School of Science, Engineering and Environment

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PhD Thesis

On

Evaluating the Quality of Public Participation and Its Effectiveness in Environmental Impact Assessment of Road Infrastructural Projects in Nigeria.

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List of Abbreviations

AID	Access to Information and Disclosure
CP	Capacity of Partnerships
CSR	Clarity of Stakeholder Role
CV	Coefficient of Variation
DCP	Democratic Capacity and Practice
ECT	Engagement and Consultation Techniques
EIA	Environnemental Impact Assissent
EIS	Environmental Impact Statement
ES	Environmental Sustainability
ESF	Environmental and Social Framework
ESS	Economic and Social Sustainability
ESS	Environmental Social Standard
FMENV	Federal Ministry of Environment
FOI	Freedom of Information
GN	Global North
GS	Global South
HIA	Health Impact Assessment
IA	Impact Assessment
IAIA	International Association for Impact Assessment
MI	Mitigation of Impacts
NESREA	National Environmental Standards and Regulations Enforcement Agency
NPT	Notification and Publication Techniques
OLR	Ordinal Logistic Regression
PP	Public Participation
RA	Review Area
RC	Review Area
RHC	Respect for Human Rights Conventions
SDG	Sustainable Development Goals
SEA	Strategic Environmental Assessment
SIA	Social Impact Assessment
TM	Time Management

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Abstract

Nigeria has witnessed substantial growth in its road networks due to an expanding population, with road transportation serving as the primary mode for passenger and freight movements. However, this growth has brought challenges related to the implementation of Environmental Impact Assessments (EIAs), lack of public participation in planning and execution, and inadequate commitment to sustainable policies, resulting in negative environmental and social impacts on communities and protests.

The research identifies the lack of studies assessing the effectiveness of public participation based on the achievement of set objectives within the consultation process in Nigeria. To fill this gap, the study evaluates public participation effectiveness based on four dimensions: procedural, substantive, transactive, and normative effectiveness. The research adopts a case study approach, wherein data is collected through questionnaires, interviews, and reviews of Environmental Impact Statements (EIS). The collected data analysis was performed using SPSS and NVivo software tools.

The assessment reveals a failure to achieve policy efficiency across all dimensions. There are issues with consultation techniques, feedback mechanisms, access to information, engagement with affected parties, and notification and publication techniques, leading to procedural problems. The quality of EIS reports is consistently poor with no improvement over time. The substantive efficiency is lacking in mitigating negative impacts and adhering to EIA objectives. The normative dimension exhibits undemocratic characteristics, with limited openness to participants' views and access to environmental rights, and inadequate representation of community interests. Transactive efficiency suffers due to unequal treatment in partnerships and collaboration primarily with government-related agencies, leaving insufficient time for community concerns and causing significant project delays.

The public participation process deviates from effective principles, falling short of active partnership and remaining at a lower end of Arnstein's ladder, where participants lack the ability to influence significant social reforms. Notably, Case Study 2 (Nasarawa Toto - Abaji Road) shows relatively better effectiveness in the process compared to the other case studies, but overall, policy efficiency is not achieved in any of the case studies. To enhance public participation in the EIA decision-making process, proactive measures are necessary, including greater transparency, accountability, and stakeholder engagement throughout the process.

Chapter One: Research Introduction

Introduction

The continuous increase of Nigeria's population has given rise to adverse outcomes and amplified stress on vital infrastructure like roads, electricity, and fundamental amenities. Addressing the rising population demands calls for enhancing and expanding the current facilities. Consequently, Nigeria has undertaken road development initiatives, which have played a significant role in strengthening the economic prosperity of its cities. Nevertheless, executing these projects comes with a range of challenges, encompassing issues like poor quality and ineffectual Public Participation (PP) in environmental decisions-making processes. This research aims to assess the quality and effectiveness of PP in road infrastructure projects in Abuja, Nigeria using a four-dimensional approach. Environmental Impact Assessment (EIA) is a crucial process that involves identifying, evaluating, predicting, and mitigating the environmental and social impacts of proposed developmental projects before making environmental decisions (Glasson & Therivel, 2019). Within the EIA process, PP plays a significant role in the decision-making process regarding environmental matters (Hasan et al., 2018). Previous research on EIA effectiveness has highlighted significant gaps in EIA reports regarding PP and a lack of opportunities for meaningful public involvement, leading to potential litigation (Dilay et al., 2020; Ocampo-Melgar et al., 2019). Additionally, scholars like Ocampo-Melgar et al. (2019) and Okowa et al. (2021) have emphasized the need for survey and qualitative methods to measure PP by the outcomes of various aspects of the consultation process, to gain insights into the actual practices and experiences of PP in the decision-making process.

To address these gaps and contribute to the evaluation of EIA effectiveness, this study adopts a mixed-method research design. Data will be gathered from Abuja, Nigeria's capital city, encompassing both qualitative and quantitative information. It seeks to benchmark PP against four conceptualizations of effectiveness: procedural, substantive, transactive, and normative dimensions, which require further attention in evaluating the effectiveness of EIA (Theophilou et al., 2010; Veronez & Montaño, 2015). This chapter provides an overview of the research, including the study's background, context, objectives, and the contribution it aims to make to both practice and knowledge in the field.

Study Background

Over the past few years, there has been a substantial rise in the global population, with projections by the United Nations estimating a population of over 9.2 billion people by the year 2050 (Tartiyus et al., 2015). Most of this population growth is anticipated to occur in the Global South (GS) countries, accounting for more than 70% of the population (Todaro, 2006). The continuous growth of the population has implications for infrastructure facilities (Tartiyus et al., 2015). Consequently, in the 21st century, cities and nations have placed increased emphasis on expanding road networks and other developmental projects. The objective is to enhance access to social services and employment opportunities, facilitate local business, market access, and strengthen local economies and regional development (Ajayi et al., 2013; Akpan, 2014; Calderón & Servén, 2010; Ogunbodede, 2008). The improvement of such developmental projects has been found to stimulate economic growth and increase industrial productivity (Nwokoye & Chukwunonso, 2017; Oni & Okanlawon, 2010). However, the execution of these projects carries the potential for negative environmental and social impacts (Collier et al., 2015; Dixon et al., 2013; Singleton et al., 2004; Wanjiku, 2014). In GS countries, these impacts continue to manifest due to the adoption of EIA which was often prompted by development assistance agencies on a project-specific basis, rather than arising from a prevalent indigenous request for enhanced environmental protections, this is especially evident in the context of Africa (Momtaz & Kabir, 2013; Wood, 2003b).

EIA has made significant contributions in enhancing environmental protection by establishing strong legislative frameworks (Momtaz & Kabir, 2013). In many countries, including Nigeria, the EIA process is considered an integral part of project permits. Scholars suggest that the efficacy of EIA is influenced by the extent to which public input is considered in both project planning and implementation (Brombal et al., 2017; O'Faircheallaigh, 2010). The need for PP in environmental decision-making was initially emphasized in Principle 10 of the Rio Declaration and further supported by the Aarhus Convention (Rega & Baldizzone, 2015). The convention outlines minimum requirements for environmental decision-making processes, calling upon member states to ensure the right of access to information, access to justice, and PP in decision-making (Europa, 1999). Fundamentally, PP in environmental decision-making processes aims to provide various benefits, including promoting openness and transparency in decision-making, enhancing acceptance of projects, plans, and programs by affected

populations, incorporating local knowledge and values, serving as a means of public education, legitimizing, and democratizing the decision-making process, and facilitating conflict resolution (Negev et al., 2013; Rega & Baldizzone, 2015). Therefore, the extent to which these benefits are achieved in environmental decision-making serves as an indicator of EIA effectiveness (Arts et al., 2016).

The ineffective and low quality of PP in environmental decision-making remains a significant challenge in various countries, including those in Africa, Asia, Latin America, and some European countries (Hasan et al., 2018; Matome & Mulale, 2023; Rega & Baldizzone, 2015; Rom et al., 2022; Suškevičs et al., 2023; Ye et al., 2023; Yhdego & Lema, 2021; Zhou et al., 2019). Consequently, enhancing the quality of PP in EIA has been a central focus in EIA literature (Loomis & Dziedzic, 2018). However, there is evidence indicating significant variations in PP practices among nations (Momtaz & Kabir, 2013), resulting in variations in its application across different regions. For instance, some European countries generally exhibit more favourable performance in PP compared to their African and Asian counterparts, as observed by Zhou et al. (2019), though with a few exceptions. Noteworthy exceptions include countries such as South Africa, Malawi, Namibia, and China, which have recently demonstrated significant strides in promoting PP, as highlighted by Mauerhofer (2016), Bhatt (2023), and Lwesya Sibale and Fischer (2023).

In recent years, many countries have developed more effective strategies for implementing PP in their planning processes. These encompass legal provisions for the impact assessment (IA) process and are found in nations such as Canada, Australia, the United States, and some member states of the European Union, in contrast to the situation in GS countries (Gutierrez et al., 2023; Serrao-Neumann et al., 2015). However, both GS and GN countries encounter various underlying challenges that impede the quality of PP. Factors such as budgetary constraints, ineffective communication, and low public awareness are significant barriers to effective PP, including in Denmark and Canada, as highlighted by Arsenault et al. (2019) and Marzuki (2015). In countries such as Bangladesh, Pakistan, and India in Asia, challenges such as lack of clarity regarding public rights, obligations, and eligibility, as well as a lack of participatory democracy, impede effective PP in the decision-making process (Hasan et al., 2018; Nadeem & Fischer, 2011). Middle Eastern countries, except for Israel, face even more significant obstacles compared to China, including weak legislative frameworks, absence of

public consultation, and limited administrative support (Aung et al., 2020). Similarly, the African continent shares similar challenges to Asia, where financial crises, resource constraints, and structural barriers often hinder effective PP in the decision-making process (Rebelo & Guerreiro, 2017). Consequently, the intended positive effects of EIAs are not being fully realised (McCullough, 2017).

Public participation in EIA in Nigeria

The persistent growth of Nigeria's population has resulted in negative consequences and increased pressure on infrastructural facilities such as roads and electricity (Alimi et al., 2021). To accommodate the growing population, there is a need for improvement and expansion of existing facilities (Maja & Ayano, 2021). As a result, road projects have been developed in Nigeria, making the country one of the leads in terms of road network length in Sub-Saharan Africa (Federal Ministry of Works, 2013, p.2). These road projects have contributed to the economic well-being of cities encompassing benefits such as enhancing regional accessibility, promoting local tourism, facilitating labor mobility, and fostering the accumulation of human capital. However, the execution of such projects is accompanied by several challenges, including poor implementation of environmental policies.

Over the years, PP in decision-making processes in Nigeria has remained relatively low (Awhefeada et al., 2023; Echendu, 2023; Nwoko, 2013a; Okowa et al., 2021; Silas, 2013a). Consequently, host communities have experienced negative impacts, including voluntary and forced migration, social domination, displacement of local inhabitants, deforestation, disruption of local economic activities, pollution, and irreversible effects on indigenous groups (Abdullahi & Bala, 2018; Collier et al., 2015; Dixon et al., 2013; Oni & Okanlawon, 2010; Singleton et al., 2004; Wanjiku, 2014).

In line with Nigeria's commitment to environmental sustainability, the country has adopted several international environmental laws, to ensure public access to environmental information. The Freedom of Information (FOI) Act, passed into law in 2011, reflects best practices outlined in the Rio Declaration, although it has certain limitations. Theoretically, PP has been integrated into the laws of the Federal Republic of Nigeria, specifically the EIA Act No. 86, Section 7 and 12 of 1992, which stipulate that relevant agencies should allow the public and concerned experts to participate in the EIA process. However, in practice, the situation is different (Adomokai & Sheate, 2004; Nwoko, 2013a; Ogunbodede, 2008).

Motivated by these concerns, this research aims to assess the effectiveness of PP and assess its actual practice within the Nigerian context.

Research Problem Overview

This study aims to address the study gap concerning the limited knowledge about the quality and effectiveness of PP in the EIA process for road infrastructural projects. There is a critical need to understand the actual practices and experiences of PP to promote accountable decision-making and achieve the sustainability frameworks effectively. This study employs a concurrent triangulation mixed-methods research technique to comprehensively evaluate the position of public engagement in road projects within the Nigerian context and explore how wider PP policy objectives are achieved. Additionally, it provides insights into the factors influencing PP and stakeholder perceptions. Notably, previous studies have provided limited explanations regarding the actual practice and quality of PP concerning road infrastructure within Nigeria. Also, there is a lack of exploration of multidimensional approaches that combine three or more dimensions in a single study (Awhefeada et al., 2023; Echendu, 2023; Okowa et al., 2021).

Study Context

In this study, both qualitative and quantitative data will be collected from Abuja, the capital city of Nigeria, which served as a suitable case study due to its notable number of ongoing road projects in comparison to other cities. Abuja encompasses diverse socio-economic backgrounds and represents a mix of rural and urban characteristics. The activities related to infrastructural projects in Nigeria have created significant tensions among the communities, leading to protests, mainly due to the lack of high-quality participatory processes in the EIA process (Ekung et al., 2014; Nwafor & Onya, 2019; Solanke, 2013).

Previous studies, such as Adomokai and Sheate (2004), Silas (2013a), Kanu et al. (2018a), Ojobgo (2018), Echendu (2023) and Awhefeada et al. (2023), have highlighted various shortcomings in PP, including ineffective public and stakeholder engagement and poor quality EIA reports. While some researchers (Chado & Johar, 2016; Nwoko, 2013a; Okowa et al., 2021; Silas, 2013a) have attempted to study the effectiveness of EIA in Nigeria, there is a lack of studies that specifically measure the effectiveness of PP based on the achievement of set objectives in different aspects of the consultation process, particularly in road construction

projects. Okowa et al. (2021) argue that the effectiveness of PP should be assessed based on the outcomes of different aspects of the consultation process.

Furthermore, previous studies in Nigeria have primarily focused on improving procedural practices and identifying shortcomings in EIA performance (Ibrahim et al., 2020; Silas, 2013a). This emphasis on the procedural dimension has overshadowed the importance of conducting a comprehensive evaluation that integrates the substantive, transactive, and normative dimensions of PP.

Research aim, and Objectives.

Research Aim

This study aims to critically evaluate the quality of PP and its effectiveness in EIA road infrastructural projects in Abuja, Nigeria.

1.1.2. Research Objectives

In pursuit of the research aim, the following objectives have been developed.

i. To identify the extent to which policy and guidelines are followed for environmental decision making, to determine the actual practice and position of public engagement in road projects within the Nigerian context.

ii. To assess the extent to which the participatory process mitigates negative environmental effects of road projects, and how wider EIA policy objectives are achieved, such as environmental sustainability, mitigation of impact, and economically and socially acceptable proposals.

iii. To analyse the stakeholder perception of PP in EIA decision-making processes on the wider goal and policy achievements (social and individual norms), the extent of influence, democratic capacity and practice, and respect for human rights conventions.

iv. To evaluate the factors influencing PP in the road project EIA process focusing on clarity of stakeholder role in EIA process, timing, and capacity of partnership in the decision-making process.

v. To proffer possible recommendations and guidance to the regulators and policy makers for future improvement.

Research Contributions

This thesis provides significant theoretical and methodological contributions, rendering it an asset for the academic community. It serves as an additional reference source that can enrich the comprehension of PP practices and stakeholder engagement for EIA regulators, policymakers, and other professionals involved in EIA implementation. The findings of this assessment contribute significantly to the field of EIA practice and provide a basis for future research in infrastructure development, particularly in GS countries.

This thesis makes a theoretical contribution by expanding the existing knowledge on evidence-based decision-making and enhancing the understanding of policy effectiveness in addressing challenges associated with EIA processes while strengthening PP practices. Additionally, the study sheds light on how EIA can effectively deliver governance benefits to the grassroots level, which is crucial for achieving environmental sustainability. The study identifies and addresses obstacles encountered in implementing PP in road infrastructure projects and offers recommendations to policymakers, EIA regulators, and project proponents. These recommendations aim to promote grassroots-level governance and facilitate environmental sustainability.

In terms of methodological contributions, this study introduces a unique and customized review template specifically designed for evaluating the EIS. This template offers a distinct reviewing method that provides fresh insights into the actual practices and position of PP in road infrastructure projects in Nigeria. The previous checklist used in similar studies falls short in addressing critical aspects related to effective PP and the quality of information provided. Moreover, this study stands out by adopting a mixed-method approach, which distinguishes it from previous research on the effectiveness of PP in Nigeria. Unlike studies that relied on one or two methods (Awhefeada et al., 2023; Echendu, 2023; Okowa et al., 2021), this study employs a multi-dimensional approach, allowing for cross-validation and integration of findings from different methods. As a result, a more comprehensive understanding of PP practices is achieved.

The following papers have been published:

1. Stakeholder perceptions of public participation in environmental impact assessment in the Nigerian road construction sector. Published in 2023 in "Resilience in Research and

Practice: Proceedings of the International Postgraduate Research Conference (IPGRC 2022)."
https://salford-repository.worktribe.com/output/1567707/resilience-in-research-and-practice

2. A systematic quality evaluation of Public Participation in Environmental Impact Statements (EIS) within the three sectors of the Nigerian Economy. Currently under review for publication in the Journal of Impact Assessment and Project Appraisal.

Structure of the Report

The thesis is structured into a total of eight chapters as outlined below.

Chapter One: This chapter will offer a concise introduction to the research, providing an overview of the study's context, aims, objectives, and the anticipated contributions to practice and knowledge.

Chapter Two: This chapter will present a review of relevant literature pertaining to the concept of EIA, PP in EIA, the theory of PP, the role of PP, its benefits, and the concept of effectiveness dimension. Moreover, the chapter will identify data collection techniques utilized in previous studies and their applicability to the current research. The section will conclude by identifying research gaps, justifying the research focus, and establishing the foundation upon which the study techniques will be built.

Chapter Three: This chapter will provide the methodological framework that will guide the conduct of this study, along with the justification of the research philosophy. Additionally, the chapter will offer a summary of the study area, sampling techniques, data sources, research phases, and approaches to be used for data analysis. Ethical considerations and potential challenges anticipated during the data collection exercise will also be discussed in this chapter.

Chapter Four: In this chapter, the first stage of data analysis for the study will be covered. The results and discussions of the data analysis focusing on the systematic quality evaluation of the EIS review will be generated and discussed.

Chapter Five: In this chapter, the qualitative data analysis of the interview data will be presented. The data will be generated from face-to-face and phone call interviews. The chapter will be divided into three sections, each with its own sub-sections. The first two sections will focus on providing a descriptive analysis of the participants and the coding system used. The remaining section will evaluate the results, emphasizing how each effectiveness dimension contributes to achieving participatory quality efficiency.

Chapter Six: In this chapter, the quantitative data analysis will be conducted, specifically focusing on the analysis of survey data. The results will be analysed using frequencies and percentages, and the findings will be presented through tables and charts generated using SPSS 28.

Chapter Seven: In this chapter, the significant findings obtained from the aforementioned methodology will be presented, with the aim of offering a comprehensive understanding of the participatory process. To align with the research objectives, the chapter will be structured into four sections. The first section will consolidate three major findings derived from a systematic quality review, surveys, and interview data, all related to the assessment of procedural effectiveness (objective 1). The subsequent three sections will synthesize the results obtained from survey and interview data, focusing on the dimensions of substantive, normative, and transactive effectiveness (objectives 2, 3, and 4, respectively).

Chapter Eight: In this chapter, an overview of the study's findings will be presented, which have been obtained through a comprehensive methodology encompassing systematic quality review, surveys, and interview data. These findings will be compared to existing literature to establish their significance. The chapter's main objective is to provide a concluding section that synthesizes the key findings discussed in the preceding chapters and examines their alignment with the research objectives. The chapter will draw conclusions, offer recommendations, highlight any limitations of the research, discuss its contributions, and explore potential avenues for future work.

Chapter Two: Literature Review

Introduction

This section provides an overview of PP in the decision-making process and examines the approaches employed in previous studies. The literature review encompasses the concepts of PP and EIA, the EIA process, regulatory frameworks, challenges, and perceptions, as well as the effectiveness of PP in decision-making processes. It also discusses the analytical and theoretical framework that guides this research. Additionally, the chapter identifies data collection techniques utilized in prior studies and their relevance to the current study. The section concludes by justifying the research focus and establishing the foundation upon which the study techniques are constructed.

Theoretical and Analytical Framework for Understanding Public Participation Effectiveness.

Theories of public participation

In the context of impact assessment, PP is considered as the engagement of individuals and groups who experience either positive or adverse impacts, or who hold a vested interest, in a given proposed project, plan, program, or policy that is undergoing a deliberative decision-making process. The theory of PP refers to a conceptual framework that outlines the principles, processes, and mechanisms through which individuals, communities, and stakeholders can engage in decision-making processes that influence their livelihoods and the broader society. It emphasizes the importance of involving the public in shaping policies, projects, and initiatives to guarantee that their diverse perspectives, needs, and values are considered and integrated into the outcomes. Theories of PP play a critical role in shaping our understanding and approach to engaging the public in decision-making processes, particularly within the context of EIA. These theories provide a theoretical foundation, and thus guide the design, accomplishment, and evaluation of PP practices. The design and implementation of PP within the decision-making process are complex and subject to varying interpretations among scholars, influenced by the scope and objectives at hand (Glucker et al., 2013). PP encompasses a wide range of processes (Gauthier et al., 2011), with diverse degrees of involvement from the public and stakeholders, each serving distinct purposes and requiring specific methods and tools. Moreover, these engagement practices can be integrated at various stages of the decision-making process. The study will explore key theories that underpin PP and highlight their relevance to the EIA process.

Interactive Governance Theory*:* Interactive Governance Theory emphasizes the collaborative and interactive nature of decision-making processes (Edelenbos & van Meerkerk, 2016). It suggests that effective PP requires the active involvement of multiple stakeholders, including the public, government agencies, and other relevant actors. This theory promotes inclusive, deliberative processes that facilitate dialogue, mutual learning, and joint problem-solving.

Interactive Governance Theory fundamentally emphasises that the process of arriving at meaningful and influential decisions can be achieved by merging a multitude of perspectives, knowledge bases, and expert insights derived from a diverse array of stakeholders. This contrasts with traditional hierarchical and top-down approaches to governance, where decisions are often made by a limited group of authorities without extensive input from those directly affected. By embracing an interactive model, this theory aims to remedy some of the inherent deficiencies within traditional governance structures. These deficiencies encompass issues such as exclusivity, lack of transparency, and insufficient consideration of diverse viewpoints.

It offers a valuable perspective on enhancing PP through collaboration engagement and constructive dialogue. However, it is not without its critiques and challenges. These include navigating the difficulties of practical implementation, addressing existing power dynamics, overcoming resource and capacity constraints, and managing the potential for delayed decision-making. which highlight the need for thoughtful adaptation and consideration of specific contextual factors when applying the theory to real-world governance scenarios particularly in GS countries.

Deliberative Democracy Theory**:** Deliberative Democracy Theory emphasizes the value of informed and reasoned deliberation among citizens as a foundation for democratic decision-making. (Chambers, 2003). It suggests that PP should involve inclusive, deliberative processes that allow for open discussion, exploration of diverse perspectives, and the search for common ground (Gutmann & Thompson, 2004). This theory advocates for a participatory approach that values the quality of public discourse and considers the preferences and interests of all stakeholders.

The theory observes the virtues of dialogue that is marked by its inclusivity, rationality, and openness. It visualizes PP as a profound process that transcends surface-level engagement,

inviting individuals from diverse backgrounds to delve deeper into issues, exchange a multitude of perspectives, and to collaboratively seek out common ground. By emphasizing deliberation as the central pillar of democratic engagement, this theory seeks to foster a more informed and engaged citizenry, capable of arriving at decisions grounded in a comprehensive understanding of the matters at hand.

Critiques and challenges directed at this theory encompass various faces, including the time and resource intensiveness inherent in its application. Also under scrutiny are questions of representation and participation, considering the potential for certain voices to dominate while others are marginalized. Concerns arise regarding the susceptibility of the theory to manipulation and external influence, as well as the pragmatic challenges encountered during implementation.

In essence, Deliberative Democracy Theory offers a compelling vision for enriching democratic decision-making through informed and inclusive deliberation. However, its practical application is not immune to critiques and challenges, necessitating careful consideration of implementation strategies and adaptation to specific contexts.

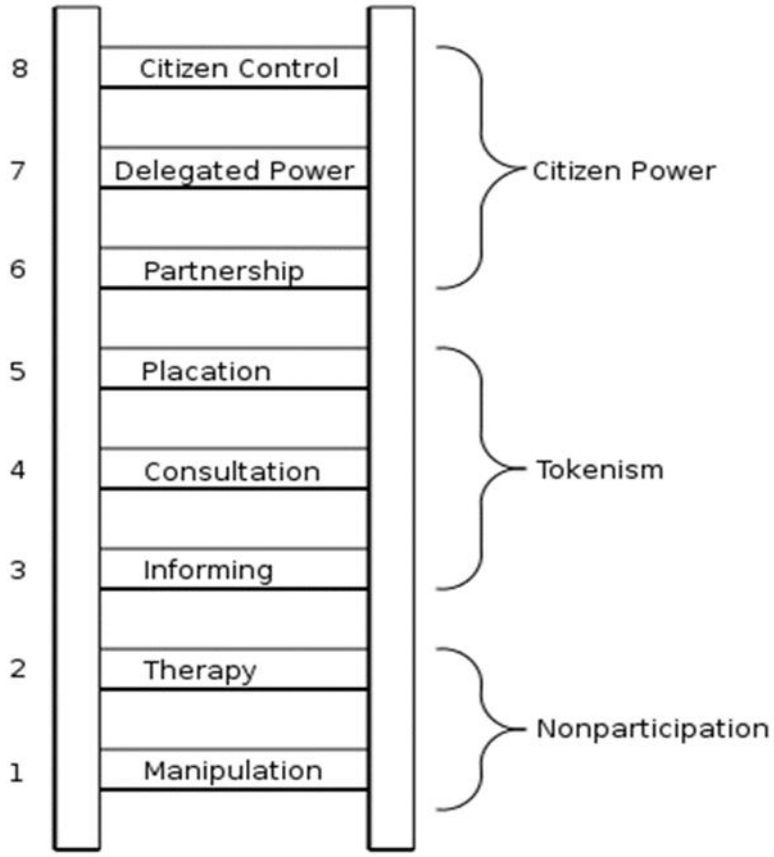
***Arnstein's Ladder of Citizen Participation**:* One influential theory is Arnstein's Ladder of Citizen Participation. Developed by Sherry Arnstein in 1969, this theory presents a hierarchical framework that classifies various levels of citizen involvement. In the field of EIA, many researchers agree that the concept is central in understanding PP effectiveness. Participation is regarded as a "categorical term for citizen power" (Arnstein, p. 216), implying that different types of participation can enable varying degrees of influence in the decision-making process. Hughes (1998) also perceives effective participation as one in which participants possess substantial control and power to influence decisions. Furthermore, participation in the decision-making process is seen as a means for people to bring about meaningful societal changes that enable them to partake in the advantages of a prosperous society. (Arnstein, 1969) p216). Citizen power is crucial in enabling participants to address issues and actively participate in the economic, social, and political development of their society.

Arnstein introduced a ladder of PP, which explains various forms of participation. This hierarchical model suggests that individuals need to move beyond lower levels of involvement, such as Non-participation and Degree of Tokenism, in order to attain control over

the decision-making process and exercise citizen power. The theory highlights different levels of participation, citizen power, and modes of interaction within society. (Lauria & Slotterback, 2020). It also highlights disparities in the level of citizen control and management during the decision-making process. Citizen participation in decision-making has undergone three overarching stages according to Arnstein's concept. At the lowest level, it may serve as a procedural step to inform, gain support, or achieve consensus among citizens, possibly as a means to avoid legal disputes (Gaber, 2020). On a middle level, it evolves to solicit citizen feedback and tap into local knowledge, facilitating the incorporation of community expectations into decisions. At the most profound level (top level), citizen participation is driven by a sense of civic duty, fostering stewardship or empowering citizens to exert control (Boonstra & Boelens, 2011; Fung, 2006). Each level demands varying time commitments from participants, ranging from minimal to significant, and is accompanied by processes tailored to the specific context, purpose, and objectives (White & Langenheim, 2021).

Referring to Figure 2.1, numerous studies indicate that PP often remains at levels ranging from non-participation to tokenism on the participation ladder in most EIA systems, as demonstrated in the research by Thapa (2022), Aiyeola et al. (2014) and Tottimeh (2017). The focus tends to be on the consultation process itself rather than the incorporation of its outcomes into decisions. However, reaching the highest level (citizen power) may prove challenging in practical scenarios. This is because these procedures require significant investments in citizen time, professional training, and a thorough comprehension of trade-offs and decision pathways, as noted by (Fiorino, 1990) and Richardson and Razzaque (2011).

Figure 2.1 *Arnstein's Ladder of Public Participation.*



Note. Source: Arnstein, 1969, p217).

Wilson and Wilde (2003b) expanded upon Arnstein's theory by delving deeper and building a framework that enhances comprehension of community participation through active partnership. This framework is initiated on four dimensions: influence, inclusivity, communication, and capacity (refer to Table 2.1). These dimensions encapsulate the core principles of effective PP, further enriching the understanding of the concept. The framework serves as a valuable tool for researchers, enabling them to establish a consistent framework for evaluating PP.

Table 2.*1 The four dimension of community participation*

Influence How communities are involved in the partnership in the shaping of activities/plans and in all decision-making process	**Inclusivity** In what ways do partnerships ensure the participation of all interested groups in society, and how can they address issues of inequality?
Communication To what extent are the procedures for disseminating information in partnerships effective and efficient?	**Capacity** How do partnerships provide the necessary resources and support for communities to engage, develop their skills, knowledge, and understanding?

Note. Adapted from Wilson & Wilde, 2003, P.7

However, Burns et al. (2004) expanded upon the existing framework by introducing modifications to the active partner dimensions mentioned earlier. These modifications were made in response to a significant gap identified during their road-testing work, which revealed the absence of learning outcomes in participation. They also included a new category of impact and outcome in their framework. In their perspective, influence should be interpreted as communities having the ability to make an impact on issues that directly affect them, rather than the notion of control suggested by Arnstein's theory of participation, which may be challenging to achieve in practical situations. Morgan (2012), argues that the essential principle of PP lies in the extent to which participants can influence the outcome, as it reflects the overall quality of the process.

These theories provide a theoretical foundation for the design and implementation of PP initiatives within the EIA process. By applying these theories, practitioners can develop strategies and methods that foster meaningful engagement, enhance transparency, and promote informed decision-making, thereby strengthening the overall effectiveness of the EIA process.

In order to ensure effective PP in decision-making, it is vital to establish a strong connection between practical implementation and theoretical foundations (Brombal et al., 2017). Accordingly, the analytical framework employed in this research focuses on the policy objectives of PP and EIA across four dimensions of effectiveness. These objectives offer a comprehensive framework for analysing the quality and the effectiveness of PP initiatives. By integrating Arnstein's concept of citizen power and the active partnership framework put forth by Wilson & Wilde, and Interactive Governance Theory, this framework provides a

comprehensive understanding of the true impact of these practices on the decision-making process. Its primary objective is to evaluate the extent to which participants can effectively catalyse meaningful social reforms and actively contribute to the economic, social, and political advancement of their society. Furthermore, the framework encompasses a collection of twelve overarching objectives designed to assess and evaluate the practice of PP.

Categorization of Effectiveness

The assessment of EIA effectiveness remains uncertain due to the absence of definitive theories supporting the measurements and factors that constitute an effective EIA (Loomis & Dziedzic, 2018). Nonetheless, a crucial aspect within the academic discourse involves acknowledging the necessity of integrating planning theory, social learning theory and policy analysis into the conceptual understanding of IA, particularly SEA and EIA (Cherp et al., 2007; Lawrence, 2000; Lobos & Partidario, 2014; Richardson, 2005). Despite this recognition, a study conducted by Naydyonov (2005), which reviewed 18 SEA theory articles across three prominent Impact Assessment journals, found that the predominant perspective in these articles tended to view the planning context through the lens of design and planning. In the context of EIA and SEA, various theories are frequently deliberated to enhance the understanding and effectiveness of these processes. Some key theories encompass systems theory, stakeholder theory, policy analysis theory, social learning theory, and cumulative effects assessment theory (Lobos & Partidario, 2014; Wathern, 2013). According to Runhaar et al. (2013), different researchers have varying understandings and evaluation mechanisms for assessing the effectiveness of an EIA within their respective domains, depending on their study objectives. The flexibility of the EIA system in different conditions enables researchers to evaluate it from diverse perspectives and criteria. Nonetheless, there appears to be a prominent framework recognized among EIA scholars known as the "effectiveness dimensions" framework. This framework examines how well the EIA system aligns with and achieves the objectives outlined in each dimension, including procedures, substantive, transactive, and normative values. It originated from earlier research conducted by Ortolano (1993), was simplified by (Sadler, 1996a), and subsequently expanded upon by Baker and McLelland (2003).

