*Research Article*

# An Appraisal of the Strategies for Effective Implementation of the Rural Access and Mobility Project (RAMP) in Osun State, Nigeria

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## About Article

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## ABSTRACT

The Rural Access and Mobility Project (RAMP) faces challenges in effective implementation which may hinder its potential to improve rural accessibility, mobility, and economic development. Previous studies on rural road infrastructure projects, including RAMP, have not adequately assessed the effectiveness of implementation strategies in Osun State, Nigeria. This study, therefore, appraise the strategies for effective implementation of the Rural Access and Mobility Project (RAMP) in Osun State, Nigeria. The study was anchored on the Theory of Change, while concurrent mixed-method design approach was employed. Four-hundred and fifty respondents residing within the RAMP projects regions comprised Iwo, Ife and Ilesha were sampled using both probability and non-probability sampling procedures. A self-designed instrument was used to obtained information from the participants. Mean, standard deviation, t-test and correlation analysis were used for data analysis, while the responses from the KII were thematically analysed. The findings revealed that the top strategies for effective implementation of RAMP-2 in Osun State, Nigeria, comprised establishment of a dedicated project management unit, strengthen stakeholder coordination mechanisms, build capacity of local government institutions, enhance budget allocation efficiency, and ensure transparent and accountable funding. The study found a positive and significant correlation ($r = 0.694$, $p < 0.05$) between road infrastructure sustainability and effective implementation strategies of RAMP in Osun State, Nigeria. The study concluded that effective implementation of rural road projects requires dedicated project management units, stakeholder coordination, and local government capacity building, which significantly enhances road infrastructure sustainability. Therefore, policymakers and implementers should prioritize stakeholder engagement and participation in the planning and implementation of RAMP to ensure that projects meet community needs and expectations.

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# 1. INTRODUCTION

Road infrastructure development is a crucial driver of economic growth and social equity, particularly in rural areas, where it can boost agricultural productivity and reduce poverty among rural dwellers (International Transport Forum Report, 2018). Enhanced road connectivity can also improve household income, living standards, and access to basic services like healthcare and education (Zhou *et al.*, 2024)

Road infrastructure development has multifaceted benefits, including economic growth, environmental sustainability, and social cohesion. Effective planning and management can mitigate negative environmental impacts, such as deforestation, while promoting regional integration, economic cooperation, and social unity, ultimately contributing to sustainable development and improved livelihoods.

The RAMP project aims to improve mobility and accessibility in rural areas, particularly for farmers who rely on good roads to transport their agricultural inputs and products. Poor road conditions have hindered economic growth and social well-being in these areas. Sustainable road infrastructure development is crucial for achieving food security, economic growth, and sustainable development. By investing in rural roads, governments can increase agricultural output, create jobs, reduce poverty, and improve livelihoods. Enhanced rural transportation infrastructure can also lower transportation costs, improve market access, and increase access to social and economic services, ultimately promoting sustainable development and well-being in rural communities (Alhjouj *et al.*, 2022).

Nigeria's rural road infrastructure is inadequate, hindering economic development and rural connectivity. Most rural roads are unsurfaced or mere bush pathways, limiting access to essential services like markets, healthcare, and education, and perpetuating poverty and underdevelopment (Adeniran & Oladun, 2020). This also leads to significant post-harvest losses, impacting food security, economic development, and poverty reduction (Yeboah, 2015).

The Rural Access and Mobility Project (RAMP) aims to improve rural accessibility and mobility in Osun State, Nigeria, but its effectiveness depends on various factors. One major challenge is the poor state of rural road infrastructure, which hinders economic development, access to markets, healthcare, and education. The lack of adequate road infrastructure perpetuates poverty and underdevelopment in rural areas, making it essential to assess the strategies employed in implementing RAMP. A knowledge gap exists in evaluating the impact and effectiveness of RAMP strategies in Osun State, Nigeria, highlighting the need for an appraisal to identify areas for improvement.

## 1.1. Objective of the Study

The study's broad objective was to appraise the strategies for effective implementation of the Rural Access and Mobility Project (RAMP) in Osun State, Nigeria, while specific objectives are to;

 i. identify the strategies towards effective implementation of the Rural Access and Mobility Project as perceived by the residents in Osun State, Nigeria; and

 ii. investigate the relationship between strategies towards effective implementation of the Rural Access and Mobility Project and sustainably of the road's infrastructure in Osun State, Nigeria.

