# Assessment of Infrastructure Development Approach in Newly Created Districts in Zambia: Case Study

Chimanga Kabwe
*University of Johannesburg, South Africa*, kchimanga@yahoo.com

Musonda Innocent
*University of Johannesburg, South Africa*, imusonda@uj.ac.za

Franco Muleya
*Copperbelt University, Zambia*, muleyaf@yahoo.ac.uk

# ASSESSMENT OF INFRASTRUCTURE DEVELOPMENT APPROACH IN NEWLY CREATED DISTRICTS IN ZAMBIA: CASE STUDY

Chimanga Kabwe[1*], Musonda Innocent[1], Franco Muleya[2]

[1]University of Johannesburg, South Africa
[2]Copperbelt University, Zambia

## ABSTRACT

This article evaluates the infrastructure development plans in Zambia's newly established districts, primarily focusing on assessing their effectiveness. Infrastructure development encompasses various strategies, and this study investigates the factors influencing the selection of these strategies for implementing infrastructure projects in Zambia. Through structured interviews and questionnaires distributed to 500 respondents, the research highlights the critical role of community involvement. Communities play a pivotal role in identifying essential amenities, setting priorities for infrastructure construction, incorporating their ideas, and participating in the planning process for executing infrastructure projects. The analysis reveals that community members held varying perspectives on the significance of infrastructure in fostering community integration. However, it also indicates that community involvement in these initiatives was below the desired levels, potentially leading to infrastructure projects that may not entirely align with community preferences. This research underscores the vital importance of infrastructure development, as it establishes the foundation for an improved quality of life encompassing health, education, water supply, sanitation, and transportation.

*Keywords*: Infrastructure; Development; Zambia; Districts; Strategies

## 1. INTRODUCTION

Infrastructure development is pivotal in fostering economic and social development, making it a fundamental requirement for nations aiming to achieve long-term stability and growth. According to Kanzadi and Heidari (2018), quality public infrastructure is essential for successful trade liberalization strategies and resource optimization, thereby driving export growth. Additionally, investments in infrastructure have been identified as effective tools for reducing income inequalities (Irshad & Ghafoor, 2023). Similarly, Derks and Romijn (2019) argue that considering what accounts for infrastructure performance, especially in Africa, demands a thorough comprehension of the institutional arrangements and the incentives governing its delivery.

A robust infrastructure forms the backbone of any society, delivering essential services encompassing energy, water, waste management, transport, and telecommunications (Thacker et al., 2019). In the context of an economy's functionality, infrastructure comprises economic and social components, making it indispensable for economic competitiveness. Infrastructure encompasses many facilities and services, including highways, mass transit, hospitals, education institutions, utilities like electricity and water supply, and waste treatment systems (Thacker et al., 2019). The global increase in investments in infrastructure projects, particularly in low- and middle-income countries, has been driven by a growing body of evidence supporting a positive correlation between infrastructure expenditure and economic growth (Babatunde, 2018; Toader et al., 2018).

Political considerations play a crucial role in governmental decision-making for infrastructure projects, often prioritizing national interests over economic viability. Governments might favor projects that align with political agendas or electoral gains, as seen in decisions to build new ports or manufacturing facilities (Ncube, 2020). However, the contemporary global trade environment demands that investments yield clear economic and public benefits, necessitating a selection model based on reliable data and financial models (Adegun, 2020).

Developmental states employ strategies like offering incentives to local entrepreneurs for state-led industrialization, emphasizing state control over finance and bureaucracy. This approach, exemplified by China's substantial infrastructure investments, demonstrates the state's role in reshaping the socio-economic landscape (Pradhan et al., 2018; Shen & Shen, 2022). China's investment in rural infrastructure development is a case in point, illustrating how government initiatives can rejuvenate both physical and social infrastructure.

Similarly, many African and Latin American countries have adopted state-led development strategies post-independence, resulting in significant advancements in education, health, and economic growth. Governments in these regions have played a pivotal role in sectors like energy and automotive, contributing to infrastructure and social services, thus driving substantial economic growth (Chimhowu et al., 2019; Ovadia & Wolf, 2018).