Sadler (1996a), proposed a classification of IA effectiveness into three dimensions: substantive, procedural, and transactive. Building upon this framework, Baker and McLelland

(2003) introduced the addition of a fourth dimension, Normative, to further enhance the understanding of effectiveness. The reviewed literature explores various objectives of PP in EIA, but there is a lack of consensus on these goals. Authors such as Chanchitpricha and Bond (2013), Glucker et al. (2013) and O'Faircheallaigh (2009) provided an overview of the objectives, but further examination reveals the need for refinement and clarification. The extensive review of existing literature suggests that the long list of objectives can be categorized into overarching effectiveness rationales.

Procedural effectiveness examines the principles and application of the IA process. (Baker & McLelland, 2003; Sadler, 1996a). Can be measured by examining the implementation of IA, indicating how the policy is put into practice in the process and is influenced by factors such as engagement and consultation processes, notification and publication techniques, accessibility to information, disclosure practices, and the quality of EIA reports. Several scholars have emphasized the significance of these factors in evaluating procedural effectiveness. (Baker & McLelland, 2003; Chanchitpricha & Bond, 2013; Loomis & Dziedzic, 2018; Nadeem & Fischer, 2011; Sadler, 1996a). Substantive effectiveness, on the other hand, focuses on the broader objectives of EIA policies and measures the performance in achieving those objectives. The literature suggests that substantive effectiveness can be evaluated based on environmental sustainability, impact mitigation, economic benefits, and social well-being. Scholars have explored the relationship between these factors and substantive effectiveness. (Burns & Heywood, 2004; Roos et al., 2020; Theophilou et al., 2010).

Normative effectiveness refers to the criteria of effectiveness that are linked to democratic ideals, human rights legislations and conventions, and societal norms and conventions. Several scholars have highlighted the importance of these criteria in relation to PP goals and EIA policies (Baker & McLelland, 2003; Barton, 2002; Hartley & Wood, 2005; Rega & Baldizzone, 2015; Stoeglehner et al., 2009). Transactive effectiveness focuses on the efficiency of the process, considering factors such as resource utilization, personnel involvement, cost-effectiveness, clarity of stakeholder roles in the decision-making process, time management and material aspects (Baker & McLelland, 2003; Theophilou et al., 2010). Additionally, Wilson and Wilde (2003a) highlight the importance of evaluating partnership capacity, when assessing transactive PP effectiveness.

The literature stresses the need to identify and categorize the objectives of PP in EIA based on effectiveness rationales, including procedural, substantive, normative, and transactive dimensions. This nuanced understanding can contribute to a more comprehensive evaluation of PP effectiveness in EIA processes. This conceptualization of effectiveness dimensions has been widely adopted and utilized by numerous scholars in the IA field such as Loomis and Dziedzic (2018) and Chanchitpricha and Bond (2013). For a comprehensive overview of how each dimension is perceived by various researchers, please refer to table 2.2.

Table 2.2 *Summary of effectiveness dimension as conceptualised in the literature.*

Effectiveness Dimension	**Focus**	**Key questions**
Procedures (Procedural effectiveness)	Practical compliance	➢ Does the EIA meet legal requirements? ➢ Does the EIA follow best practices guidance? ➢ Are stakeholders involved in the process? ➢ How effective are the procedures for information dissemination?
Output (Substantive effectiveness)	Consequences Transformative capacity	➢ Does the EIA identify and mitigate significant impacts? ➢ Does the EIA affect the decision-making process? ➢ Are wider policy objectives attained? ➢ Is stakeholder engagement effective? ➢ Do partnerships provide the required resources and for the community to participate and to develop their skills, knowledge, and understanding?
Efficiency and/or optimality (Transactive effectiveness)	Value	➢ Does the EIA deliver the outcomes in an efficient and effective way? ➢ Do staff have sufficient skills and proficiency? ➢ Is evidence proportionate to the risk posed? ➢ Do partnerships guarantee the inclusion of all interested groups in the decision-making process?
Conformance to standards/norms (Normative effectiveness)	Legitimacy Equity	➢ Are wider sustainability goals archived? ➢ Is the process democratic and representative? ➢ Are residual effects and trade-offs distributed fairly? ➢ How are communities engaged in influencing activities/plans and in every decision-making process?

Note. Adapted from Bond et al. (2018), Loomis and Dziedzic (2018); Chanchitpricha and Bond (2013); Wilson and Wilde (2003b); Burns and Heywood (2004).

Analytical Framework

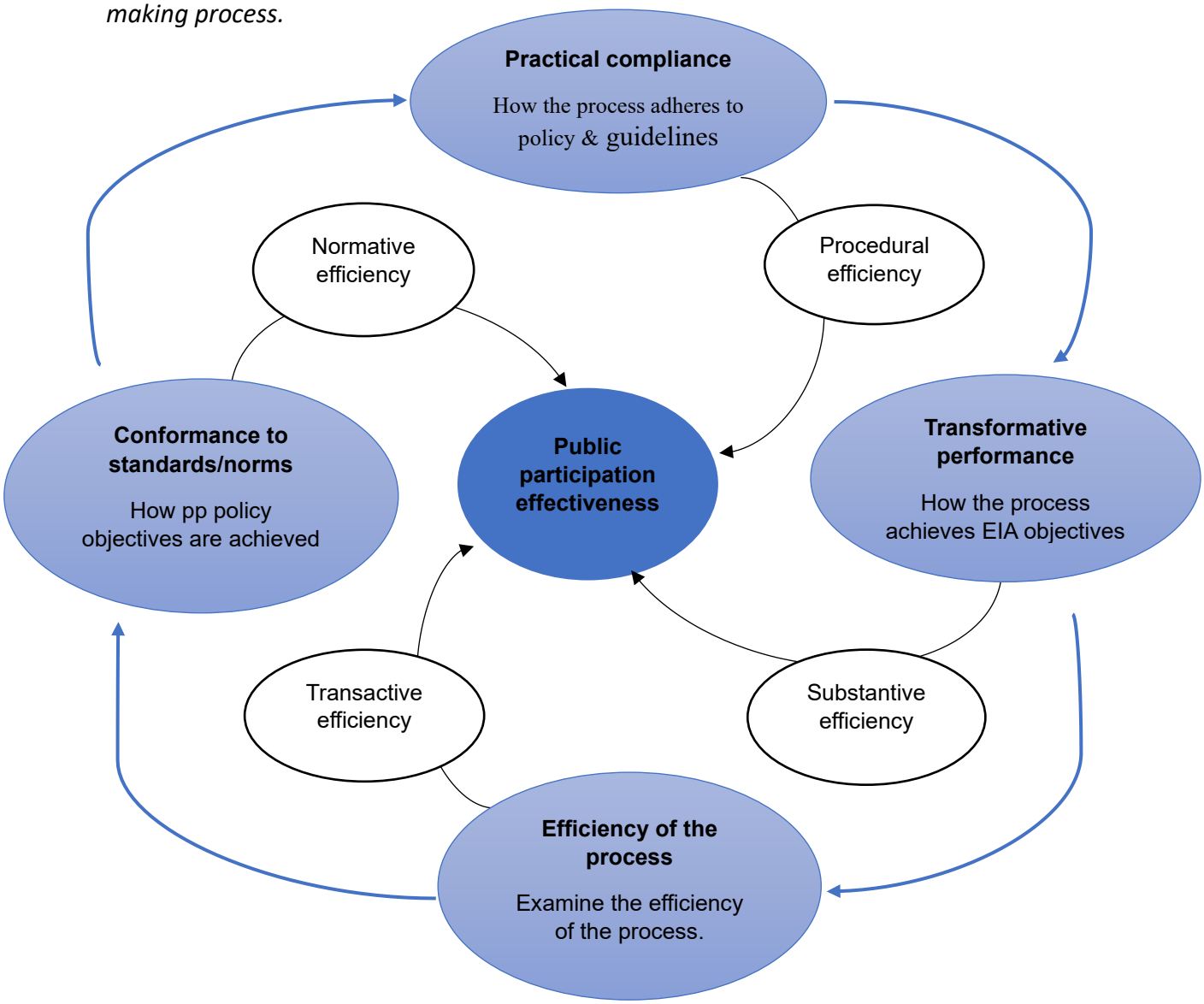
In recent years, the effectiveness of EIA has emerged as a significant theme within the EIA literature (Loomis & Dziedzic, 2018). In the field of environmental assessment, Sadler (1996a) defined effectiveness as the degree to which something functions or performs as intended, meeting its designated purposes. Alternatively, Van Buuren and Nooteboom (2009) and (Wismar et al., 2007) view effectiveness as the influence of the IA process on decision-making, particularly in selecting sustainable development options. Similarly, Therivel (2012) perceives effectiveness as the extent to which something operates in achieving its goals and influencing the decision-making process. Additionally, Young (1999), considers effectiveness as the contribution made towards problem-solving, which can be evaluated based on the outcomes of actions.

In spite of the presence of a framework to assess the efficiency of an EIA system through integrated effectiveness dimensions, there are instances where EIA scholars still adopt specific approaches to theory-building for each dimension. Theory building in the context of EIA is the process through which scholars and practitioners construct conceptual frameworks. EIA theory-building serves as a method to attain an improved environment, facilitate better decision-making, and enhance professional practices (Lawrence, 1997). The essence of an EIA theory lies in its ability to contribute significantly to the realization of EIA objectives. As highlighted by Loomis and Dziedzic (2018), most of these studies primarily focus on procedural effectiveness, as it provides policymakers with immediate solutions for making necessary adjustments to the EIA system. Conversely, research on the remaining dimensions is comparatively less common, as they necessitate in-depth exploration of the issues and collaborative efforts among stakeholders affected by the EIA to ensure the objectives outlined within each dimension are successfully attained.

To overcome the limitations in research analysis and evaluate the effectiveness of PP in the decision-making process, the "Effectiveness Triangle" framework has been adapted for this study from Sadler (1996a) and Baker and McLelland (2003). Sadler (1996a), suggests that the effectiveness triangle concept can be employed for EIA policy evaluation at different levels, including decision audit, system-wide review, and component-specific evaluation. In this study, the "effectiveness triangle" will serve as a foundational framework to assess the effectiveness of PP in the decision-making process at the component-specific level. The

research will systematically examine PP activities at various efficacy levels, following a step-by-step approach. Ortolano (1993) previously employed this method to assess public involvement in EIA, and similarly, Krawetz et al. (1987) utilized this framework to examine monitoring as a component of the EIA process. The component-specific aspect of this research aims to evaluates the effectiveness of PP in environmental decision-making, as illustrated in Figure 2.2.

Figure 2.*2 Analytical Framework for understanding the effectiveness of PP in the decision-making process.*



Note. Adapted from Sadler (1996a)

The framework utilized in this study adopts a circular measurement approach, commences with procedural efficiency, and progresses in a clockwise direction. which assesses the functioning of different efficacy aspects. The cycle revolves around four dimensions of

effectiveness. Firstly, procedural effectiveness (practical compliance) is employed to evaluate the adherence to environmental decision-making policies and guidelines, as well as the quality of information utilized, to determine the actual practice of the procedural efficiency of road construction projects within the Nigerian context. Secondly, substantive effectiveness (transformative performance) assesses the extent to which the participatory process mitigates negative environmental impacts of road projects and contributes to achieving wider EIA policy objectives, considering the tangible benefits derived from the EIA process in terms of project outcomes. Thirdly, transactive effectiveness (efficiency of the process) investigates the clarity of stakeholder roles within the decision-making process, the timeliness of engagement, and the capacity for effective partnerships. Finally, normative effectiveness (achievement of purpose) evaluates the extent to which broader EIA policy objectives are accomplished and the influence on decision-making processes and democratic capacity. Each effectiveness dimension is further categorized into distinct criteria, which can be found in Appendix 1.2 and 1.3.

Public participation as a component of EIA and other environmental decision-making process

2.1.1. Public Participation and EIA

PP is an essential element of the EIA process, playing a crucial role in the decision-making regarding environmental matters (Arsenault et al., 2019; Glucker et al., 2013; Nadeem & Fischer, 2011). Within the context of environmental assessment, PP is defined as "the involvement of individuals and groups that are positively or negatively affected, or that are interested in a proposed project, program, plan or policy that is subject to a decision-making process" (International Association for Impact Assessment (IAIA), 2006, p. 1). The United States Environmental Protection Agency similarly defines PP as a means for the public to engage in decision-making and influence choices that impact their lives (Brombal et al., 2017). PP is a distinctive characteristic of various environmental decision-making processes, including Strategic Environmental Assessment (SEA) and Social Impact Assessment (SIA). However, in practice its nature and extent vary across types of assessments. In EIA, PP engages local communities, NGOs, and stakeholders to gather input on environmental impacts and consider public concerns. In SEA, PP focuses on early decision-making, involving the public in developing and evaluating strategic alternatives with an emphasis on

environmental sustainability. Overall, PP offers benefits such as promoting transparent decision-making and garnering greater acceptance of plans, projects, or programs among affected populations (Dal Molin, 2021; Rega & Baldizzone, 2015).

PP is widely recognized as a crucial factor for determining the effectiveness of IA (Hasan & Megantara, 2021). European nations, like the United Kingdom and France, have demonstrated successful experiences in involving the public in EIA processes, leading to enhanced environmental sustainability, despite some limitations identified by Peterson (2022). However, the effectiveness of PP in environmental decision-making process is comparatively lower in regions such as Africa, Asia, and Latin America. Many countries, including India, Vietnam, China, Egypt, Bangladesh, Iran, Ghana, South Africa, Tanzania, and Nigeria have EIA systems that are lagging behind, particularly concerning public involvement (Clarke & Vu, 2021a; Dilay et al., 2020; Erfani & Roe, 2020; Hasan et al., 2018; Hegazy, 2017; Kaku et al., 2023; Maphanga et al., 2023; Okowa et al., 2021; Reindrawati, 2023; Tottimeh, 2017; Zhao et al., 2022; Zhou et al., 2019).

Role of EIA in Facilitating Sustainable Development

The objective of sustainable development is to pursue development while minimizing negative impacts and protecting the environment for the well-being of future generations (Devuyst, 2000). This underscores the imperative of preserving ecosystem services. An ecosystem is characterized as the collaboration between various species and their immediate, non-biological surroundings to sustain life (Fisher et al., 2009). The concept of ecosystem services has emerged as a vital framework, facilitating the connection between ecosystem functioning and human well-being (Perrings et al., 2010). Principle 17 of the Rio Declaration on Environmental and Development (1992), highlighted the use of EIA as a tool for achieving sustainable development (Devuyst, 2000). EIA is widely recognized as an effective instrument that supports sustainable development initiatives by seeking to maximize positive environmental outcomes while mitigating any adverse impacts associated with projects (Ibeh & Walmsley, 2021; Loomis & Dziedzic, 2018). According to Bond et al. (2016), a legitimate Impact Assessment (IA) is one that aligns with environmental sustainability and produces outcomes that are acceptable to all stakeholders.

PP is of paramount importance in the environmental decision-making process and plays a crucial role in advancing the sustainability frameworks such as sustainable development goals

(SDGs) set by the United Nations. The SDG agenda advocates for initiatives to build sustainable, inclusive, and resilient infrastructure, attain economic sustainability, and enhance environmental protection. Regardless of geographical location, inclusive, responsive, and effective partnerships in environmental decision-making are universally acknowledged as pivotal elements in achieving the SDGs, spanning across both GS and GN countries.

Nigeria and many countries have made a commitment to achieve the objectives and targets of the SDGs by 2030. However, the progress towards these goals and targets has encountered challenges due to the impact of the coronavirus (COVID-19) pandemic (Albu, 2021; Odey et al., 2021). Scholars have stressed the importance of monitoring and ensuring organizational and corporate accountability to facilitate the attainment of SDG targets (Bebbington & Unerman, 2018; Hopper, 2018). Recent studies have examined how corporate organizations fulfil the expectations of the SDGs and the role of IA in contributing to SDG performance (Erin et al., 2022; Ibeh & Walmsley, 2021; Kørnøv et al., 2020). Partidário and Verheem (2019), claim that SDGs can drive objective-oriented IA, and likewise, IA can transform the SDGs into tangible outcomes. Nevertheless, it is crucial to acknowledge that IA may not contribute to the attainment of every SDG target, as certain key targets may not align with IA objectives.

EIA professionals and other environmental experts firmly believe that EIA plays a significant role in supporting sustainable development within society (Roos et al., 2020). However, several scholars argue that the effectiveness of EIA depends on the extent to which PP policy objectives are achieved, aligning with their intended purpose (Baker & McLelland, 2003; Bond, Morrison-Saunders, & Stoeglehner, 2013). These objectives often encompass democratic participatory processes, sustainable development, and internationally accepted goals (Gibson & Walker, 2001). Initially, in many countries, the initiation of EIAs was typically driven by development assistance agencies on a project-specific basis rather than as a response to a widespread indigenous call for heightened environmental protection and sustainability. (Doberstein, 2003; Wood, 2003a).

Challenges and Perceptions of Public Participation in the Environmental Decision-Making Process.

A structured literature search was conducted to establish the scope of the research and inform the terms of reference for the study and proposed methods. In this section, the researcher reviewed the existing literature on the effectiveness of PP in the decision-making process of EIA, focusing on the quality and practice of PP in EIA. To ensure a comprehensive literature search, a logical approach was developed. Several databases were utilized, namely ScienceDirect, JSTOR, and Web of Science through the University of Salford library e-resource. The search was conducted using specific keywords and Boolean operators "AND" and "OR." The keywords included 'eia,' 'quality,' 'effectiveness,' 'public participation,' 'decision making,' 'public engagement,' 'citizen participation,' and 'stakeholder engagement.' Additionally, other relevant terms were utilised such as 'eia performance,' 'substantive,' 'procedural,' 'normative,' and 'transactive.' Table 2.3 outlines the inclusion and exclusion criteria, which ensured the selection of relevant topics.

Table 2.*3 Exclusion and inclusion criteria*

Inclusion	**Exclusion**
Research studies published in the English language	Research studies not published in English
The studies have a specific focus on IA.	Studies of other environmental issues
The studies concentrate on the quality of EIA and the practice of PP in the EIA process.	The studies explore the quality and practice of PP other than IA.

Effectiveness of Public Participation

Ineffective PP and low-quality outcomes have been identified as significant challenges in the decision-making processes of EIA. Several studies have highlighted the ineffectiveness of PP as a major hindrance to successful EIA implementation (Erfani & Roe, 2020; Hasan et al., 2018; Ocampo-Melgar et al., 2019; Okowa et al., 2021). However, research focusing on the effectiveness of EIA and PP in decision-making has made significant improvements in enhancing EIA performance and promoting environmental sustainability (Loomis & Dziedzic, 2018; Sadler, 1996a). A recent study indicates that PP has increasingly emerged as a vital catalyst for advancing environmentally sustainable development goals (Li et al., 2018).

Researchers have employed various approaches and criteria to assess the effectiveness of PP. Cashmore et al. (2004) and Loomis and Dziedzic (2018) have highlighted that most of the

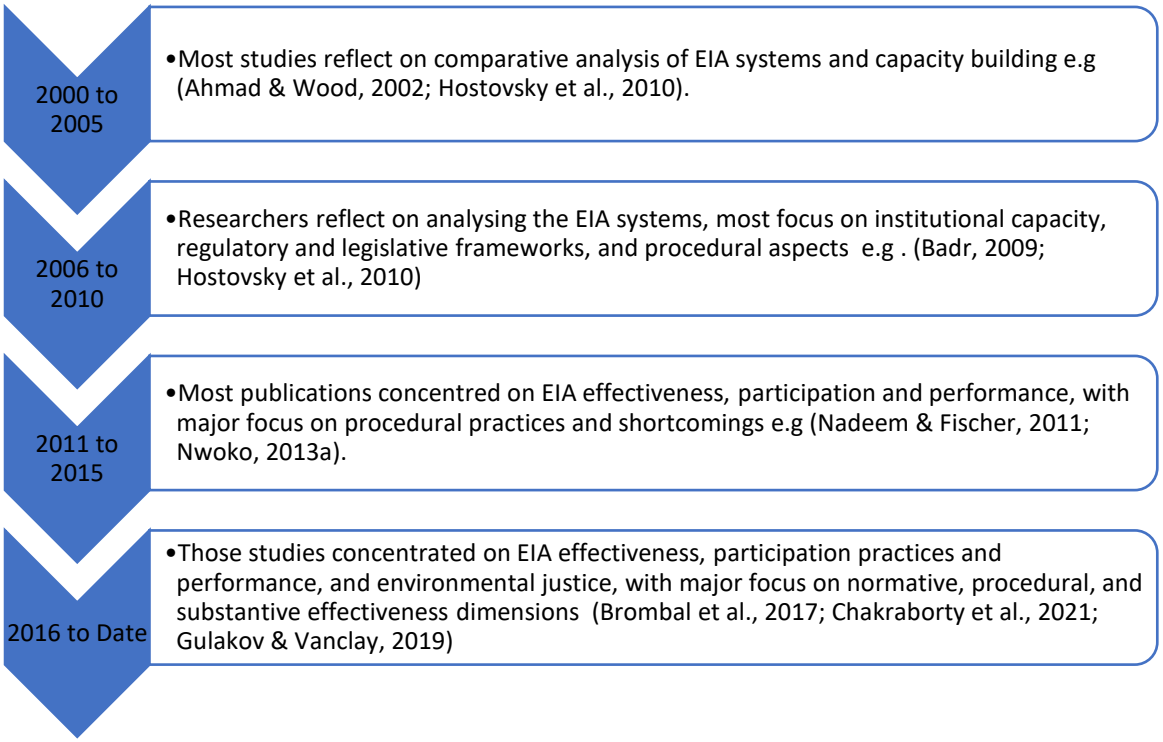
themes discussed in the EIA literature pertaining to effectiveness focus on procedural aspects. These include the application of policies in EIA practice, adherence to EIA principles, and the following of specific procedures. However, there is limited consideration given to substantive issues, such as whether the EIA process successfully achieves its intended objectives. Similarly, Loomis and Dziedzic (2018) also observed a persistence gap in the literature on the studies that measure how EIA mitigates environmental impact. Studies focusing on other dimensions, however, tend to be less common as they necessitate in-depth exploration of the issues and collaborative efforts among affected stakeholders. Such studies are crucial to ensure that the objectives outlined within each dimension can be effectively achieved. Therefore, (Veronez & Montaño, 2015) and Loomis and Dziedzic (2018) call for a multi-dimensional approach in evaluating effectiveness.

Brombal et al. (2017) conducted an evaluation of PP within China's EIA system. The focus of the study was to assess the institutional rationale behind the implementation of PP, specifically examining its effectiveness in terms of normative, substantive, and institutional dimensions. The study aimed to explore democratization and empowerment, viewing participation as a means to legitimize the decision-making process. The findings indicated that the public had limited capacity to influence decision-making. However, it is critical to note that the study did not consider the procedural and transactive aspects, which are crucial for measuring the alignment of the IA process with IA policies and the clarity of stakeholder roles. Furthermore, in their study, Ocampo-Melgar et al. (2019) conducted an evaluation of PP practices using a review method, comparing them against three conceptualizations. However, the study recommends incorporating survey and qualitative methods to gain new insights into the experiences of PP in the decision-making process. Peterson (2022) conducted a systematic qualitative synthesis of empirical scientific literature, analyzing the performance of PP in different EU countries. The main challenges highlighted in these publications are linked to the limited impact of the public or stakeholders on decisions and the timing of participation. However, the review acknowledges that it may not encompass the complete range of evidence available. The research suggests conducting additional primary investigations and assessments to explore the dynamics of EIA/SEA participation in various diverse geographical and socio-political settings. This would contribute to mapping participation in the SEA and EIA domain and incorporating a broader range of evidence.

The focus of studies on PP effectiveness has evolved over time. Recent research by Zhou et al. (2019), The study investigated the practice of PP in several Western developed countries by reviewing literature and legal documents. This practice was then compared to China's approach to PP to gain understanding into the challenges and constraints associated with PP in China. The findings further highlighted that Western developed nations have accumulated substantial experience in integrating PP practice across various sectors in their daily operations. The main challenges faced by PP in EIA in China are primarily linked to the lack of a compelling driving force, inadequate access to information, and constrained participation frameworks. In another study by Hasan et al. (2018), a comparative analysis of current practices in EIA. They investigated two projects run by NGOs and contrasted them with two projects managed by government entities. The objective was to gain understanding of the existing disparities in these practices. The study's results unveiled that in government-run projects, PP tend to be implemented predominantly toward the conclusion of the EIA process. This late-stage incorporation severely constrains stakeholders' opportunities to contribute meaningfully and exert limited influence on the decision-making process. Furthermore, Dilay et al. (2020), examine EIA practices and their potential implications for environmental justice, with a specific emphasis on procedural aspects of environmental justice. Additionally, (Erfani & Roe, 2020) investigate institutional stakeholder participation in the decision-making process. Figure 2.3 provides an overview of the historical progression of studies exploring the effectiveness of PP in EIA.

Overall, the literature demonstrates the challenges and advancements in understanding and enhancing the effectiveness of PP in the EIA process. It calls for a multi-dimensional approach, incorporating both procedural, substantive, normative and transactive aspects, and emphasizes the need for further research to better comprehend participation in diverse contexts and expand the evidence base.

Figure 2.3 *Historical outline of studies that examine EIA and public participation effectiveness.*



Note. Adapted from Gulakov & Vanclay, 2019; Brombal et al., 2017; Ahmad & Wood, 2002

2.4.2. Regional Perspective and Challenges of Public Participation Effectiveness

The literature reviewed explores the effectiveness of PP and stakeholder engagement in EIA across different regions worldwide. The effectiveness of PP and stakeholder engagement in EIA differs across different regions worldwide, as indicated by studies conducted by Erfani and Roe (2020) and Khosravi et al. (2019b). In recent years, there has been an increased recognition of the effectiveness of PP in the context of IA processes, especially with the incorporation of the principles of the Arhus Convention into the EC directive on PP, access to justice and access to information in environmental matters, as highlighted by Morgan (2012).

However, despite the presence of sound policies, ineffective and low quality of PP in decision-making remains a persistent issue. The literature highlights several emerging themes that contribute to ineffective PP in the decision-making process in Asia and African countries. These themes include inadequate dissemination of information, absence of driving force and participatory procedures, limited influence on decision-making, weak legal frameworks, lack of stakeholder engagement activities, absence of participatory culture and grassroots democracy, and weak institutional linkages. These insights are supported by several studies

(Badr, 2009; Hasan et al., 2018; Hostovsky et al., 2010; Kahangirwe, 2011; Rega & Baldizzone, 2015; Zhou et al., 2019).

Some European countries generally fare better in this regard compared to their African and Asian counterparts as noted by Zhou et al. (2019), with a few exceptions. Notably, countries like South Africa, Malawi, Namibia, and China have recently demonstrated substantial efforts toward PP, as highlighted by Mauerhofer (2016), Bhatt (2023), and Lwesya Sibale and Fischer (2023). However, budgetary constraints, ineffective communication, and low public awareness remain significant barriers to effective PP, particularly in Denmark and Canada, as indicated by Arsenault et al. (2019) and Marzuki (2015). On the other hand, Latin American countries, such as Mexico, Brazil, and Peru, face a similar challenge to Asia, where the lack of participatory decision-making hampers effective PP, as highlighted by Benites-Lazaro and Mello-Théry (2019).

Reflecting on the centrality of PP in decision making, Principle 10 of the United Nations (UN) 1992 Rio Conference on Environment and Development emphasized the importance of involving all citizens with a vested interest at the pertinent level in addressing environmental issues (Declaration, 1992). In the context of Bangladesh for example, PP is mandated in the EIA process. However, the nation's legislation exhibits several loopholes regarding the clarity of public rights, obligations, eligibility, and legal responsibilities (Hasan et al., 2018). Conversely, in Mexico, Pakistan, India, and many Asian countries, indicate that the influence of PP on EIA decisions is still notably weak (Benites-Lazaro & Mello-Théry, 2019; Nadeem & Fischer, 2011).

In theory, PP constitutes a fundamental aspect of the EIA process. However, the practical scenario differs in many countries, where public involvement in the decision-making process is often viewed as a mere requirement for obtaining project approvals (Nwoko, 2013a). Nonetheless, in a study by McCullough (2017), that examined the effective implementation of EIA in various countries, out of the 13 studies reviewed, 9 studies recommended improved PP to enhance the effectiveness of EIA. While scientific research on the effectiveness of EIA and PP in the decision-making process has significantly increased (Morgan, 2012), most studies primarily focus on EIA capacity building, legislative frameworks, institutional capacity, and administrative processes (Badr, 2009; Erfani & Roe, 2020; Hostovsky et al., 2010; Khosravi et al., 2019b). Overall, there is an increased recognition of the importance of PP, but

challenges persist, and further research is needed to address these issues and improve the effectiveness of PP in EIA.

2.4.3 Public Participation Effectiveness and Research Trends: A Nigerian Perspective

The literature reviewed reveals a consistently low level of PP in the decision-making process in Nigeria. The study by Nwoko (2013a) provides evidence of ineffective PP, poor quality of EIAs, and deficiencies in the scoping and screening exercises within Nigeria's EIA system. Silas (2013a) corroborates these findings by highlighting the low levels of PP observed in EIA reports submitted to the FMENV. Furthermore, multiple studies conducted in Nigeria emphasized the urgent need for improvement in participatory programs and identify various factors that impact the efficiency of PP in the country (Aigbokhae, 2022; Awhefeada et al., 2023; Chado & Johar, 2016; Chado et al., 2017; Echendu, 2023; Kanu et al., 2018b; Lawal et al., 2013; Ojobgo, 2018). These studies collectively emphasize the importance of addressing the procedural deficiencies in PP.

Theoretically, PP is integrated into the laws of the Federal Republic of Nigeria. This is explicitly illustrated by the provisions laid out in Section 25 of the EIA Act, which afford individuals from the public and interested groups the opportunity to participate in the EIA review process by contributing their views on project reports. These reports are presented for public exhibition. Typically, these exhibitions occur over a 21-working-day duration at strategic locations. However, the practical implementation falls short of this requirement (Kanu et al., 2018a; Nwoko, 2013a). Nigeria has pledged its commitment to numerous international environmental regulations to achieve environmental sustainability, including ensuring public access to environmental information. The passage of the Freedom of Information (FOI) Act in 2011 reflects best practices outlined in the Rio declaration. However, institutional challenges, illiteracy, abuse of public power, and limited access to environmental information remain major obstacles to effective PP in the decision-making process in Nigeria and other similar countries (Kolhoff et al., 2016; Rebelo & Guerreiro, 2017), despite the presence of sound policies and comprehensive legislation.

When examining various studies on the effectiveness of EIA in Nigeria, it becomes evident that most of studies, like the findings of Loomis and Dziedzic (2018) concentrate on improving EIA guidelines and procedures to establish an effective EIA system. This perspective is

supported by Ogunba (2004) who emphasizes that addressing the shortcomings in current EIA procedures would contribute to effective implementation and overall enhancement of the EIA process. While enhancing guidelines and procedures is beneficial for environmental management and policies, it is crucial to conduct a comprehensive assessment of the EIA system, considering multiple dimensions of effectiveness, to strengthen its application. Specifically, evaluating the dimension of public engagement is of particular importance as it allows for immediate improvements in the EIA system by aligning policy objectives and directions, as highlighted by Loomis and Dziedzic (2018) and Rega et al. (2018).

Currently, there is a limited number of studies that go beyond the procedural dimension when evaluating EIA effectiveness. This is due to the dynamic nature of the EIA system and the presence of various factors that can influence the achievement of EIA implementation objectives, such as enhancing environmental awareness, ensuring cost and time efficiency, and promoting environmental values within society, as noted by Loomis and Dziedzic (2018). Furthermore, the limited number of the global studies exploring the other dimensions of EIA effectiveness may contribute to the lack of interest in studying the substantive, normative, and transactive effectiveness dimensions within Nigeria's EIA system. Loomis and Dziedzic (2018) argue that research on the procedural dimension dominates the literature on EIA effectiveness globally, followed by substantive, transactive, and normative effectiveness dimensions. However, the focus of Nigerian studies on improving the procedural dimension has overshadowed the importance of conducting a comprehensive evaluation that integrates the substantive, transactive, and normative dimensions. Okowa et al. (2021) argue that the effectiveness of PP should be measured by the outcomes of various aspects of the consultation process. Despite conducting a thorough search using online databases for integrated evaluations encompassing all four effectiveness dimensions, excluding procedural effectiveness, within the Nigerian context, only a few articles were found. The reviewed local literature primarily concentrates on EIA performance, with a major focus on procedural practices and shortcomings (Ibrahim et al., 2020; Silas, 2013a).