## 1.2. Research Questions

The study was guided by the following questions.

 i. What are the strategies towards effective implementation of the Rural Access and Mobility Project as perceived by the residents in Osun State, Nigeria?

 ii. What is the relationship between strategies towards effective implementation of the Rural Access and Mobility Project and sustainably of the road's infrastructure in Osun State, Nigeria?

# 2. LITERATURE REVIEW

Sustainable road infrastructure is crucial for promoting economic growth, social inclusion, and environmental protection. By facilitating access to jobs, healthcare, and education, sustainable roads can help break the cycle of poverty and support the achievement of SDG 1 (End Poverty). Moreover, eco-friendly road construction and maintenance can reduce environmental harm, while climate-resilient roads can mitigate the risk of damage and disruption to vital services. Investing in sustainable roadways can foster equitable development, reduce poverty, and improve living standards globally (Meyer & Hedden, 2020; Sanni *et al.*, 2024).

Sustainable highways play a vital role in achieving SDG 2 (Zero Hunger) by facilitating the transportation of agricultural products, reducing post-harvest losses, and increasing food supply. They also enhance agricultural productivity, efficiency, and market access, while promoting sustainable food production, food assistance, and humanitarian relief. By investing in sustainable roads, we can ensure year-round access to nutritious food, tackle hunger and malnutrition, and improve overall well-being (Yamaguchi *et al.*, 2023; Olaniyan *et al.*, 2025).

Sustainable roads are crucial for achieving SDG 3 (Good Health and Well-being) as they enable safe and reliable access to healthcare services, especially in rural areas. By reducing travel times and improving emergency care accessibility, sustainable roads can lower mortality rates and enhance health outcomes. They also facilitate the transportation of medical supplies and personnel, ensuring efficient healthcare delivery. Moreover, sustainable roads that promote walking and cycling can help prevent non-communicable diseases, ultimately contributing to improved health and well-being (Tešić *et al.*, 2018).

Sustainable roads play a vital role in achieving SDG 4 (Quality Education) by providing safe and reliable access to educational institutions, particularly in rural areas. They increase enrolment, reduce dropout rates, and facilitate the transportation of educational materials and personnel. By investing in sustainable roadways, we can improve access to quality education, skill development, and vocational training, ultimately unlocking human potential and promoting economic progress (Bao *et al.*, 2022).

## 2.1. Theoretical Framework
### 2.1.1. Theory of Change (ToC)

The Theory of Change (ToC) approach has evolved over time,

influenced by various scholars and practitioners. While its exact origin is unclear, the 1990s saw significant development, particularly through the work of Caroline Fiennes, James Connell, and Andrea A. Anderson, who contributed to articulating and popularizing the ToC framework for program design and evaluation. Today, ToC is widely applied in international development, education, health, and social policy to outline the logic and assumptions behind interventions and achieve desired outcomes.

The Theory of Change (ToC) is relevant to Rural Access and Mobility (RAMP) projects as it clarifies project goals and outcomes, identifies causal links between activities and outcomes, informs project design, enhances monitoring and evaluation, and facilitates stakeholder engagement. The application of ToC to RAMP projects can improve effectiveness, sustainability, accountability, and collaboration, which may in turn lead to better road access, increased mobility, and enhanced economic opportunities for rural communities.

The construction of roads involves various processes, including paving and maintenance. Asphalt is a common material used for road construction. The development of road infrastructure is crucial for economic growth and transportation. Road construction requires careful planning and design. Effective road construction and maintenance are essential for ensuring safety and reducing congestion (Changmo et al., 2024).

## 3. METHODOLOGY

### 3.1. Research Design

This study employed a concurrent mixed-method research design, combining quantitative and qualitative data collection and analysis in a single study (Sharma et al., 2023). This design is particularly useful for exploring complex research issues, as it allows researchers to gather insights from multiple perspectives and data sources. By integrating quantitative data (often obtained through questionnaires) with qualitative data (typically collected through in-depth interviews), researchers can gain a more comprehensive understanding of the subject matter.

