



Barriers to Community Participation in Infrastructure Provision and Maintenance in Residential Estate in Abuja, Nigeria

Sani A. Momoh, Abubakar D. Isaha, Muhammad I. Bala, Charles Y. Makun*

Department of Architecture, School of Environmental Technology, Federal University of Technology Minna, Nigeria.
sani@futminna.edu.ng

Abstract

Community participation is crucial for the success of developmental projects, particularly in infrastructure provision and maintenance. Despite community participation issues being highly context-dependent, it has been given limited attention and not fully harnessed to the benefits of generality of Nigerians. Thus, this study investigated barriers to community participation in infrastructure provision and maintenance in the owner-occupier estates in Kubwa Bwari Area Council, FCT, Abuja. The primary data gathering instrument for this study is structured closed-ended questionnaire. Structured questionnaires were used to elicit information from 125 randomly selected respondents which were analysed using percentile and mean item scores. The findings revealed that the lack of transparency in the estate infrastructure participatory planning having mean score value of 3.71, transparency in infrastructure project execution with mean score value of 3.50 and distrust in community leadership having mean score value of 3.43 were the most significant barriers to community participation in infrastructure provision and maintenance in the study area. These barriers might have contributed to the limited participation of the residents in the areas studied due to the way and manner the community residents' associations (CRAs) were administered. Therefore, there is the need for CRA leadership to be open and accountable to all at every phase of project planning and execution so that improvement of the facilities can be engendered.

Keywords: Community participation, infrastructure provision, maintenance, barriers to participation, residential area, Abuja -Nigeria.

1. Introduction

The need for community input and action in developmental projects gave rise to the host community involvement in infrastructure provision and maintenance that included roads, water supply, drainages, waste disposal and electricity supply. Community involvement could be either through decision making, planning, fund sourcing and project implementation, this act is termed Community participation (Daniel, *et al.*, 2021). Community infrastructure provision participation concept of planning was popularized in response to the much criticized and seemingly unproductive top-down and expert-driven approach to planning in the early 1960 (Fariha, 2022). Fateye *et al.* (2021) asserted that this idea of participation has proven to be particularly valuable in places where government entities are unstable and under pressure to accomplish their duty. Volunteering in the community participation has a significant and long-lasting influence on enhancing community members well-being (Yasmin & Jamal, 2023). A meaningful community participation involves idea generation, contributions to decision-making, and responsibility sharing. Community members need a sense of belonging, desire for material or in-kind benefits, yearning for actively better livelihoods, while fulfilling other social obligations are some of the considerations that drive participation. The need to attain a meaningful community infrastructure participatory process that is successful, and long-lasting, requires community leaders to respect, listen to, and learn from community members as participants (Musonda *et al.*, 2024). Participants mutual respect and cooperative learning are essential for the efficient use of time, trust, and most importantly, efficacy of community resources utilization, as these biases serve as barriers to community participation in CRAs. Can these barriers be found in the Kubwa owner-occupier residential estate? Despite the numerous benefits, this approach to development has not been well harnessed or utilized in Nigeria (Ezeanah, 2020). Based on this premise, this study investigated internal factors responsible for physical infrastructural facilities failure in the owner-occupier residential estate in Kubwa, Bwari area council of Abuja, a typical instance of infrastructural deficiency (Ebehikhalu *et al.*, 2016).

2. Literature Review

2.1 Concept of Infrastructure Provision

Infrastructure plays a pivotal role in the advancement of urban areas, the enhancement of individuals' quality of life, the spread of economic activities, and the overarching socio-economic progression of community residents. The requirements of community residents for social, recreational, cultural, and developmental aspects are fulfilled through the provision of sufficient infrastructure. The infrastructure elements in the contemporary twenty-first century pertain to the intricate, extensive, and dynamic economic frameworks and support systems that depict modern development (Tubridy, 2018). The essential, apparatus, and frameworks necessary for the social, mental, and physical welfare of individuals and families are designated as residential infrastructure (Shetunyenga, 2023). This infrastructure encompasses all production systems, structures, and apparatus whose functionalities are used by households for the improvement of residents' well-being. Consequently, residential infrastructure encompasses comprehensive array of social, physical, and economic amenities, fixture such as roads, electricity, water supply, waste and sanitation. These are integral to the daily livelihoods of population and thereby possess the capability to enhance the overall quality of residents' life.