The literature review indicates the need for comprehensive evaluations that integrate substantive, transactive, normative, and procedural dimensions of EIA effectiveness. Despite a limited number of studies in this regard, there is a recognition of the importance of strengthening PP and improving the overall effectiveness of the EIA system in Nigeria.

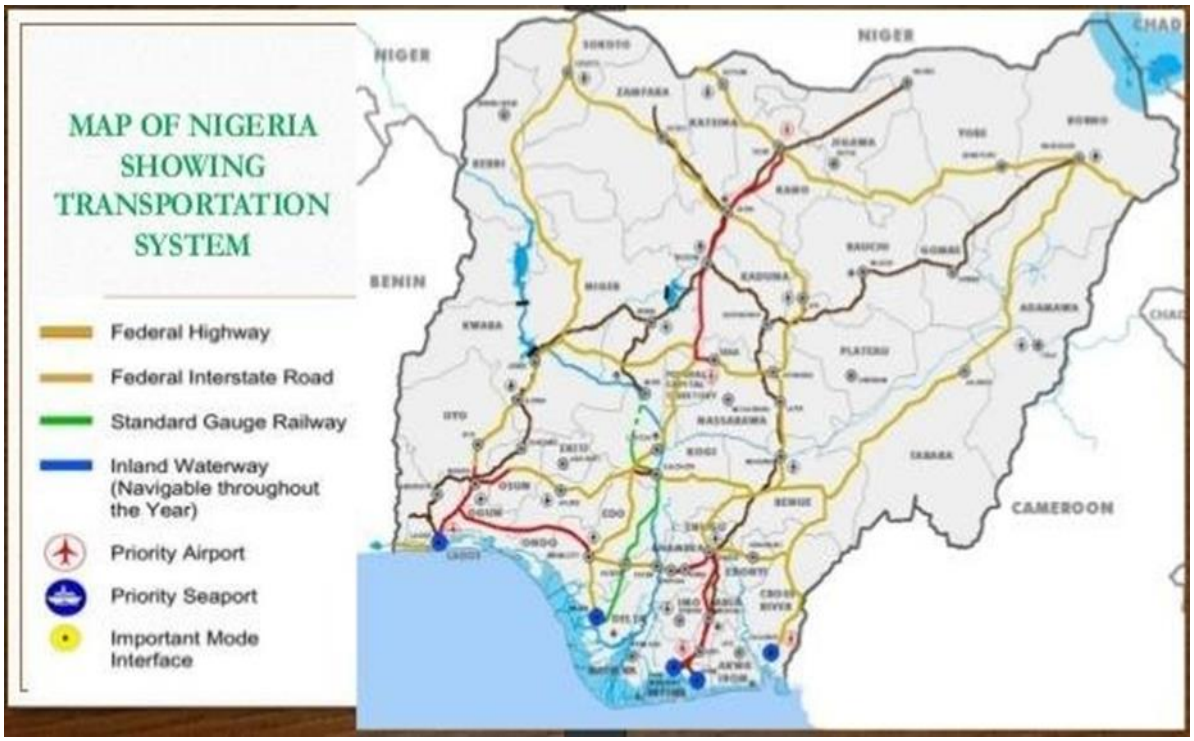
Road Transportation, Public Participation, and EIA in Nigeria.

2.1.1. Road Transportation and Its Impact in Nigeria: Challenges and the Role of Effective Public Engagement

Nigeria heavily relies on road transportation for the movement of goods and passengers, with limited air and waterway transportation options (Ogunbodede, 2008). The history of road transportation in Nigeria traces back to the pre-colonial era, when roads were constructed to facilitate the transport of agricultural products from inland areas to seaports (Faajir & Zidan, 2016). The road network in Nigeria is categorized into three types: Trunk A roads, which are federal highways connecting all 36 states; Trunk B roads, which are state-owned and link localities within a state to Trunk A roads; and Trunk C roads, which connect neighbourhoods, rural areas, and other regions (Adetola et al., 2011).

Nigeria has witnessed significant development in its road networks, with over 523 ongoing road projects across the country. Out of these, 80 were scheduled for completion between 2020 and 2021, aiming to boost economic growth (Ongbali et al., 2021). Road transportation plays a crucial role in facilitating socio-cultural activities, driving economic growth, and promoting inter-regional connectivity (Calderón & Servén, 2010). It is evident that countries with inadequate transportation networks and infrastructure tend to have slower development rates (Faajir & Zidan, 2016). Recent studies have shed light on the socio-economic and environmental challenges associated with road construction and maintenance in Nigeria. These challenges encompass voluntary and forced migration, social domination, displacement of local communities, deforestation, disruption of local economic activities, pollution, and irreversible impacts on indigenous groups. (Adepoju, 2021; Ajayi et al., 2013; Atubi, 2021; Wanjiku, 2014). However, these challenges can be effectively tackled through the implementation of EIA in collaboration with the public (Ibeh & Walmsley, 2021). Engaging the public effectively in the EIA process is crucial for addressing and mitigating these challenges (Brombal et al., 2017; Oguzie et al., 2021).

Figure 2.4 *Map of Nigeria showing the transportation network changes.*



Note. From Adanikin & Oyedapo, 2017, p.

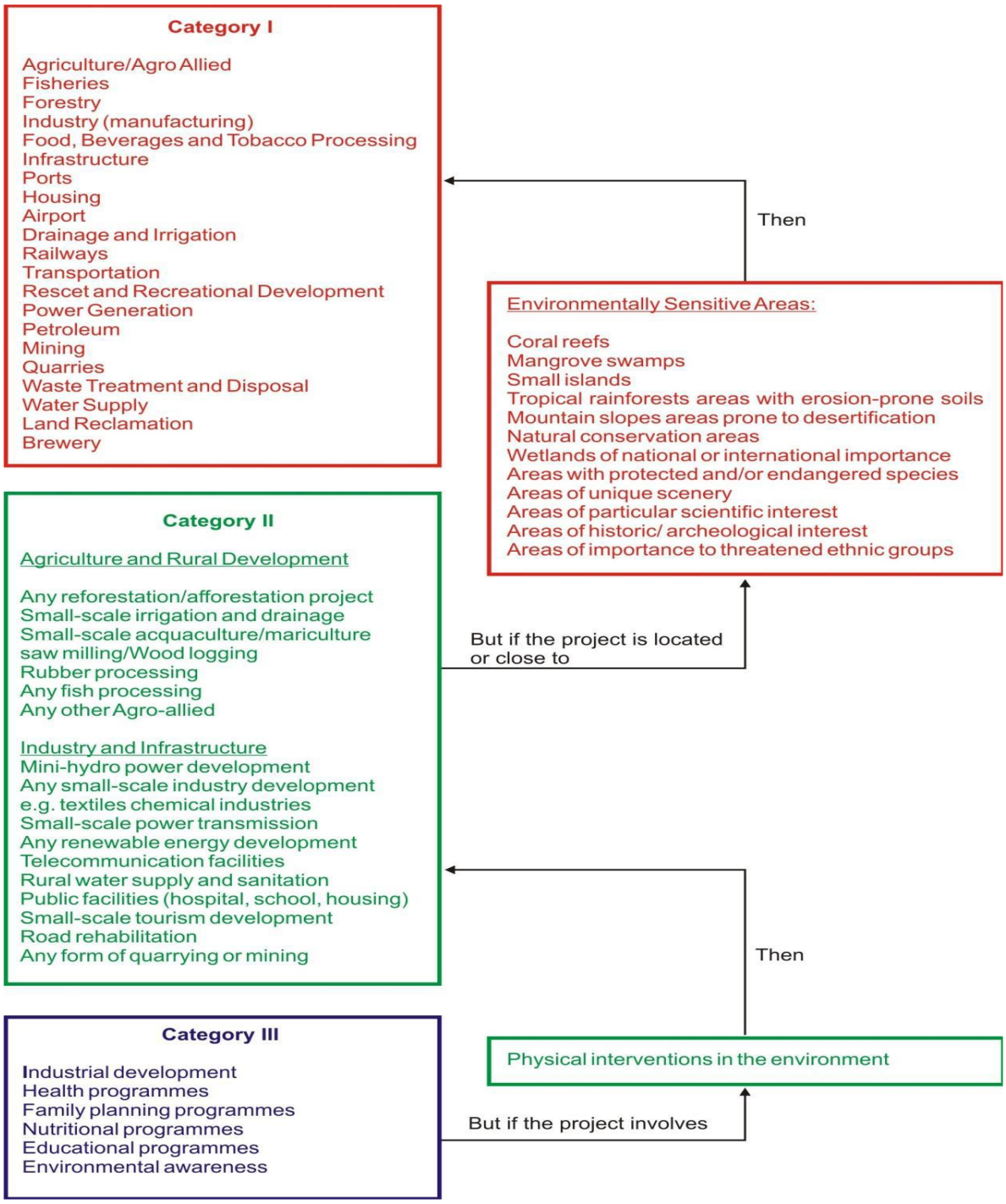
Concept and the Process of EIA in Nigeria

EIA encompasses various definitions that may differ among organizations, each having its own specific criteria for addressing and mitigating the environmental impacts resulting from development projects. In general, EIA plays a vital role in identifying and predicting the environmental impacts associated with development projects. It serves as a well-established tool for striking a balance between developmental activities and potential environmental degradation (Wathern, 2013). EIA has gained global acceptance and is implemented as a legal framework in numerous countries worldwide (Michael, 2012). The evolution of EIA has made significant contributions to environmental protection by monitoring development projects, enforcing environmental laws, and enhancing decision-making processes in various administrative spheres (Morgan, 2012). EIA serves multiple purposes, including providing decision-making support to prevent adverse impacts, considering alternative and mitigative measures, and controlling the negative environmental and social consequences of projects (Montarroyos et al., 2019).

The EIA Act in Nigeria requires mandatory EIA for projects with significant environmental effects, categorized as Category 1 (refer to figure 2.5). For Category 2 activities, a full EIA is not mandatory, (except when they are located within an Environmentally Sensitive Area). In

such cases, the individual or entity proposing the project, or an independent EIA consultant, provides a concise project description and location details to the appropriate regulatory body, such as the Ministry of Environment or Department of Petroleum Resources. After receiving the information, the regulatory agency assesses whether the project is anticipated to have a notable environmental impact according to screening guidelines. This assessment dictates whether a comprehensive EIA study and report are required. Concurrently, the regulatory agency commences a procedure to inform the public via newspapers and local municipalities, facilitating local and regional residents in sharing their perspectives. Public opinions must be taken into account when making the final determination regarding the likelihood of significant effects and the necessity for a comprehensive EIA study.

Figure 2.5 *Regulatory framework and EIA process in Nigeria*



Note: adapted from Isah, M. N. 2012, p44

The EIA process involves several essential stages, including screening, scoping, report preparation (which encompasses identifying impacts, considering alternatives, and proposing mitigation measures), public participation, review, decision-making, and monitoring. (Echefu

& Akpofure, 2002; Nwoko, 2013a; Olokesusi, 1998). A detailed overview of these processes can be found in Table 2.4 and Figure 2.5.

Table 2.4 *Summary of EIA process in Nigeria*

Procedure	**Explication**
Identifying and defining the project	The initial step of the process aims to clarify the project's nature and identifies the potential environmental impacts that may arise during and after its implementation. This stage holds significance as recognizing a problem is a crucial step towards finding a solution.
Projects screening	The EIA study begins with project screening to determine whether the projects necessitate an EIA. This determination is based on a predefined list of activities and projects known to have a significant environmental impact, which establishes whether EIA is required.
Scoping	During this stage, all potential impacts of the project are thoroughly identified and analyses. Public consultation plays a vital role in providing the public with a better understanding of the proposed project and allows them to express their views and opinions. It also serves to raise awareness about the impacts associated with the project and the proposed measures to mitigate those impacts.
Preparing terms of reference	During this stage, Terms of Reference (TOR) are developed to provide guidance for the preparation of the EIA. The TOR document is then made available for public review and comments, allowing for valuable input that can enhance the EIA process.
Preparation of draft EIA and review	This stage involves the preparation of a draft EIA report, commonly referred to as the Environmental Impact Statement (EIS). The EIS is developed in accordance with the TOR provided earlier, as well as the relevant EIA laws and regulations. Public consultation is an integral part of this stage, ensuring that the EIS reflects the input and perspectives gathered from the public.
Preparation of final EIA	During this stage, the final EIA report is generated. The report considers the identified impacts, viewpoints, and suggestions provided by the affected parties. Mitigative measures are incorporated within the report to address the identified impacts and ensure the sustainable management of the project or activity.
Decision	This stage involves the decision-making process to determine whether to approve or reject the implementation of the proposed project. The decision is primarily based on the findings and recommendations presented in the prepared EIA report. If further consideration is required, conditions may be outlined or adjustments to the project's scope or design may be necessary.
Project implementation	After adhering to the EIA process and obtaining the necessary approval or permit, the implementation of the project begins.

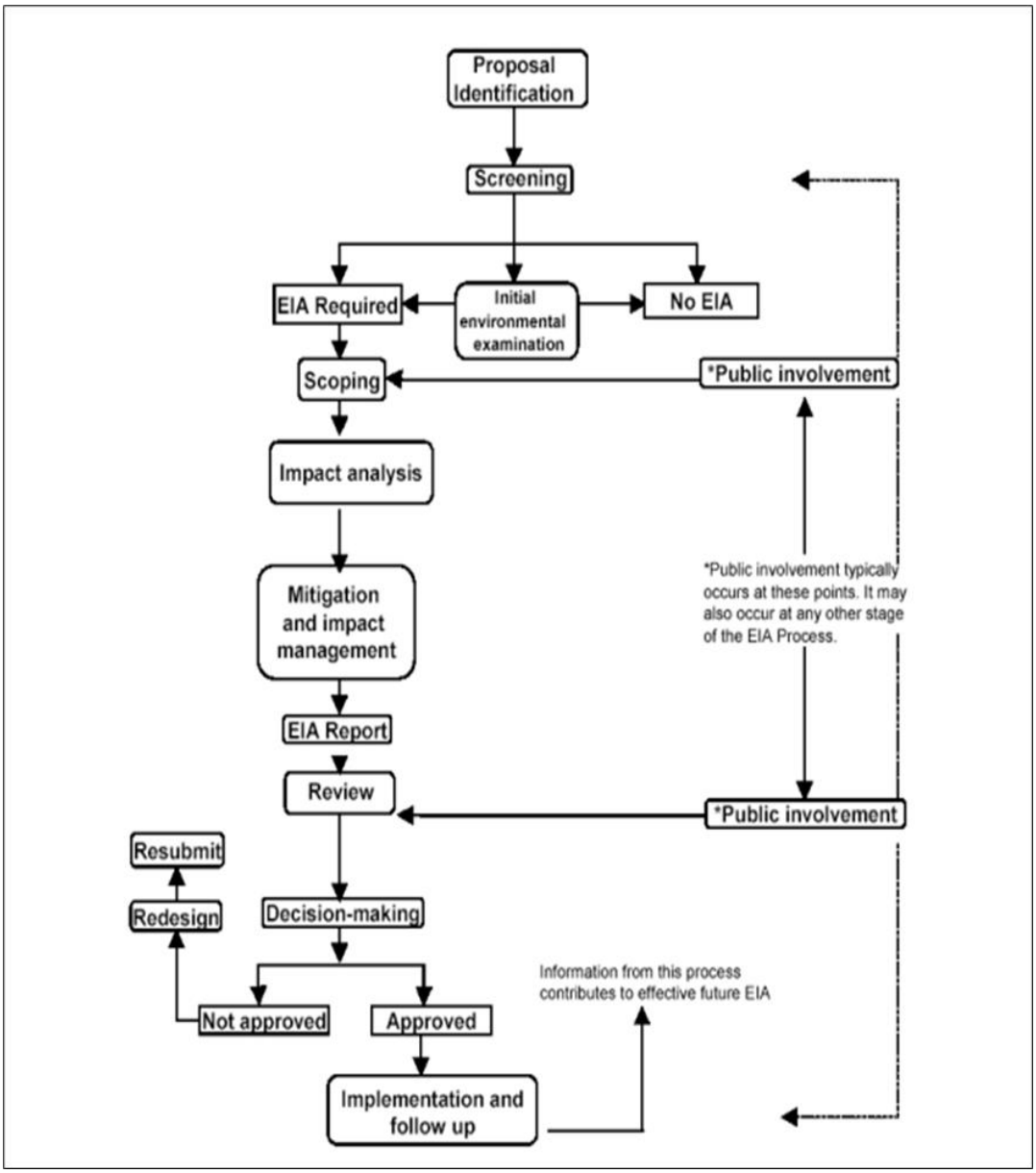
Monitoring	This stage entails ongoing monitoring and evaluation throughout the project implementation. It aims to ensure that the mitigative measures specified in the EIA report are effectively implemented, assess the effectiveness of these measures in achieving the intended outcomes, and verify the accuracy of the measures taken during the Impact Assessment Process. PP remains an essential component during this stage.

Note: Date from (Echefu & Akpofure, 2002; Nwoko, 2013a; Olokesusi, 1998).

Public engagement is obligatory during the scoping phase of the EIA process. The public is notified about upcoming EIA initiatives through press releases and announcements in local municipalities. They are encouraged to propose topics to be addressed in the EIA study and report. According to Section 25 of the EIA Act, interested members of the public are allowed to participate in the EIA review process by providing feedback on project reports displayed for public viewing. Typically, these exhibitions last for 21 working days at strategically chosen locations, with the display venues announced in national and relevant state newspapers and through additional announcements on state electronic media. Taking into account the perspectives of both competent authorities and the public at this stage ensures timely progress and enhances the overall quality and comprehensiveness of the final EIA report.

Subsequent to the public display process, the Federal Ministry of Environment may institute a review panel to evaluate the draft EIA report, considering the significance and sensitivity of the received comments. These review panel sessions are conducted openly, providing stakeholders with the opportunity to express their perspectives and concerns for deliberation. Environmental Impact Monitoring is implemented to supervise the execution of the Environmental Management Plan (EPM) and address issues during project operations. Its purpose is to gauge the adherence to commitments outlined in the EIA reports throughout the various stages of project development and operations. Impact Mitigation Monitoring activities are carried out to assess the effectiveness and extent of the proposed mitigation measures outlined in the EIA report.

Figure 2.6 *Generalised EIA process.*



Note. From Ogola, 2007

Environmental Regulation in Nigerian Developmental Projects

The origin of EIA policies and practices can be traced back to the 1960s, when concerns about the environmental impact of developmental activities emerged worldwide (Glasson & Therivel, 2013). Since then, EIA has been adopted globally, including in Nigeria, where EIA legislation has been implemented to address the environmental consequences of developmental activities and industrialization (Nwoko, 2013a). In Nigeria, the focus on environmental legislation initially aimed to reduce pollution from activities that had significant environmental impacts (Nwoko, 2013a). In 1991, the National Council on the Environment recognized the importance of EIA as a prerequisite for development activities

with potential environmental implications (Isah, 2012). Subsequently, the enactment of the EIA Decree No. 86 of 1992 made it mandatory for major projects, especially those with significant environmental and community impacts, to conduct EIA (Echefu & Akpofure, 2002; Nwoko, 2013a). Prior to this decree, project appraisals in Nigeria primarily focused on economic-cost analysis and feasibility studies, neglecting environmental and social impacts as well as public opinion (Onuora & Nnubia, 2021). Other regulatory frameworks relevant to EIA in Nigeria include the Town and Country Planning Decree 88 (1992) and the Petroleum Act (1969).

EIA and EIS Quality

The success of the EIA process relies, in part, on the quality of the EIS. The EIS, an integral component of the impact assessment process, serves as a crucial document that offers insights into the expected consequences of a proposed project or program, along with the accompanying measures to mitigate those impacts and an environmental management plan (Anifowose et al., 2016; Glasson & Therivel, 2019). Assessing the effectiveness of the EIA usually involves utilizing a review checklist to evaluate the quality of EISs, considering factors such as the adequacy of information provided and compliance with regulatory standards (Anifowose et al., 2016). These checklists have proven valuable in testing the quality of EISs and identifying trends in EIA excellence (Anifowose et al., 2016; Aung et al., 2019). Consequently, to effectively evaluate PP in environmental decision-making processes, the use of checklists becomes necessary in scrutinizing the quality of information presented in EISs for informed decision-making. Employing a systematic approach ensures that the review systems' integrity remains uncompromised (Anifowose et al., 2016; Fry & Scott, 2011).

Several review checklists have been previously developed to ensure quality assurance in EIA. Among these, the widely used ones are the Lee et al. (1999) checklist, the review packages developed by IAU and Oxford Brookes University (Glasson et al., 2005), and the checklist provided by the European Commission (EC, 2017). These review packages have commonly been applied in many sectors of the economy such as transportation, construction, energy, waste management, and port development to assess the effectiveness of EIAs (Badr et al., 2011; Kabir et al., 2010; Landim & Sánchez, 2012; Naser, 2015; Weston et al., 1997). However, some studies have devised their own criteria or checklists for evaluation (Clausen et al., 2011; Gallardo & Bond, 2011).

Nevertheless, these existing review packages have limited focus on the aspect of public consultation and participation. For instance, the Lee et al. (1999) checklist includes only six out of fifty-two criteria that evaluate evidence of good public consultation. Similarly, the IAU Oxford Brookes review checklist also lacks sufficient criteria to evaluate PP. Consequently, these checklists are insufficient for determining the quality of public engagement in development projects. There is a clear need to enhance these checklists to incorporate the requirements of effective PP. Consequently, their effectiveness is undermined as they fail to address crucial issues related to public consultation and the quality of information provided (Kamijo, 2017; Põder & Lukki, 2011). Moreover, prior research has emphasized the importance of public accountability in the environmental decision-making process (Kabir & Momtaz, 2012; Nadeem & Hameed, 2006; Peterson, 2010).

Additionally, the evaluation of EIS quality in Nigeria has received limited attention in existing literature (Anifowose et al., 2016; Okowa et al., 2021; Silas, 2013b) and even then these studies primarily concentrate on oil and gas projects. Silas (2013b) and Okowa et al. (2021) employed Smith's Model to assess the extent of PP in EIS. Smith's Model of PP (from 1984). It is a structure that delineates various tiers of public engagement in decision-making processes, especially within the realm of environmental management and policy formulation. The model categorizes PP into five levels, each representing varying degrees of citizen involvement. Using this model Silas analysed fifty-three EIA reports, with only four reports centred on road projects, making it challenging to generalize the findings. Anifowose et al. (2016) utilized a modified Lee and Colley evaluation checklist to evaluate the quality of EIS with emphases on project decommissioning.

However, there is a lack of studies systematically evaluating PP in EISs and comparing their effectiveness in the road, oil and gas, and energy sectors for comparative purposes in Nigeria. To address this gap, it is essential to develop an EIS quality review template that draws from the methodologies employed in previous quality assurance studies. This template will serve as a valuable tool to identify the strengths and weaknesses of EISs concerning public participation. Building upon the previous research conducted by Anifowose et al. (2016) and (Okowa et al., 2021), The study aim to provide further understandings into the effectiveness of EIA in Nigeria, with a specific focus on three different sectors of the Nigerian economy.

Summary and Conclusion of Literature Review

Chapter two presents a comprehensive overview of the gaps in existing literature, highlighting areas that have been identified as lacking or insufficiently explored. The subsequent chapters of this research aim to address and bridge these identified gaps through the study's methodology and analysis.

- PP quality is generally low on a global scale, with more pronounced problems evident in Asia, Africa, and Latin America. In the Nigerian context, a series of studies, such as , Kanu et al. (2018a), Ojobgo (2018), Echendu (2023) and Awhefeada et al. (2023) have underlined various deficiencies in PP, encompassing insufficient quality and ineffective engagement of the public and stakeholders in the EIA process. Moreover, Peterson (2022) corresponds with this viewpoint, emphasizing the existing deficiencies in PP implementation and stakeholder influence. These authors call for broader comprehensive research on EIA and SEA across various geographical and socio-political contexts, aiming to improve the mapping of participation and incorporate a broader range of evidence. This present research focuses on Abuja, Nigeria, chosen as a case study to represent the North Central region of the country. Within Abuja, the Federal Capital Territory is notable for its cultural diversity, encompassing a wide range of ethnic groups. Abuja stands out as one of Africa's rapidly expanding urban centres.
- Recent studies have scrutinized EIA practices, concentrating on the procedural aspects of environmental justice and the extent of participation processes (Dilay et al., 2020; Ocampo-Melgar et al., 2019). The outcomes of those studies have pinpointed a notable deficiency in EIA reports and an insufficiency of opportunities for PP, resulting in legal disputes. However, the number of publications investigating the quality assessment of EIA and PP in Nigeria remains limited. Notably, most of these studies primarily adopted qualitative methodologies and concentrate on oil and gas projects (Anifowose et al., 2016; Awhefeada et al., 2023; Echendu, 2023; Okowa et al., 2021; Silas, 2013b). Moreover, Ocampo-Melgar et al. (2019), advocate for the inclusion of surveys and qualitative techniques to gain fresh insights into PP experiences within the decision-making process. Motivated by this concern, the present study employs a mixed-method research design, facilitating an all-encompassing exploration of the subject matter from diverse viewpoints. The qualitative elements encompass document analysis and semi-structured interviews, while the

quantitative element entails a semi-structured questionnaire survey. By addressing these gaps, this study aims to make a valuable contribution to the assessment of PP effectiveness.

- The existing body of literature highlight that the research on EIA effectiveness falls short in delving into the multidimensional, transactive, and substantive aspects, particularly in the context of Africa and Nigeria in particular. Loomis and Dziedzic (2018), maintain that global research on EIA effectiveness predominantly centres around the procedural dimension, followed by substantive, transactive, and normative dimensions. Nonetheless, Nigerian research has disproportionately emphasized enhancing procedural elements, neglecting the crucial need for a comprehensive evaluation that encompasses the substantive, transactive, and normative dimensions. This review of literature underscores the necessity for holistic appraisals that integrate all dimensions of EIA effectiveness, particularly within Nigeria. In a related vein Okowa et al. (2021), highlight a continuing gap in the literature concerning evaluations that device the efficacy of PP based on the achievement of predefined objectives within the consultation process. This study seeks to evaluate the quality and effectiveness of PP in road infrastructure projects in Abuja, Nigeria, adopting a comprehensive four-dimensional approach.
- The existing literature highlights a lack of focus on public consultation and participation within current review packages for EIS, notably in cases like Lee et al. (1999) and IAU Oxford Brookes. Kamijo (2017) and Põder and Lukki (2011) highlight the deficiencies of these checklists in addressing critical aspects related to PP and information quality. It is imperative to enhance these checklists by integrating effective PP requirements. To address this gap, there is a need to develop an EIS quality review template, drawing upon methodologies from previous quality assurance studies. This template would analyse the strengths and weaknesses of EISs concerning PP. Building upon the previous research by Anifowose et al. (2016) and (Okowa et al., 2021), this study aims to delve deeper into the quality and effectiveness of EIS in Nigeria, with a specific emphasis on road projects and compare their relative effectiveness from the oil and gas and energy sectors for comparative purposes.

Chapter Three: Research Design and Methods

3.1. Introduction

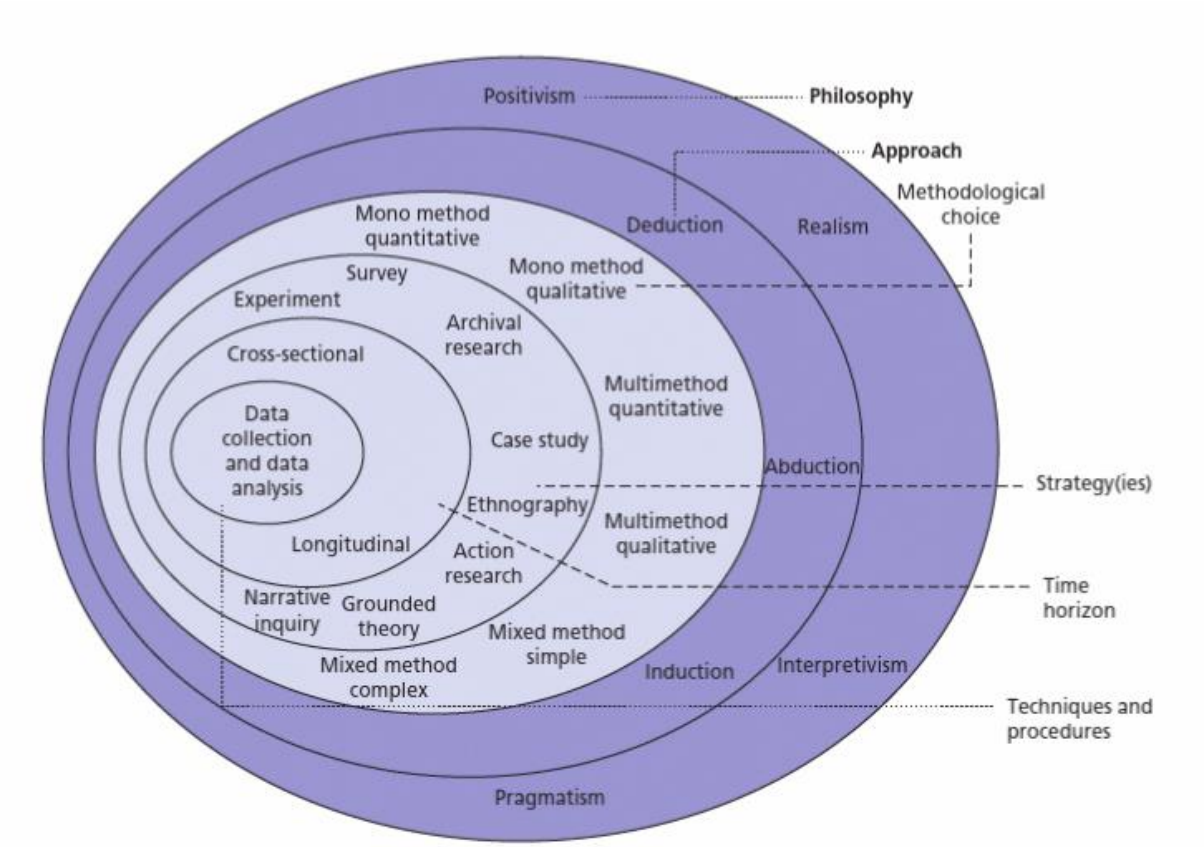
This chapter provides an overview of the methodological framework that governs the execution of this research, along with a justification of the chosen research philosophy. It encompasses a summary of the research study area, sampling techniques, data sources, research phases, and research approaches. Additionally, ethical considerations are discussed, along with an examination of the challenges encountered during the data collection process and their subsequent resolution.

Research Philosophy

As a foundational standpoint, research philosophies are vital in shaping assumptions and establishing foundational knowledge for research ideas. They provide researchers with a sense of direction to effectively address identified issues. The main research philosophies can be categorized into five components: positivism, critical realism, interpretivism, postmodernism, and pragmatism. These philosophies enable the evaluation of the chronological development of the research process and allow for a comparison with current real-life situations in the research field (Mackenzie & Knipe, 2006). Figure 3.1 illustrates the fundamental elements of the methodology process.

In terms of research assumptions, an ontological perspective plays a significant role. Ontology, a branch of philosophy, delves into the examination of the reality and essence of things, including the existence of beings (Marczyk et al., 2005). It also pertains to the nature of knowledge and what exists in real-world situations (Ormston et al., 2014). When considering the philosophical study of knowledge, this concept delves into how researchers understand knowledge (Scotland, 2012) while epistemology explores how individuals acquire true knowledge about something. Consequently, these two branches of philosophy are interconnected and work in tandem rather than being separate entities.

Figure 3.1 *Basic Elements of the Research Onion*



Note. Adapted From Saunders et al. (2012, p.128).

In academic research, the employed research philosophies can be classified into three categories: realism, interpretivism, and positivism (Kumar & Phrommathed, 2005). Realism focuses on scientific inquiry and examines the existence of phenomena in the research area. In contrast, interpretivism provides psychological interpretations of various facts and events occurring within the research domain (Creswell, 2018; Saunders et al., 2012). On the other hand, positivism, as described by Ormston et al. (2014), revolves around describing phenomena using scientific methods and presenting observable facts while providing justifications for them.