Community-based development (CBD) emphasizes empowering communities in sustainable development, with governments integrating these initiatives into policy frameworks (Kardes et al., 2019; Thacker et al., 2019). CBD involves direct community control in crucial decisions, including investment management. The approach positions communities as development agents, transforming collaboration based on core principles reflecting local visions and priorities (Adshead et al., 2019).

Debates comparing state-led and community-led infrastructure strategies highlight the shift from neoliberal models to community-centric approaches, emphasizing development relevance to beneficiaries. This shift fosters civil society's role in development, enhancing social cohesion and participatory governance (Gberevbie et al., 2017). Post-1964, Zambia focused on infrastructure development as a key economic strategy, particularly since the early 1990s. The government's investment in infrastructure aimed at enhancing regional and global economic integration, recognizing its dual role in state and global economics (Massey, 2022). From 2012 to 2018, Zambia prioritized infrastructure development in new districts, aiming to improve social services and address community needs. This strategy aimed at poverty alleviation and economic growth through decentralizing public services (Ngoma et al., 2020).

However, challenges and delays were observed in implementing these infrastructure projects. An audit of contracts awarded for various infrastructure development projects revealed stalled or unstarted projects, highlighting inefficiencies in execution. Moreover, an MHID study in late 2018 found that some projects were only 50% complete lacking clear timelines for completion. The study objective is to evaluate the Infrastructure Development Approach implemented in the recently established districts of Zambia.

## 2.  METHODS

### 2.1. Data Collection and Analysis Approach

In this study, methodological triangulation was employed to gather comprehensive and complementary insights from various stakeholders related to the research. The primary data collection tool was a questionnaire, chosen for its flexibility in collecting data. The semi-structured questionnaire, featuring both open-ended and closed-ended questions, was administered to community members in the selected study provinces. This approach allowed for collecting

quantitative data regarding community members' perceptions of state-led infrastructure projects delivered through settlement upgrades in Zambia.

Furthermore, in-depth data was needed to understand the selection process determinants and the impact of the settlement model on infrastructure development in Zambia. Semi-structured interviews were conducted with government officials and project consultants to achieve this. These interviews provided a more detailed and qualitative perspective than other data collection methods. By combining quantitative and qualitative approaches, this study aimed to address potential weaknesses in one method with the strengths of the other.

## 2.2. Sampling Procedure

Purposive sampling was used to select community members between the ages of 18 and 60 with knowledge of infrastructure development projects in their respective districts. Additionally, quota sampling was employed to select government officials and project consultants in the selected districts and at MHID. This approach allowed for the targeted sampling of a subgroup crucial to the study. The study aimed to collect data from 520 individuals, comprising 500 residents from the three newly created districts in the selected provinces and 20 government officials and project consultants. A response rate of 90% was achieved among residents, with 450 completed and returned questionnaires deemed acceptable (Hendra & Hill, 2019). Among the targeted 20 interviewees, 11 interviews were conducted, resulting in a response rate of 55%.

## 2.3. Data Analysis

Descriptive statistics were used to analyze the collected data to establish the Infrastructure Development Approach in Newly Created Districts in Zambia. Mean deviation, standard deviation, and percentage scores were closely examined using SPSS software. Data collected using questionnaires was initially inspected in preparation for coding and entering into the SPSS V 21 program to produce frequencies and percentages. SPSS was used because it allows for statistical, modeler, and text analysis and visualization designs for questionnaire responses, Likert scales were coded as follows: "Strongly Agree" = 1, "Strongly Disagree" = 5, and intermediate responses received values between 1 and 5. A five-point Likert scale was chosen for its ease of understanding and respondent-friendly nature.

Quantitative data were meticulously reviewed for inconsistencies to ensure the accuracy of the findings in assessing the research problem. The SPSS software, known for its statistical analysis, modelling, text analysis, and visualization capabilities, was employed for data processing and analysis.