The mixed-methods approach offers several benefits, including a more complete picture of the research issue, increased confidence in the findings, and the potential for new research directions. By combining open-ended qualitative data with closed-ended quantitative data, researchers can intentionally combine data to provide a more comprehensive understanding of the research problem. This approach enables researchers to tackle complex issues with greater depth and breadth, leveraging the strengths of both qualitative and quantitative methods to gain a richer understanding of the subject matter (Sharma et al., 2023).

### 3.2. Population, Sample Size and Sampling Procedures

The study's target population consisted of rural dwellers residing in villages connected by the RAMP project and RAMP officials in Osun State, Nigeria. Yaro Yamane formular was used to determine the sample frame of four-hundred and fifty (450) out of ten-thousand five-hundred and ninety-six (10,596) residents from the six communities. Iwo, Ife and Ilesha regions were purposively sampled. This was because the RAMP project under consideration focused largely on these three regions within the state. Proportionate stratified and simple random sampling procedures were used to select one-hundred and forty-two (142), one-hundred and thirty-five (135) and one-hundred and seventy-three (173) from Iwo, Ife and Ilesha project regions, respectively. An interview guide was prepared and used for KII.

### 3.3. Instrument, Validity and Reliability

The study employed a self-designed instrument. This instrument comprised demographic, road infrastructure sustainability subscale and effective strategies subscale, respectively. The Likert scale used ranges from strongly agree (SA), agree (A), neutral (N), disagree (D) and strongly disagree (SD). This section of the scale was analysed using frequency and percentage of the respondents that picked each of the scale for each item, while mean and standard deviation were used to determine and rank the items in descending order of magnitude.

The instrument's validity was ensured through face and content validation. The items were presented in clear and straightforward language to ensure understandability. The instrument was reviewed by experts at the Institute of Global Affairs and Sustainable Development (GASDI) at Osun State University, and all suggested corrections and observations were incorporated. The instrument's reliability was tested using Cronbach's Alpha method, with 20 respondents from farming communities outside the study area. The Cronbach's Alpha reliability coefficient produced 0.87, which confirmed its reliability for the study.

### 3.4. Methods of Data Administration and Analysis

The researcher, assisted by four trained research assistants familiar with the study area, administered the instruments. Key Informant Interviews (KII) were also conducted with 15 participants, comprising 4 RAMP officials, 9 rural dwellers, and 2 commercial transporters, with the researcher facilitating the sessions. Data analysis was conducted using SPSS version 26. The mean, standard deviation, and correlation analysis were used for answering all the research questions, while responses from the KII were thematically analysed.

## 4. RESULTS AND DISCUSSION

### 4.1. Research Question One

What are the strategies towards effective implementation of the Rural Access and Mobility Project as perceived by the residents in Osun State, Nigeria?

**Table 1**. The strategies towards effective implementation of the Rural Access and Mobility Project as perceived by the residents in Osun State, Nigeria.

| Items | Mean (x̄) | S. D | Rank |
|---|---|---|---|
| Establish a dedicated project management unit. | 3.19 | 1.07 | 1st |
| Strengthen stakeholder coordination mechanisms. | 2.78 | 1.00 | 2nd |
| Build capacity of local government institutions. | 2.54 | 1.28 | 3rd |
| Enhance budget allocation efficiency. | 2.44 | 1.30 | 4th |
| Ensure transparent and accountable funding. | 2.43 | 1.27 | 5th |
| Implement efficient project monitoring systems. | 2.31 | 1.34 | 6th |
| Support community-based maintenance teams. | 2.29 | 1.52 | 7th |
| Conduct thorough community needs assessments. | 2.28 | 1.20 | 8th |
| Adopt climate-resilient infrastructure designs. | 2.15 | 1.15 | 9th |
| Foster community participation in project planning. | 2.13 | 1.19 | 10th |
| Develop maintenance and rehabilitation plans. | 2.12 | 1.278 | 11th |
| Conduct thorough environmental impact assessments. | 2.06 | 1.30 | 12th |
| Foster public-private partnerships. | 1.99 | 1.26 | 13th |
| Establish community-led total sanitation initiatives. | 1.96 | 1.43 | 14th |
| Leverage technology for data-driven decision-making | 1.76 | 1.45 | 15th |