3.1.1. Justifications for Paradigm Choice (Pragmatism)

In this research, the chosen philosophical approach aligns with interpretivism principles derived from the existing research literature. The researcher aims to comprehend knowledge by valuing people's opinions and relying on participants' views and perspectives, which reflects the interpretivist standpoint. The ontological position acknowledges the existence of multiple realities within any inquiry, which are rooted in people's opinions, experiences, and practices. The pragmatic paradigm justifies a rationale for embracing mixed methods

research, allowing for the exploration of diverse assumptions, worldviews, and a variety of research techniques. From an epistemological perspective, the research assumes that understanding reality or truth can be attained through social interaction, which involves interpreting human actions (Mohajan, 2018; Rubin & Rubin, 2005). This approach facilitates the collaboration of various data collection methods and analytical tools (Creswell, 2014), with further elaboration in this chapter.

Study Area

Nigeria, situated in West Africa, lies between latitudes 4°N and 14°N of the Equator, and longitudes 2°20'E and 14°30'E of the Greenwich Meridian, encompassing an area of 7,754 km2. The population of Abuja, the capital city, totals approximately 3,277,740 individuals (Ihedike et al., 2023). At the heart (centre) of the country, the Federal Capital Territory of Abuja represents a diverse range of ethnic groups. Recognized as one of Africa's fastest-growing cities, Abuja was precisely planned to embody compatibility, decency, and beauty. However, the city is experiencing an escalating and uncontrollable pace of urbanization. In driving Nigerian economic growth, road construction projects hold great significance (refer to figure 2.4 in chapter two). As the capital city, Abuja boasts a substantial number of road projects compared to other urban areas. The expansion of the road network in Abuja has generated public attention, making it an ideal focus for this research.

Consequently, this study has selected three road projects within the five municipal areas of Abuja the purpose of research. These road projects span across five council areas and are federal roads that connect major cities, traversing multiple communities. More detailed information regarding these case studies can be found in Table 3.1 and Figure 3.2.

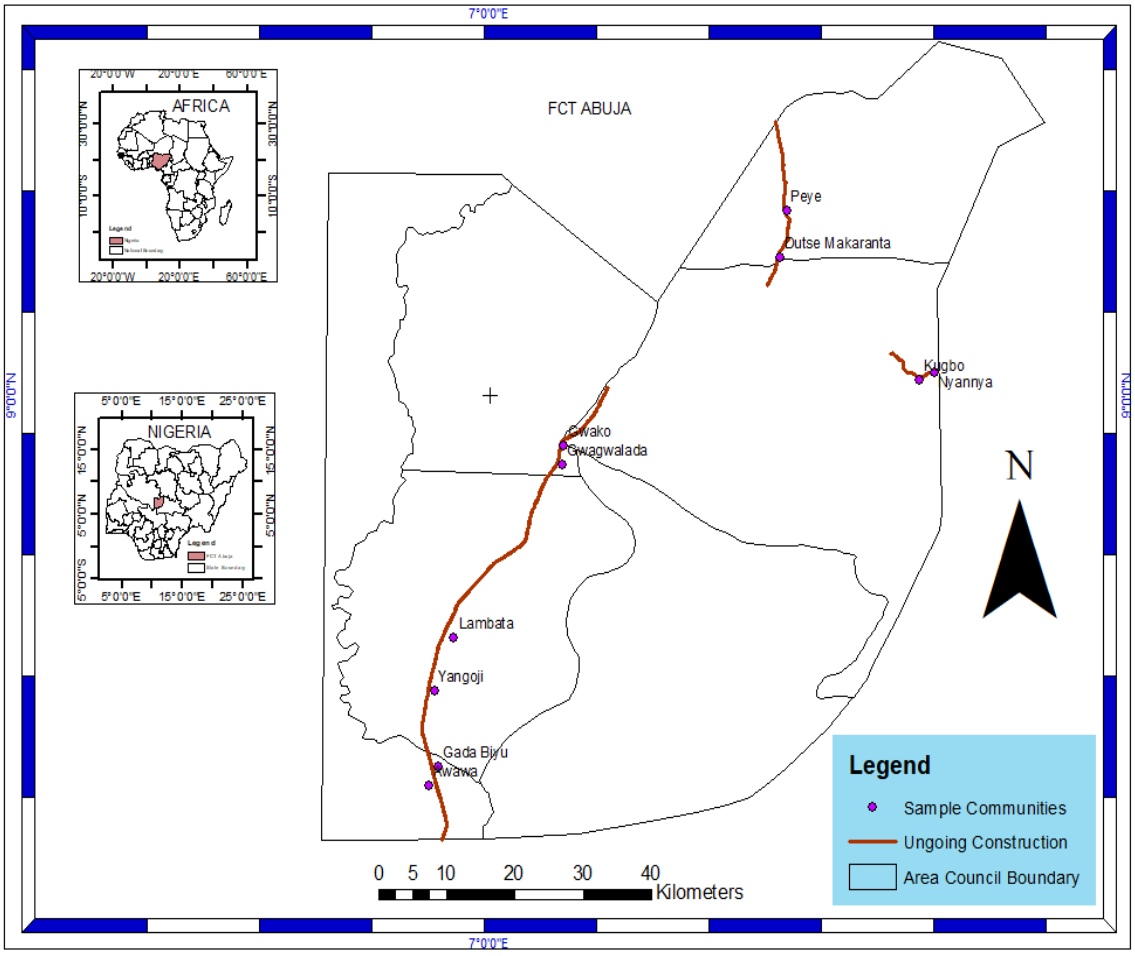
Table 3.1 *Selected Road projects from different council areas*

S/No	Project Title and Type	Communities Served	Location	Length KM	Linkages
1	Dualization Abuja-Lokoja Road, Sect IV	Communities of Gwagwalada, Kwali and Abaji area councils	FCT	42.15	The road serves as a vital link between Abuja and Kogi State
2	Rehabilitation of Nasarawa-Toto-Abaji Road	Communities of Abuja municipal area council	FCT	49.36	The road connects Abuja and Nasarawa State

3	Dualization of Abuja – Kaduna Road	Communities of Bwari area council	FCT	98	The road serves as a vital connection between Abuja and Kaduna State

Note. Authors own.

Figure 3.2 *Map of Abuja showing roads under construction.*



Note: Author's image

Research Design and Research Setting

This study primarily adopts a case study approach as its focal point. Dooley (2002), defines the case study approach as a method that enables an in-depth examination of a specific case, finding scientific facts that may not have been previously identified in existing research. Similarly, according to Newing (2010), a case study involves a thorough description and understanding of a particular case or phenomenon. This research design addresses the "Why" and "How" questions, offering valuable insights.

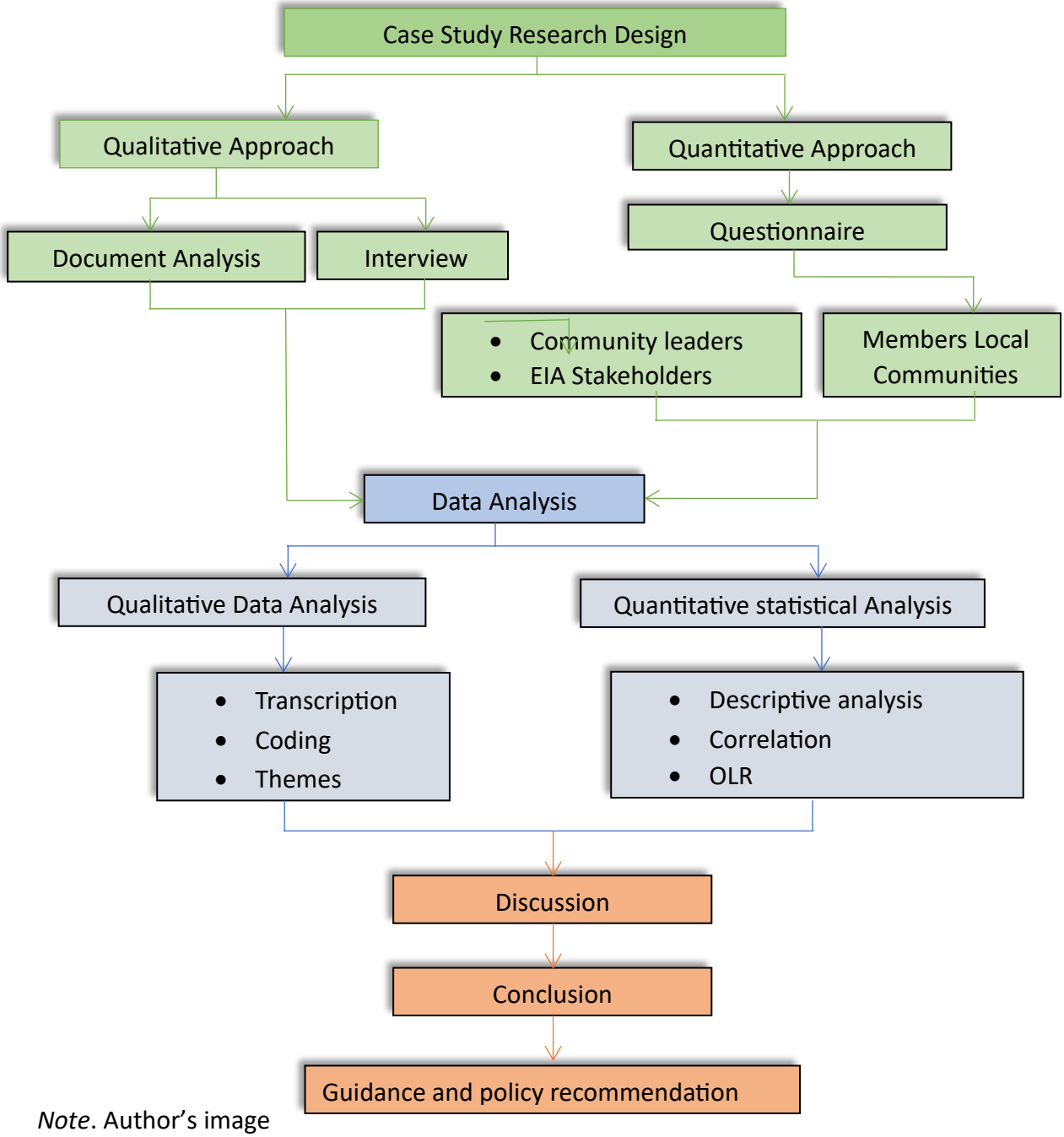
Case study research offers distinct advantages over other techniques, as it allows researchers to carefully select various instruments to gather sufficient data for a comprehensive and in-depth understanding of the phenomenon under study (Rowley, 2002). It is particularly useful for exploring areas that have been poorly researched or require a profound understanding (Rowley, 2002). Through the selection of single or multiple cases as subjects or units of study (Meyer, 2001). Researchers in the field of EIA have extensively utilized this technique to assess PP in EIA and SEA (Aung et al., 2019; Cape et al., 2018; Dal Molin, 2021; Dilay et al., 2020; Gutierrez et al., 2023; Hasan et al., 2018; Kolhoff et al., 2016; Nadeem & Fischer, 2011). The case study approach offers a detailed examination of both positive and negative practices, as well as the success or failure of a phenomenon, organization, or specific case (Dooley, 2002). It sheds light on issues that may not receive adequate emphasis through other research approaches (Rowley, 2002), and allows for the utilization of multiple methods and techniques (Dooley, 2002).

In the field of EIA and PP in decision-making processes, researchers have employed various approaches. Some have utilized qualitative methods to investigate the effectiveness of EIA and PP, as seen in the studies (Badr, 2009; Cape et al., 2018; Dilay et al., 2020; Erfani & Roe, 2020; Gulakov & Vanclay, 2019; Hostovsky et al., 2010; Khosravi et al., 2019b; Wang et al., 2016). Others have adopted a quantitative approach for similar studies, as observed in the works of Brombal et al. (2017) and Gallardo and Bond (2011). Additionally, some researchers have employed the case study approach to assess the effectiveness of EIA in environmental decision-making, as demonstrated by Cape et al. (2018), Hasan et al. (2018), Kolhoff et al. (2016) and Nadeem and Fischer (2011). Hence, this study employs a case study approach to facilitate an in-depth understanding of the effectiveness of PP within the four conceptualizations of EIA practices in Nigeria. It allows for a comprehensive exploration of the topic and provides valuable insights into the research area.

A combination of qualitative and quantitative methods was employed to collect and analyse data. The decision to use a mixed-method approach was based on a review of similar research approaches. Ocampo-Melgar et al. (2019) assessed PP practices through a review approach. Nevertheless, the study recommends integrating surveys and qualitative techniques to gather fresh perceptions on PP's practice in the decision-making process. The mixed-method research design was chosen as it offers a comprehensive and enhanced understanding of the

phenomenon being studied (Creswell, 2012). This approach allows for the integration and cross-validation of findings from both qualitative and quantitative approaches (Tashakkori & Teddlie, 2010), thereby enriching the overall research outcomes. Figure 3.3 illustrates the methodological flow chart for this study. The process adheres to a direct and sequential progression without involving feedback loops, strictly following a linear path.

Figure 3.3 *Methodological flow chart.*



Note. Author's image

3.1.1. Research Phases

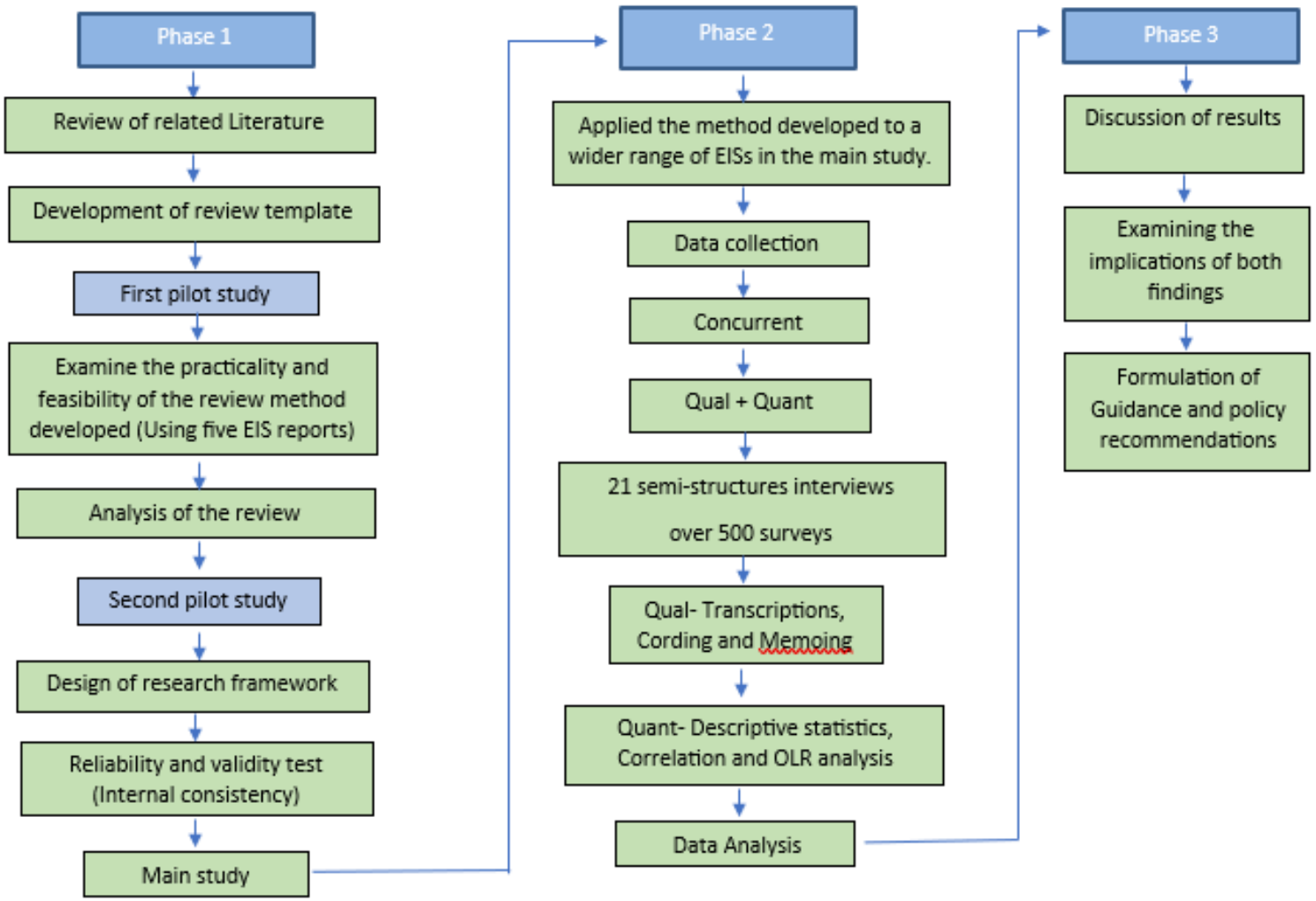
The research was conducted in three distinct phases. Phase I involves several key activities. Firstly, a comprehensive literature review was conducted to establish the research scope and inform the project's terms of reference, proposed methods, and research framework. Additionally, this phase entailed the development of a method for reviewing and evaluating EIS from the perspective of PP. Furthermore, a pilot study was conducted during the first year of the Ph.D. program. The purpose of EIS review was twofold: to assess the quality of information provided in environmental decision-making processes and to ascertain the position of PP in road infrastructure projects. To facilitate this evaluation, a customized EIS quality review model was created. The review process provided valuable insights into the practice of EIA relevant to the phenomenon under investigation (Cashmore & Axelsson, 2013; Heinma & Põder, 2010).

Phase 2 of the research was conducted in the second year of the study, involving the collection of both qualitative and quantitative data in Nigeria concurrently to achieve the research objectives. Building upon the method used in the pilot study, the researcher applied the same approach to a broader range of EIA reports. The findings from the review were carefully analysed, and a paper on the EIS review was drafted and submitted for publication. Moreover, the data collection process involved obtaining responses from more than 500 respondents across ten study areas in Abuja. Additionally, 21 interviews were conducted with stakeholders, including government agencies, non-governmental organizations, community leaders, and community-based organizations. The collected data underwent initial analysis utilizing software tools such as SPSS and NVivo for data analysis. Furthermore, part of the interview results was presented at the IPGRC 2022 conference and subsequently publicized in 2023 to ensure wider dissemination of the findings.

Phase 3 served as the final stage of the Ph.D. research. During this phase, the researcher performed a rigorous analysis of the data collected through both qualitative and quantitative approaches, carefully examining the implications of the findings. Based on the research findings, valuable guidance and policy recommendations were formulated for policy makers and stakeholders involved in EIA. These recommendations aim to inform and guide decision-making processes to enhance the effectiveness and quality of EIA practices. Figure 3.4

presents a summary of the research phase, visually outlining the key components and progression of the study.

Figure 3.4 *Summary of Research Phase*



Data Generation and Sources

In a case study research design, various instruments utilized in both qualitative and quantitative research can be employed to gather necessary data within a single study (Rowley, 2002; Yin, 1981).Thus, this research has implemented a concurrent triangulation mixed-method research design to enable an examination of the phenomena under study from different perspectives. The qualitative components consist of document analysis and semi-structured interviews, while the quantitative component entails a semi-structured questionnaire survey. These choices align with the recommendations found in the literature on case study design (Meyer, 2001; Rowley, 2002; Yin, 1981). Table 3.2 provides a summary of the suitability of methods and the anticipated data collection periods based on the research objectives.

Table 3.2 *Suitable Methods and expected time of data collection based on research objectives.*

S/N	Research Objectives	Suitable Method	Approach	Expected Time
1	To identify the extent to which policies and guidelines are followed for environmental decision-making, and to determine the actual practice and position of public engagement in road projects within the Nigerian context	Document analysis	Review of Environmental Statement Reports (EIS)	March – June 2021
2	To assess the extent to which the participatory process mitigates negative environmental effects of road projects, and how wider EIA policy objectives are achieved, such as environmental sustainability, and economically and socially acceptable proposals.	Questionnaire and interviews	Face-face interviews, Online interviews and Mobile data collection	Sep 2021 – Feb 2022
3	To analyse the stakeholder perception of public participation in EIA decision-making processes on the wider goal and policy achievements (social and individual norms), the extent of influence, and democratic capacity	Questionnaire and interviews	Face-face interviews, Online interviews and Mobile data collection	Sep 2021 – Feb 2022
4	To evaluate the factors influencing public participation in the road project EIA process in Nigeria, focusing on clarity of stakeholder role in the EIA	Questionnaire and interviews	Face-face interviews, Online interviews and	Sep 2021 – Feb 2022

	process, timing, and the capacity of partnership in the decision-making process		Mobile data collection	

Note: (Authors own)

3.1.1. Document Analysis of Environmental Impact Reports

Document analysis serves as a valuable qualitative research instrument employed in data collection for both qualitative and case study designs (Rowley, 2002; Yin, 1994). It involves a process where researchers study documents or reports to gain understanding, generalize findings, and support further analysis (Neuman, 2007). In this study, a customized review template was developed as an evaluation framework, adhering to national and international standards and good practice guidelines for conducting EIS reviews. This checklist provided a structured framework for interpreting the information presented in the EIS reports, assessing the quality and completeness of the information provided. It guided the reviewer in forming judgments regarding the position and quality of public PP in EIA for road infrastructure projects. Consequently, EIS reports were collected, critically reviewed, and conclusions were drawn regarding the adequacy of their contents in relation to PP in EIA, particularly focusing on the procedural effectiveness dimension.

3.1.1.1. Environmental Impact Statement Review Methods

The revised review checklist was developed by adapting a modified version of the Lee et al. (1999) framework. This study aimed to incorporate criteria that reflect the best practices outlined in the EU Directive 2011/92/EU, as amended by 2014/52/EU (Glasson & Therivel, 2019) and the requirements stated in Environment and Social Standard 10 (ESS10) of the World Bank Environment and Social Frameworks (Safeguard, 2018). Additionally, the compliance guidelines outlined in Nigeria's Federal Ministry of Environment (FME) EIA Decree 86 of 1992, as amended in 2010, were considered to ensure that the review adequately addressed issues of significant importance regarding public involvement in environmental decision-making in Nigeria.

The primary objective behind the development of the modified EIS review checklist was to provide reviewers with a tool to assess the quality of PP in EIS. To address the identified limitations and enhance the specificity of the review process, various modifications were made, and additional criteria were incorporated. This study introduced a new review area, namely stakeholder engagement and information disclosure, which encompassed five additional review categories (5.1 - 5.5). Furthermore, a new review category (3.4) focusing on

commitment to grievance mechanisms, consisting of review sub-categories 3.4.1 - 3.4.4, was introduced. These modifications have been summarized in Table 3.3. The utilization of the new EIS review checklist was implemented for the following reasons:

- To provide reviewers with a structured framework for interpreting the information presented in the EIS.
- To evaluate the comprehensiveness and quality of information, as well as adherence to best practices in PP.
- To make an overall judgment on the position of PP within the EIS or EIA Reports.

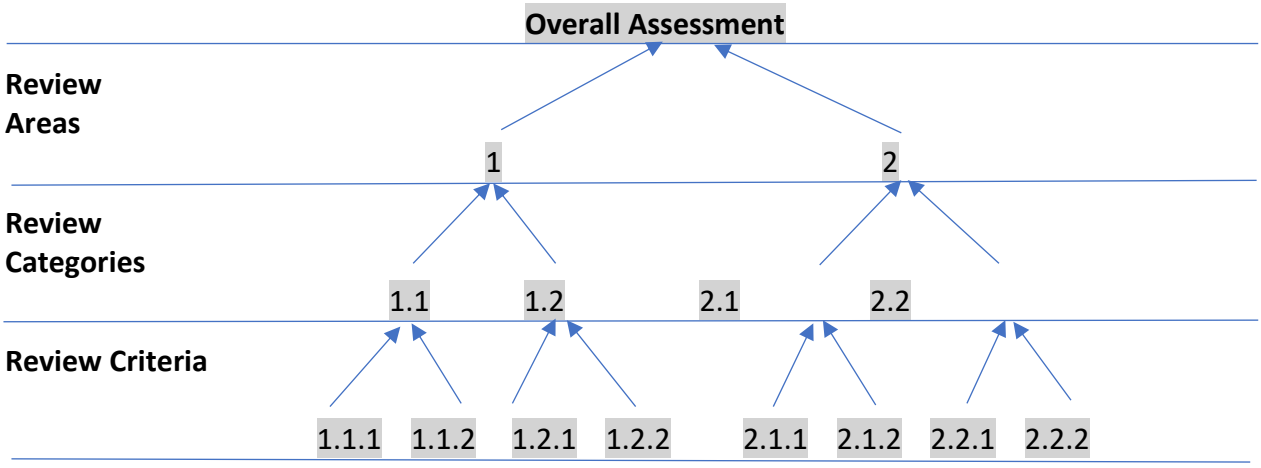
Table 3.3 *Summary of modification to the Lee and Colley review criteria as adopted in this research.*

NO	**Review Topics and others**	**Key Differences**		**Modification with reference to Lee et al (1999)**
		Lee et al. (1999)	As adapted in this research	
1	Grading system of the review topics	A to F and NA	Retained	NA
2	Number of review areas (RA)	4	5	5
3	Number of review categories (RC)	17	24	3.4, 3.5, 5.1, 5.2, 5.3, 5.4 and 5.5
4	Number of review criteria (RC)	52	72	3.4.1-3.4.4, 3.5.1, 3.5.2, 5.1.1-5.1.3, 5.2.1-5.2.5, 5.3.1-5.3.5, 5.4.1-5.4.3, 5.5.1 and 5.5.2

Note: (Authors own)

The foundation of this study's concept relied upon the hierarchical pyramid structure and assessment symbols established by Lee et al. (1999), chosen for its extensive scope and international recognition (Anifowose et al., 2016; Aung et al., 2019; Barker & Jones, 2013). This hierarchy encompasses four levels: overall assessment, review areas, review categories, and review criteria, as depicted in Figure 3.5.

Figure 3.5 *Schematic diagram of assessment procedure of an EIS*



Note. Adapted Lee et al. (1999)

Questionnaire Survey

The questionnaire surveys utilized in this study serves as a valuable tool for data collection and is widely employed in environmental and social science research (Creswell, 2012). This instrument enables the collection of data pertaining to individuals' perceptions, beliefs, attitudes, knowledge, and behaviour (Cohen et al., 2013). Primarily employed in quantitative or case study research designs, the questionnaire is a quantitative research instrument (Dooley, 2002; Yin, 1981). In this research, a specifically designed questionnaire was developed, to collect information from a targeted group. The survey aims to systematically collect data and insights from individuals within the public who have been impacted by the projects, with the goal of comprehending their opinions on the PP practice in EIA. The questionnaire was administered through face-to-face self-administration, employing mobile data collection methods due to the unreliable postal services in the study areas. The questionnaire survey was employed to accomplish objectives 1, 2, 3, and 4 of the research.

3.1.1.2. Survey design

The survey was developed by incorporating criteria from relevant literature sources. It consisted of two sections. Section one focused on gathering information about the respondent's profile, including participation consent, project location area, participation capacity, gender, age group, occupation, and qualifications.

Section two was further divided into sub-categories, each addressing a specific dimension of PP effectiveness. Sub-category 1 examined procedural effectiveness (practical compliance) using 15 items to explore topics on engagement and consultation techniques, accessibility of information and disclosure, and notification processes. Sub-category 2 assessed substantive

effectiveness (transformative performance) using 9 items to investigate the achievement of broader PP policy objectives, including environmental sustainability, social and economic benefits, and mitigation of impacts. Sub-category 3 delved into normative effectiveness (achievement of purpose) using 9 items to explore issues related to EIA goal and policy attainment, such as influencing decision-making processes and democratic capacity. Lastly, a sub-category focused on transactive effectiveness (efficiency of the process) used 9 items to assess stakeholder role clarity, partnership capacity, and timing. (Please refer to Appendix 1.2 for details).

Close-ended questions, known for their ease of response and lower non-response rates (Ruane, 2011), were employed in the survey. The questionnaire was developed through a literature review-based approach, which involved a comprehensive examination of existing material relevant to the research topic. Questions were adapted and refined based on insights and findings from prior studies. Criteria utilized by Zhou et al. (2019), Nadeem and Fischer (2011), Brombal et al. (2017) and (Erkul et al., 2016) were integrated into the design of the research questionnaire. The items were assessed utilizing a five-point Likert scale, spanning from 1 (strongly disagree) to 5 (strongly agree). Please refer to Table 3.4 for an overview of the survey sections.

Table 3.4 *Questionnaire section and description*

Effectiveness Dimension	Section	Description
Procedural effectiveness (practice)	Consultation techniques, access to information, and notification processes	This section consists of 15 questions aimed at assessing the actual practices and the level to which policies and guidelines are adhered to in the environmental decision-making process (procedural outcome)
Substantive effectiveness (performance)	Sustainability, mitigation of impact, and economic and social benefits	This section consists of 9 questions specifically designed to evaluate the extent to which the participatory process contributes to the mitigation of negative environmental impacts and achieves the objectives of the PP policy, as well as substantial benefits in terms of project output (Substantive outcome)
Normative effectiveness (Purpose)	Public participation goal and policy achievement	This section consists of 9 questions formulated to assess the achievement of broader EIA policy objectives and the level of influence on decision-making processes and democratic capacity (Normative outcome)

Transactive effectiveness (proficiency)	Clarity of stakeholder role, the capacity of partnership, and timing	This section encompasses 9 questions that have been formulated to evaluate the extent to which broader EIA policy objectives are achieved and the level of influence on decision-making processes and democratic capacity (Normative outcome)

Note: (Authors own)

3.1.1.3. Survey Distribution

The questionnaire surveys were conducted using mobile data collection methodology. An online survey builder was created using KOBO TOOLBOX, and the survey link was made available on September 12th, 2021. Mobile data collection offers several advantages over traditional paper-based questionnaires, especially in areas with security concerns. The online approach is faster, more efficient, secure, and reliable, allowing for easy data exportation for analysis purposes (Birmingham & Wilkinson, 2003). Users can access the survey forms offline, enabling data collection in the field using mobile devices. The collected data is synchronized when connected to the internet and stored instantly in a centralized database.

The survey was open for 8 weeks, allowing the researchers to achieve the desired sample size of 384 participants. Consent was obtained from each participant before their inclusion in the research, and the selection process involved 10 communities chosen for the study.

Figure 3.6 *Concept of mobile data collection.*

Note: (Authors own)

Semi-Structured Interviews

The interview approach serves as a qualitative research instrument commonly employed to collect primary data (Rowley, 2002; Yin, 1994). It has been recognized as a flexible technique for data collection (Kallio et al., 2016), and involves direct verbal communication between the researcher and the subjects (Punch & Oancea, 2014). Interviews are regarded as a powerful research tool for uncovering the truth, providing a clear and comprehensive understanding of the phenomenon being studied (Ruane, 2011). They offer an opportunity to gain in-depth insights into a specific case, phenomenon, subject, or unit (Harvey-Jordan & Long, 2001). Unlike questionnaires that have limited answer options, interviews allow respondents to provide extensive explanations, making them particularly suitable for exploring complex and

profound research topics (Myers & Newman, 2007). Moreover, interviews are effective in obtaining responses about complex and deep issues in research (Louis et al, .2007).

In this study, semi-structured interviews have been conducted to gain a comprehensive understanding of PP in the EIA process and practices in Nigeria. This technique enables the exploration of participants' perceptions, attitudes, and experiences, while also facilitating the generation of ideas to inform potential changes or the development of new practices (Harvey-Jordan & Long, 2001). An interview guide was prepared, encompassing key research issues, and further questions were made based on the responses provided by each interviewee, accompanied by additional follow-up questions (Newing, 2010). Semi-structured interviews were conducted with the identified target stakeholders, as presented in Table 3.5. The objective of these interviews is to identify key issues related to PP in environmental decision-making processes.

Table 3.5 *Stakeholder's role and their interest in decision-making process*

	Target Group for Interview	**Stakeholder Role in EIA**	**Stakeholder Interest in Decision Making**
1.	Federal Ministry of Environment	Planning and permission	To ensure adherence to pertinent laws and regulations while promoting environmental sustainability
2.	National Environmental Standards and Regulations Enforcement Agency (NESREA)	Compliance, monitoring, and enforcement	Ensure cleaner and heathier environment
3.	Community leaders	Community development agreements	Stakeholder interest encompass the protection of life, safeguarding public interest, and fostering economic benefits.
4.	Non-governmental organizations (NGOs)	Social advocacy, monitoring, and human right work, reporting and promoting citizens participation	Their interest includes the protection of life, preservation of public interest, promotion of economic benefits, and influencing environmental policies.
5.	EIA Consultants	Expert assessment, advisory services for their clients and justification of the findings in the EIA and EMP during the meeting with the expert groups	Ensuring that all relevant stakeholders, including government departments with jurisdiction over various aspects of activities, are provided with the chance to engage in the appropriate procedures

Note: Data from Ladan, (2012)

The interview guide consists of three sections. The first section serves as an introduction to familiarize the participant with the project's background. The second section encompasses questions related to EIA practices, performance, purpose, and expertise. The third section collects background information about the interviewee (please refer to Appendix 1.3 for further details).