## 3. RESULTS

### 3.1 Response Rate

Five hundred questionnaires were distributed to community members in selected provinces, including Western, Eastern, and Lusaka. Four hundred fifty respondents completed the questionnaires, resulting in a robust response rate of 90%. This response rate is visually depicted in the Figure 1 below.
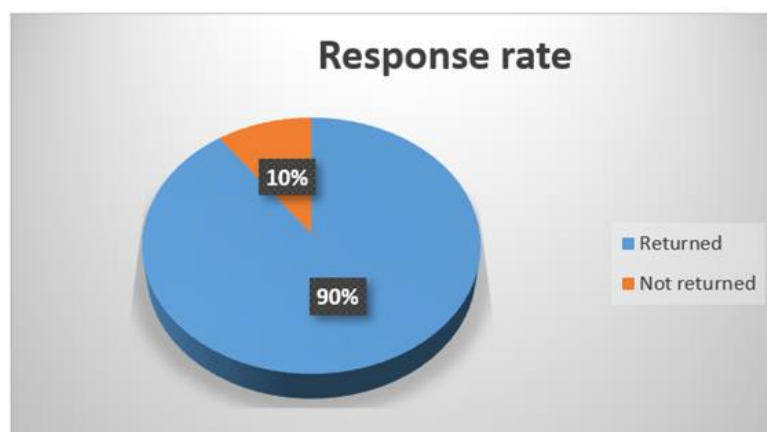
Figure 1 Response Rate

## 3.2. Demographics of Respondents

3.2.1. Age of the Respondents

Analysis of the respondents' ages revealed several key insights. The modal age group was 31–40 years, constituting the largest segment at 33.3% of the total participants. The second-highest frequency was observed among those below 30 years, accounting for 25.6%. Respondents aged 41 and 50 years represented 23.6% of the total responses. Conversely, individuals aged 51 and above had the lowest frequency, making up 17.6% of the respondents.

These findings suggest that a significant majority, approximately 74.4%, of the respondents were aged 30 years or older, indicating a mature demographic capable of comprehending developmental issues and local community agendas. The table 1 below provides a detailed breakdown of the age distribution among the respondents.

Table 1 Age of the Respondents

| Age | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Below 30 | 115 | 25.6 | 25.6 | 25.6 |
| 31-40 years | 150 | 33.3 | 33.3 | 58.9 |
| 41-50 years | 106 | 23.6 | 23.6 | 82.4 |
| 51 and above | 79 | 17.6 | 17.6 | 100.0 |

3.2.2. Level of Education

The respondents' education level is a crucial factor in understanding their ability to comprehend and engage with developmental projects, particularly infrastructure initiatives within their respective communities. Table 2 provides a comprehensive summary of the numerical distribution of respondents' education levels.

The data reveals several key insights regarding the education levels of the respondents:

- Respondents with primary education only accounted for 17.1%.
- Those who completed secondary education without a formal certificate constituted 21.6%.
- The majority, representing 40.9%, possessed a Grade 12 certificate.
- Diploma holders made up 12.2% of the total respondents.
- Individuals with degrees comprised 6.2%.

▪ A smaller percentage had higher education qualifications, with 0.9% having Master's degrees and 1.1% holding PhDs.

Table 2 Level of Education

| Level of Education | Frequency | Precent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Primary school | 77 | 17.1 | 17.1 | 17.1 |
| Secondary school | 97 | 21.6 | 21.6 | 38.7 |
| Grade 12 certificate | 184 | 40.9 | 40.9 | 79.6 |
| Diploma | 55 | 12.2 | 12.2 | 91.8 |
| Degree | 28 | 6.2 | 6.2 | 98.0 |
| Master's Degree | 4 | .9 | .9 | 98.9 |
| PhD | 5 | 1.1 | 1.1 | 100.0 |
| Total | 450 | 100.0 | 100.0 | |

Therefore, approximately 44.2% of the respondents had received formal education, including those with Grade 12 certificates, diplomas, degrees, Master's degrees, and Ph.Ds. Furthermore, 82.9% of the respondents had attained at least some secondary schooling level

## 3.3. Descriptive Statistics

The rationale for conducting the Descriptive statistics was to have a basic understanding of the data-informed and the pattern of scoring by the respondents. As a general basic summary of what descriptive statistics intends to show, statistical measures focus on measures of central tendency and variability. The extractive results are in the descriptive table discussions that follow.