## 4.2. Interpretation and Discussion

The empirical results in Table 1 indicated that the establishment of a dedicated project management unit (x̄=3.19) ranked first, strengthen stakeholder coordination mechanisms (x̄=2.78) ranked second, build capacity of local government institutions (x̄=2.54) ranked third, enhance budget allocation efficiency (x̄=2.44) ranked forth, ensure transparent and accountable funding (x̄=2.43) ranked fifth, implement efficient project monitoring systems (x̄=2.31) ranked sixth, support community-based maintenance teams (x̄=2.29) ranked seventh, conduct thorough community needs assessments (x̄=2.28) ranked eighth, adopt climate-resilient infrastructure designs (x̄=2.15) ranked ninth, foster community participation in project planning (x̄=2.13) ranked tenth, develop maintenance and rehabilitation plans (x̄=2.13) ranked eleventh, conduct thorough environmental impact assessments (x̄=2.06) ranked twelfth, foster public-private partnerships (x̄=1.99) ranked thirteenth, establish community-led total sanitation initiatives (x̄=1.96) ranked fourteenth, and leverage technology for data-driven decision-making (x̄=1.76) ranked fifteenth.

The empirical results suggest that strategies to improve the World Bank Assisted Rural Access and Mobility Project can be categorised into two groups based on a threshold of 2.50. The high-priority strategies include the establishment of a dedicated project management unit, strengthening stakeholder coordination mechanisms, and building capacity of local government institutions. These strategies are considered crucial for project success, focusing on project management, stakeholder coordination, and institutional capacity building. The lower-priority strategies include enhancing budget allocation efficiency, ensuring transparent and accountable funding, implementing efficient project monitoring systems,

supporting community-based maintenance teams, conducting thorough community needs assessments, adopting climate-resilient infrastructure designs, fostering community participation in project planning, developing maintenance and rehabilitation plans, conducting thorough environmental impact assessments, fostering public-private partnerships, establishing community-led total sanitation initiatives, and leveraging technology for data-driven decision-making. The empirical outcomes showed that establishing a dedicated project management unit, with a mean score of 3.19, was ranked as the most important strategy for effective implementation of the Rural Access and Mobility Project in Osun State, Nigeria. The ranking of "establishing a dedicated project management unit" as the most important strategy implies that having a specialized team overseeing the project is crucial for its success, and that a lack of dedicated project management may lead to inefficiencies, delays, and ultimately, ineffective implementation of the Rural Access and Mobility Project in Osun State, Nigeria.

Strengthening stakeholder coordination mechanisms, with a mean score of 2.78, was ranked as the second most important strategy for effective implementation of the project. The ranking of "strengthening stakeholder coordination mechanisms" as the second most important strategy implies that effective collaboration and communication among stakeholders, including government agencies, local communities, and project partners, is critical to the project's success, and that poor stakeholder coordination may lead to conflicts, delays, and ultimately, compromised project outcomes.

Building the capacity of local government institutions, with a mean score of 2.54, emerged as the third most crucial strategy. The ranking of "building the capacity of local government institutions" as the third most crucial strategy implies that

strengthening the skills, knowledge, and resources of local government institutions is essential for effective project implementation, and that inadequate local government capacity may hinder the project's sustainability, scalability, and overall impact.

Enhancing budget allocation efficiency, with a mean score of 2.44, was ranked fourth as a critical strategy for effective implementation of the Rural Access and Mobility Project in Osun State, Nigeria. The ranking of enhance budget allocation efficiency as the fourth most critical strategy implies that optimizing budget allocation is essential for the successful implementation of the Rural Access and Mobility Project in Osun State, Nigeria, and that inefficiencies in budget allocation may hinder project progress and effectiveness.

The ranking of ensure transparent and accountable funding as the fifth most important strategy implies that openness and accountability in financial management are critical to maintaining stakeholder trust, preventing corruption, and ensuring that project funds are utilized efficiently and effectively.

The ranking of implement efficient project monitoring systems as the sixth most important strategy implies that regular and effective monitoring of project progress, outcomes, and challenges is essential for timely identification and mitigation of risks, optimization of resources, and ultimate achievement of project goals.