3.1.1.4. Participant's Access

Semi-structured interviews were carried out with diverse stakeholders engaged in EIA. Interviews facilitated direct verbal communication between the participants and the researcher (Punch & Oancea, 2014), with the aim of exploring key issues related to PP. The initial participants were identified through personal contacts with practitioners responsible for EIA planning and implementation in Nigeria. Additional participants were recruited using a snowball sampling technique through these personal contacts. This technique involves the researcher approaching initial study participants and then requesting them to identify and approach other potential participants who fulfil the research's sampling eligibility criteria (Radhakrishnan, 2014; Singh, 2007). Information sheets and consent forms were sent to 25 participants to obtain their informed consent, ensuring they were provided with the consent form and Participant Information Sheet (refer to Appendix 1.4 and 1.5).

Out of the 25 participants, 21 filled out the consent form and suggested suitable times for the interviews. Face-to-face interviews were held with community leaders and Federal Ministry of Environment staffs, while the remaining interviews were conducted via telephone with other stakeholders. The list of scheduled interviews and participants' details can be found in Table 3.6. In total, 21 interviews were conducted, with 8 conducted face-to-face and 13 conducted via direct phone calls and WhatsApp calls. However, some phone call interviews had to be rescheduled as some participants did not attend as planned.

Table 3.6 *Interviews schedule details*

S/No	Target group	Position	Types of interviews	Date	Time	Duration
Community Leaders						
1	Awawa	Community leader	Face-face	16/Sep/21	16:12	43:20
2	Yankoji	Community leader	Face-face	16/Sep/21	12:17	28:43
3	Gwagwalada	Community leader	Face-face	21/Sep/21	13:23	21:15
4	Dutse Makaranta	Community leader	Face-face	23/Sep/21	12:17	18:43

5	Yankoji	Community leader	Face-face	25/Sep/21	11:45	25:16
EIA Consultant						
6	Consultant	Managing director	Phone call	24/Sep/21	10:11	51:49
7	Consultant	Chief executive officer	Phone call	30/Oct/21	10:31	25:11
8	Consultant	Chief executive officer	Phone call	14/Nov/21	10:09	37:00
9	Consultant	Managing director	Phone call	20/Sep/21	11:25	32:55
Government Agencies						
10	FMEV	Assistant director (EA department)	Face-face	18/Nov/21	11:50	28:28
11	FMEV	Director (EA department)	Face-face	18/Nov/21	13:32	28:23
12	FMEV	Chief scientist officer	Face-face	19/Nov/21	11:25	33:18
13	FMEV	Field officer	Phone call	22/May/22	14:00	21:18
14	FMEV	Assistant director	Phone call	03/June/22	13:25	32:17
15	NESREA	Enforcement officer	Phone call	19/Nov/21	19:17	48:53
16	NESREA	Zonal officer	Phone call	16/Nov/21	13:05	22:00
17	NESREA	Zonal officer	Phone call	15/May/22	14:00	32:00
NGO Group						
18	NGOs	Field staff manager	Phone call	11/Nov/21	16:32	37:50
19	NGOs	Public relation officer	Phone call	04/Nov/21	15:30	32:43
20	NGOs	Public relation officer	Phone call	06/June/22	11:30	21:43
21	NGOs	Environmental awareness officer	Phone call	08/June/22	16:00	19:43

Note: (Authors own)

Sampling Techniques and Study Population Sample

Sampling is the process of selecting a representative subset from a larger study population to gain insights into the characteristics or attributes of the entire area under investigation (Gentles et al., 2015). The sample size is crucial in influencing the generalizability of research findings. Data sampling can be broadly classified into two categories: probability sampling and nonprobability sampling (Chepp & Gray, 2014). Furthermore, Kumar (2011) introduces mixed sampling as a third technique, which combines elements of probability sampling where population attributes are defined, and every member has an equal probability of being chosen. For this study, a combination of four sampling techniques has been adopted. These techniques include purposive sampling, convenience sampling, stratified sampling and

snowballing sampling which were employed during the first and second phases of the research.

Purposive sampling: This type of sampling is commonly referred to as purposive sampling or judgmental sampling. Purposive sampling involves the researcher utilizing their specialized knowledge or expertise to select individuals who represent a specific population (Teddlie & Yu, 2007). Sometimes, purposive samples are chosen following field investigations on a particular group to ensure the inclusion of individuals with specific attributes or characteristics in the study. Purposive sampling is often employed to engage "knowledgeable people" Individuals with comprehensive knowledge in specific subjects, frequently attributed to their professional positions, influence, network accessibility, expertise, or practical experience (Serra et al., 2018). This method will be utilized in the study for selecting case studies and determining individual respondents to be included in the interviews.

Stratified random sampling also known as proportional or quota random sampling: It is a technique employed to guarantee that the chosen sample accurately reflects a population, taking into account specific traits, interests, or characteristics. (Radhakrishnan, 2014). This method entails segmenting the population into uniform subgroups or strata and subsequently selecting elements randomly from each subgroup (Marshall, 1996). This sampling method will also be used in the selection of case studies.

Convenience sampling: involves recruiting individuals who are easily accessible and willing to participate in the research as study participants. There are two types of convenient samples: captive and volunteer samples. Qualitative researchers often utilize voluntary samples, as they are more likely to participate when researchers require additional participants for their study (Radhakrishnan, 2014). In this study, convenience sampling will be employed to select survey participants.

Simple random sampling: This entails the random selection of participants from a study population, ensuring that each selection is made independently (Radhakrishnan, 2014; Teddlie & Yu, 2007). Every unit within the population has a recognized, non-zero likelihood of being chosen, signifying that each unit has an equal opportunity of selection. (Singh, 2007).

Snowball sampling, also known as network sampling: entails a researcher initially approaching study participants and then requesting them to identify and refer other potential

participants who meet the sampling criteria for the research (Radhakrishnan, 2014). This technique is commonly utilized in exploratory research studies or designs, particularly when researchers have limited prior information or leads (Singh, 2007). This sampling method will also be utilized in recruiting subsequent participants for interviews until saturation is achieved. A more detailed discussion of each of these aspects will follow in the next section.

Sampling of Case Studies

The case studies for this research were selected using a multi-stage sampling technique, combining two or three recommended sampling techniques (Hines et al., 2010). The first technique employed was purposive sampling, where specific case studies were chosen based on predetermined criteria used by Neuman (2007), and Nadeem and Fischer (2011). These criteria encompassed projects of national significance with public attention, projects affecting diverse socio-economic backgrounds and representing both rural and urban characteristics, and other factors such as size, characteristics, accessibility, and data availability. This technique allowed the researcher to use their knowledge and expertise in selecting suitable study sites (BL, 2001). In this study, three road projects across five council areas of Abuja were selected. These roads were federal roads, connecting major cities, and passing through multiple communities.

The second technique employed was stratified sampling, chosen due to the diversity and geographical coverage of the selected case studies (Bernard, 2006). Ten communities were randomly selected from the five council areas, with each community serving as a stratum. Participants were then recruited using convenience random techniques from each community, as recommended by (Hines et al., 2010) and (Newing, 2010). The names of the selected communities in each council area are presented in Table 3.7.

Table 3.7 *Selected communities within the five council areas.*

S/N	AREA COUNCILS	COMMUNITIES
1	Abaji Area Council	• Awawa • Gada Biyu
2	Abuja Municipal Council	• Kugbo • Nyannya
3	Bwari Area Council	• Dutse Makaranta • Payi
4	Gwagwalada Area Council	• Gwako

		• Gwagwalada
5	Kwali Area Council	• Yangoji • Lambata

Sampling for Qualitative Data collection (EIS Review)

In this research, a total of 30 EIS reports were selected from projects in Nigeria that required a comprehensive EIA. Among these, 15 reports were obtained from road development projects, 8 reports from oil and gas projects, and 7 reports from energy-related projects, as presented in Table 8.3. The sample selection process employed a multi-stage sampling technique, combining two or three sampling methods as recommended by Hines et al. (2010).

Convenience sampling was initially used to access EIS reports from the Federal Ministry of Environment (FMEN). This approach involves selecting subjects (in this case, EIS reports) based on their easy accessibility and availability at a given time (Etikan et al., 2016). The selection process adhered to specific criteria aligned with the research objectives, such as project type or group, year of submission, and project location. These are done to meet the specific need of the research, a sample of EIS reports submitted to the FMEN between 2005 and 2020 was selected. The sample size was approximately 10% of the estimated total submissions in each section (based on project type) during that period.

Table 3.8 *List of selected projects between (2005-2020) from three different sectors for EIS quality review in this study*

No	Projects Type	Projects Location	EIS submission date
1	Oil field development project	Bayelsa and Delta State	2005
2	Road dualization & rehabilitation	Delta, Bayelsa, & River states	2006
3	Gas development project	Edo and Delter State	2008
4	Road rehabilitation project	Lagos State	2009
5	Road rehabilitation projects	Adamawa State	2010
6	Power plant	Edo State	2012
7	New road construction projects	Anambra state	2013
8	Road rehabilitation project	Kano State	2013
9	New road construction projects	Kano State	2013
10	Gas development project	Rivers and Bayelsa States	2013
11	Power plant	Lagos State	2013
12	Dam rehabilitation	Zamfara State	2013
13	Hydro power plant	Ondo State	2013
14	Gas development project	Imo State	2015
15	Gas development project	Rivers State	2015

16	Solar power plant	Katsina State	2015
17	Oil field development project	Bayelsa State	2016
18	Oil field development project	Bayelsa State	2016
19	Dam rehabilitation	Oyo State	2016
20	Solar power plant	Bauchi State	2017
21	New road construction project	Nasarawa State	2018
22	Road rehabilitation	Ebonyi State	2018
23	New road construction project	Ondo State	2018
24	New road construction project	Abia State	2018
25	New road construction project	Cross river State	2018
26	New road construction project	Abia State	2018
27	Road rehabilitation project	Bauchi &Plateau State	2018
28	Road rehabilitation project	Imo State	2018
29	Road dualization & rehabilitation	River State	2020
30	Gas development project	Rivers and Abia States	2020

Note. Authors own.

Sampling for Qualitative Data collection (Interviews)

A combination of purposeful and snowball sampling techniques is employed to ensure the selection of a sample that will provide the most relevant answers to the research questions. With purposeful sampling, the researcher identifies key project stakeholders, and additional participants are then recruited through referrals (snowball sampling) from the initially selected stakeholders (Marshall, 1996). Purposeful sampling is particularly important for accessing knowledgeable individuals who possess in-depth understanding of the phenomenon under study due to their power, profession, and expertise (Punch & Oancea, 2014). Given the involvement of personnel from government and non-governmental organizations, employing this technique is crucial for this research. The criteria for selecting respondents were based on the aforementioned factors (see Table 3.9 for targeted stakeholders).

Table 3.9 *Sampling Technique and Target Population for Interview*

Sampling Technique	**Target Population**
Purposive sampling	i. Government agencies in-charge of EIA ii. Communities' leaders iii. EIA consultant iv. Non-governmental organizations

Research participant recruitment commenced with existing personal contacts, and additional participants were enlisted through the snowball sampling technique until saturation was reached, as recommended by Malterud et al. (2016). A total of 21 interviews were conducted

with participants who have knowledge and experience in EIA practice, including government officials, policymakers, and EIA practitioners.

Sampling for Quantitative Data Collection (Questionnaires)

Conducting the questionnaire survey in the study areas involved utilizing convenient sampling techniques. This method enables researchers to distribute the questionnaire to study participants who are readily available and willing to take part in the research as study participants. Following the selection of communities, the population of each community was projected to the year 2020. The sample size for the study was then determined and proportionally allocated based on the population of each community. This approach aimed to ensure sufficient representation of the communities and the population under study, following recommendations by Bernard (2006) and Newing et al. (2011).

The total projected population size for the study was determined to be 864,912, based on data obtained from the National Population Census conducted in 2006. A sample size of 384 respondents was selected, maintaining a confidence level of 95% and an error margin of 5%. The equation for determining the sample size, as proposed by Bernard (2006) and adopted from Newing et al. (2011), was employed. In this study, a sample size calculator available on a publicly accessible website for sample size calculation was utilized (refer to Table 3.10).

Table 3.10 *Online calculator for determining research sample size.*

Determine sample size	
Confidence level	95%
Confidence interval	5
Population	864,912
Sample size needed	384

Note. From http://www.surveysystem.com/sscalc.htm

Data Analysis

Data analysis involves the careful examination, refining, transforming, and modelling of data to extract meaningful insights. It aids researchers in drawing conclusions about the fundamental arguments underlying their study. Data analysis encompasses a range of techniques and methodologies, known by different names, that are applied in diverse domains such as business, science, and social sciences (Mirkin, 2010)

Analysis of Qualitative Data (EIS Review)

There are five review areas in the proposed review template, each consisting of a set of criteria to assess the completeness and the quality of the information in the EISs. Each criterion is assessed according to the quality of information presented in the EIS, and an overall grade is assigned to each section. To adapt the Lee et al. (1999) framework, the following method has been followed.

The proposed review template encompasses five review areas, each comprising a set of criteria designed to evaluate the comprehensiveness and quality of information within the EISs. The assessment of each criterion is based on the quality of information presented in the EIS, and an overall grade is assigned to each section. To align with the framework proposed by Lee et al. (1999), the following methodological approach has been adopted.

- Assessed and understood the structure of EISs reports of the developmental projects in Nigeria.
- Adapted, enhanced, and expanded the review areas, categories, and criteria, including the incorporation of new criteria to address stakeholder involvement, information disclosure, and commitment to grievance mechanisms. The introduction of a new review area focused on stakeholder involvement and information disclosure is crucial due to significant gaps identified in previous studies regarding PP and consultation in the EIA process, as well as the limited opportunities for stakeholder engagement, which have often led to legal disputes (Dilay et al., 2020; Silas, 2013a). Furthermore, the adoption of international best practices, such as the new World Bank Environment and Social Standard (ESS10), underscores the importance of robust public consultation in the environmental decision-making process (Jokubauskaite, 2019).
- Incorporated international best practices into the model, drawing from authoritative sources such as the World Bank Environment and Social Framework (WSF) (2018), Environment and Social Standards (ESS) Safeguards (2017), the EU
- EIA Directive 2014/52/EU, and the well-regarded EIA best practice criteria outlined by Sadler (1996).

- Harmonized the framework with the compliance guidelines stipulated by the Federal Ministry of Environment (FME) in Nigeria, specifically the EIA Decree 86 of 1992, as amended in 2010.
- Conducted a pilot application of the customized review template on five representative EIA reports in Nigeria and evaluated the findings.

During the review process of this research, each review criterion underwent independent evaluation by two reviewers as conceptualized by Lee et al. (1999). Based on the quality of information presented in the EIS, grades A, B, C, D, E, and F were assigned. EIS reports receiving grades A, B, or C were considered satisfactory, while grades D, E, or F indicated unsatisfactory performance, this grading concept and assessment procedures was adopted from a study by Lee et al. (1999) and (Anifowose et al., 2016). The review grades were consolidated and presented in Appendix 1.1 In order to determine the overall grade for each EIS, the two reviewers convened to address any significant disparities in their assessments at each review level.

The review topics were structured hierarchically into three levels. The overall quality of a review area is dependent on the quality of the corresponding review category, which in turn relies on the quality of the individual review criteria. The schematic diagram, depicted in Figure 3.5 of section 1.5.1.1 provides a visual framework for the reviewers to evaluate the quality of each review criterion within a specific category. Reports that meet the performance requirement of a C grade or above will be considered satisfactory, while those graded as D, E, or F will be deemed unsatisfactory.

Regarding compliance with the minimum requirements, the Nigeria EIA Act CAP E12 LFN 2004 outlines the essential content of an EIS, and these stipulations are considered in the formulation of the evaluation framework. However, adherence to EU Directives is viewed as supplementary information, underscoring Nigeria's commitment to upholding global best practices. Lee et al. (1999) and McMahon (1996) reported the minimum information that an EIS should contain, as specified in Article 5 of the 2011/92/EU. It is noteworthy that Article 5 (1) through Article 5(3) of the 2011/92/EU has been amended by EU Directive 2014/52/EU. In this research, adjustments were made, incorporating deletions and additions based on the revised version of the 2014 directives of Article 5 (Commission, 2017; Glasson & Therivel,

2019). A statement is deemed likely to comply with the minimum requirement if all review criteria are assessed as at least satisfactory (A, B, or C) or marked as not applicable (NA). The directive specifies the minimum information an EIS should contain, with 23 review sub-categories identified, each requiring a satisfactory grade (A, B, or C) or marked as not applicable (NA) (See Appendix 1.1).

Analysis of Qualitative Data (Interviews)

Interviews involve gathering information from one or more individuals regarding a specific issue or phenomenon (Boyce & Neale, 2006). Qualitative data obtained through interviews consists of subjective and detailed information, expressed in the form of words (Islam & Aldaihani, 2022; Saunders et al., 2018). Analysing qualitative data entails the interpretation of multiple transcripts to identify similarities or differences, uncover themes, and establish categories. According to Saunders et al. (2016), there is no standard approach to qualitative data analysis. In this study, NVIVO software was utilized for coding, allowing the creation of themes and the application of filters through nodes. Holton (2007) suggested that coding enables researchers to categorize data based on themes or ideas, leading to pattern identification and theory development.

To maintain focus on the research objectives, deductive coding was employed. Deductive coding, also referred to as concept-driven coding, entails the utilization of a predetermined set of codes that are applied to a qualitative dataset (Soiferman, 2010). This approach offers the benefit of time efficiency and provides researchers with assurance that their areas of interest are being coded. Nonetheless, a significant shortcoming with this technique is the potential for bias, as the predetermined codes may influence the anticipated outcomes (Auerbach & Silverstein, 2003; Patton, 2011). Initially, a set of primary themes was developed based on the research framework, and subsequently, these primary themes were further categorized into sub-themes relevant to the research objectives, which are crucial determinants of effectiveness dimensions. This process involved carefully reading the transcripts to identify data that aligned with the identified themes. More details can be found in chapter five.

Analysis of Quantitative Data (Questionnaires)

Quantitative data analysis typically employs statistical techniques to examine the data. Data sets that exhibit a normal distribution are analysed using parametric tests (Morgan et al.,

2019). such as t-Test, ANOVA, Pearson's coefficient, and Z test (Grech & Calleja, 2018). On the other hand, data sets that do not follow a normal distribution are analyzed using nonparametric tests (Morgan et al., 2019), such as chi-squared, Spearman's rho assessment, Mann Whitney, and Wilcoxon signed-rank test, as these data sets are unlikely to be normally distributed (Grech & Calleja, 2018; Sullivan & Artino Jr, 2013).

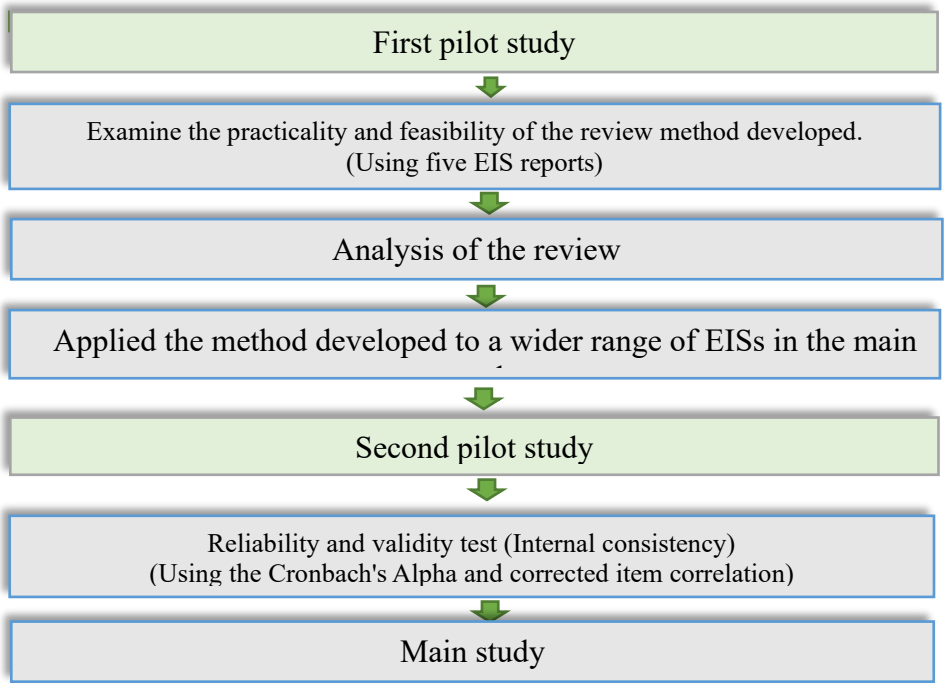
In this study, the mobile data collection tool, KOBO TOOLBOX was utilized, this offers the researcher the capability to export response data from surveys as a .sav file, which can be directly imported into the statistical analysis software IBM SPSS Statistics (Version 28) for analysis. This distinct feature of the survey tool enables both basic and advanced data analysis, including descriptive and inferential statistics. Before proceeding with the analysis, the collected data underwent a comprehensive examination to identify and eliminate illogical answers, missing values, and repetitive patterns. This crucial step aimed to minimize data discrepancies and ensure a smoother data analysis process (Brotherton, 2015). Subsequently, a series of statistical procedures were employed to extract relevant insights from the collected data.

The analysis encompassed various components, including descriptive statistics, reliability analysis, normality testing, and Ordinal logistic regression (OLR) exploring the relationship between satisfaction levels. Descriptive analysis involved assessing parameters such as frequencies, mean values, mode, and the Coefficient of Variation (CV) for each question related to effectiveness dimensions. Reliability analysis focused on evaluating the internal consistency of each scale question within the effectiveness dimensions section, as well as testing a single subscale, using the Cronbach's Alpha method. To perform the normality test, the scale questions underwent transformation and were computed using their mean numeric expressions before assessing the data distribution. In cases where the data was not normally distributed or involved Likert scale data, non-parametric tests were recommended by numerous statistical articles. (Leech & Onwuegbuzie, 2002; McSweeney & Katz, 1978; Morgan et al., 2019). Therefore, Ordinal Logistic Regression analysis was employed to examine the strength of the relationship or association between the dependent variable and independent variables (the effectiveness satisfaction levels). Additional tests included model fitting information, goodness of fit tests, and parameter estimates.

Pilot Studies of the Research

Two pilot studies were conducted at the initial stages of both the qualitative and quantitative research methods employed. The First pilot study was conducted in September and October 2020, the pilot study focused on five samples of EIS. This allowed the researcher to assess the practicality and feasibility of the developed review method before its application to a broader range of EIA reports. Pilot studies are crucial for testing the reliability of research instruments, ensuring their appropriateness, comprehensibility, and consistent presentation of items (Nunes et al., 2010; Secomb & Smith, 2011). Additionally, the feasibility of the proposed research approach for a large-scale study was also examined (Nkosi & Voyi, 2016). (See figure 3.7

Figure 3.7 Integrated approached to test the practicality of the instruments.



The second pilot study was conducted in July 2021, the survey link was made available on July 5th, and lasted for two weeks to enable the researcher to assess the reliability of the surveys. It is crucial to test the questionnaire's reliability (internal consistency) before commencing the large-scale data collection process. Pretesting the questionnaire is an essential step prior to the main study (Nkosi & Voyi, 2016). Conducting a pilot study provides valuable insights into potential issues such as redundancy, scalability, non-responses, acquiescent responses, and variations in types of answers to questionnaire items (Brooks et al., 2016; Nunes et al., 2010;

Secomb & Smith, 2011). The questionnaire was developed following criteria utilized in previous studies and consisted of both open-ended and closed-ended questions. The tool was initially drafted and refined based on feedback from experts (supervisors). It included 45 reflective and self-rated questions measured on a five-point Likert scale. Statistical analysis was also performed on the instrument to assess its reliability and internal consistency.

The questionnaire was created using Jisc online survey software and distributed through popular social networking platforms such as WhatsApp and Facebook to Nigerian communities residing in the UK. Potential participants who expressed interest in participating were informed about the anonymous nature of the questionnaire and the purpose of the study. There were 22 participants in the study 18 males and 4 females. IBM-SPSS version 26 software was used to evaluate the reliability test (internal consistency) of the survey. Cronbach's alpha values higher than 0.70 were considered acceptable (Bonett & Wright, 2015; Vaske et al., 2017) in this study, an alpha coefficient of 0.7 and above as reliable is considered. A total of 22 participants took part in the study, comprising 18 males and 4 females. To evaluate the reliability (internal consistency) of the survey, IBM-SPSS version 26 software was utilized. In this study, a Cronbach's alpha value higher than 0.70 was considered acceptable (Bonett & Wright, 2015; Vaske et al., 2017) An alpha coefficient of 0.7 or above was deemed reliable.

The questionnaire demonstrated good internal consistency with acceptable reliability coefficients. The Cronbach's alpha value was calculated to be 0.934, as shown in Table 3.11. Internal consistency was evaluated not only for the overall scale but also for individual subscales. All items were considered relevant, as removing any of them would decrease the total alpha and compromise the internal consistency of the instrument.

Table 3.11 *Cronbach' alpha for the entire scale*

Reliability Statistics	
Cronbach's Alpha	N of Items
.934	42

The findings from the pilot study affirmed the questionnaire as a reliable instrument suitable for collecting data and assessing the effectiveness of PP in the environmental decision-making process. The respondents demonstrated a clear understanding of the questionnaire's questions, irrespective of their occupational status. Additionally, the pilot study revealed no

redundancy among the questionnaire items, indicating that the scale was appropriately utilized by the respondents. Furthermore, no acquiescent responses (excessive agreement with agree and disagree questions) were observed during the pilot survey.

Problems Encountered During Data Collection Exercise.

The data collection process proved to be quite challenging, as various problems were encountered along the way. Administering the questionnaire during busy working hours made it difficult to reach the target audience. Additionally, due to security concerns in the country, it was necessary for the researcher to establish relationship with community leaders before conducting the exercise, particularly in rural communities, to alleviate any suspicions. Another obstacle faced during the data collection process was the low level of environmental awareness among respondents. This required the researcher to explain the importance of their involvement in the EIA process, resulting in the process taking longer than anticipated. Transportation issues and congestion during working hours also added to the challenges faced.

Furthermore, some participants did not fulfil their commitment to attend the interviews, prompting the researcher to reach out to them and reschedule face-to-face interviews. Network failures during phone call interviews were also encountered, and there were instances where participants did not answer the calls. The researcher made efforts to call back and rearrange the interviews accordingly.

Transcription and Data Management

The interviews were transcribed from the recorded sessions into a Microsoft Word document. Transcription is a demanding and time-consuming process (Stuckey, 2014; Tilley, 2003), involving the creation of a written version of the audio recording. The accuracy of the transcription is vital as it impacts the reliability of the analysed data (Stuckey, 2014). To maintain accuracy, The researcher ensured that the participants' words remained unaltered, thereby preserving the integrity of the transcripts. However, owing to the influence of a "Nigerian accent," the utilization of the online Microsoft Word document transcription software resulted in inaccuracies within numerous words and sentences. As a result, the researcher undertook the task of manually transcribing each recording again, aided by noise-cancelling headphones to ensure maximum accuracy. Transcripts were generated after every two interview sessions, and samples of these transcribed interviews are included in

Appendixes 1.6 and 1.7. To protect the participants' identities, each transcript was labelled with a unique file name, in line with ethical considerations.

Ethical Consideration and Data Protection

Prior to commencing any data collection activities, ethical approval was obtained from the University of Salford ethics panel. Participants were provided with a consent letter that detailed essential information about the study focus, as well as a participant information sheet to review and sign before data collection began. The researcher ensured that participants fully understood the research objectives and how their information would be used. Participants were informed of their voluntary participation, their right to withdraw or decline participation, and the processes involved in data processing and storage. They were also reassured that their data would remain anonymous.

During the research process, the researcher followed to the guidelines outlined by the British Sociological Association (BSA, 2017) and the data protection guidelines of the University of Salford. All research data were stored securely on a computer, protected by a password, and accessible only by the researcher. The data will be retained for a minimum period of 4 years, corresponding to the expected completion time of the doctoral research. Interview data were recorded using industry-standard recording devices, and once the data was stored and appropriately backed up, the recording devices were cleared of any information.

Chapter Four: Results and Discussion of a Systematic Quality Evaluation of EIS

Introduction

In this chapter, the study delves into the first phase of data analysis carried out for the study. It presents the findings and engage in insightful discussions based on the analysis of EISs. The chapter explore the results derived from the data analysis process, offering valuable insights, and fostering a more profound comprehension of the subject matter.

Overall Assessment of the Quality of EIS

Among the 30 sampled EISs reviewed, 56.7% of the projects were rated as satisfactory in quality, receiving an overall grade of A, B, or C, while 43.3% were deemed unsatisfactory, with an overall grade of D, E, or F. Further examination of the performance of individual review areas is presented in the following sections. The results of this analysis are discussed under the headings of the five review areas.

Result by Review Areas

Description of development and baseline condition

Review Area 1 displayed best performance, with 67.3% (n=20) of the sampled EISs receiving a satisfactory rating (grades A to C), while 32.7% (n=10) were deemed unsatisfactory (grades D to F), making up one-third of the total EISs. The analysis of the five review categories (Table 4.1) reveals that the 'Description of Development' (review category 1.1) and 'Baseline Condition' (review category 1.5) were the most successful, with 80% and 83.3% of all EISs rated satisfactory, respectively. The 'Waste and Residual' category (review category 1.3) also fared well, with a satisfactory rating of 66.7%. However, it was noted that many EISs identified waste products without providing sufficient information on their quantity and nature, consistent with findings from previous studies (Anifowose et al., 2016; Cashmore et al., 2002).

However, the 'Site Description' and 'Environmental Description' (review categories 1.2 and 1.4) were found to be the weakest aspects of Review Area 1 among the sampled EISs. The identified issues in these EISs are related to problems in accurately identifying the volume of the workforce required during each phase, access to the site, and appropriate modes for transporting raw materials and products. Moreover, a significant number of EISs failed to define the areas that would be impacted by the project and the potential effects on nearby

areas. These findings are consistent with the results of previous evaluations of EIS quality (Badr et al., 2011).

Table 4.1 *Variation in EIS quality within Review Area 1*

Assessment Category	Review Area 1	Review Categories				
		1.1	**1.2**	**1.3**	**1.4**	**1.5**
Satisfactory						
A	0	0	0	0	0	0
B	37	12	5	5	3	12
C	64	12	10	15	14	13
Unsatisfactory						
D	47	6	14	9	13	5
E	2	0	1	1	0	0
F	0	0	0	0	0	0
% Satisfactory	**67.3**	**80**	**50**	**66.7**	**56.7**	**83.3**
%Unsatisfactory	**32.7**	**20**	**50**	**33.3**	**43.3**	**16.7**

Identification and Evaluation of Key Impacts

Review Area 2 holds significant importance within the EIS (Lee et al., 1999), Interestingly, all the review categories in this area received satisfactory ratings, a result that aligns with the recent findings of Aung et al. (2019). This represents a deviation from previous studies, which identified Review Area 2 as the weakest aspect of EIA (Badr et al., 2011; Barker & Wood, 1999; Lee & Dancey, 1993). However, within Review Area 2, the 'Impact Identification' and 'Prediction of Impact Magnitudes' (Review categories 2.2 and 2.4) emerged as major strengths, rated as satisfactory for 86.7% and 80% of all EISs, respectively (Table 4.2).

However, common deficiencies were observed in 'Assessment of Impact Significance' and 'Scoping' (Review categories 2.3 and 2.4). These deficiencies include a failure to provide evidence that public opinions and concerns were collected through public meetings and group discussions, as well as a lack of description regarding impacts arising from non-standard operating conditions, such as accidents. These trends align with previous reviews of EIS quality, which also highlighted similar deficiencies (Anifowose et al., 2016; Aung et al., 2019).