### 3.3.1. Public Opinion on Communities's Basic Amenities Construction by the Authorities

The Descriptive Statistics conducted in this study aimed to provide a basic understanding of the data and the scoring patterns of the respondents. The key focus of the statistical measures included measures of central tendency and variability. The results are discussed in the following table 3.

Table 3 Public opinion on the construction of basic amenities in their communities obtained through authorities

| | N | Range | Mean | Std. Deviation | Variance | Skewness | | Kurtosis | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Statistic | Std. Error | Statistic | Std. Error |
| Public opinion: letters written to us before the start of projects | 450 | 3 | 2.01 | .638 | .407 | .094 | .115 | -.214 | .230 |
| Public opinion: questionnaires distributed among community members | 450 | 4 | 2.20 | .858 | .736 | 1.341 | .115 | 2.412 | .230 |
| Public opinion: public hearings organized by government officials (e.g., MPs, Ward Councillors) | 450 | 4 | 3.57 | 1.127 | 1.271 | -.654 | .115 | -.433 | .230 |
| Public opinion: engaging us on various social media | 450 | 3 | 2.45 | .754 | .569 | .355 | .115 | -.246 | .230 |

| | N | Range | Mean | Std. Deviation | Variance | Skewness | | Kurtosis | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Statistic | Std. Error | Statistic | Std. Error |
| platforms (e.g., Facebook, WhatsApp) | | | | | | | | | |
| Public opinion: through door-to-door sensitization exercise | 450 | 2 | 2.15 | .636 | .405 | -.138 | .115 | -.588 | .230 |
| Valid N (listwise) | 450 | | | | | | | | |

The findings from the table indicate public opinion on the construction of basic amenities in communities obtained through various means. Here are some key insights:

a) Four variables received negative feedback from the community members, with a mean score below 3.5, indicating disagreement. These variables include public opinion collected through letters, questionnaires, social media engagements, and door-to-door sensitization before constructing basic amenities.

b) Public opinions obtained through public hearings organized by government officials received a positive response, with an average mean of 3.57. This suggests that community members agreed with public opinion conducted through public hearings before constructing basic amenities.

c) The data displayed low deviations, as indicated by the standard deviation and variance, implying consistency in the data and a concentration of opinions within the same range.

d) Skewness was used to measure the asymmetry of the data. Public opinions collected through letters, social media platforms, and door-to-door sensitization had almost zero skewness. However, opinions obtained through public hearings were left-skewed, reflecting positive responses, while opinions gathered through questionnaires were right-skewed, indicating a negative response.

e) Kurtosis measured the presence of outliers, and the data showed low kurtosis values, signifying that the data was uniformly distributed.

Additionally, the interviewees provided valuable insights into the challenges and strategies of community involvement in infrastructure projects, emphasizing the importance of effective communication and community participation from project inception.

3.3.2. Relevance of the Infrastructure Built in Communities

The study aimed to assess the relevance of infrastructure to communities by considering their involvement in selecting amenities, prioritizing construction, incorporating their ideas, empowering them with necessary infrastructure, and participating in planning for implementation. The following table 4 provides a summary of the descriptive statistics for these aspects:

Table 4 Descriptive Statistics of Relevance of the Infrastructure Built to Communities

| | N | Range | Mean | Std. Deviation | Variance | Skewness | | Kurtosis | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Statistic | Std. Error | Statistic | Std. Error |
| Infrastructure relevant to communities: communities were involved in selecting amenities that they needed | 450 | 4 | 2.21 | .944 | .890 | .887 | .115 | .648 | .230 |
| Infrastructure relevant to communities: communities were involved in prioritizing the construction of infrastructure | 450 | 2 | 2.16 | .588 | .345 | -.045 | .115 | -.263 | .230 |
| Infrastructure relevant to communities: communities' ideas were incorporated into the infrastructure built | 450 | 4 | 2.50 | .923 | .852 | .565 | .115 | .206 | .230 |
| Infrastructure relevant to communities: communities have been empowered with necessary public infrastructure | 450 | 3 | 2.35 | .833 | .695 | .251 | .115 | -.454 | .230 |
| Infrastructure relevant to communities: community members participated in planning for the implementation of built infrastructure | 450 | 3 | 2.10 | .901 | .812 | .518 | .115 | -.460 | .230 |
| Valid N (listwise) | 450 | | | | | | | | |