The population influx into Abuja has a direct influence on the residential infrastructure amenities currently in place (Adigun, 2018). The resident's growth is rarely in line with the amenities that are offered, as there is pressure on the already existing residential infrastructural facilities. The bad roads have an adverse effect on urban residents commuting from home to work, while this result in residents having to live with high cost of transportation (Momoh *et al.*, 2018). The Inadequate waste management within the residential area, blocked drains, coupled with deficiency of a storm water collection could lead to disease outbreaks and flooding, (Adigun, 2018) thus resulting in loss of life and property of residents, hence the benefit of residential infrastructure cannot be overlooked in ensuring well-being of residents. Residential infrastructure constitutes essential facilities that elevate the quality of life, foster health, and ensure the safety of inhabitants. These infrastructures are essential to urban living and the absence could impact negatively on residents' health, housing operating costs, and the quality of urban life (Hardekar & Chakraborty 2018). This challenge of providing residential infrastructure will require an intervention through community participation to supplement government efforts, which have not adequately impacted on resident well-being (Annum & Aijaz, 2023).

2.2 Community Participation

Communities has been seen to be integral to provision and maintenance of infrastructural projects, this means that their participation is necessary to achieve adequate infrastructural availability and adequacy. Although, the word "participation" is most frequently used in developmental discourse, it has been used in a wide range of contexts and has come to mean several things. participation signifies a change from the top-down, global planning approaches that dominated participation earlier development projects to approaches that are more context specifics, localized, and urbane (Amusugut *et al.*, 2023). Moreover, the diverse social, political, and economic structure of the community will need to be considered when designing participation strategies that are tailored for developmental requirements (Mubita *et al.*, 2017). Nevertheless, for participation to be genuinely beneficial, it needs to be voluntary and unaffected by external circumstances. Communication and understanding are key factors in determining community engagement since successful community participation depends on residents' willingness to take part in development initiatives (Nirmala, 2017).

2.3 Residential infrastructure

Residential infrastructure, as a component of community development, refers to the physical facilities that enable residents to participate in the political, economic, civic and community roles that are important to the well-being of society (Odunola *et al.*, 2022 and Kirti, *et al.*, 2022). This comprises of physical fixed assets such as roads, electricity, water supply, and sanitation, as well as information and communication technology (Manggat, *et al.*, 2018). The social infrastructure includes services such as education, financial institutions, firefighting, and hospitals, while the physical infrastructure includes network of portable water, roads, and power grids. As such residents can access social facilities through social infrastructure, the physical infrastructure allows them to access physical facilities within the residential community (Shunglu, *et al.* 2022).

2.4 Community Residents Participation

Participation is equated to the concept of influencing empowerment of the populace by providing opportunity to develop indigenous solution to perceived needs, thus breaking the dependency attitude (Aurick, *et al.*, 2017). community participation is the gradual process of purposeful voluntary activities by community members to effect improvements to infrastructure services and community welfare. The success of participation is affected by the

political, social, spatial, and cultural contexts; thus, it is essential to contextualize participation within existing local environment and a carefully informed social and local political knowledge base. Community-participation (CP) has become important in community development over time, were participants influence and control developmental initiatives through collaborative decisions as well as fund sourcing to execute the conceived project under a community resident association (Omotayo, *et al.*, 2020). The community Resident's Association (CRA), a cooperatively owned and democratically administered residential organisation, which is a self-governing resident group, established voluntarily to minimize conflicts while promoting social and economic improvement in the residential community (Yussif, 2021).

