.000. The p-value is less than 0.05, indicating that the relationship depicted in the model is significant at the 95% confidence level. This implies that there is a significant effect of public-private partnership on housing affordability in the Calabar Municipal local government. Also, the study revealed that the t-statistic of the independent variable stood at 7.362 with a p-value of 0.000. The p-value is less than 0.05, indicating that the relationship depicted in the model is significant at the 95% confidence level. This implies that there is a significant effect of public-private partnership on housing quality in the Calabar Municipal Local Government Area. The study recommends that the government should provide adequate counterpart funding and strengthen the legal and institutional frameworks guiding PPP housing projects to promote affordable and quality housing.

1 Introduction

Both industrialised and developing nations are increasingly concerned about the necessity to provide housing for the world's urban population in the face of financial constraints (Jones & Stead, 2020). In addition to providing a physical framework for the realisation, enrichment, and integration of personal, social, economic, and cultural resources, housing has been defined as a place of shelter, refuge, comfort, security, and dignity (Oluwaseyi et al., 2023). Globally, more than 1.6 billion people live in subpar housing, and many more are facing acute housing crises in Nigeria, including in Calabar (UN-Habitat 2024; Akinsulire et al., 2024).

One of the most pressing urban issues of our day is the global shortage of affordable housing. Due to the fast expansion of both urban and rural areas, growing income inequality, and economic instability, especially in Calabar, there is a significant disparity between the supply and demand for affordable housing (Yuen, 2018). Nigeria passed the Infrastructural Concessions Regulatory Commission (ICRC) Act in 2005 to address the urgent demand for community infrastructure (housing) and other development in the face of dwindling public resources. To provide regulations, guidelines, and procurement procedures for PPP in Nigerian infrastructure development, the ICRC was subsequently founded in 2008 (Kadiri et al., 2015; Owotemu et al., 2022).

According to Akinsulire et al.'s Government-Private Partnership in Nigeria (2024), government funding is becoming insufficient to meet the steadily increasing expenses. Public-private partnerships become a valuable tool to address the growing fiscal imbalance and speed up growth. After the ICRC Act was implemented in 2010, Cross River State established the Bureau of Public Private Partnership Agency (BPPA) to reduce the state's infrastructure (including housing) deficit. This organisation was intended to operate inside the ICRC's structure (Njar, 2017). It was based on the above that this study examines PPP and housing development in the Calabar Municipal Local Government of Cross River State.

To address infrastructure and housing shortages, many developing nations have turned to public-private partnership (PPP) models. In Calabar Municipal Local Government, the increasing demand for affordable housing, driven by urban population growth and rural-urban migration, has not been met, resulting in congestion and informal settlements. Although PPPs are aimed at combining private efficiency with government support, issues such as poor policy coordination, financial

constraints, and inadequate institutional frameworks have hindered their effectiveness (Njar, 2017). Consequently, the anticipated improvements in housing affordability and quality through these partnerships have not fully materialised, raising concerns about the ability of PPPs to deliver high-quality, affordable housing in the region. Thus, this study seeks to assess the effect of public-private partnership and housing development in Calabar Municipality.

The study-specific objectives are to:

i.   Assess the effect of public-private partnership on housing affordability in the Calabar Municipal Local Government Area.
ii. Establish the major roles of PPP in the provision of quality housing delivery in the Calabar Municipal Local Government Area.

Research Hypotheses

i.   There is no significant effect of public-private partnership on housing affordability in the Calabar Municipal Local Government Area.
ii. There is no significant effect of public-private partnership on quality housing in the Calabar Municipal Local Government Area.

2 Empirical Reviews

Shvydenko et al. (2020) demonstrate that PPPs can significantly improve housing construction outcomes when supported by strong legal, financial, and institutional frameworks. Their emphasis on coordinated project management, environmental sustainability, and socio-economic considerations highlights how PPPs can deliver not only affordable housing but also improved housing quality. This perspective underscores the importance of structured governance arrangements, which are relevant for understanding how PPPs may function effectively in Calabar Municipal. In contrast, the current study aims to explicitly look into PPP and housing delivery in terms of affordability and quality. As a result, there is a difference in the geographic context, factors, and objectives.