The findings from the table indicate the relevance of infrastructure from the perspective of community involvement. Here are some key insights:

a) The mean average for these five areas was 2.264, with the highest mean of 2.50 from the aspect of community member idea incorporation and the lowest mean of 2.10 from non-involvement of community members in planning for the implementation of built infrastructure. These mean values suggest that community members disagreed on the relevance of infrastructure in all aspects of community incorporation.

b) There was little deviation in the data, with standard deviation and variance indicating uniformity in the data distribution.

c) Skewness was present in three aspects, showing an asymmetry skewed to the right, indicating a negative response. These aspects included involving communities in selecting what they needed, incorporating their ideas, and involving them in the planning for implementation.

d) Kurtosis values confirmed the uniformity in the data distribution.

Interviewee GOVZ-05 highlighted the challenges faced by the government in working closely with Ward Development Committees (WDCs) and the importance of community involvement in project development. The interviewee emphasized that community preferences and local knowledge play a significant role in determining infrastructure priorities.

### 3.3.3. Community Participation in Communities' Infrastructure Planning and Implementation

The study explored community participation in the planning and implementation of infrastructure projects within communities. The following table 5 provides a summary of the descriptive statistics for various aspects of community participation:

Table 5 Descriptive Statistics for Community Participation in Planning and Implementation of Infrastructure in Communities

| | N | Range | Mean | Std. Deviation | Variance | skewness | | Kurtosis | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Statistic | Std. Error | Statistic | Std. Error |
| Communities' participation: in project planning meetings | 450 | 3 | 2.85 | .891 | .794 | -.169 | .115 | -.929 | .230 |
| Communities' participation: in infrastructure developed as our ideas were incorporated in designing infrastructure | 450 | 3 | 2.56 | .774 | .599 | .378 | .115 | -.502 | .230 |
| Communities' participation: in decision-making committees on infrastructure development | 450 | 4 | 2.66 | 1.046 | 1.093 | .351 | .115 | -.580 | .230 |
| Communities' participation: in deciding the location of various infrastructure developed in the district | 439 | 4 | 2.78 | 1.097 | 1.203 | .119 | .117 | -.738 | .233 |
| Communities' participation: in actions taken to ensure successful implementation of projects | 444 | 4 | 3.61 | 1.262 | 1.592 | -.560 | .116 | -.838 | .231 |
| Valid N (listwise) | 433 | | | | | | | | |

The findings from the table suggest the following insights:

a) Four aspects of community participation, including project planning, infrastructure design, decision-making committees, and deciding project locations, had mean scores below three. This indicates that community members disagreed with participating in these aspects of infrastructure development.

b) Only community participation in actions taken to ensure the successful implementation of projects had a mean score above three (3.61), indicating that community members somewhat agreed with this issue.

c) Skewness measurements showed that community participation in actions to ensure the successful implementation of projects was skewed to the left, indicating positive feedback on this matter. However, other aspects were not skewed similarly, suggesting a lack of community involvement.

d) Kurtosis values indicated a uniform distribution of frequencies for all investigated aspects.

Interviewees provided valuable insights into the challenges and opportunities related to community participation. Interviewee PCON-03 highlighted the lack of community-based associations and knowledge among rural villages in Zambia, inhibiting effective engagement in project planning. Interviewee PCON-05 emphasized the minimal community participation, suggesting that community preferences may not have been fully considered in infrastructure projects. GOVZ-02 recognized the importance of Ward Development Committees (WDCs) but noted that exploration of the reality in districts with WDCs was limited during infrastructure development.

These findings underscore the need for strategies to enhance community participation, informed decision-making, and improved communication channels to ensure successful infrastructure projects in communities.