Annum & Aijaz (2023), evaluated barriers to community participation in Cameroon Mutengene, self-help water project planning. The research affirmed that participatory barriers are generally classified as "external and internal barriers." External barriers are those factors that are not present in the beneficiary community but may hinder effective participation, while internal barriers are hindrance present within the recipient community and may originate from resident associations like community leaders' forums and other interest groups within the community. Furthermore, Rahmat, *et al.* (2023) examines participatory approaches in water projects management initiatives. The study adopted qualitative approach, incorporating case studies from India, Sri Lanka, and Turkey, the study concluded that the primary barriers to participatory water projects were elite capture of participatory procedures, diverse influence and lack of societal trust on community leaders, as well as micro-level disparities all these impedes inclusive participatory process. Shetunyenga, (2023) evaluated barriers to community participation in developmental projects in Ompundja constituency, Oshana region of Namibia, A qualitative research approach was adopted for the study. Findings revealed contrasting views between residents' and organisers of community-based development, as such the study thus, advocated for community residents improve capabilities towards contributing to the development of their community well-being. Furthermore Holcombe, *et al.* (2023) investigated the long-term sustainability of post-construction drainage infrastructure network maintenance, emphasising on government- and World Bank-funded hillside projects in urban areas in Saint Lucia, Eastern Caribbean. The findings demonstrated that early community involvement in a project can lead to improved construction quality and impacts on infrastructure maintenance life cycle. The nature of community participation and the obstacles to successful community involvement in community development initiatives were examined by Usman *et al.* (2018). utilizing Gombe State, Nigeria's. recommended increased level of awareness and enlightenment about communal participation through mass media, study further encouraged the timely involvement of rural people in project formulation, planning and implementation.

2.5 Community Participatory Barriers

Annum & Aijaz (2023) affirmed that infrastructure Participatory projects are mostly confronted by external and internal barriers. The external constraints relate to communication and leadership issues and the prevailing perception of tokenism. Alleviating these challenges requires the enhancement of community voices through collaborative implementation of genuine participatory bases for engagement (Emanuel & Wilkins, 2020). While the internal constraints emerge from socio-economic conditions of participant. A comprehensive Participatory approach requires the collaboration of community's participant, and residents' association stakeholders to enable effective participation (Michael & Alex, 2022). Conventional systems of communal participation often fail to foster trust, resulting in a parasitic relationship between communities and project participant. Tackling this concern demands the empowerment of host communities through inclusive stakeholder strategies. Table 1 summarizes reviewed literature extract of participatory barriers to community infrastructure maintenance and provision.

Table 1: Participatory Barriers Extract

Author	Study Topic	Participatory Barriers
Annum & Aijaz (2023),	Study barriers to community participation in Cameroon Mutengene, self-help water project planning.	"External and internal barriers."
Rahmat, <i>et al.</i> (2023)	Investigated participatory approaches in water projects management initiatives, case studies from India, Sri Lanka, and Turkey	Elite capture of participatory procedures, diverse influence and lack of societal trust on community leaders and micro-level disparities
Shetunyenga, (2023)	Examined barriers to community participation in developmental projects in Oshana region of Namibia,	Contrasting views between residents' and organisers of community-based development,

Holcombe, <i>et al.</i> (2023)	Study the long-term sustainability of post-construction drainage infrastructure network maintenance in Saint Lucia, Eastern Caribbean.	early community involvement in project leads to improved construction quality and impacts on infrastructure maintenance life cycle.
Usman, <i>et al.</i> (2018).	Investigated the nature of community participation and the barriers to effective community participation in community development projects. using Gombe Local Government Area, Gombe State, Nigeria.	Participant active contribution to decision-making process encouraged project formulation, planning and implementation input

Community participation in infrastructure projects encounters substantial external impediments, encompassing a lack of acknowledgment, power imbalances, and insufficient communication. Such impediments can impede effective participation and culminate in project failures. Tackling these issues requires a multidimensional strategy:

- i. **Lack of Acknowledgment:** The non acknowledgment of Participating community members involvement often leads to exclusion from decision-making frameworks, (Emanuel & Wilkins, 2020). This deficiency in recognition may obstruct participants from articulating their needs and concerns in a meaningful manner.
- ii. **Power Inequalities:** Disparities in authority between community residents and project coordinators can result in superficial participation, which is characterized by minimal community input (Shetunyenga, 2023). It is imperative to ensure equitable power relations for authentic engagement.
- iii. **Insufficient Communication:** adequate communication channels are vital for bridging the divide between communities and project participants (Rahmat *et al.*, 2023). These can be achieved with the formation of multi-actor platforms can promote information dissemination towards strengthen trust among Participating community.

Although these barriers are significant, they can be improved on through community-led initiatives that empower residents and encourage community collaboration. Nonetheless, it is asserted that in the absence of addressing these systemic inequalities, any Participatory efforts may simply produce superficial participation (Rahmat *et al.* 2023).

3. Methodology

This study is carried out in Abuja, the federal capital territory (FCT) of Nigeria, specifically in Kubwa, Bwari area council. Bwari Area Councils of Abuja was purposively selected for this study out of the six area councils, as it is home to some owner-occupier estates in the FCT. The map of Abuja showing Bwari area council is illustrated in Figure1.

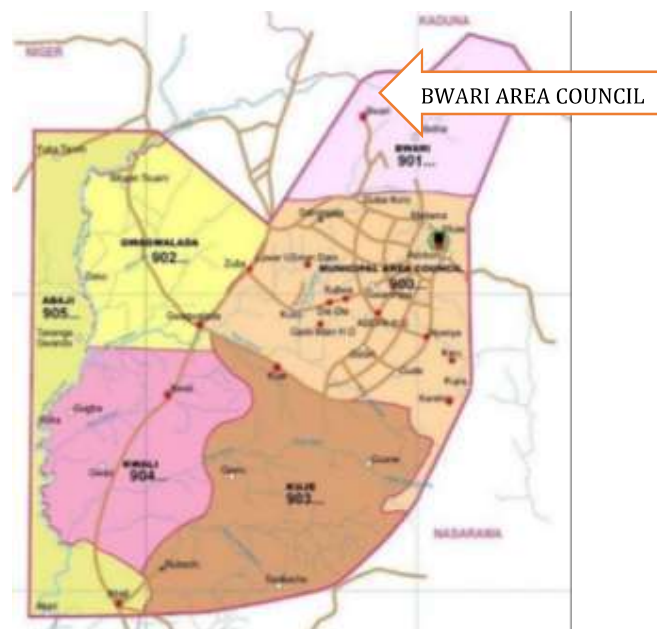


Figure 1: Federal Capital Territory map showing the six Area Councils. Arrowed is Bwari Area Council.

Source: <https://www.google.com/search?q=map+of+abuja&sxsrf=ALeKk01-5r702YRS2iV>

The main data collection instruments used for this study is close-ended questionnaire structured towards barriers militating against residents' participation in infrastructure provisions and maintenance in the study area. Data were collected using structured questionnaire. The survey research approach was adopted in this study, since it helps determine whether there are significant effects on the variables under study (Yussif, 2021). The study population was one hundred and eighty-five (185) households, out of which one hundred and twenty-five (125) were randomly selected based on Qualtrics (2023) sample size calculator. One hundred and two (102) questionnaires were correctly filled and returned. The data were analysed using statistcy (free online statistics app, 2024). The presentation of the results is basically descriptive in form of tables for easy understanding and interpretation. A five-point Likert scale was employed to rate the residents' responses, with designated cut-off points for mean values range from: 1.00-1.49 = No Extent, 1.50 – 2.49 = Low Extent, 2.50-3.49 = Moderate Extent, 3.50-4.59 = High Extent, and 4.50-5.00 = Very High Extent (Morenikeji, 2006).