In contrast, Udoka (2022) reports low effectiveness of PPP housing schemes in Akwa Ibom State, Nigeria, suggesting that PPPs alone do not automatically translate into affordable housing delivery. The findings indicate that weak implementation, inadequate monitoring, and policy gaps can limit PPP outcomes. This evidence cautions that without proper institutional support, PPPs may fall short of enhancing affordability, a concern relevant to similar socio-economic contexts in Cross River State. However, there is a difference in the geographic context, factors, and objectives (affordability and quality).

Owotemu et al. (2022) provide a more positive assessment by identifying specific PPP models, such as lease contracts and Build Own Operate Transfer arrangements, that improve housing affordability in Nigeria. Their study emphasises performance measurement, accountability, and innovative financing as determinants of success. These insights align directly to assess how PPPs enhance affordability and housing quality through efficient project delivery mechanisms. However, there is a difference in the geographic and contextual factors.

Similarly, Sule et al. (2024) found PPPs to be effective in meeting housing demand in the Federal Capital Territory, although constrained by limited resources. Their recommendation for government subsidies reinforces the argument that public sector support is essential for PPPs to deliver affordable and quality housing. However, the current study focuses on many sub-variables (affordability and quality). Differences in environments, cultural factors, and regulatory frameworks exist, as the reviewed study was conducted in FCT and the current study was in Cross River State, Nigeria; these gaps need to be considered.

At the local level, Njar (2017) reports high satisfaction among beneficiaries of a PPP housing estate in Akpabuyo LGA, Cross River State, particularly regarding housing access and payment arrangements. While issues of favouritism were noted, the overall positive perception suggests that PPPs can enhance housing quality and affordability when payment structures are aligned with income levels. However, there is a difference in the geographic context (municipal LGA) and objectives (affordability and quality).

Finally, Akinsulire et al. (2024) and Oluwaseyi et al. (2023) emphasise that effective PPP housing delivery depends on transparent frameworks, risk-sharing, land accessibility, and strong government oversight. These studies indicate that PPPs possess considerable potential to improve housing affordability and quality; however, their effectiveness in Calabar Municipal LGA will primarily hinge on policy coherence, institutional capacity, and successful implementation. These gaps need to be considered.

The collective insights from the empirical studies highlight the critical yet inconsistent role of PPPs in housing affordability and quality. Specifically, areas such as the Calabar Municipal local government remain underserved, prompting further exploration into the effectiveness of PPPs in this area. Research by Njar (2017), Shvydenko et al. (2020), and findings by Udoka (2022) reveal inefficacies in Akwa Ibom's PPP schemes. Ultimately, effective management practices and clear institutional frameworks must guide PPP structures to improve housing affordability and quality outcomes in underserved areas like Calabar Municipal. Empirical studies provide valuable insight into Public Private Partnerships (PPP) and housing development; however,

little or no attention was paid to the PPP capacity to enhance housing affordability and quality in Calabar Municipal Local Government Area of Cross River State, which is central to this study.