### 3.3.4. Sustainability of infrastructure projects in Zambia

The sustainability of infrastructure projects in Zambia is paramount, especially in the face of climate change challenges in the Sub-Saharan Africa (SSA) region. Climate projections indicate that regions, including southern Zambia, may experience a significant decrease in precipitation and an increase in consecutive dry days if global temperatures exceed 1.5oC above pre-industrial levels (Zulu et al., 2023). To address these challenges, there is an urgent need for policies and initiatives to mitigate climate change impacts in the region. However, numerous factors hinder the successful implementation and widespread support for sustainability initiatives in many SSA countries.

Current literature reveals many challenges that hinder the successful implementation of sustainable building practices. Extensive studies have identified 175 challenges related to sustainable development (Álvarez Jaramillo et al., 2018). Factors hindering sustainability initiatives are diverse and include cost concerns, economic factors, policy limitations, the role of construction professionals, and client-related issues (Tokbolat et al., 2019).

One recurring challenge in sustainable construction is the perception of higher costs compared to traditional methods. This perception arises from the belief that sustainable resources are limited, and that achieving sustainability takes longer (Durdyev et al., 2018). Sustainable practices often require extended timeframes to recover costs (Tokbolat et al., 2019).

Government incentives, legislative restrictions, and regulations are critical for promoting sustainable building but are often perceived as inadequate, further hindering its implementation (Tokbolat et al., 2019). Construction experts, who play a vital role in sustainable infrastructure, may impede its acceptance due to limited skills, resistance to change, and inadequate training (Durdyev et al., 2018). Client-related challenges include a lack of demand for sustainable building due to limited environmental awareness and understanding of its benefits (Durdyev et al., 2018).

Despite these challenges, there are compelling reasons to embrace sustainable construction. It can reduce costs over a building's lifespan, offer a favorable return on investment, enhance marketability, and increase the monetary value of structures. Sustainable infrastructure is also associated with an improved corporate image, contributing to a company's reputation and environmental sustainability efforts (Durdyev et al., 2018; Tokbolat et al., 2019).

Furthermore, environmental concerns drive the adoption of sustainable building practices, aiming to reduce the impact on nature, improve indoor spaces, and enhance the well-being of individuals.

Effective government policies and regulations can either hinder or support sustainable construction, depending on their design and level of encouragement (Phatak and Sople, 2018).

In conclusion, while challenges persist in the path to sustainable infrastructure, the potential benefits of cost savings, enhanced corporate image, environmental consciousness, and compliance with regulations make it a compelling endeavour for Zambia and the broader SSA region. Effective policies and regulations, combined with increased awareness, are essential in promoting sustainable building practices and fostering a culture of sustainability.

## 4. DISCUSSION

This research study has provided valuable insights into the infrastructure development approach in newly created districts in Zambia. The analysis highlights several key findings that underscore the importance of community engagement and participation in infrastructure projects.

One prominent theme that emerges from the analysis is the critical need for the government to involve the community in the decision-making process regarding the construction of basic amenities. Neglecting the public's opinion can lead to the construction of amenities the community does not need, ultimately wasting valuable state resources. Furthermore, such infrastructure may not effectively improve the quality of life for the local population. The government must identify stakeholders' expectations early in the project, consider job skills within the community, and improve local infrastructure capacity.

The challenges in disseminating information about government projects, particularly in areas with poor road networks or limited communication channels, highlight the importance of effective communication strategies. Ensuring project information reaches the local communities is vital for their engagement and participation in decision-making.

The research also draws attention to the advantages of including the public in addressing infrastructure development projects' social and environmental consequences. Studies conducted in other regions, such as the research in Thailand by Rojanamon et al. (2012), demonstrate the benefits of providing project information to the local population and considering the demands of all groups throughout the project's lifecycle.

The absence of community involvement in infrastructure planning is identified as a significant challenge. This oversight can lead to poorly designed projects, increased project costs, and a mismatch between community needs and project outcomes. To address this, it is recommended that the government focus on enhancing the knowledge of rural communities about their rights and entitlements, enabling them to participate effectively in project planning meetings.

Stakeholder engagement throughout each project stage is emphasized as essential for obtaining support, managing expectations, and mitigating risks. Engaging with stakeholders, including local communities, can help prevent delays, cost overruns, and project failure.