Table 4.2 *Variation in EIS quality within review area 2*

Assessment Category	Review Area 2	Review Categories				
		2.1	**2.2**	**2.3**	**2.4**	**2.5**
Satisfactory						
A	0	0	0	0	0	0
B	34	5	20	3	4	2
C	75	16	6	16	20	17
Unsatisfactory						
D	30	6	3	9	3	9
E	11	3	1	2	3	2
F	0	0	0	0	0	0
% Satisfactory	**72.7**	**70**	**86.7**	**63.3**	**80**	**63.3**
% Unsatisfactory	**27.3**	**30**	**13.3**	**36.7**	**20**	**36.7**

Alternatives and Mitigation Measures

Review Area 3 emerges as the second weakest among the five review areas. This finding is consistent with most EIS quality reviews, which have consistently identified Review Area 3 as one of the weakest categories (Aung et al., 2019; Barker & Jones, 2013; Jones & Fischer, 2016; Lee & Dancey, 1993). However, 'Effectiveness of Mitigation Measures' (Review category 3.2) stands out as the major strength within Review Area 3, with 46.7% (n=14) of the sampled EIAs receiving a satisfactory rating (Table 4.3). Common deficiencies were identified in Review categories 3.1 and 3.3, including a lack of sufficient information on the choice of alternative project sites and inadequate consideration of alternative processes, operating conditions, and designs during the early planning stages. While many projects displayed commitment to mitigation measures, but they often failed to provide specific implementation details over time, particularly in minimizing risks and protecting disadvantaged and vulnerable groups. Similar issues have been observed in previous research conducted in other countries, where insufficient information was provided to demonstrate commitment to proposed methods (Alberts et al., 2022; Aung et al., 2019; Badr et al., 2011).

Furthermore, 'Response and Concern to Grievance Mechanisms' (Review category 3.4) was rated as the worst-performing aspect, with 90% of all EISs, except for three projects, receiving an unsatisfactory rating. Most of the projects did not offer channels for affected parties to submit grievances or present alternative dispute resolution plans for project-affected parties.

Table 4.3 *Variation in EIS quality within review area 3*

Assessment Category	Review Area 3	Review Categories				
		3.1	**3.2**	**3.3**	**3.4**	**3.5**
Satisfactory						
A	0	0	0	0	0	0
B	5	2	1	0	1	1
C	39	8	13	11	2	5
Unsatisfactory						
D	70	9	15	16	8	22
E	32	11	1	3	15	2
F	4	0	0	0	4	0
% Satisfactory	**29.3**	**33.3**	**46.7**	**36.7**	**10**	**20**
% Unsatisfactory	**70.7**	**66.7**	**53.3**	**63.3**	**90**	**80**

Communication of Results

Review Area 4, concerning the communication of results, emerged as the best-performing task among all the review areas. An large proportion (80% n=24) of the EISs received a satisfactory rating, indicated by an overall grade of A, B, or C. This finding is consistent with most EIS quality reviews conducted worldwide (Anifowose et al., 2016; Aung et al., 2019; Badr et al., 2011; Barker & Jones, 2013). Tasks related to the general layout and presentation of information (Review categories 4.1 and 4.2) were handled most successfully across all EISs, with ratings of 100% and 86.7% satisfactory, respectively (see Table 4.4). This trend has also been observed in several other studies (Badr et al., 2011; Barker & Wood, 1999).

However, significant deficiencies were identified in Review categories 4.3 and 4.4. More than two-thirds of the sampled EISs showed shortcomings in explaining the methods used in detail, presenting information in the local language, and providing unbiased statements. These aspects were found to be the most problematic categories. Similar findings have been reported in prior research (Aung et al., 2019; Lee & Dancey, 1993).

Table 4.4 *Variation in EIS quality within review area 4*

Assessment Category	Review Area 4	Review Categories			
		4.1	**4.2**	**4.3**	**4.4**
Satisfactory					
A	0	0	0	0	0
B	53	27	20	6	0
C	43	3	6	13	21
Unsatisfactory					
D	19	0	3	11	5
E	2	0	1	0	1
F	3	0	0	0	3
% Satisfactory	**80**	**100**	**86.7**	**63.3**	**70**
% Unsatisfactory	**20**	**0**	**13.3**	**36.7**	**30**

Stakeholder Engagement, and Information Disclosure

Review Area 5 proved to be the weakest among all the review areas, with only 14% of the sampled EISs achieving a satisfactory grade, while 86% (n=26) were graded as unsatisfactory (Table 4.5). PP practices appeared as a particularly problematic element within this review area, which aligns with the findings of Badr et al. (2011).

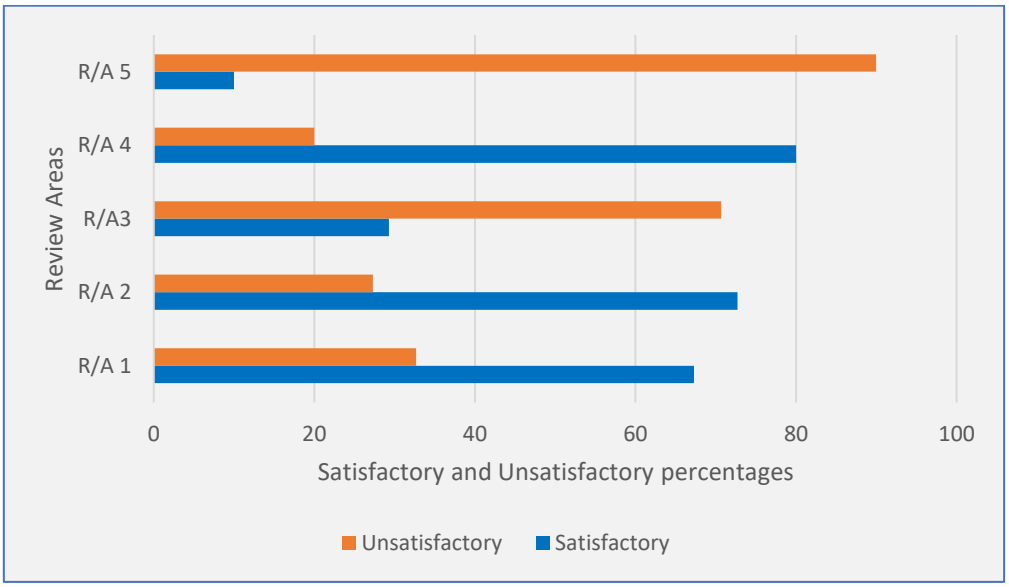
Table 4.5 *Variation in EIS quality within review area 5*

Assessment Category	Review Area 5	Review Categories				
		5.1	**5.2**	**5.3**	**5.4**	**5.5**
Satisfactory						
A	0	0	0	0	0	0
B	0	0	0	0	0	0
C	21	8	1	6	5	1
Unsatisfactory						
D	58	8	13	19	14	4
E	61	12	16	5	10	18
F	10	2	0	0	1	7
% Satisfactory	**14**	**26.7**	**3.3**	**20**	**16.7**	**3.3**
% Unsatisfactory	**86**	**73.3**	**97.7**	**80**	**83.3**	**96.7**

'Commitment to Stakeholder Engagement Plan' (Review category 5.2) was identified as the weakest aspect among all categories, with a rating of 97.7% unsatisfactory across all EISs, falling between grades D and F. This result is consistent with recent findings by (Clarke & Vu, 2021b). where the majority of EISs lacked the identification of individuals or groups with different concerns about the projects and provided inadequate feedback mechanisms. Additional shortcomings involved inadequate disclosure of essential information to the public about the project's nature, scale, duration, potential risks, and potential impacts that could

disproportionately affect vulnerable and disadvantaged groups Similar issues were observed in Vietnam, where information disclosure was severely limited (Clarke & Vu, 2021b), and in other studies, where genuine evidence of incorporating public opinions and concerns into the EIA process was lacking (Aung et al., 2019). Additionally, Figure 4.1 presents a summary of the variation in EIS quality within all review areas.

Figure 4.1 *Summary of variation in EIS quality within all review areas*



Key Findings

The analysis of 30 EISs sampled from three sectors produced in Nigeria between 2005 and 2020 shows that 56.7% (17) were rated as satisfactory in quality. However, among these, only two projects achieved relatively high grades (A or B), while the remaining 15 received C grades (just satisfactory). On the other hand, 43.3% (13) were assessed as unsatisfactory, with two projects receiving low grades (E-F) and 11 projects rated as D (just unsatisfactory). The data indicates a similar pattern to studies conducted in the UK China, and Nigeria, revealing a weak picture of overall performance. For instance, Barker and Jones (2013), found that 51% of the EISs sampled from 2002 to 2005 were satisfactory in quality, while Anifowose et al. (2016) reported 53% satisfactory EISs in their sampled data. Recent research in China also revealed a significant number of EISs sampled between 2010 and 2017 falling short of satisfactory grades (Aung et al., 2019).

The failure to achieve quality grades may be attributed to the poor performance of specific review areas, with 29.3% related to 'Alternatives and Mitigation Measures' (Review Area 3)

and 14% related to 'Stakeholder Engagement and Information Disclosure' (Review Area 5), as well as commitment to grievance mechanisms.

Variations in EISs Quality by Project Type

Table 4.6 provides a comparative analysis of EIS quality by project type. The results of the review reveal a significant disparity in the quality of EIS reports among the three sectors. Energy/dam and oil and gas projects exhibit higher performance compared to road infrastructural projects, which were found to be the worst, with a rating of 62.7% unsatisfactory. Review Area 4 ('Communication of Results') emerges as the major strength across all EISs, achieving a satisfactory grade of above 85% for all projects. On the other hand, Review Area 5 ('Stakeholder Engagement and Information Disclosure') represents the major weakness of all EISs, with a rating of 86.7% unsatisfactory, except for four projects. However, Review Area 3 ('Alternatives and Mitigation Measures') performed below satisfactory grades for all EISs, except for a few projects in both sectors.

Further analysis of the review indicates that Review Areas 1 and 2 ('Description of the Development and Baseline Condition' and 'Identification and Evaluation of Key Impacts') were successfully handled, with more than 80% of satisfactory grades for the two sectors. However, road infrastructural projects performed less satisfactorily compared to other sectors, with ratings of 52.3% and 53.3%, respectively. The reasons for the better performance of the dam and oil and gas sectors may reflect the nature of the development involved, as these sectors tend to create more complex impacts and have a history of community agitation in oil-related projects. Consequently, project proponents in these sectors may invest more resources in the EIA processes.

Table 4.6 *Result of the comparative EIS quality analysis by project type.*

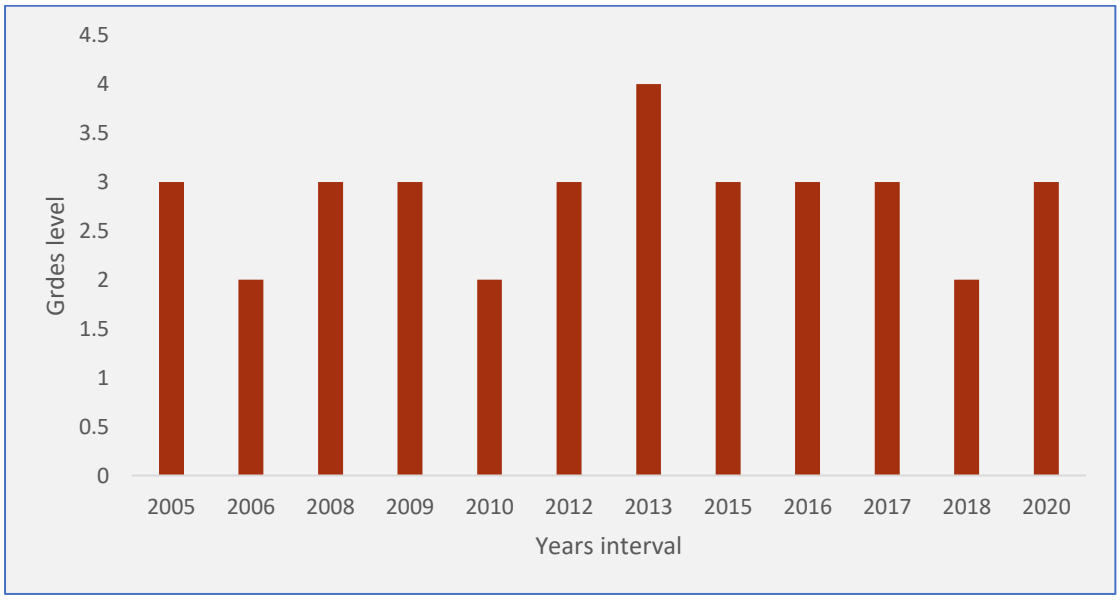
	Road Infrastructure		**Oil and Gas**		**Energy and Dam**	
	Satisfactory	Unsatisfactory	Satisfactory	Unsatisfactory	Satisfactory	Unsatisfactory
RA 1	46.7	52.3	77.8	22.2	83.3	16.7
RA 2	46.7	53.3	88.8	11.1	100	0
RA 3	13.3	86.7	22.2	77.8	33.3	66.7
RA 4	86.7	13.3	100	0	100	0
RA 5	0	100	0	100	16.3	83.3
Overall Grades%	**37.3**	**62.7**	**57.8**	**42.2**	**66.7**	**33.3**

Position of Public Participation by Project Types and How Practice Change Over Time

Regarding the position of PP, there is a significant disparity within the sampled EISs, indicating that PP practices are more problematic in road projects compared to other sectors. This is especially evident in areas like stakeholder engagement, information disclosure, response to public concerns, and commitment to grievance mechanisms during community engagement activities. Nwoko (2013a) analysed the EIA system in Nigeria and identified similar shortcomings, including poor PP and stakeholder engagement. Silas (2013a) conducted a study on PP levels in various projects in Nigeria, revealing low PP in EIA reports. Hence, the overall quality of the EISs in this study reflects these concerns.

The analysis further demonstrates that the quality of EISs did not improve over time, as newer statements exhibited similarly low quality. As depicted in Figure 4.2 below, it is observed that all EISs sampled from 2005 to 2020 maintained grades between 2 and 3 (i.e., grades C and D) throughout, except for the EIS of 2013, which achieved a better grade of B. It is evident that only in 2013 did the practice change, while the more recent statements continue to receive grades between C and D.

Figure 4.2 *Change in practice over the time.*



Compliance to Best Practice Derived from EU Directives of 2011/92/EU as Modified by 2014/52/EU.

The Lee and Colley package has outlined the minimum information required in EIS reports, following the guidelines set out in the EU Directives, which were summarized into a list of 21 selected review criteria (McMahon, 1996) For this study, the study adapted the review sub-

categories based on the 2014 directives, resulting in 23 review sub-categories, each expected to receive grades between A and C (100% satisfactory). Among the 30 EISs sampled, only 7 reports demonstrated broad compliance with the directives, receiving a 100% satisfactory rating (grades A-C), while the remaining 23 reports were deemed unsatisfactory (see figure 4.3). This indicates that more than two-thirds of the projects did not fully comply with the EU directives, a finding that aligns with previous research by (McMahon, 1996).

Figure 4.3 *Compliance with the EU Directives*

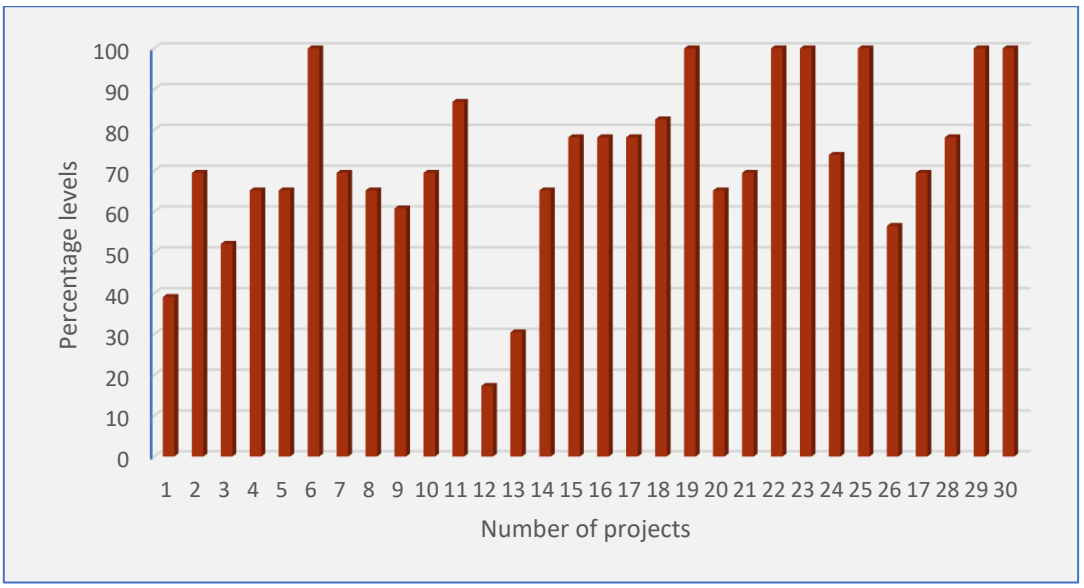
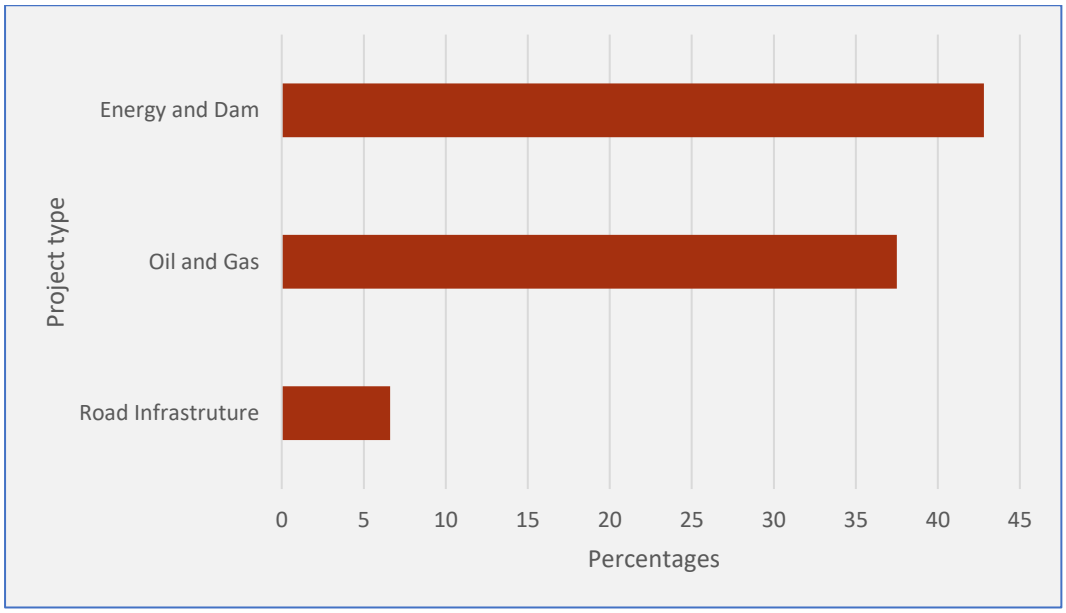


Figure 4.4 presents the proportions of projects that adhered to the minimum requirements outlined in the EU directives, categorized by project type. Among the project types, energy and dam projects exhibited the highest compliance rate, with 42.8% of their total projects meeting the directives' requirements. Oil and gas projects followed closely with a compliance rate of 37.5%. On the other hand, road projects had the lowest proportion of compliance, with only 6.6% of their total projects meeting the directives' minimum requirements.

Figure 4.4 *Variation in the compliance by project type*



Conclusion

The EIA process serves as a crucial decision-making tool for enhancing environmental policy, with the EIS playing a vital role in informing decision-makers and the public about anticipated impacts and mitigation measures of proposed projects/programs (Montarroyos et al., 2019). Therefore, conducting a quality review of EISs becomes essential in assessing strengths, weaknesses, and providing feedback for improvement.

This study introduces the results of the first-ever Bespoke review template, designed to assess the quality of EISs and compare the effectiveness and variation in EIS quality across three sectors. The findings indicate that while a majority of sampled EISs demonstrate satisfactory quality (56.7%), almost half of them fall into the unsatisfactory category (43.3%). There are only a few projects with relatively high grades (A or B), and a few with low grades (E-F), revealing an overall poor quality of EIS reports across all three sectors. Notably, 'Alternatives and Mitigation Measures' (Review Area 3) and 'Stakeholder Engagement and Information Disclosure' (Review Area 5) emerge as major weaknesses requiring greater attention for improvement. On the other hand, 'Communication of the Result' and 'Project's Description' stand out as the main strengths among all EISs.

The energy/dam and oil and gas sectors display better EIS quality compared to road projects. This may be attributed to the complexity of impacts and past community agitation related to energy and oil projects, although further research with a larger sample size would be

necessary to confirm this assertion. These findings highlight significant disparities in EIS quality among the three sectors. PP practices appear to be more problematic in road projects compared to other sectors, with most road projects assessed as poor. This aligns with recent trends in EIA studies, emphasizing the challenges of low-quality PP in environmental decision-making across various regions globally, including Africa, Asia, Latin America, and parts of Europe (Badr, 2009; Hasan et al., 2018; Hostovsky et al., 2010; Kahangirwe, 2011; Rega & Baldizzone, 2015; Zhou et al., 2019). Hence, enhancing the quality of PP in EIA has become a central theme in EIA literature (Loomis & Dziedzic, 2018).

The analysis further reveals that more than two-thirds of the projects do not broadly comply with EU directives as set out in the Directives. The energy/dam and oil & gas sectors received the highest proportion of broad compliance, while road projects received the lowest proportions. To improve EIA performance and effectiveness, several actions could be taken based on the outcomes of this research, as outlined in Chapter Eight of this research.

Chapter Five: Results and Discussion of the Interview Data

Introduction

This chapter focuses on the qualitative data analysis obtained from interview data. The data collection process involved face-to-face and phone call interviews with relevant stakeholders from September 2021 to June 2022. A total of 21 stakeholders participated in the interviews, selected through purposeful and snowball sampling techniques. For the analysis, NVivo 12 software was utilized. The chapter is structured into three main sections, each containing sub-sections. The initial two sections offer a descriptive analysis of the participants and the coding system employed. The final section presents an evaluation of the results, highlighting how each of the effectiveness dimensions contributes to achieving participatory quality efficiency.

Description of Participants

The interviews involved 21 participants, consisting of 13 males and 8 females. These participants represented various sectors, including government agencies, traditional institutions, EIA consultants, and NGO groups. Notably, all interviewees possessed formal education, with seventeen having undergraduate and post-graduate degrees, one holding a doctoral degree, and the remaining three having diploma and O-level qualifications. For specific participant details, please refer to Table 5.1.

Table 5.1 *Description of interview participants*

S/No	Occupation	Position	Gender	Years of experience	Highest qualification
Community Leaders					
1	Traditional Heads	Community leader	Male	Over 7 years	O Level
2	Traditional Heads	Community leader	Male	Over 40 years	Undergraduate
3	Traditional Heads	Community leader	Male	Over 15 years	O Level
4	Traditional Heads	Community leader	Male	9 years	Undergraduate
5	Traditional Head	Community leader	Male	12 years	Diploma
EIA Consultants					
6	EIA Consultant	Managing director	Male	Over 25 years	Postgraduate
7	EIA Consultant	Chief executive officer	Male	Over 24 years	Doctorates
8	EIA Consultant	Chief executive officer	Male	Over 15 years	Postgraduate

9	EIA Consultant	Managing director	Female	Over 17 years	Postgraduate
Government Agencies					
10	Government employee (FMEV)	Assistant director	Male	Over 30 years	Postgraduate
11	Government employee (FMEV)	Director	Male	Over 25 years	Postgraduate
12	Government employee (FMEV)	Chief scientist officer	Female	Over 10 years	Postgraduate
13	Government employee (FMEV)	Field officer	Female	Over 5 years	Undergraduate
14	Government employee (FMEV)	Assistant director	Female	Over 17 years	Postgraduate
15	Government employee (NESREA)	Enforcement officer	Male	Over 8 years	Postgraduate
16	Government employee (NESREA)	Zonal officer	Female	Over 11 years	Postgraduate
17	Government employee (NESREA)	Zonal officer	Female	Over 20 years	Postgraduate
NGO Group					
18	NGOs	Field staff manager	Male	Over 10 years	Undergraduate
19	NGOs	Public relation officer	Female	Over 7 years	Undergraduate
20	NGOs	Public relation officer	Female	Over 5 years	Undergraduate
21	NGOs	Environmental awareness officer	Male	Over 7 years	Undergraduate

Coding System

Initial Coding for the Research Themes

For the thematic analysis of interview responses, NVivo 12 data analysis software was employed, following the recommendation by Braun and Clarke (2006) for interview data analysis. The coding process was deductive, allowing the researcher to maintain focus on the research objectives. Initially, a set of primary themes was developed based on the research framework. Subsequently, these primary themes were further classified into sub-themes that were relevant to the research objectives and served as significant drivers of effectiveness dimensions. This classification was achieved through a thorough reading of the transcripts to

identify data that fit into these themes. As a result, the coding system generated 12 primary themes and 27 sub-themes, as summarized in Table 5.2.

Table 5.2 *Summary of codes and sub-themes*

Primary themes	**Sub-themes**
Engagement and consultation techniques	1. Early Consultation 2. Identification and Involvement of the Affected Parties and Vulnerable Groups 3. Communication with relevant stakeholders
Access to information and disclosure	4. Access to project information 5. Disclosure of projects information 6. Response to feedback mechanisms
Notification and publication techniques	7. Publication Techniques 8. Notification process
Quality of EIA reports	9. Quality of information
Environmental sustainability	10. Minimizing environmental damaging elements (ecosystem services) 11. Improving Environmental Quality.
Economic and social sustainability	12. Economic and Social Benefits 13. Socially Acceptable Proposals 14. Social Learning
Mitigation of impacts	15. Identification and suggestion of appropriate mitigation Measures. 16. Improving operating conditions and alternative processes of the projects
Respect for Human Rights Conventions	17. Exercising citizens' rights 18. Access to environmental justice
Democratic Capacity & Practice	19. Openness to participant's views 20. Articulate of interests 21. Opportunity to influence the decision
Clarity of stakeholder role	22. Specification of Roles. 23. Awareness of responsibility
Capacity of partnership	24. Partnership and Collaboration Among the Stakeholders 25. Balance of Power Within the Partnership
Timing	26. Participatory timeline 27. Influencing the timely completion of the project

Coding for Interviewee Identity

To ensure ethical considerations and protect the interviewees' identities, their information was kept confidential. As part of the evaluation process, interviewee IDs were assigned and coded, linking them to different stakeholders for reference. Throughout the document, these interviewee IDs were used consistently for referencing purposes. For additional clarity, Table

5.3 offers explanatory notes to assist the reader in understanding the references and corresponding stakeholders.

Table 5.3 *Code for the interviewee's identity*

Code reference	Explanatory notes
(CSH-CL)	'CSH-CL' indicates the code for community stakeholders.
(GA-FMEV)	'GA-FMEV' indicates the code for stakeholders from a government agency (Federal Ministry of Environment).
(GA-NESREA)	'GA-NESREA' indicates the code for stakeholders from a government agency (National Environmental Standards and Regulations Enforcement Agency).
(EIA-CON)	'EIA-CON' indicates the code for stakeholders from the EIA consultant.
(NGO-SH)	'NGO-SH' indicates the code for stakeholders from a non-governmental organization.

Analysis

Procedural Effectiveness

This section focuses on the examination of procedural effectiveness to determine the extent to which the EIA procedural guidelines are adhered to during engagement processes. The analysis encompasses various aspects, such as engagement and consultation techniques, notification and publication methods, accessibility to the project's information and disclosure, and the quality of EIA reports. These themes were derived from prominent EIA procedural principles outlined in key literature sources (Baker & McLelland, 2003; Chanchitpricha & Bond, 2013; Loomis & Dziedzic, 2018; Nadeem & Fischer, 2011; Sadler, 1996a). Each theme was further subdivided into subthemes (refer to Table 5.2). Through this analysis, the section provides insights into the actual practices of participatory processes within the context of three major road projects in Nigeria.

Engagement and Consultation Techniques

In this section, the research delved into engagement and consultation techniques as essential primary themes. The perceptions of participants regarding the alignment of these techniques with established EIA principles and guidelines were categorized into three subthemes, which were drawn from (Baker & McLelland, 2003; Chanchitpricha & Bond, 2013; Nadeem & Fischer, 2011), as they significantly contribute to procedural effectiveness. The three subthemes are outlined in Table 5.2 and encompass early consultation, the identification and involvement of affected parties and vulnerable groups, and effective communication with relevant stakeholders.

5.1.1.1.1. Early Consultation

Early consultation with relevant stakeholders is widely recognized as a crucial element of the EIA process (Ogola, 2007). By engaging the public at the screening and scoping stages of project design, valuable local information and key concerns can be identified (Aloni et al., 2015; Nwoko, 2013a). Despite Nigeria's highly participatory EIA system, challenges persist in conducting early consultations. Many study participants expressed concerns about the inadequate consultation during the planning phase of projects. An EIA consultant remarked that *"the project developers mostly conduct the EIA with little involvement of community members…" (EIA-CON_01).* According to the EIA procedural guideline, public consultation during the scoping exercise is a mandatory requirement, and all stakeholders must be invited to discuss significant environmental issues (Nwoko, 2013a).

However, participants indicated that early consultations often fall short of meeting EIA procedural guidelines for most road projects. Only one study participant from a government agency mentioned that *"the proponents allow for early consultation…" (GA-NESREA_02),* while others highlighted the lack of consultation during the early planning stages. For instance, one participant shared, *"The people of my community were not formally consulted" (CSH-CL_02).* Additionally, some participants expressed that the degree of conformity with EIA rules for most road construction projects is relatively low, particularly when the project is government-led *"the degree of conformity is a bit low..." (GA-FMEV_02).*

Engaging with local communities is crucial to foster project ownership and trust (Erfani & Roe, 2020). However, some participants revealed that construction companies collaborate with influential members of society to manipulate the processes at the expense of community interests, demonstrating the misuse of entrusted power for personal gain (Enríquez-de-Salamanca, 2018). As a result, communities suffer the negative impacts of such projects.

Identification and Involvement of the Affected Parties and Vulnerable Groups

Many scholars believe that IA can serve as a tool to empower vulnerable and marginalized groups (Glucker et al., 2013; Momtaz & Kabir, 2013; O'Faircheallaigh, 2010). In this context, the identification and involvement of project-affected parties and vulnerable groups are essential aspects of an EIA, particularly during the scoping exercise to address relevant issues (Ogola, 2007). However, many study participants from non-governmental agencies expressed concerns about the inadequate involvement of project-affected parties and those facing

disadvantages or vulnerabilities during the planning process. Some participants lamented that certain construction companies merely pay lip service to the EIA process, employing consultants to draft EIA reports without conducting proper EIAs. As a result, *"They hardly involved the project affected parties..." (EIA-CON_02).*

Most community leaders revealed that construction companies often liaise with regulatory authorities without involving the project-affected parties, except for two community leaders. Additionally, *"The authorities schedule the payment of compensation without the involvement of the affected parties and community leaders..." (CSH-CL_03).* This trend has been noted in communities along Abuja-Lokoja Road, Sect IV, and Abuja-Kaduna Road, particularly in those situated far away from the city centre. Additionally, some communities in these areas were found to be less involved in the process, largely due to community dynamics such as patterns of interaction, collaboration, and engagement among community members. Consequently, meaningful involvement of the project-affected parties and vulnerable groups might not have been achieved, as few community leaders were only involved in compensation matters and not in the broader community engagement exercise.

On the other hand, practitioners from government agencies expressed opposing views, stating that *"the project-affected parties, interested groups, and venerable groups were involved..." (GA-NESREA_02).* Hence, the study findings indicated divergent perspectives between government agency practitioners and other study participants. Furthermore, the study revealed that over 90% of road projects were government-funded, and compliance with EIA rules was generally low in such projects, with few exceptions for those funded by multilateral financial institutions. This situation is similar of findings reported in Pakistan by Khan and Chaudhry (2021). These outcomes highlight the presence of comparable challenges in Nigeria concerning the practical implementation of environmental and EIA laws, as highlighted in the work of Brown (2021). This situation reflects the broader challenge faced by nations within the GS countries to effectively enforce environmental regulations in infrastructural development projects, with relevance to the Nigerian context.

Communication with Relevant Stakeholders

Effective communication with relevant stakeholders, especially with host communities, plays a crucial role. Such communication allows these communities to prepare for project impacts, facilitates information dissemination, and ensures the smooth execution of projects (O'Faircheallaigh, 2010). However, the study participants from non-governmental agencies unanimously expressed concerns about weak communication with relevant stakeholders during the planning and implementation process. An EIA consultant highlighted that *"one of the biggest faults in road construction is the communication with stakeholders..." (EIA-CON_01),* except for projects funded by private and international lenders. Most participants emphasized that the private sector exhibits a higher degree of compliance, primarily due to the loans they seek from international lenders like IC, World Bank, or local banks. These lenders require a comprehensive EIA report before releasing funds, thereby implying effective application of EIA rules by the project's developers.

The study further revealed that communication with host communities throughout project preparation and implementation phases is minimal in most road construction projects. One community leader pointed out that *"no communication between the company and the host community apart from radio announcements..." (CSH-CL_04).* Thus, project developers often fail to comply with EIA rules in government projects. A similar situation of discrimination between government and private projects was reported by Khan and Chaudhry (2021) in Pakistan.