3 Materials and Methods

3.1 Study Area

The Calabar Municipality Local Government Area of Cross River State is located within Latitudes 4°58′N - 5°3′N of the Equator and Longitudes 8°16′E - 8°26′E of the Greenwich Meridian. It occupies an area of 141.559 square kilometres (km²). The study area is the main commercial city in Cross River State. It is bounded to the north by Akamkpa LGA, to the south by Calabar South LGA, to the west by Odukpani, and to the east by Akpabuyo LGA. Under Köppen's climate classification, Calabar features a tropical monsoon climate (Köppen: *Am*) amidst a lengthy wet season spanning ten months and a short dry season covering the remaining two months. The harmattan, which significantly influences the weather in West Africa, is noticeably less pronounced in the city. Temperatures are relatively constant throughout the year, with average high temperatures usually ranging from 25 to 28 degrees Celsius.
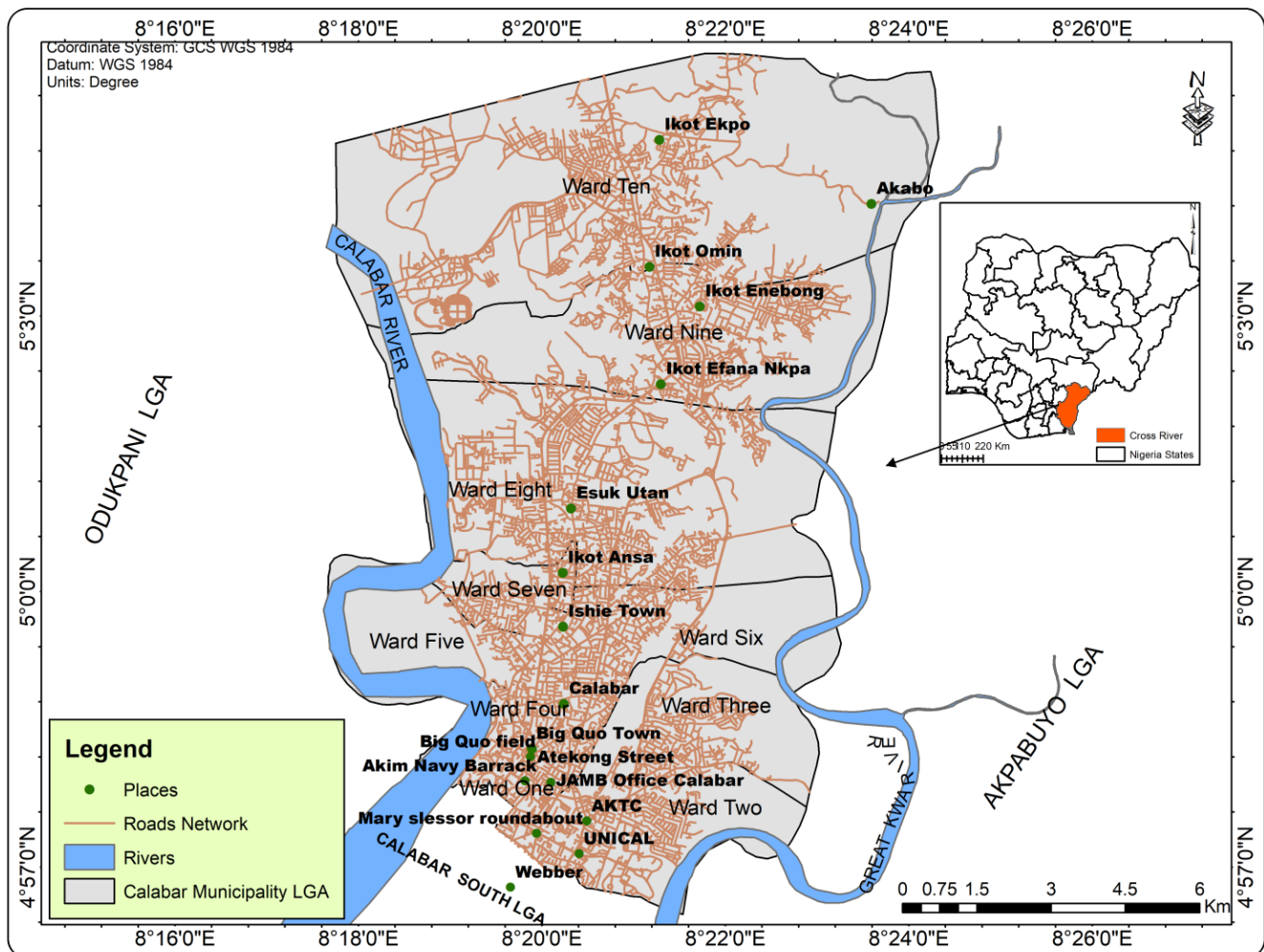

Fig 1: Study Area Map (Calabar Municipality LGA)
Source: Cross River Geographical Information Agency (CRGIA), 2025

3.2 Population, Sample Size, and Sampling Technique

A target population of 304,119 was identified. This population was considered appropriate given their direct beneficiary. Using Krejcie and Morgan's (1970) sample size determination table, a sample of 384 respondents was selected to ensure representativeness and statistical reliability. From the pool of eligible respondents meeting these criteria, simple random sampling was also employed to ultimately select participants, ensuring adherence to the predetermined minimum sample size. The choice of this technique is basically to avoid bias, and it gives every element/member of the population an equal and independent chance of being selected. This is to make it more representative and allow the study to make generalisations of the findings on the entire population.

3.3 Data Source

Data were gathered through a structured questionnaire specifically developed for this study. A 5-point Likert scale ranging from "strongly disagree" to "strongly agree" was used to measure respondents' levels of agreement with various statements related to their experience with PPP and housing development. Before full deployment, the questionnaire was subjected to a pilot test with 50 respondents from Calabar South to assess its reliability and clarity. The reliability of the instrument was confirmed using Cronbach's alpha, which yielded a coefficient of 0.83, indicating high internal consistency.