Community participation in implementing infrastructure projects is highlighted to foster a sense of community belonging, purpose, contribution, and acceptance. This aligns with findings from other studies, such as those by Barclay & Klotz (2019) and Di Maddaloni & Davis (2017), emphasizing the importance of considering the impact on all stakeholders, including local people, from the early stages of project development.

In summary, the challenges in infrastructure development in Zambia primarily revolve around the need for greater community engagement and consideration. Addressing these challenges requires involving the public in decision-making, prioritizing infrastructure projects, and actively incorporating their ideas. Effective communication, stakeholder engagement, and community

participation throughout project implementation are essential for successful infrastructure development in newly created districts.

## 5. CONCLUSION AND RECOMMENDATIONS

The study's conclusions and recommendations shed light on the crucial role of community involvement in infrastructure projects and highlight the need for more participatory governance methods to enhance social and environmental sustainability. Here is a summary of the key points:

1) Infrastructure Relevance to Communities: The study found that community members disagreed on the relevance of infrastructure in various aspects of community incorporation. This suggests that their opinions were not fully considered in selecting amenities, prioritizing infrastructure projects, incorporating ideas, and planning for implementation. This misalignment between community needs and project decisions can result in a lack of public acceptance and potential project failure.

2) Limited Community Participation: The research revealed minimal community participation in the projects. This lack of participation implies that the wishes and preferences of the local population may not have been fully considered during the construction of infrastructure. To address this, the government and relevant agencies must develop practical strategies to facilitate community participation and ensure that all stakeholders are well-informed and represented in decision-making processes.

3) Creating Feasible and Workable Strategies: The study recommends that the government collaborates with other agencies to create feasible and workable strategies for community participation. These strategies should motivate and guide communities in actively participating in infrastructure projects. By involving the local population in decision-making, projects are more likely to align with community needs and gain public acceptance.

4) Participatory Governance Methods: To overcome social disputes arising from infrastructure projects and promote respect for human rights, the study suggests the establishment of more participatory governance methods. These methods should facilitate communication between infrastructure corporations, the government, and local communities. By shifting the decision-making process to be more inclusive and sustainable, infrastructure projects can become socially profitable and better aligned with community values and needs.

The study underscores the importance of community involvement in infrastructure development and recommends a shift toward more participatory and inclusive governance methods. By actively engaging communities, infrastructure projects can enhance their social and environmental sustainability while respecting human rights and local preferences.

## 6. ACKNOWLEDGEMENT

**Declaration of interest**

I declare no potential conflicts of interest associated with the research presented in the article "Assessment of Infrastructure Development Approach in Newly Created Districts in Zambia." Any new conflicts of interest arising during the publication process will be promptly communicated to the journal, and appropriate actions will be taken to address them.

## REFERENCES

Adegun, O. B. (2020). Shanty settlements in nineteenth-century Europe: Lessons from comparison with Africa. *Comparative Approaches to Informal Housing around the Globe*, 186-187.

Adshead, D., Thacker, S., Fuldauer, L.I. and Hall, J.W., (2019). Delivering on the Sustainable Development Goals through long-term infrastructure planning. *Global Environmental Change*, *59*, p.101975.

Álvarez Jaramillo, J., Zartha Sossa, J. W., & Orozco Mendoza, G. L. (2019). Barriers to sustainability for small and medium enterprises in the framework of sustainable development—L iterature review. *Business Strategy and the Environment*, *28*(4), 512-524.

Babatunde, S. A. (2018). Government spending on infrastructure and economic growth in Nigeria. *Economic research-Ekonomska istraživanja*, *31*(1), 997-1014.

Barclay, N., & Klotz, L. (2019). Role of community participation for green stormwater infrastructure development. *Journal of environmental management*, *251*, 109620.

Chimhowu, A. O., Hulme, D., & Munro, L. T. (2019). The 'New'national development planning and global development goals: Processes and partnerships. *World Development*, *120*, 76-89.

Derks, M., & Romijn, H. (2019). Sustainable performance challenges of rural microgrids: Analysis of incentives and policy framework in Indonesia. *Energy for Sustainable Development*, *53*, 57-70.