Accessibility to the Project's Information and Disclosure

The examination of accessibility to the project's information and disclosure was another central focus of the study on procedural effectiveness. Responses were categorized into three sub-themes, which were derived and supported by key literature sources (Baker & McLelland, 2003; Bond, Morrison-Saunders, & Howitt, 2013; Sadler, 1996a). These sub-themes encompass access to project information, disclosure of relevant information, and commitment to feedback mechanisms.

5.1.1.1.2. Access to Projects Information

Access to the project's information is a crucial aspect of PP during the EIA process (Baker & McLelland, 2003). Nigeria, as a United Nations member state, affirms and guarantees freedom of expression and public access to information (Ayoubi et al., 2022). However, the

current practice suggests that host communities *"have little access to the project information..." (CSH-CL_05).* This claim was further reinforced by the EIA consultant, stating that project developers primarily communicate with village heads before commencing projects, but they often limit access to project information for the host communities. This hinders effective EIA policy implementation (Ajulor, 2018; Amobi & Onyishi, 2015). Conversely, practitioners from government agencies explained that they strictly adhere to EIA procedural guidelines, *"We ensure the public has access to the project information..." (GA-FMEV_03).* However, the actual scenarios differ from the ideal, as highlighted by several actors during the interviews. For instance, an EIA consultant stated that *"At the panel review, we discovered some communities do not have access to project information..." (EIA-CON_02).*

The study further revealed that in many instances, community members do not pay adequate attention to project information, often due to ignorance or lack of awareness, as noted by their community leaders. *"They don't pay attention to the project information..." (CSH-CL_05).* Thus, the views collected from participants encompass a mix of responses concerning PP practices, with the majority expressing negative opinions.

Information Disclosure

The disclosure of relevant information to the public regarding the nature and scale of the project, including potential risks and its impact on the local environment, is of utmost importance during the EIA process (Enríquez-de-Salamanca, 2018; Nwoko, 2013a). However, most study participants from non-governmental agencies highlighted the lack of disclosure of relevant project information, particularly concerning environmental and social impacts. It seems that proponents often fail to provide information that would allow community members to comprehend the potential impact and risks of the projects and their implications. One community leader expressed this concern, stating, *"The project information was not disclosed to us..." (CSH-CL_02).* This issue appears to be prevalent in many Nigerian projects and several other GS countries (Asiyanbi, 2016; Ayoubi et al., 2022; Baradei, 2020; Nuesiri, 2017).

An EIA consultant attributed this problem to the members of host communities, noting that they are often more concerned about the financial benefits of the project, such as compensation payments, and tend to overlook the negative aspects of the projects due to

their ignorance regarding the significance of the EIA. Indeed, environmental knowledge in Africa is reported to be very low (Odjugo, 2013; Ozor et al., 2015).

Procedurally, when the EIA reports are ready, they are put on public display, and advertisements are published in selected newspapers and on the radio. During the panel review, the public is invited to participate (Nwoko, 2013a). A practitioner from a government regulating agency emphasized that *"the ministry participates during the scoping workshops to ensure relevant information is disclosed to the public..." (GA-FMEV_02).* However, in practice, this application seems to differ in most road projects. Two community leaders lamented that the project information was not disclosed to them during public meetings.

5.1.1.1.3. Response to Feedback Mechanisms

The findings of the study revealed that the response to feedback mechanisms was perceived as weak by most participants. The process appeared to be top-down, where affected parties lacked access to submit their complaints and were manipulated by influential individuals in society. One participant expressed frustration, stating, *"Everything is done by the local councils; we do not have access to the project developers to submit our grievances..." (NGO-SH_01).* According to the actual EIA guidelines, before project approval, proponents are required to consult with communities, and their concerns should be reflected in the Terms of Reference (TOR) (Ogola, 2007). However, in practice, most members of the host communities lack sufficient knowledge of where to submit their grievances, whether it be in person, by phone, text messages, e-mail, or through a website.

Additionally, an EIA practitioner disclosed that community responses and feedback mechanisms were often disregarded, stating, *"They hardly pay attention to community responses and feedback mechanisms..." (EIA-CON_02).* This observation aligns with findings by Lwesya Sibale and Fischer (2023) in Malawi. Consequently, during the implementation process, project proponents often fail to adhere to the Environmental Management Plan (EMP) to address responses from the communities, as stipulated in the approval conditions. Similar issues of weak EMP implementation were reported in oil and gas projects in Nigeria, indicating poor handling and insufficient addressing of approval conditions Hemba and Phil-Eze (2021). This could be attributed to weak institutional capacity and inadequate enforcement of environmental laws (Amechi, 2010; Hemba & Phil-Eze, 2021).

Notification and Publication Techniques

Publication and notification techniques were key primary themes examined to assess the procedural effectiveness as conceptualized in the EIA literature (Baker & McLelland, 2003; Loomis & Dziedzic, 2018). These primary themes were further categorized into two subthemes, namely publication techniques and notification process.

5.1.1.1.4. Publication Techniques

One of the objectives of PP is to ensure that information about the intended project is accessible to the public. However, the way information is disseminated can significantly impact the participatory process (Glasson & Therivel, 2013). Section 25 of the EIA Act provides procedural guidelines on how the publication process should be conducted (Echefu & Akpofure, 2002; Nwoko, 2013a). An EIA consultant explained that *"Without newspaper and radio publication the ministry will not go ahead with the project approval..." (EIA-CON_02)*. He added that they are limited by law in terms of publicity. Procedurally, project information must be displayed publicly at the relevant ministry headquarters and on their websites to allow stakeholders access to the project's information (Nwoko, 2013a).

However, many study participants from non-governmental bodies expressed concerns regarding the effectiveness of radio and newspaper publications and the display of EIA reports on ministry websites. Some participants from the EIA counsultants highlighted that people in rural communities may not have daily access to newspapers, and newspaper advertisements are only published for one day, making it easy for people to miss them. Additionally, relying on websites for access to project information poses challenges in Nigeria due to non-reliable internet connections and associated costs, limiting the opportunity for many community members to review the project's details. These factors can ultimately affect the level of feedback from the communities, which is considered crucial for achieving PP policies (Glasson & Therivel, 2013).

The study also revealed that radio publication was ineffective, as even community leaders were unaware of the radio announcements regarding meetings with stakeholders *"We are not aware of any announcement for the time and venue of the meeting with stakeholders..." (CSH-CL_01).* Consequently, only a few people were informed about the projects through this means. Considering the practical application of the publication processes, it becomes challenging to achieve the desired results effectively.

Notification Process

According to the procedural guidelines, the notification process is conducted through national dailies and radio announcements for the first five days and last five days of the display, with a minimum of 21 working days of notification before the public meeting (Echefu & Akpofure, 2002). However, in road construction projects, there are certain limitations. One study participant pointed out that *"For road and railways, they hardly give the minimum 21 days for notification as prescribed in the EIA act..." (EIA-CONcol_03).* Another participant mentioned that *"the only most effective EIA in Nigeria is the sitting of industries..." (EIA-CON_02)*, as concerned parties usually comply with EIA guidelines and procedures. However, for road projects, proponents often fail to comply with the notification requirement as prescribed in the EIA Act due to political interference. Enoguanbhor et al. (2021) attributed political interference as a major hindrance to the proper implementation of environmental laws.

The quality of EIA Reports

During the interviews with stakeholders, the study revealed several limitations in the quality of EIA reports. Many participants from non-governmental agencies expressed their concerns over the low quality of EIA reports, a finding consistent with Okowa et al. (2021) An EIA consultant emphasized that the information provided in most EIA reports, particularly those related to road projects, is insufficient, except for a few cases. *"Most EIA reports on road construction projects are not efficient..." (EIA-CON_01).* This problem was attributed by some participants to consulting firms due to the commercialization of environmental consultancy services, leading to a lack of expertise. One participant from an NGO group even referred to some EIA consultants as "brief-case consultants*..." (NGO-SH_01),* lacking experience in conducting EIAs. Chanchitpricha and Bond (2013), emphasized that the expertise and knowledge of an EIA professional significantly influence the quality of the reports. Moreover, the competence of approving authorities also plays a role in determining the quality of the reports (Clarke & Vu, 2021b). Some scholars in Nigeria have blamed EIA approving authorities for their low capacity to address quality control and absence of internal vetting (Brown, 2021; Isah, 2012; Nwoko, 2013a).

Administrative problems were also identified as contributing to this concern. *"In Nigeria, the government uses revenue as a yardstick for ministry performance..." (NGO-SH_02).* Such practices may compromise the quality of EIAs and the integrity of the environment.

Additionally, the lack of environmental awareness was raised as an issue, as many community leaders had never seen EIA reports and relied solely on information provided by the proponents. Some were not even aware of the existence of EIA reports, as indicated by one community leader: *"This is the first time I hear about this document..." (CSH-CL_02).* Ibrahim et al. (2020) also highlighted that a large proportion of the Nigerian populace are unaware of their right to object to unfavourable projects during the period of public display of EIA drafts.

Substantive Effectiveness

The substantive efficacy of PP in three mega road projects is assessed based on its ability to mitigate negative environmental effects of the projects and achieve broader EIA policy objectives. These objectives encompass environmental sustainability, economic benefits, and social benefits, which are considered substantial outputs of the EIA process. Various scholars have emphasized the importance of these PP objectives derived from substantive philosophies and principles. For this study, the research themes are drawn from key literature sources on EIA and PP effectiveness (Burns & Heywood, 2004; Loomis & Dziedzic, 2018; Roos et al., 2020; Theophilou et al., 2010). The initial analysis involved coding three primary themes: environmental sustainability, economic and social sustainability, and impact mitigation. Each primary theme was further categorized into subthemes within the research framework, as these factors play significant roles in achieving substantive effectiveness. This section provides a comprehensive evaluation of how the participatory practice aligns with its intended purposes.

5.1.1.2. Environmental Sustainability

Environmental sustainability was a central primary theme in the qualitative investigation of substantive effectiveness. Participants' responses were classified into two subthemes linked to the accomplishment of broader PP policy objectives, as highlighted by Loomis and Dziedzic (2018), and Chanchitpricha and Bond (2013) as outlined in Table 5.2. The two subthemes encompass minimizing environmentally damaging elements and enhancing environmental quality.

Minimizing Environmentally Damaging Elements (Ecosystem services)

The integration of environmental sustainability concepts into project design aligns with sustainability protocols (Abastante et al., 2021). The objectives of EIA include protecting the

ecosystem and ensuring environmentally sustainable development in project proposals (Ortolano & Shepherd, 1995). Ecosystem services, with their regulating, supporting, and provisioning benefits, contribute to human well-being and a quality environment (Swangjang, 2022). Recently, the incorporation of ecosystem service concepts in project proposals and public policies has gained attention (Gallardo et al., 2022). It is essential to assess how the PP practice in EIA aids in mitigating adverse environmental impacts of projects, a crucial aspect in achieving broader PP policy objectives (Chanchitpricha & Bond, 2013; Glucker et al., 2013; Oosterhuis, 2007).

Practitioners from regulating agencies and EIA consultants overwhelmingly expressed that involving host communities in the process has helped reduce environmentally damaging elements of the projects, such as biodiversity loss and deforestation. *"Local knowledge helps a lot..." (GA-FMEV_03),* particularly when experts collaborate with local communities to incorporate traditional knowledge. A recent study highlighted the importance of local knowledge in reducing and addressing the impacts of development projects (Baird et al., 2021). Although, there were some practical issues raised by some of the study participants, particularly, the community leaders for instance, in communities along Abuja-Abaji-Lokoja road, sect. IV, many community members lacked awareness of environmental issues, focusing primarily on financial benefits like compensation. However, the participatory process did not contribute significantly to community awareness in those communities. As a result, environmental protection protocols were disregarded during project implementation without action taken by compliance and monitoring teams. This suggests a gap in the EIA implementation process, indicating regulatory bodies' failure in fulfilling their responsibilities. Practitioners from regulating bodies explained that the Impact Mitigation Monitoring Team (IMMT) is responsible for monitoring project implementation to ensure compliance with EIA conditions and prevent negative environmental impacts.

Furthermore, community leaders expressed concern about severe vegetation damage and the destruction of livelihoods during the project's construction period. Furthermore, cultural services, such as religious centres, were also affected. Additionally, a community leader along Abuja-Abaji-Lokoja road, sect. IV, lamented that the road cuts through the heart of their community, and unfortunately, no viable alternative routes were provided. Possibilities like constructing pedestrian bridges or subterranean pathways to facilitate the safe movement

were not considered to mitigate the resulting consequences, which tragically led to the loss of lives. "*We lost a lot of lives…" (CSH-CL_03).* The participatory process seems broad in scope but lacks depth, as it appears underutilized in tackling issues of ecosystem service loss, livelihood destruction, and relocation of people and animals. Construction activities have been shown in many studies to cause damage to ecosystem services and necessitate the relocation of people and animal species along roadways (Crowl et al., 2008; Kim et al., 2016; Schwartz et al., 2006). The findings further revealed that project proponents paid insufficient attention to environmental protection protocols during the project implementation phase. This non-compliance with Nigerian EIA regulations and international treaties, including SDG protocols, exposed weaknesses in compliance mechanisms and poor enforcement of environmental laws, resulting in breaches of EIA protocols by project proponent. Brown (2021) also highlighted non-compliance and inadequate enforcement of environmental laws in the Nigerian oil and gas sector.

Improving Environmental Quality.

A recent study by Therivel (2020) highlighted the importance of IA processes in safeguarding environmental quality. Similarly, PP plays a significant role in promoting environmental quality throughout and after project implementation (Hasan et al., 2018). However, the overwhelming opinion among study participants, excluding government regulating agencies, was that community participation had minimal impact on improving environmental quality due to the proponent's failure to integrate participants views into the projects' design.

Concerns were raised by most participants from NGO groups regarding the proponent's disregard for community health during project implementation processes. A community leader lamented that residents of Nyanya and Bwari communities suffered greatly during project implementation, attributing these challenges to inadequate town planning in those areas. "*Experiencing hazardous smoke, dust, and noise for prolonged periods…" (CSH-CL_04).* These apprehensions align with findings from a recent study conducted in Malawi. The study revealed that individuals living in close proximity to mining projects experienced adverse environmental effects such as dust and noise, as reported by Lwesya Sibale and Fischer (2023). This highlights the potential risks to community health, including diseases such as cancer, asthma, and heart diseases, as reported in recent research by Khamraev et al. (2021). A similar experience was shared by another NGO group member who revealed that "*some*

community members have suggested for dust control measures at least three times a day during the day period…" (NGO-SH_02), but their concerns were ignored. Furthermore, local trading activities along the road sites were negatively affected by dust and smoke during construction due to slow project progress and the company's negligence in implementing impact reduction measures. A substantial number of responses indicated that the environmental quality was compromised during project implementation by the proponent.

The PP process was found to be at the lower end of Arnstein's ladder, lacking significant citizen power, and with participants' input having little influence in resolving environmental issues, as their views were not integrated into the projects' design. This finding aligns with a recent study by Thapa (2022), which found that people's voices and concerns were not considered in government-led planning and monitoring processes. Study participants raised several negative issues, including the destruction of local trading activities, such as hawkers and road traders, due to exhaust fumes from vehicles and dust from construction sites. According to recent studies, the construction industry is responsible for 70-80% of global particulate matter in the atmosphere, with dust and smoke being major contributors to hazardous air pollutants, posing significant risks to community health (Khamraev et al., 2021; Yang et al., 2020)

5.1.1.3. Economic and Social Sustainability

Economic and social sustainability was another core primary theme examined in the exploration of substantive effectiveness, as indicated in Table 5.2. Participants' responses were further categorized into three subthemes, which are significant drivers for substantive effectiveness according to the EIA literature (Bond et al., 2014; Klaffl et al., 2006; Morrison-Saunders et al., 2001). These three subthemes include economic and social benefits, socially acceptable proposals, and socially acceptable proposals.

5.1.1.3.1. Economic and Social Benefits

The fundamental objective of EIA is to enhance economic and social sustainability. Bond et al. (2016) argue that a legitimate IA aligns with both environmental and social sustainability. Therefore, it is essential to examine how the participatory process promotes economic and social sustainability, including aspects such as job creation and empowerment, which are integral to PP policy objectives (Bond, Morrison-Saunders, & Howitt, 2013; Burton, 2004; Lawrence, 2013; Roos et al., 2020).

The findings from the study revealed mixed responses concerning job creation and empowerment. Participants from non-regulating agencies indicated that the participatory process had limited influence on job creation, while those from government regulating agencies perceived this benefit as being realized. Community leaders explicitly mentioned that the project proponents often bring their workers from outside the host communities, neglecting the local youth. *"Nobody was employed even as a laborer…" (CSH-CL_02),* except for one community along Nasarawa Toto - Abaji Road where two youths were engaged as local laborers during the construction phase. It is noted that the participatory process is more effective in that particular community, which is attributed to a heightened fear of litigation within that community because of their influence. A similar concern was reported in rural project in Malawi, where the possibility of local employment was denied, and instead, workers were recruited from more distant villages (Lwesya Sibale & Fischer, 2023). In contrast, practitioners from government agencies emphasized that *"we provide avenues for jobs opportunities…" (GA-FMEV_03*), and ensure youth engagement during project implementation, countering the views of other practitioners.

Regarding empowerment, two out of five community leaders interviewed revealed that they were not consulted during the process, and their societal role was disregarded because they belonged to a non-indigenous group in the region. "*I was not even consulted during the payment of compensation…" (CSH-CL_02).* Similarly, responses from EIA consultants and NGO groups indicated that social groups, such as women and the less privileged in society, had limited influence on the project's design, as the affluent in society controlled the entire process. Kaku et al. (2022) also found a similar situation in Zanzibar, where local groups, including NGOs, had little influence on public-private projects despite their interest in the EIA process. This highlights a deficiency in the system, failing to empower vulnerable groups in comprehending and influencing their societal concerns. Such inadequacy is situated at the bottom of Arnstein's ladder, representing the lowest level, wherein these groups possess diminished influence in the decision-making (Arnstein, 1969, p. 216).

As mentioned earlier, the lack of job opportunities and inadequate commitment to community empowerment by the proponents were among the issues raised by study participants. The participatory process did not result in direct job opportunities for community members, except in two cases. However, Roos et al. (2020) argue that the

creation of job opportunities is a crucial economic benefit of EIA. Scholars recognize that sustainable development should address both job creation and empowerment of citizens to tackle social issues and promote economic and social development (Heras-Saizarbitoria et al., 2021; Tan, 2019). Furthermore, the engagement of non-indigenous groups by the project developers was weak during the processes, and the interests of marginalized groups were overlooked. This indicates that social groups are less likely to have increased control over their societal affairs. However, this contrasts with recent research conducted by Bjørgen et al. (2021), where several groups were involved in local planning processes in Norwegian cities.

Socially Acceptable Proposals

Many scholars believe that PP in EIA can contribute to identifying and resolving conflicts during the design and implementation process of projects (Chi et al., 2014; Glucker et al., 2013; Lawrence, 2003). The responses from all study participants overwhelmingly revealed positive feedback regarding conflict resolution, with fewer social conflicts reported. Community leaders affirmed that the involvement of local communities has been instrumental in resolving social conflicts. For instance, one community leader mentioned, *"We step-in in resolving conflict between the company and the youths' group..." (CSH-CL_04).* This was because of community opposition over the company's inappropriate behaviour in handling the project. The community movement group was organized to protect the community's overall interest and promote societal programs.

However, due to the complexity of problems involved in IA processes, conflicting opinions and interests are unavoidable. "There can be no sustainable development without peace and no peace without sustainable development" (Tan, 2019, p. 239). Some community leaders mentioned that they educate their followers on the long-term benefits of the project, urging them to overlook the negative aspects, although this approach may contradict principles of social justice. Nonetheless, they feel that taking up the case might yield no results due to administrative manipulation within the system, as highlighted in various sections of this study.

Another community leader also added, "*I tried to control my people not to react…" (CSH-CL_02).* Olatunji (2018), reported a similar scenario in the Ajaokuta steel plant project, where community leaders intervened in the dispute between landowners and project developers, resulting in a peaceful negotiation between the parties involved.

In the context of problem-solving, O'Faircheallaigh (2010) and Sinclair and Diduck (2017), suggest that PP may be sought by powerholders not just for obtaining information but also to support problem-solving by allowing community members to suggest concepts, ideas, and solutions to address social and environmental issues. However, many responses from EIA consultants and community leaders indicated that the current processes do not allow stakeholders to work together and identify socially acceptable strategies for addressing issues, especially in impact identification and suggesting mitigation measures. Members of the host communities were not allowed to discuss issues and ideas during meetings, "*no opening for deliberation…." (EIA-CON_05).* Bjørgen et al. (2021) argue that partnership in planning can be more effective than traditional methods that rely on experts' decisions with limited public involvement. Additionally, participants from NGO groups highlighted some gaps that hinder problem-solving in decision-making, including lack of information sharing, limited knowledge of complex environmental issues by participants, and the absence of openness to participants' views during the processes. These gaps need to be addressed to achieve more effective and inclusive problem-solving in EIA processes.

5.1.1.3.2. Social Learning

Social learning, characterized by deliberation among stakeholders, is a crucial element of social sustainability (Glucker et al., 2013; Kolhoff, 2013). In the context of PP, this allows for dialogue and collective action in decision-making processes. Social learning involves enhancing participants' knowledge, environmental education, and awareness, which are vital drivers of substantive effectiveness (Morrison-Saunders et al., 2015; O'Faircheallaigh, 2010; Wood, 2014). EIA consultants indicated that participants' knowledge can be improved if the process is robust, allowing host communities to actively participate and access sufficient information about the project. Similarly, practitioners from government agencies reported that the process has contributed to improving environmental education and awareness among participants, especially during review meetings and public consultations, where people come together to advance their cases and voices.

However, some study participants expressed concern about the low level of participation in the northern part of the country compared to other regions, attributing this to a lack of awareness about the EIA process in the region. Similar constraints were observed in Iranian EIA practice Khosravi et al. (2019a). Effective PP in EIA relies significantly on public awareness

Marara et al. (2011). Nonetheless, the EIA guidelines have not been widely circulated in Nigeria, hindering stakeholders and the public from understanding the involved procedures (Ogunba, 2004). A community leader expressed grievance that "*Authorities are not ready to sensitize us on our duties…" (CSH-CL_02),* but he hopes that in the future, they can stand for their rights with better knowledge.

The overwhelming views from community leaders and NGO groups suggest that the engagement process has limited effects on increasing participant knowledge, environmental education, and awareness, which are indirect benefits of PP (Morrison-Saunders et al., 2015; Wood, 2014). This was attributed to practical issues during the consultation processes, such as non-disclosure of project information. Lack of disclosure makes it difficult for community members to learn, understand, and provide informed suggestions. A practitioner from the NGO groups raised concerns about poor monitoring and lack of enforcement of EIA rules by regulating agencies, leading to breaches of EIA procedural guidelines. This hinders the potential benefits of social learning through PP.

5.1.1.4. Mitigation of Impacts

Loomis and Dziedzic (2018) and Roos et al. (2020) have both highlighted the crucial role of EIA in mitigating negative impacts. In this regard, the involvement of the public in the impact identification process, as emphasized by design (O'Faircheallaigh, 2010) becomes vital for effective project design. Moreover, Baker and McLelland (2003) emphasized the significance of identifying the specific objectives achieved through the application of the EIA process to enhance project performance. Within this context, mitigation of impacts emerges as a primary theme, further classified into two sub-themes. These sub-themes hold particular importance in evaluating the substantive effectiveness, as highlighted in the literature. The first sub-theme involves the identification and suggestion of appropriate mitigation measures, while the second sub-theme focuses on enhancing operating conditions and exploring alternative project processes.

Identification and Suggestion of Appropriate Mitigation Measures.

The aim of PP is to enhance the decision-making process by providing relevant environmental and social information to decision-makers (Glucker et al., 2013), ensuring well-informed decisions. This study section investigated the contributions of community members to the impact identification process and the suggestion of appropriate mitigation measures. In the

context of impact identification, feedback from community leaders revealed that except for two community leaders from Nyanya and Gwagwalada communities who participated during the scoping workshop, they were not allowed to contribute. EIA consultants and NGO groups overwhelmingly expressed concerns about the limited involvement of local communities during the initial stages of the process. An EIA consultant stated, "*we were made to understand many communities were not involved during the scoping exercise…" (EIA-CON_05),* indicating insufficient community engagement in impact identification processes.

This lack of engagement resulted in key concerns, such as potential noise, dust, and vehicular accidents during project execution, being raised after the final draft of the EIA reports. Unfortunately, "*those concerns have not been reflected in the post-EIA management plan…" (NGO-SH_01),* indicating a failure in reorganizing, and resolving issues before project implementation. Similar findings were reported by Kaku et al. (2022) in the eastern coast of Tanzania, where inadequate consideration of community concerns during the early stages of the EIA process resulted in adverse social and environmental impacts. One community leader shared an instance *"we suggested for the construction of an alternative pedestrian bridge for easy access…" (CSH-CL_02),* suggesting an alternative pedestrian bridge to reduce accidents during the construction phase, but such suggestions were not considered during project execution.

Moreover, participants from non-governmental agencies identified limitations hindering community involvement during the impact identification process, including poor notification and information dissemination techniques. Ineffective communication with local communities throughout the project implementation was also raised as a concern. However, EIA procedural guidelines require active communication with stakeholders, including sustained consultation with host communities at all phases of development (Felicia & Unachukwu, 2022; Nwoko, 2013b). Ensuring effective communication and engagement throughout the process is vital to address community concerns and improve the overall effectiveness of the EIA process.

5.1.1.4.1. Improving Operating Conditions and Alternative Processes of the Project.

Regarding improving the operating conditions and alternative processes of the project, the overwhelming consensus among participants was that the participatory processes had limited impact on enhancing project operating conditions. According to one community leader along

the Abuja-Lokoja Road, Sect IV *"our concerns were not properly integrated during the process…" (CSH-CL_05*), if their concerns were adequately integrated during the impact identification process, which would have led to improvements in the project's overall operating conditions. Instead, decisions were madeat the council headquarters without their input or contributions, leaving them with minimal influence in setting appropriate mitigation measures tailored to their needs. This lack of assurance for meaningful change further diminishes the recognition of their views by the authorities, potentially this may lead to conflict and community frustration (Árnadottir, 2002).

However, practitioners from government regulatory agencies provided a different perspective. *"We make sure that the people own the projects themself…" (GA-FMEV_01),* They emphasized that they strive to ensure that the projects are owned by the people themselves. They further highlighted instances where the public actively contributed to setting conditions and alternative measures, leading to improvements in project operating conditions. The disparity in perceptions between the stakeholders may be attributed to potential partiality from the regulating agencies, as they might feel the need to defend their job integrity (Enríquez-de-Salamanca, 2018).

Normative Effectiveness

Normative effectiveness was assessed through stakeholder perceptions of the attainment of broader PP goals and fulfilment with EIA policies, considering both social and individual norms. These goals encompassed various democratic ideals and the respect for human rights conventions, as emphasized by several scholars (Baker & McLelland, 2003; Barton, 2002; Hartley & Wood, 2005; Rega & Baldizzone, 2015; Stoeglehner et al., 2009). The analysis categorized these goals into primary themes and subthemes. The first primary theme, democratic capacity, and practice, consisted of three subthemes, while the second primary theme, respect for human rights conventions, was further divided into two subthemes.

5.1.1.5. Democratic Capacity and Practice

In this section, democratic capacity and practice emerged as one of the primary themes, as indicated in Table 5.2 of this chapter. According to Stoeglehner et al. (2009), democratic efficiency is considered a form of normative effectiveness, ensuring decisions align with the norms of the public. The participant responses were categorized into three subthemes: articulation of public interest, influencing decision-making, and openness of decision-makers

to participants' views. These subthemes were derived from and supported by relevant literature (Glucker et al., 2013; Hartley & Wood, 2005; Kanu et al., 2018b; Robinson & Bond, 2003) The detailed elaboration on each of these subthemes is provided below.

5.1.1.5.1. Articulation of Interest

The articulation of participants' interests in the project design is a crucial aspect of PP in the EIA process (Kanu et al., 2018b). PP allows community members to understand how their interests will be incorporated into the decision-making procedures (Salomons & Hoberg, 2014). However, according to Alexander (2002), seeking a normative agenda regarding community interests can pose significant challenges due to the involvement of multiple stakeholders with diverse values and cultures. Despite these challenges, it is imperative to consider community interests and values in the project design to enhance the acceptability and legitimacy of the EIA process (Glucker et al., 2013).

During interviews, several actors revealed that participants' interests were not adequately addressed in the project design, for example a community leader expressed that *"we were not allowed to express our concerns during the project planning…" (CSH-CL_01)*. Furthermore, Community leaders from Awawa, Yangoji, and Nyannya communities along the Nasarawa–Toto–Abaji Road and Abuja–Lokoja Road raised various concerns regarding the economic and social impacts of the project, including issues related to dust and smoke during the construction period and disturbances caused by traffic, including vehicle-animal collisions. Site visits also revealed that residential and commercial activities were situated too close to the highways without sufficient setback as illustrated in Figure 5.1, indicating poor town planning mechanisms. Okafor (2020) noted that non-compliance with road setbacks and standards has been a major cause of road accidents, traffic congestion, and other social problems.

Figure 5.1 *Showing the proximity of residential and commercial activities and the highway Source: authors' own.*

One of the community leaders expressed frustration, stating, *"No alternative access roads were created to ease movements and construction vibration has caused the loss of property value…" (CSH-CL_05).* Similar economic issues related to the loss of property value due to construction vibration were raised by the public during Sydney's mega infrastructure planning, which led to a property condition survey before construction to ensure adequate compensation for any damage (Searle & Legacy, 2021). However, in this study, the situation was different as local communities were not given sufficient opportunities to express their needs during the screening and scoping exercises, and no such compensation measures were applied before project implementation, as indicated by the study participants. Moreover, practitioners from non-governmental regulating bodies revealed that "*the projects developers withhold important project information relating to negative social and environmental effects of the projects…" (EIA-CON_01).* Misleading the public about the project's implications and this may impact the objectivity of interest articulation (Chettiparamb, 2016). Other practical issues highlighted by the practitioner's included manipulation from the public and political groups, where their true interests were hidden during the process, leading to violations of public trust, and prioritizing individual interests over societal desires.

Conversely, practitioners from government agencies presented a different perspective, emphasizing that they regulate the process according to the EIA procedural guidelines. "*We*

make sure that they engage with people as much as possible…" (GA-FMEV_01). They ensure extensive engagement with the community to allow for the articulation of community interests in the project design. They further stated that "*Whatever decision we make will be based on participants complaints…" (GA-FMEV_02),* to ensure that the people feel ownership of the projects. Consequently, the collected views from the participants revealed a mixture of responses, with the views of practitioners from government regulating agencies contradicting the practical experiences expressed by other participants.

Influencing Decision-Making Process.

Many scholars consider the public's capacity to influence decision-making as a vital aspect of PP and a significant benefit of the EIA process (Hartley & Wood, 2005; Yang, 2008). Barton (2002) further explains that communities affected by planned projects should have the opportunity to consent and influence the decision-making process. However, the study participants revealed diverse responses within this context. Most practitioners from government agencies perceived these benefits as being realized, stating, *"we allow the public to influence the decision..." (GA-NESREA_02).* On the other hand, many participants from non-regulating bodies and community leaders lamented that both regulators and project proponents paid little attention to community participation, especially in projects owned by the government. As a result, the participants' ability to influence decisions during the project design was limited, leading to processes characterized by political influence and administrative manipulation. This limitation in public influence over decision-making has been observed in other studies, such as Hasan et al. (2018) findings in Bangladesh, where the public had limited say in government projects due to weak institutional capacity and inadequate enforcement of environmental laws. Similar challenges are also prevalent in many GS countries, including Nigeria, where EIA implementation faces obstacles related to ineffective application of environmental and EIA laws (Amechi, 2010; Brown, 2021; Hemba & Phil-Eze, 2021)

Most of the results from the participants' views reflected the lowest rung on the Arnstein ladder of participation. Host communities in all case studies had little opportunity to influence decision-making, which can be characterized as non-participation. This outcome corresponds with the findings of Brown and Chin (2013), who noted the ineffectiveness of the participation process in neighbourhood planning, leading to its failure in influencing local decisions. Those

who took part in this process perceived notably limited levels of influence over the planning decisions. The process was perceived as deeply political, with developers exercising unwarranted control, leading to an inequitable treatment of district residents. In a similar vein, an NGO participant in this study further exposed that "*the key political group of the society hijacks the process and acts on the community's behalf…" (NGO-SH_02).* While Enríquez-de-Salamanca (2018) and Enríquez-de-Salamanca (2021) acknowledges that decision-making is frequently influenced by the general interest of politicians, but it is essential to recognize the democratic right of individuals to be consulted, informed, and able to influence decisions that directly affect them (Chi et al., 2014).