3.4 Method of Data Analysis

In order to present and analyse the survey results and test the hypotheses, the study used both descriptive and inferential statistical techniques of analysis. The data obtained from the research surveys were first described and summarised using tabulation, frequency distribution, and percentages, utilising descriptive statistical methods of mean score and standard deviation. Hence, the mean responses were used to conclude the respective questions. Having 1 and 5 as extremes, representing "strongly disagree" and "strongly agree", respectively, the descriptive statistics for the respective questions in the research instrument are interpreted as follows: A mean value that falls between 1 and 2.75 is interpreted as a majority of the respondents disagreeing with the statement in question. A mean value which falls between 2.75 and 3.25 is interpreted as a majority of the respondents being neutral about the statement in question, while a mean value which falls between 3.25 and 5 is interpreted as the majority of the respondents agreeing to the statement in question.

Multiple regression analysis was used to test the hypotheses. Regression analysis forecasts the extent to which the independent variable, or predictor variable, will affect the dependent variable, or criterion variable. This provided the foundation for this study. Thus, the decision criteria for the regression statistical testing are as follows: the null hypotheses are rejected if the calculated p-value is equal to or less than the specified p-value, and the null hypotheses are preserved at $p < 0.05$ if the calculated p-value is greater than the set p-value.

4 Results

4.1 Public-Private Partnerships and Housing Affordability and Quality

This section presents the descriptive statistics of the responses from the research instrument as they relate to the constructs. The dataset retrieved from the questionnaire was screened and extracted using the same 5-point Likert scale in which they were initially answered.

Table 1: Housing Affordability

	N	Minimum	Maximum	Mean	Std. Deviation	Decision
Public-Private Partnerships (PPPs) have significantly reduced the cost of housing for low- and middle-income residents in Calabar Municipal	381	1	5	3.95	.896	Agreed
PPP initiatives have increased access to affordable mortgage and housing finance options for residents.	381	1	5	3.11	1.132	Neutral
Collaboration between the government and private developers has enhanced the supply of affordable housing units in the area.	381	1	5	3.86	1.020	Agreed
The implementation of PPP housing projects has made home ownership more attainable for average-income earners.	381	1	5	3.76	.946	Agreed
PPP-based housing projects have contributed to a decrease in rental prices within the Calabar Municipal Local Government Area.	381	1	5	3.50	1.189	Agreed
Valid N (list-wise)	381					

Table 1 shows the mean responses to questions relating to PPP and housing affordability in Calabar Municipality. A mean response of 3.95 with a standard deviation of 0.896 on the first item indicates that a majority of the respondents agree that Public-Private Partnerships (PPPs) have significantly reduced the cost of housing for low- and middle-income residents in Calabar Municipal.

A mean response of 3.11, with a standard deviation of 1.132 on the second item, indicates that a majority of the respondents are neutral on the assumption that PPP initiatives have increased access to affordable mortgage and housing finance options for residents. A mean response of 3.86 and a standard deviation of 1.02 on the third item indicate that a majority of the respondents agree that collaboration between government and private developers has enhanced the supply of affordable housing

units in the area.

A mean response of 3.76, with a standard deviation of 0.946 on the fourth item, indicates that a majority of the respondents agree that the implementation of PPP housing projects has made home ownership more attainable for average-income earners. Finally, a mean response of 3.5 with a standard deviation of 1.189 on the fifth item indicates that a majority of the respondents agree that PPP-based housing projects have contributed to a decrease in rental prices within the Calabar Municipal Local Government Area.

Table 2 presents the analysis of the perception of residents on the influence of PPP on housing quality.

Table 2: Opinions on Housing Quality

	N	Minimum	Maximum	Mean	Std. Deviation	Decision
PPPs have improved the quality and durability of housing structures in Calabar Municipal	381	1	5	3.98	.990	Agreed
The partnership model has introduced innovative building technologies that enhance housing quality	381	1	5	3.86	.973	Agreed
Private sector participation through PPP has ensured the timely completion of housing projects.	381	1	5	2.52	1.080	Disagreed
PPPs have ensured better infrastructure and service provision (e.g., roads, water, electricity) in housing estates.	381	1	5	3.35	1.074	Agreed
The involvement of PPPs has increased adherence to building standards and regulations in housing delivery.	381	1	5	3.69	1.036	Agreed
Valid N (listwise)	381					

Table 2 shows the mean responses to questions relating to the major roles of PPP in the provision of quality housing delivery in the Calabar Municipal Local Government Area. A mean response of 3.98 with a standard deviation of 0.99 on the first item indicates that a majority of the respondents agree that PPPs have improved the quality and durability of housing structures in Calabar Municipal.