Di Maddaloni, F., & Davis, K. (2017). The influence of local community stakeholders in megaprojects: Rethinking their inclusiveness to improve project performance. *International journal of project management*, *35*(8), 1537-1556.

Durdyev, S., Ismail, S., Ihtiyar, A., Bakar, N. F. S. A., & Darko, A. (2018). A partial least squares structural equation modeling (PLS-SEM) of barriers to sustainable construction in Malaysia. *Journal of cleaner production*, *204*, 564-572.

Gberevbie, D., Joshua, S., Excellence-Oluye, N. and Oyeyemi, A., (2017). Accountability for sustainable development and the challenges of leadership in Nigeria, 1999-2015. *Sage Open*, *7*(4), p.2158244017742951.

Hendra, R., & Hill, A. (2019). Rethinking response rates: new evidence of little relationship between survey response rates and nonresponse bias. *Evaluation review*, *43*(5), 307-330.

Irshad, R., & Ghafoor, N. (2023). Infrastructure and economic growth: evidence from lower middle-income countries. *Journal of the Knowledge Economy*, *14*(1), 161-179.

Kanzadi, A., & Heidari, S. (2018). Analysing the Impact of Economic Strengthening on Economic Liberalization (A Resistive Economics Approach). *International Journal of Resistive Economics*, *6*(3), 20-32.

Kardes, I., Ozturk, A., Cavusgil, S.T. and Cavusgil, E., (2019) Managing global megaprojects: Complexity and risk management. *International Business Review*, *22*(6), pp.905-917.

Massey, I. (2022). Understanding the use of PPPs for infrastructure projects in Africa. *Civil Engineering= Siviele Ingenieurswese*, *30*(7), 24-26.

Ncube, D. (2020). The importance of contract farming to small-scale farmers in Africa and the implications for policy: A review scenario. *The Open Agriculture Journal*, *14*(1).

Ngoma, S., Mundia, M., & Kaliba, C. (2020). Benefits, constraints and risks in infrastructure development

via public-private partnerships in Zambia. *Journal of Construction in Developing Countries*, *19*(1), 15.

Ovadia, J. S., & Wolf, C. (2018). Studying the developmental state: theory and method in research on industrial policy and state-led development in Africa. *Third World Quarterly*, *39*(6), 1056-1076.

Phatak, S., & Sople, V. (2018). Drivers and barriers of sustainable supply chain: a literature review on Indian Perspective. *International Journal of Business Insights and Transformation*, *12*(1), 17-25.

Pradhan, R. P., Mallik, G., & Bagchi, T. P. (2018). Information communication technology (ICT) infrastructure and economic growth: A causality evinced by cross-country panel data. *IIMB Management Review*, *30*(1), 91-103.

Rojanamon, P., Chaisomphob, T., & Bureekul, T. (2012). Public participation in development of small infrastructure projects. *Sustainable development*, *20*(5), 320-334.

Shen, M., & Shen, J. (2022). State-led commodification of rural China and the sustainable provision of public goods in question: A case study of Tangjiajia, Nanjing. *Journal of Rural Studies*, *93*, 449-460.

Thacker, S., Adshead, D., Fay, M., Hallegatte, S., Harvey, M., Meller, H., O'Regan, N., Rozenberg, J., Watkins, G. and Hall, J.W., 2019. Infrastructure for sustainable development. *Nature Sustainability*, *2*(4), pp.324-331.

Toader, E., Firtescu, B. N., Roman, A., & Anton, S. G. (2018). Impact of information and communication technology infrastructure on economic growth: An empirical assessment for the EU countries. *Sustainability*, *10*(10), 3750.

Tokbolat, S., Nazipov, F., Kim, J. R., & Karaca, F. (2019). Evaluation of the environmental performance of residential building envelope components. *Energies*, *13*(1), 174.

Zulu, S. L., Zulu, E., Chabala, M., & Chunda, N. (2023). Drivers and barriers to sustainability practices in the Zambian Construction Industry. *International Journal of Construction Management*, *23*(12), 2116-2125.