The ranking of support community-based maintenance teams as the seventh most important strategy implies that empowering local communities to take ownership of maintenance and upkeep of project infrastructure is crucial for ensuring sustainability, reducing maintenance costs, and promoting long-term project impact. The ranking of "conduct thorough community needs assessments" as the eighth most important strategy implies that understanding the specific needs, priorities, and concerns of the local community is essential for designing and implementing projects that are relevant, effective, and responsive to community needs, thereby ensuring project acceptance and long-term success.

The ranking of "adopt climate-resilient infrastructure designs" as the ninth most important strategy implies that incorporating climate-resilient design principles into project infrastructure is crucial for ensuring that investments are protected from climate-related risks, such as floods, droughts, and heat waves, and that project benefits are sustained over time. The ranking of "foster community participation in project planning" as the tenth most important strategy implies that involving local communities in the planning process is essential for ensuring that project goals align with community needs, promoting community ownership and buy-in, and ultimately, enhancing project effectiveness and sustainability.

The ranking of "develop maintenance and rehabilitation plans" as the eleventh most important strategy implies that having a proactive plan in place for maintaining and rehabilitating project infrastructure is critical for extending its lifespan, preventing deterioration, and ensuring that project benefits continue to accrue over time. The ranking of "conduct thorough environmental impact assessments" as the twelfth most important strategy implies that carefully evaluating the potential environmental consequences of project activities is essential for minimizing harm to the environment, mitigating risks, and ensuring that project implementation is environmentally sustainable. The ranking of "foster public-private partnerships" as the thirteenth most important strategy implies that collaborating with private sector entities can be beneficial for leveraging resources, expertise, and financing to support project implementation, but may not be as critical as other strategies for achieving project success.

The ranking of establish community-led total sanitation initiatives as the fourteenth most important strategy implies that empowering local communities to take charge of sanitation efforts is a lower-priority but still important strategy for promoting hygiene, improving public health, and enhancing the overall sustainability of project outcomes. The ranking of "leverage technology for data-driven decision-making" as the fifteenth most important strategy implies that utilizing technology to inform project decisions with data-driven insights is considered a lower priority, but still valuable, approach for enhancing project effectiveness, efficiency, and accountability. The empirical results were further corroborated by the RAMP officials interviewed as thus:

*The effective implementation of the World Bank Assisted Rural Access and Mobility Project in Osun State, Nigeria, was achieved through comprehensive approaches that included dedicated project management, stakeholder coordination, capacity building, and community participation* (Male/RAMP-Official/ Osun/ KII/2024).

*Transparent funding, efficient project monitoring, and community-based maintenance, was pivotal in achieving the effective implementation of the World Bank Assisted Rural Access and Mobility Project in Osun State, Nigeria* (Male/RAMP-Official/ Osun/KII/2024).

*Strategies include stakeholder engagement, capacity building, funding optimization, infrastructure maintenance, environmental impact assessments, community participation, monitoring and evaluation, technology integration, collaboration, and sustainability planning to ensure project effectiveness and long-term impact* (Male/RAMP-Official/ Osun/KII/2024).

*Leveraging technology for monitoring and evaluation, fostering community participation, and ensuring effective collaboration among stakeholders would be crucial for project success and sustainability* (Male/RAMP-Official/ Osun/KII/2024).

The findings indicated that strategies to improve the Rural Access and Mobility Project fall into two categories. High-priority strategies include establishing a dedicated project management unit, strengthening stakeholder coordination, and building local government capacity. These are crucial for project success, focusing on management, coordination, and capacity building. This implies that the rural roads project's success depends strategies comprised dedicated project management, stakeholder coordination, and local government capacity building. Lower-priority strategies include budget allocation efficiency, transparent funding, project monitoring, community-based maintenance, community needs assessments, climate-resilient infrastructure, community participation, maintenance planning, environmental assessments, public-private partnerships, community-led sanitation, and technology-

driven decision-making. While important, these are considered secondary to the high-priority initiatives. Olorunfemi (2020) acknowledged that the strategy adopted for the maintenance of rural roads in Ondo State, Nigeria includes provision of free labour by mobilisiing the community members to the project site which is in tandem with the outcome of this research work. Omoregie *et al.*, (2021) corroborated that effective and inclusive communication strategy can go a long way in achieving the objectives of the developmental projects. Aransi (2020) submitted that the involvement of community members in the formulation and implementation phases of the project could serve as a key strategy towards the effective implementation. Similarly, Akinyooye and Aransi (2020) concurred that proper awareness creation about the developmental projects among the residents always facilitate their involvement and in turn attainment of the projects' goals which aligned with the outcome of this study.