4.0 Results and Discussion

4.1 Respondents General Question

This, study pose question to the respondents, if there is existence of CRA in the estate, next is whether respondents attend CRA meetings, and the social media platform used by the estate CRA for information dissemination to the estate community. All of which will enhance the quality of data to be gathered as the respondents will be well informed and in position to provide vailed answers, the result is presented in Table 2.

Table 2: Existence of Community Residents' Association

Respondent	Frequency	Percent
Yes	87	85
No	6	6
No response	9	9
Total	102	100
CRA meeting attendance	Frequency	Percent
Very Regular	23	22
Regular	16	15
Seldomly	63	62
Total	102	100
social media platform	Frequency	Percent
WhatsApp	83	81
Telegram	11	11
Instagram	8	8
Total	102	100

The result shows that 85percent been in the majority study respondents affirmed that there is an existing Community Resident Association in place, while 6percent indicate No, which could mean non-awareness and 9 percent were nonresponsive. The CRA meets quarterly while 62 percent that are majority seldom attends the meeting. Next is respondent with 22 percent who are very regular, and the regular meeting attendee are 15 percent. The social media WhatsApp platform has 81 percent users, with 11 percent of respondents on telegram and 8 percent adopt Instagram as the media platform for effective CRA communication medium, this implies that all the three social media platforms are in use for effective CRA information dissemination in the estate. Three (3) respondents were current executive, members.

4.2 Respondents Demographic Information

The demographic characteristics of the respondents, which include factors such as sex, educational, employment status, residence tenure Status and other relevant data essential to improving the potential quality of data to be collected from the Kubwa owner-occupied estate. This study asserts that community capacity serves as a fundamental factor influencing participation, as it facilitates the decision-making processes associated with the execution of participatory infrastructure initiatives within the estate. The respondent's data are presented in Tables3.

Table 3: Respondents Demographic

Gender Categories	Frequency	Percent
Gender		
Male	72	71
Female	13	13
No response	17	16
Total	102	100
Educational qualifications	Frequency	Percent
OND / NCE	13	13
HND / BSC	71	70
Postgraduate	18	18
Total	102	100
Employment Status	Frequency	Percent
Self Employed	12	12.
Civil Servant	72	70
Private Sector	13	13
Retiree	5	5
Total	102	100
Respondents Income Range	Frequency	Percent
#100,000 - #149,000	9	9
#150,000 - #199,000	28	27
#200,000 - #249,000	5	5
#250,000 and above	2	2
No response	58	57
Total	102	100
Residents Tenure Status	Frequency	Percent
Employee Quarter	11	11
Owner Occupant	73	71
Privately rented	14	14
Squatter	4	4
Total	102	100
Source: Field data (2024)		

The respondents' gender results in table3 indicates that 71 percent were male respondents while female are 13 percent and 16 percent were the non-responsive participants. This implies that both gender as respondents are either residents' owner or occupants in the estate, which would enhance efficient data outcome for this study. The respondents' educational status survey revealed that 70 percent, of respondents attained equivalent of first degrees, 18 percent also had Postgraduate qualifications, and 13 percent had diploma. This implies that high percentage of respondents are well learned, as such they can critically make objective decision regarding community participation. Hence this is consistent with Adedokun *et al.* (2022) asserts that basic education attainment position respondents to provide valid and reliable information that impacts positively on participation.

The respondents' employment status indicates that civil servant who are the majority account for 70 percent of respondents, followed by Private Sector employees' 13 percent, with the Self-Employed 12 percent and lastly retired civil servants accounts for 5 percent. This indicates that majority of the residents are government workers (Civil Servant) and could influence participatory roles within in the CRAs, as they are supposedly the owner of such resident. The estate is occupied mostly on owner-occupier basis by government workers, who are either in service, retired or lease the residence out; thus, they could make out time between civil service work and CRAs activities to enhance infrastructure maintenance and its provision in the estate.