A mean response of 3.86 with a standard deviation of 0.973 on the second item indicates that a majority of the respondents agree that the partnership model has introduced innovative building technologies that enhance housing quality. A mean response of 2.52 with a standard deviation of 1.08 on the third item indicates that a majority of the respondents disagree that private sector participation through PPP has ensured the timely completion of housing projects.

A mean response of 3.35 with a standard deviation of 1.074 on the fourth item indicates that a majority of the respondents agree that PPPs have ensured better infrastructure and service provision (e.g., roads, water, electricity) in housing estates. A mean response of 3.69 with a standard deviation of 1.036 on the fifth item indicates that a majority of the respondents agree that the involvement of PPPs has increased adherence to building standards and regulations in housing delivery.

4.2 Influence of Public-Private Partnerships on Housing Affordability and Quality

The influence of PPP on the affordability and quality of housing in Calabar Municipal was examined. The result is shown in Tables 3, 4, and 5.

Table 3: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.048	4	6.012	24.387	.000b
	Residual	92.695	376	.247		
	Total	116.744	380			

a. Dependent Variable: Housing Development
b. Predictors: (Constant), Public-Private Partnerships

Table 3 shows the results from the multiple regression analysis, which tests the effects of the independent variables on the housing development. The F-statistic, which measures the adequacy and fitness of the model used in the study, stood at 24.387 with a p-value of 0.000b, which is significant at 5%; this shows that the model is fit

for the data.

Table 4: **Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.454a	.206	.198	.4965	1.436

a. Predictors: (Constant), PPP

b. Dependent Variable: Housing Quality and Affordability

Table 4 shows the summary of the multiple regression analysis. The empirical findings show that R, the multiple correlation coefficient, stood at 0.454, which indicates a moderate correlation between the independent variables and the dependent variable.

R^2, the multiple coefficient of determination of the variables, stood at 0.206, indicating that about 20.6% of the total variation in housing quality and affordability is explained by variations in the independent variables captured in the study, while other variables not captured in the study will explain 79.4% of the variations in housing quality and affordability. The adjusted R^2 being 0.198 also indicates that the independent variables under study will still explain 19.8% of the variations in housing quality and affordability even if other variables were added to the study.

Table 5: **Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.147	.318		3.609	.000
	Housing Affordability	.308	.042	.340	7.362	.000
	Housing Quality	.205	.039	.241	4.229	.000

a. Dependent Variable: Housing Affordability and Quality

Table 5 shows the outcome of the respective independent variables based on housing affordability and quality on the tests for the assumptions of linear regression presented in the preceding sections. Upon the fulfillment of the assumptions of regression analysis, multiple regression analysis is considered suitable for testing the research hypotheses. From Table 5, the model and the respective hypotheses are discussed as follows:

HD = 1.147 + 0.205 *HQ*+0.308 *HA* + ε

Where HD = Housing Development
HA = Housing Affordability
HQ = Housing Quality
ε = Error term

Hypothesis I

There is no significant effect of public-private partnership on housing affordability in the Calabar Municipal Local Government Area.

The coefficient of this independent variable stood at 0.205, which is positive. This implies that an increase or continuation in the current usage or adoption of PPP would lead to an increase in housing affordability. This depicts a good state of the current usage or adoption of PPP in relation to housing affordability. The standardised coefficient of this variable stood at 0.241 and indicates that it is the second-highest contributing variable to housing affordability among the variables under study. However, the significance of these can be judged from the *t-statistic* and its significance.

The *t-statistic* of this independent variable stood at 4.229 with a p-value of 0.000. The p-value is less than 0.05, indicating that the relationship depicted in the model is significant at the 95% confidence level. This implies that the study has enough statistical evidence to reject the null hypothesis in order to accept its alternative. Based on the above analyses, the study, therefore, rejects the null hypothesis, 'There is no significant effect of public-private partnership on housing affordability in the Calabar Municipal Local Government Area', and accepts its alternate hypothesis, which states that there is a significant effect of public-private partnership on housing affordability in the Calabar Municipal Local Government Area.