### 4.3. Research Question Two

What is the relationship between strategies towards effective implementation of the Rural Access and Mobility Project and sustainably of the road's infrastructure in Osun State, Nigeria?

**Table 2:** Relationship between strategies towards effective implementation of the Rural Access and Mobility Project and sustainably of the road's infrastructure in Osun State, Nigeria.

| Variables | r-value | p-value | Decision |
|---|---|---|---|
| Strategies for effective implementation of RAMP | .694** | .000 | Significant |

### 4.4. Interpretation and Discussion

Table 2 contained outcomes on the relationship between the sustainability of roads infrastructure and the strategies towards the effective implementation of RAMP in Osun State, Nigeria. The empirical outcomes indicated that there is positive and significant correlation between the sustainability of roads infrastructure and the strategies towards the effective implementation of RAMP ($r = .694$, $p$ $0.000 < 0.05$). This is because the probability value of .000 was less than 0.05. Therefore, the null hypothesis which states that there is no significant relationship between the sustainability of roads infrastructure and the strategies towards the effective implementation of RAMP in Osun State, Nigeria is rejected. This is further supported as thus:

*The relationship between sustainability of road infrastructure and effective implementation strategies of RAMP in Osun State, Nigeria, is interdependent. Sustainable road infrastructure requires effective implementation strategies that prioritize maintenance, community engagement, and environmental considerations. Conversely, effective implementation strategies rely on sustainable road infrastructure that supports social and economic development. By integrating sustainability into implementation strategies, RAMP can enhance project longevity, reduce costs, and maximize benefits for local communities. This synergy is crucial for achieving RAMP's objectives and ensuring long-term impact* (Male/RAMP-Official/ Osun/KII/2024).

## 5. CONCLUSION

The study concluded that establishing a dedicated project management unit, strengthening stakeholder coordination, and building local government capacity are crucial for effective rural road project implementation. There was a significant positive relationship between road infrastructure sustainability and effective implementation strategies of RAMP in Osun State, Nigeria.

The study's findings align with several Sustainable Development Goals (SDGs), particularly SDG 9 (Industry, Innovation, and Infrastructure) by highlighting the importance of effective project management and stakeholder coordination for rural road infrastructure development, SDG 11 (Sustainable Cities and Communities) by contributing to providing access to safe and sustainable transport systems, and SDG 17 (Partnerships for the Goals) by emphasizing the significance of stakeholder collaboration for effective project implementation, ultimately promoting sustainable development in Osun State, Nigeria.

## RECOMMENDATION

The following recommendations are suggested for concerned stakeholders.

i. Implementers should establish a dedicated project management unit for rural road projects. This unit will oversee project planning, coordination, and execution, ensuring that projects are completed on time, within budget, and to the required quality standards. A dedicated project management unit will also facilitate effective communication among stakeholders and enable swift decision-making.

ii. Implementers should strengthen stakeholder coordination mechanisms to facilitate collaboration and communication among various stakeholders. This will ensure that all parties are aligned with project goals and objectives, and that their needs and concerns are addressed. Effective stakeholder coordination will also help to identify and mitigate potential risks and conflicts.

iii. Implementers should build the capacity of local government institutions to enhance their ability to manage and maintain rural road projects. This will involve providing training and technical assistance to local government officials, as well as supporting the development of institutional systems and processes. By building local capacity, implementers can ensure that projects are sustainable and that benefits are maintained over the long term.

iv. Implementers should enhance budget allocation efficiency to ensure that resources are used effectively and efficiently. This will involve streamlining budgeting processes, reducing bureaucratic delays, and ensuring that funds are allocated to the most critical project components.

v. Government and other stakeholders should invest in capacity building for local government officials and other stakeholders to enhance their ability to manage and maintain road infrastructure.

vi. Policymakers and implementers should prioritize stakeholder engagement and participation in the planning and implementation of RAMP to ensure that projects meet community needs and expectations.

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