The respondent's income survey shows that 57 percent, who are the majority non-responsive respondents decline information on income, followed by those within the income range of #150,000 - #199,000 with 27 percent and then #100,000 - #149,000 income range with 9 percent while #200,000 - #249,000 earners, with 5 percent and income earner of #250,000, and above make-up 2 percent of respondents in the estate. The respondent's tenure status survey revealed that 71 percent who are most respondents were the owner occupant, followed by Privately rented 14 percent and then 11 percent make up the employee quarter, while 4 percent of respondents are squatter within the estate.

4.3 Barriers Impacts on Residential Infrastructure Participation

The Infrastructure Participation mean impact of participatory barriers in the study area is analysed with the results presented in Table 4 illustrating the basic characteristics and description analysis of barriers to community participation

Table 4: Ranking the barriers to community participation in infrastructure provision and maintenance

Barriers	Mean	Rank	Remark
Lack of early information	3.07	10	ME
Lack of timely awareness	3.21	6	ME
Limited access to decision-making	3.29	4	ME
Lack of transparency in initiation of infrastructure project	3.21	6	ME
Lack of transparency in the estate infrastructure participatory planning	3.71	1	HE
Lack of transparency in infrastructure project execution	3.5	2	HE
Residents' income	3.21	6	ME
Estate residents' educational attainment	2.86	12	ME
Distrust in community leadership	3.43	3	ME
Residents' tenure status	3.29	4	ME
Household size	3.07	10	ME
Elites' leadership dominance	3.14	9	ME
Class of resident	2.86	12	ME

Source: Author's Field Survey, 2024

Consequently, Table 4 shows the extent each barrier impacts on residential infrastructure provision and maintenance in the owner occupier estate. The result shows that lack of transparency in the estate infrastructure participatory planning ranking first (1st) with a means score of 3.71. This aligns to Annum & Aijaz, (2023), affirming of internal barriers to community participation, as it is an exclusive participatory process hinderance emanating from the residential community. Similarly, lack of transparency in infrastructure project execution ranked second (2nd) with a mean score of 3.50, this could be asserted to be a contextual-based barrier related issue. Lastly distrust in community leadership came third (3rd) with score of 3.43 confirming Rahmat, *et al.* (2023), study outcome of societal lack of trust on community leaders in community water projects management initiatives, case studies from India, Sri Lanka and turkey. These three factors were the most significant barriers to residents' participation in infrastructural provision and maintenance. Furthermore, elites' leadership dominance (3.14), household size and lack of early information (3.07), educational attainment and class of residents (2.86) ranked 9th, 10th and 12th respectively. These factors were the least significant barriers to residents' participation in infrastructural provision and maintenance as identified by the respondents. However, majority of the respondents indicated moderate extent on impact of these other barriers so identified.

5. Conclusion and Recommendation

The study investigated barriers to community participation in infrastructure provision and maintenance in owner-occupier residential estate in Kubwa, Abuja. The study found "three most significant barriers that needs to be given utmost attention for a successful resident's participation in community infrastructure provision and maintenance. The identified hinderance in order of significance are the lack of transparency in the estate infrastructure participatory planning, transparency in infrastructure project execution and residents' distrust in community leadership. These identified barriers revealed may have substantially influenced limited participation of the resident community within the studied estate, this can be attributed to the organizational approach and governance of the community residents' associations (CRAs). Therefore, it is essential for the leadership of the CRAs to embrace a policy of transparency and accountability during all phases of project initiation and execution, thus promoting participatory improvement of community infrastructure facilities. With these highlights of barriers to participation in this study, it will be a good guide to community resident association organisers in owner occupier estate especially in the study aera. As the study has provided insight on the significant barriers to infrastructure provision and maintenance. Limitations Like many other mixed-methods studies, the present study had some limitations, most notably the fact that it was limited to one estate in Kubwa. As such, the findings may not be sufficiently generalisable to estates in other area councils of Abuja. Therefore, it is recommended that future studies examine the barriers to community participation in infrastructure development and maintenance on a larger scale.

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