Hypothesis II

There is no significant effect of public-private partnership on quality housing in the Calabar Municipal Local Government Area.

The coefficient of this independent variable stood at 0.308, which is positive. This implies that an increase or continuation in the current adoption of PPP would lead to an increase in the housing quality in the Calabar

Municipal Local Government Area. This depicts a good state of the current usage or adoption of PPP in relation to the housing quality in the Calabar Municipal Local Government Area. The standardised coefficient of this variable stood at 0.34 and indicates that it is the highest contributing variable to the housing quality in the Calabar Municipal Local Government Area among the variables under study. However, the significance of these can be judged from the *t-statistic* and its significance.

The *t-statistic* of this independent variable stood at 7.362 with a p-value of 0.000. The p-value is less than 0.05, indicating that the relationship depicted in the model is significant at the 95% confidence level. This implies that the study has enough statistical evidence to reject the null hypothesis in order to accept it's alternate.

Based on the above analyses, the study, therefore, rejects the null hypothesis, which states that there is no significant effect of public-private partnership on quality housing in the Calabar Municipal Local Government Area, and accepts its alternate hypothesis, which states that there is a significant effect of public-private partnership on quality housing in the Calabar Municipal Local Government Area.

5 Discussion

The findings of this study show that the t-statistic of the study's independent variable stood at 4.229 with a p-value of 0.000. The p-value is less than 0.05, indicating that the relationship depicted in the model is significant at the 95% confidence level. This implies that Public Private Partnership (PPP) has a significant impact on housing affordability in the Calabar Municipal Local Government Area. This result is consistent with earlier research highlighting the importance of PPPs in reducing housing deficits in developing countries (Akinsulire et al., 2024). The study suggests that collaboration between the public and private sectors has helped lower the cost of acquiring homes by increasing access to affordable mortgage schemes, providing serviced plots, and promoting the construction of low-cost housing units. By combining resources, sharing risks, and improving project execution, PPP initiatives have reduced the overall cost of housing delivery and expanded access for middle- and low-income earners. This finding reinforces the view that strong partnerships between government agencies and private developers can enhance housing affordability through innovation, efficiency, and economies of scale.

The study also revealed that the *t-statistic* of this study's independent variable stood at 7.362 with a p-value of 0.000. The p-value is less than 0.05, indicating that the relationship depicted in the model is significant at the 95% confidence level. This implies that PPP has a significant positive effect on the quality of housing in

Calabar Municipal. This supports the arguments of scholars such as Owotemu et al. (2022) and Njar (2017), who observed that private sector involvement often leads to better construction standards, improved architectural designs, and the use of durable materials. These improvements are largely due to performance-based contracts, professional accountability, and adherence to modern building standards. The partnership has made it possible to integrate new technologies, sound project management practices, and quality control measures that have raised the overall standard of housing in the area. By combining the regulatory role of the public sector with the technical expertise and innovation of the private sector, PPP initiatives have contributed to safer, more sustainable, and higher-quality housing development in Calabar Municipal.

6 Conclusion

This study concludes that Public Private Partnership (PPP) plays an imperative role in improving both housing affordability and quality in the Calabar Municipal Local Government Area. The implementation of Public-Private Partnership (PPP) in housing programmes in the Calabar Municipal Local Government Area, Calabar, Cross River State, Nigeria, has been introduced to address the housing deficit and increase affordable housing provision and accessibility in the country. It holds immense potential for addressing the growing housing needs in the Calabar Municipal Local Government Area. This collaboration between the public and private sectors has made housing more affordable, raised construction standards, and encouraged innovation in housing project execution. By combining the government's regulatory oversight with the efficiency and expertise of the private sector, PPP initiatives have produced better housing outcomes for residents of the Calabar municipality. To uphold these gains, continuous policy support, transparency, and effective institutional coordination are essential. Strengthening the PPP framework will not only ensure fair access to decent housing but also promote sustainable urban development across Calabar Municipal and the wider Cross River State. This study, therefore, recommends that adequate funding should be made available for the PPP and housing development in Calabar Municipal and that the legal and institutional frameworks guiding PPP housing projects be strengthened to promote transparency, accountability, and consistent quality standards. Also, regular monitoring and evaluation systems should be put in place to assess project performance, especially as it relates to housing quality. Furthermore, this study recommends further studies on PPP and housing development with different sub-variables, such as funding, mortgage interest, and home ownership.

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