A participant from a non-regulating agency further revealed that in many public projects, such as road infrastructure, "*The competent authorities and project developers usually manipulate the process for their self-benefit and government interest…" (EIA-CON_01).* The global Covid-19 pandemic crisis, as noted by Enríquez-de-Salamanca (2021) may prioritize economic recovery over EIA considerations, potentially leading to biases favoring overdue development processes, which can further affect the community's capacity to influence decision-making.

5.1.1.5.2. Openness to Participants' Views

Openness to stakeholders' views is a crucial factor in driving the effectiveness of PP (Robinson & Bond, 2003). Deliberative democracy in planning, characterized by openness to diverse stakeholders' views (Connelly & Richardson, 2005), this is particularly important during the scoping exercise and review meetings. However, the study revealed that during the panel review exercise, government officials and project proponents controlled the meeting, considering community participants as passive members with no capacity for meaningful dialogue. Similar constraints were observed in a recent study, where individuals in positions of power exerted significant influence over the consultation meetings (Lwesya Sibale & Fischer, 2023). In this study, the emphasis was on a one-way flow of information from officials to citizens, leaving no room for negotiation. This led to community leaders expressing frustration that *"their views were not considered…" (CSH-CL_02).* A similar one-sided approach was found in Pakistan by Khan and Chaudhry (2021), where PP meetings served merely as information sessions rather than engaging the public. Similarly, all communities,

except one, along the Abuja-Abaji-Lokoja Road section IV, faced the same situation where their concerns and views were left unrecognized, as they were not acknowledged as partners in the planning and implementation processes.

EIA practitioners further clarified that the process often restricts different stakeholder views, *"they restrict the community inputs…" (EIA-CON_01).* leaving community inputs limited. An EIA consultant attributed this issue to the local people "*inexperienced in attending participatory meetings…" (EIA-CON_02),* making them silent participants instead. Additionally, poor active participation of NGO groups during the process was observed. Hasan et al. (2018), suggested that community-based NGOs could play a significant role in bridging the communication gap among participants during meetings, as they have the capacity to influence the agenda and raise issues of concern to the local communities.

Conversely, practitioners from government agencies explained that during the scoping exercise and review meetings, "*we allowed openness to different views from stakeholders…" (GA-FMEV_01).* However, they acknowledged that the effectiveness of the process varies regionally. People in Southern regions, where companies have been operating for a long time, tend to have a clearer understanding of the importance of the EIA process and the avenues it offers for meaningful participation. In contrast, in the North, the practice is different, and the significance of EIA might not be deeply understood.

5.1.1.6. Respect for Human Right Conventions

Participation in environmental matters and access to justice are fundamental requirements of PP as enshrined in human rights conventions. These principles were emphasized in Principle 10 of the Rio Declaration and later strengthened by the Aarhus Convention (Rega & Baldizzone, 2015; Zhao & Butcher, 2022). Numerous scholars have highlighted that PP in EIA should enhance decision-making capacity by fulfilling both the obligations and rights to participate and access environmental justice (Glucker et al., 2013; Lycourgos et al., 2021; O'Faircheallaigh, 2010). Within this context, two subthemes discussed in this section are exercising citizens' rights and access to environmental justice, both of which are closely related to achieving the normative goals (Baker & McLelland, 2003; Cashmore et al., 2004).

5.1.1.6.1. Exercising Citizens' Right

PP in EIA serves as a means to actualize citizens' rights (Glucker et al., 2013). It provides people with the opportunity to exercise their citizenship and contribute to decision-making processes

(O'Faircheallaigh, 2010). This section explored how the EIA process allows participants to exercise their citizenship, including social responsibilities and citizens' rights. Many practitioners from government agencies believed that these benefits were being achieved. A practitioner from a regulating agency emphasized that "*The process allowed the participants to exercise their social responsibilities…" (GA-NESREA_02)*. Participants were granted the right to contribute to decision-making, deliberate on social issues, and access information, aligning with EIA international best practices.

However, in contrast, most community leaders revealed that participants had limited opportunities to communicate, deliberate on issues, and contribute to decision-making processes. Some community members were not even aware of their rights and responsibilities concerning EIA, "*we are not aware that participation in EIA is our citizen rights…" (NGO-SH_02).* This lack of awareness is notably observed in communities such as Awawa, Payi, Dutsen-Makaranta Yankoji, and Lambata, highlighting a lack of community awareness on environmental issues,which is a major setback for environmental justice (Elvis-Imo, 2021). An EIA consultant furtherrevealed that in many government projects in Nigeria, the project developer and competent authority collude, preventing participants from exercising their rights and understanding the EIA system properly. This often leads to accelerating work without following proper EIA application, with the argument that the project is vital, which Lawrence (2013) views as an administrative manipulation of the EIA system driven by political reasons. Similar cases in Spain involved excluding EIA from road projects for political reasons, resulting in legal disputes (Enríquez-de-Salamanca, 2018). Such practices negatively affect citizens' capacity to develop their full potential and exercise their citizen rights (Lawrence, 2013).

Access to Environmental Justice

Incorporating environmental justice into EIA processes is considered essential by many scholars (Connelly & Richardson, 2005; Jackson & Illsley, 2007; Walker, 2010). The study further revealed how the process aligns with the principles of access to justice as outlined in human rights conventions. However, most EIA practitioners, especially from consulting firms, expressed concerns about environmental justice, citing instances where people's rights were deprived due to limited access to project information and inadequate compensation, largely stemming from a lack of awareness about their rights. Consequently, community members

may not even consider seeking justice when their rights are infringed. This sentiment was reinforced by a community leader who felt that "*we cannot fight with the government…" (CSH-CL_03),* unaware that the approved EIA document could serve as actionable evidence in court against any company.

Participants from NGO groups also highlighted that respect for human rights conventions is generally low in most government projects, especially road and railway projects. However, energy, oil, and gas-related projects tend to receive more scrutiny due to the fear of litigation, as evidenced by the case in Morocco-Clarke (2021), where community members filed a case against five oil companies over gas flaring. Additionally, some study participants identified major obstacles to environmental justice, including low awareness of environmental rights, high costs associated with judicial trials, and poor judicial attitudes that result in bribes and kickbacks. They also pointed out the issue of low enforcement of the rule of law. One participant remarked, *"Access to justice in Nigeria is very difficult unless you belong to a certain group in society..." (EIA-CON_02).* Ibe and Akwa (2021b) further concluded that access to environmental justice in Nigeria is nearly absent considering societal behaviors and the political atmosphere.

Transactive Effectiveness

The transactive effectiveness, or efficiency of the process, is determined by how resources, time, personnel, cost-effectiveness, and materials are utilized (Baker & McLelland, 2003; Theophilou et al., 2010). In this study, the analysis of transactive efficiency focused on the extent to which the participatory process achieved specific criteria: the capacity of partnership, clarity of stakeholder roles within the decision-making process, and effective time management. These criteria were derived from key literature on EIA and PP effectiveness (Baker & McLelland, 2003; Chanchitpricha & Bond, 2013; Sadler, 1996a; Theophilou et al., 2010). Each of these criteria was further divided into subthemes, which are crucial drivers in achieving effective PP.

5.1.1.7. Capacity of Partnership

In this section, the study delves into how the partnerships exist among various stakeholders and how the participatory process efficiently and effectively delivers its outcomes. According to MacDonald et al. (2019), stakeholder partnerships should be transparent, participatory, and stakeholder-based, allowing valuable contributions from diverse stakeholders to aid the

decision-making process. The capacity of partnership serves as the core primary theme, which is further classified into two subthemes: partnership and collaboration among stakeholders and the balance of power within the partnership, as adapted from (Burns & Heywood, 2004; Wilson & Wilde, 2003a).

5.1.1.7.1. Partnership and Collaboration Among the Stakeholders

Effective PP in EIA relies on collaboration and partnership among various stakeholders to deliver environmental, economic, and social benefits (Aloni et al., 2015). Nigerian EIA legislation mandates continuous stakeholder partnership throughout the EIA process (Anyadiegwu, 2012). This includes involvement from government agencies, NGOs, interested groups, project developers, individuals, and affected communities, as identified by Aloni et al. (2015) and Nel (2001). The World Bank emphasizes the need for multi-stakeholder partnership in the IA process to influence and share control in policy and planning making (Loayza, 2012). However, the study findings revealed that close collaboration primarily occurred among relevant government agencies and project developers, with little consideration for other stakeholders, especially affected communities, NGOs, and community-based organizations. An EIA consultant admitted that *"collaboration with NGOs and community-based organizations was very low except in a few cases…" (CSH-CL_01)*. This lack of inclusivity in partnerships was also noted by Ashade and Mutereko (2021) in public-private partnership infrastructural projects in Nigeria. They found that community groups were often excluded from the process. Additionally, the study showed that collaboration was more effective in communities closer to the city center particularly Nyanya and Gwagwalada communities compared to those farther away, possibly due to elevated awareness and influence. For instance, community-based organizations in Gwagwalada and Nyannya communities were involved in the process. However, project-affected parties were usually engaged only when necessary, such as during compensation payments or mapping affected areas, with limited involvement throughout the EIA cycle.

Moreover, stakeholders' involvement, particularly with affected parties, NGOs, and community-based organizations, did not align with the principles of "citizen power" in Arnstein's degree of participation, characterized by the collection and consideration of stakeholders' input in decision-making (Luyet et al., 2012). The low level of partnership was attributed to project developers' cost reduction efforts, as they often minimized the

involvement of relevant stakeholders, fearing increased time and costs for the participatory process and prioritizing government-related stakeholders (EIA-CON_06). This selective approach to stakeholder partnership may increase the risk of an unsuccessful participatory process (Luyet et al., 2012).

5.1.1.7.2. Balance of Power Within the Partnership

Collaborative and interactive decision-making is a participatory process that enables all stakeholders to address shared problems together (Clarke & MacDonald, 2019; Emerson & Gerlak, 2014). Many scholars believe that the capacity of stakeholders to share their opinions determines their power and influence in the decision-making process (Aloni et al., 2015; Burns & Taylor, 2000; Hasan et al., 2018). However, the study revealed that government agencies dominated the decision-making process, while other stakeholders, especially host communities, were undervalued and not treated as partners in the decision-making process. A community leader from the Abuja-Lokoja Road, Sect IV expressed frustration, stating, *"We were not valued as project partners..." (CSH-CL_01),* further clarifying that they were not considered important in the planning and implementation of the project, likely due to being a non-indigenous community, with decisions imposed from higher authorities. An EIA consultants reenforced this notion revelling that, in most road projects *"the host communities are not adequately recognized as partners during both the planning and implementation phases of the project..." (EIA-CON_03).* Consequently, it is evident that the insufficient acknowledgement of the host communities as vital collaborators during the project's planning and implementation stages continues as a significant concern.

Another participant from an EIA consultant highlighted the lack of equal treatment during participatory meetings, with some stakeholders controlling and influencing the agenda based on their own interests rather than considering community concerns (EIA-CON_02). Hege and Demailly (2017) also observed a similar bias in NGO practice, which they considered as a stakeholder bias that affects the process. Furthermore, in most government-funded projects, the competent authority decides which stakeholders to consult, resulting in a greater bias in the decision-making process. Such practices are viewed as administrative manipulation (Enríquez-de-Salamanca, 2018), deliberately excluding important stakeholders such as community-based organizations and community leaders may affects their ability to share their opinions within the decision-making process.

5.1.1.8. Clarity of Stakeholder Role

Achieving transactive effectiveness in the IA process depends on factors such as awareness of responsibilities and clear specification of stakeholder roles (Chanchitpricha & Bond, 2013; Theophilou et al., 2010). In this section, clarity of stakeholder roles is considered one of the core primary themes to analyze PP effectiveness. Participant views were categorized into two subthemes: specification of stakeholder roles and awareness of responsibilities among stakeholders, drawn from Theophilou et al. (2010) and Loomis and Dziedzic (2018). Theophilou et al. (2010) and Loomis and Dziedzic (2018).

Specification of Roles.

Transactive effectiveness in the EIA process relies on stakeholders' understanding of their roles and responsibilities to achieve set objectives (Sadler, 1996b). However, in road construction projects in Nigeria, the specification of job roles was a significant challenge in achieving effective PP. According to all study participants from government agencies and EIA consultants, the law lacked clarity regarding the roles of community stakeholders in their engagement, leaving it open-ended. This resulted in vague responsibilities, as highlighted by one participant, *"Responsibilities were not clearly defined..." (GA-FMEV_04).* Although regulating agencies checked whether community stakeholders were engaged during the review process, the roles of affected and interested parties were not clearly defined in Nigeria EIA Act (EIA-CON_02). This lack of well-defined roles poses a risk of poor involvement of important stakeholders and reduces the credibility of the process.

5.1.1.8.1. Awareness of Responsibilities

Regarding awareness of responsibilities, an EIA consultant explained that stakeholders are generally aware of their responsibilities, but it is the consultant and the ministry's duty to brief community members and interested parties on their roles and responsibilities during the scoping exercise and panel review meetings. However, some community leaders along Abuja - Kaduna Road and Abuja-Lokoja Road, Sect IV, lamented the lack of awareness during the engagement exercise, stating, *"We are notenlightened during the engagement exercise..." (CSH-CL_04).* This gap in awareness was also observed in Pakistan, where public awareness was deliberately avoided during the engagement exercise to prevent resistance to environmentally sensitive projects Khan et al. (2018). A practitioner from regulating agencies further highlighted that most local communities are unaware of existing EIA laws, and there are gaps in EIA laws that fail to define stakeholders' roles, duties, and responsibilities *“The*

law is either silent or inconsistent in defining roles, duties, and responsibilities of stakeholders…" (GA-FMEV_03). Clearly defined laws and legislations are crucial in defining stakeholder roles and safeguarding the rights of all stakeholders within the decision-making process Marzouki et al. (2022).

5.1.1.9. Time Management

Achieving transactive effectiveness in the participatory process involves delivering the procedural application in the minimum time possible (Baker & McLelland, 2003). This section examines how the participatory process was conducted within a reasonable timeframe and assesses the efficiency of time consumed in the project's implementation without undue delays. These criteria were adapted from previous studies (Baker & McLelland, 2003; Sadler, 1996a; Theophilou et al., 2010). The detailed views of the study participants are presented below.

5.1.1.9.1. Participatory Process is Carried Out Within a Reasonable Timeline.

Transactive effectiveness is achieved when the participatory process efficiently delivers the desired outcomes within a minimum timeframe and cost (Baker & McLelland, 2003; Sadler, 1996a). This section examines the extent to which the participatory process adhered to a reasonable timeframe. However, the views of the participants yielded mixed results. It was evident that, except for the study participants from government regulating agencies, all others felt that the participatory process did not allow enough time for communities to express their concerns during the EIA process, with one community being an exception, possibly due to its proximity to the city centre. Consequently, their views were not adequately considered. A recent study by Owiny et al. (2022) also observed a lack of time as a major obstacle in the Kenya superhighway project, leading to low levels of PP.

Additionally, an EIA consultant lamented that *"for most government projects, they usually give limited time to the affected parties to submit their concerns and grievances..." (EIA-CON_04).* He further clarified that this rush was due to political pressure from government officials to expedite the projects for political interests. Similar scenarios were found by, where SEA was conducted within tight timelines due to political pressure to meet the EC deadline. On the contrary, the views of government agencies differed from the practical application, as reported by other participants. *"We allowed for enough time, as stipulated in the EIA act, a*

minimum of 21 days must be given to participants to raise their concerns, and the ministry strictly monitors the entire process" (GA-NESREA_01). However, considering most of the participants' views, it appears that legislative timelines were not consistently followed during the participatory process, except in a few cases.

5.1.1.9.2. Projects Implementation Without Undue Delays

The measurement of transactive effectiveness has been highlighted by some scholars based on the efficiency concept (Chanchitpricha & Bond, 2013; Theophilou et al., 2010). This approach involves assessing effectiveness based on the proficiency in time consumption and resources utilized during the IA and implementation process. This section examines how project implementation aligns with timelines and schedules. However, community leaders have raised concerns about project delays during the implementation phase due to budgetary limitations from the government, as revealed by a participant from a government agency, *"Most times, road projects are delayed due to budgetary constraints" (GA-FMEV_05).* A recent study also identified the lack of funding as a major hindrance to public construction project delivery in Nigeria (Mamman & Umesi, 2022). Consequently, host communities suffer the impacts of these delays, as highlighted by one community leader, *"My community experiences hazardous smoke and dust due to the delay in the project's implementation..." (CSH-CL_05).* This suggests that projects were not executed within their designated timelines, negatively affecting host communities. A participant from an NGO group also expressed concern that *"most of the road projects are political projects, making it difficult for host communities to influence timely project completion unless they have strong community groups and leadership" (NGO-SH_04).*

In response, most government regulating agencies attributed the delay in project implementation to the funding of the project itself, rather than the EIA process. *"People make a lot of complaints about long-term implementation..." (GA-FMEV_01),* but they cannot do anything because the funding comes from the government, not the agency. However, Jalali et al. (2018), concluded that delay factors in project implementation, particularly in GS countries, are related to weak project management techniques and delays in budgetary allocation, while in GN countries, delays are mainly justifiable, such as inclement weather and human resources performance.

Conclusion

This chapter centred on evaluating the effectiveness of PP in EIA processes for road construction projects in Nigeria. It delves into the procedural, substantive, normative, and transactive aspects of PP, considering the viewpoints of different stakeholders. The chapter highlights the significance of effective PP in achieving a sustainable and inclusive participatory process in EIA. Nonetheless, it also highlights various challenges and limitations that require attention to enhance the overall effectiveness of PP in road construction projects in Nigeria. For a more comprehensive understanding of the findings, additional details can be found in Chapter Seven of this study.

Chapter Six: Results and Discussion of the Survey Data

Introduction

This chapter focuses on the survey data analysis conducted using mobile data collection. The data collection period commenced on 12th September 2021 and continued for a duration of eight weeks. The target population was estimated to be approximately 384 individuals, based on the calculated sample size using a confidence level of 95% and a confidence interval of 5%. Ultimately, a total of 384 individuals responded, representing 100% of the overall target population, with no missing data in the dataset. The analysis was conducted using SPSS, incorporating various components, including descriptive statistics, reliability analysis, normality testing, and Ordinal Logistic Regression (OLR) to explore the relationship between satisfaction levels.

Reliability Test

The reliability test was conducted using Cronbach's alpha, measuring the internal consistency of each scale question in the questionnaire. The results showed that the questionnaire exhibited good internal consistency with reliability coefficients ranging from 0.785 to 0.926, as presented in Table 6.1. These values surpassed the acceptable threshold of 0.70, as recommended by Bonett and Wright (2015), DeVellis (2016) and Streiner (2003). The internal consistency was assessed not only for the entire scale but also for each individual subscale. All items were found to be relevant, as removing any of them would result in a decrease in the total alpha and subsequently diminish the internal consistency of the instrument.

Table 6.1 *Cronbach Alpha for each scale questions*

Sections	Scale question	Cronbach's Alpha	No of items
Engagement and consultation techniques, access to information and disclosure and notification and publication techniques.	Questions 1 - 15	0.926	15
Environmental sustainability, economic and social benefits, and mitigation of impacts.	Questions 16 - 24	0.785	9
Democratic capacity and practice and respect for human right.	Questions 25 - 33	0.854	9
Clarity of stakeholder role, capacity of partnership and time management.	Questions 34 - 42	0.794	9

Normality Test

The scale questions were initially transformed and computed using their mean numeric expressions before undergoing the normality test. The results of the normality test indicated

a significant deviation from normal distribution, as evidenced by the P-value being smaller than 0.05, suggesting that the data is not normally distributed (see Table 6.2). Consequently, a non-parametric test was employed for data analysis, in line with the recommendations of McSweeney and Katz (1978) and Leech and Onwuegbuzie (2002) when dealing with non-normally distributed data.

Table 6.2 *Test of Normality of the survey dataset (Computed mean)*

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
(ECT) Question 1 -7	0.087	384	<.001	0.98	384	<.001
(AID) Questions 8 - 12	0.158	384	<.001	0.913	384	<.001
(NPT) Questions 13 - 15	0.251	384	<.001	0.894	384	<.001
(ES) Questions 16 - 17	0.131	384	<.001	0.946	384	<.001
(ESS) Questions 18 - 20	0.147	384	<.001	0.964	384	<.001
(MI) Questions 21 - 24	0.091	384	<.001	0.979	384	<.001
(DCP) Questions 25 - 27	0.116	384	<.001	0.953	384	<.001
(RHC) Questions 28 - 33	0.109	384	<.001	0.972	384	<.001
(CSR) Questions 34 - 36	0.17	384	<.001	0.945	384	<.001
(CP) Questions 37 - 40	0.117	384	<.001	0.964	384	<.001
(TM) Questions 41 - 42	0.262	384	<.001	0.817	384	<.001
Area Council	0.242	384	<.001	0.877	384	<.001
Project Name	0.316	384	<.001	0.748	384	<.001
Participation	0.393	384	<.001	0.621	384	<.001
Capacity of participation	0.534	384	<.001	0.247	384	<.001
Marginalization	0.451	384	<.001	0.565	384	<.001
Gender	0.357	384	<.001	0.635	384	<.001
Age Group	0.234	384	<.001	0.91	384	<.001
Occupation	0.186	384	<.001	0.919	384	<.001
Qualification	0.216	384	<.001	0.904	384	<.001

Descriptive statistics

Demographic Characteristics

This section analysed the demographic characteristics of a total of 384 respondents. The frequency of the main demographic and socio-economic details was presented based on the sampled communities and is reported in Table 6.3. The results revealed that 53.1% of the respondents were male, while 46.9% were female. Regarding age distribution, 14.1% of participants were between 18 and 24 years old, 39.6% fell within the range of 25 to 34 years, 26.0% were aged between 35 and 44 years, 15.9% were within the range of 45 to 54 years, 2.3% were between 55 and 64 years old, and those under 18 and above 60 years old accounted for 1.0% each. The working group constituted nearly 80% of the respondents.

Most of the participants were found to reside in Nyanya and Gwagwalada communities, which accounted for 31.5% and 26.3% of the total respondents, respectively. For a visual representation of the community distribution in the study area, please refer to Figure 3.2. Additionally, the educational background of the respondents varied, with 42.2% having completed a diploma/NCE level, 20.8% having completed O' level, and 6.8% having completed primary level education. Moreover, 24.2% had completed an undergraduate degree, 3.1% had completed a postgraduate degree, and 2.9% indicated other levels of education.

In terms of occupation, 1.0% of the respondents were engaged in managerial occupations, 13.5% were in sales and services occupations, 30.8% represented trade, transport, and equipment operators' occupations, and 38.5% were engaged in agriculture and related production occupations. Furthermore, 14.8% of the respondents were involved in occupations related to education, community, and government services, while 1.3% indicated other occupations.

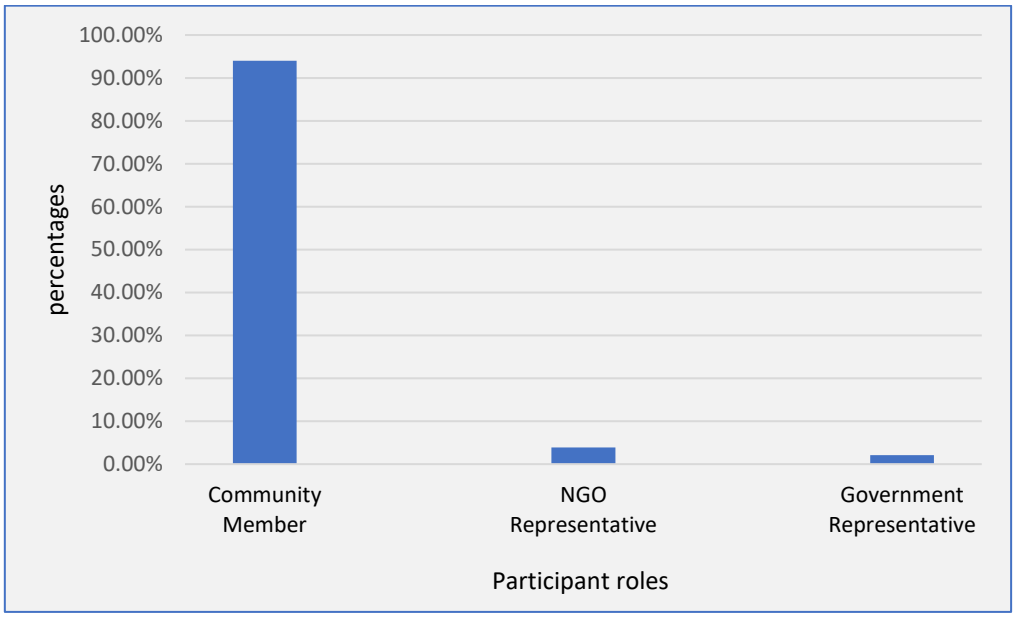
Table 6.3 *Participant demographic and socio-economic information*

Demographic and socio-economic variables/ community name	**Awawa**	**Gada Biyu**	**Yangoji**	**Lambata**	**Gwagwalada**	**Gwako**	**Nyanya**	**Kugbo**	**Dutse Makaranta**	**Peye**	**Total**
	17 (4.4%)	12 (3.1%)	26 (6.8%)	16 (4.2%)	101 (26.3%)	19 (4.9%)	121 (31.5%)	37 (9.6%)	15 (3.9%)	20 (5.2%)	N= 384
Gender: Count											
Male	10	6	8	8	62	11	64	23	4	8	204 (53.1%)
Female	7	6	18	8	39	8	57	14	11	12	180 (46.9%)
Age group: Count											
Under 18	0	0	0	1	2	0	0	0	1	0	4 (1.0%)
18 - 24	0	0	6	1	17	6	17	5	1	1	54 (14.1%)
25 - 34	6	4	13	4	38	10	40	22	7	8	152 (39.6%)
35 - 44	8	3	5	9	24	3	31	5	3	9	100 (26.0%)
45 - 54	1	4	2	1	18	0	26	4	3	2	61 (15.9%)
55 - 64	2	1	0	0	2	0	3	1	0	0	9 (2.3%)
65 Above	0	0	0	0	0	0	4	0	0	0	4 (1.0%)
Level of education: Count											
Primary Level	0	0	1	0	10	1	7	2	0	5	26 (6.8%)
O Level	8	0	1	2	9	5	26	14	3	12	80 (20.8%)
Diploma/NCE	8	5	13	9	41	9	51	15	8	3	162 (42.2%)
Undergraduate	0	5	10	4	27	4	34	6	3	0	93 (24.2%)
Postgraduate	0	1	0	1	7	0	2	0	1	0	12 (3.1%)
Other	1	1	1	0	7	0	1	0	0	0	11 (2.9%)
Occupation: Count											
Manager	0	0	0	0	2	0	2	0	0	0	4 (1.0%)

Clerical Worker	0	0	1	0	5	0	5	0	0	1	12 (3.1%)
Service/Sales Worker	0	0	2	2	11	5	20	1	3	8	52 (13.5%)
Machine Operator/Assembler	1	0	3	0	2	0	7	3	0	5	21 (5.5%)
Industrial Occupation	1	1	4	3	21	1	24	8	4	3	70 (18.2%)
Professional	0	0	1	1	15	3	14	6	2	1	43 (11.2%)
Agriculture	8	6	7	6	16	3	22	7	2	1	78 (20.3%)
Trade/Business	7	4	8	3	26	7	26	11	4	1	97 (25.3%)
Armed Force Occupation	0	0	0	0	1	0	1	0	0	0	2 (0.5%)
Other	0	1	0	1	2	0	0	1	0	0	5 (1.3%)

In terms of participants' roles, most respondents were community members, aligning with the targeted population as outlined in the methodology chapter. Community members constituted a larger proportion, accounting for 94.0% of the respondents. Additionally, 3.9% of the respondents represented NGOs, while 2.1% were government representatives (see Figure 6.1).

Figure 6.1 *Study participant roles*



The analysis also exposed that 45.8% of the respondents were actively engaged during the EIA process. Notably, members of two communities, namely Awawa and Gada Biyu along Abuja-Lokoja Road section IV, reported not being involved in the process. Furthermore, 28.4% of the respondents identified themselves as part of the marginalized group during the process, as depicted in Figures 6.2 and 6.3.

Figure 6.2 *Participation*

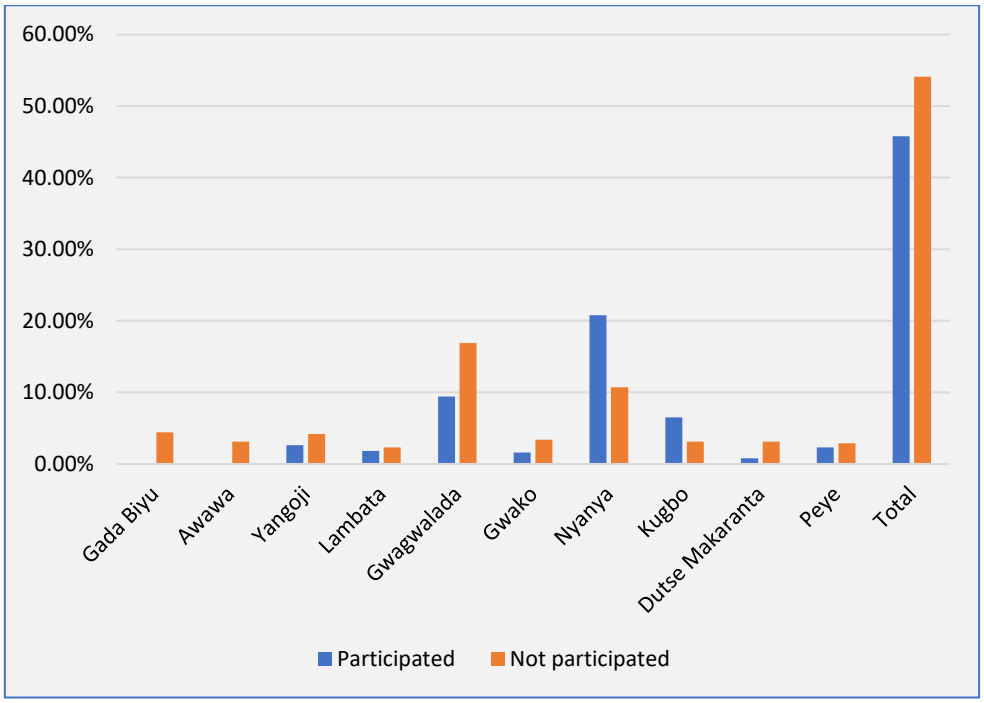
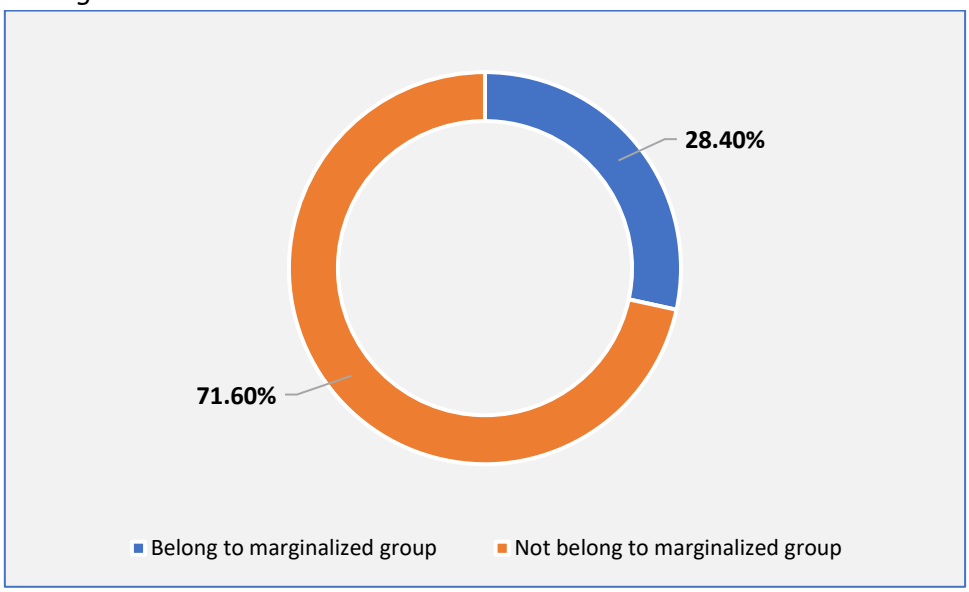
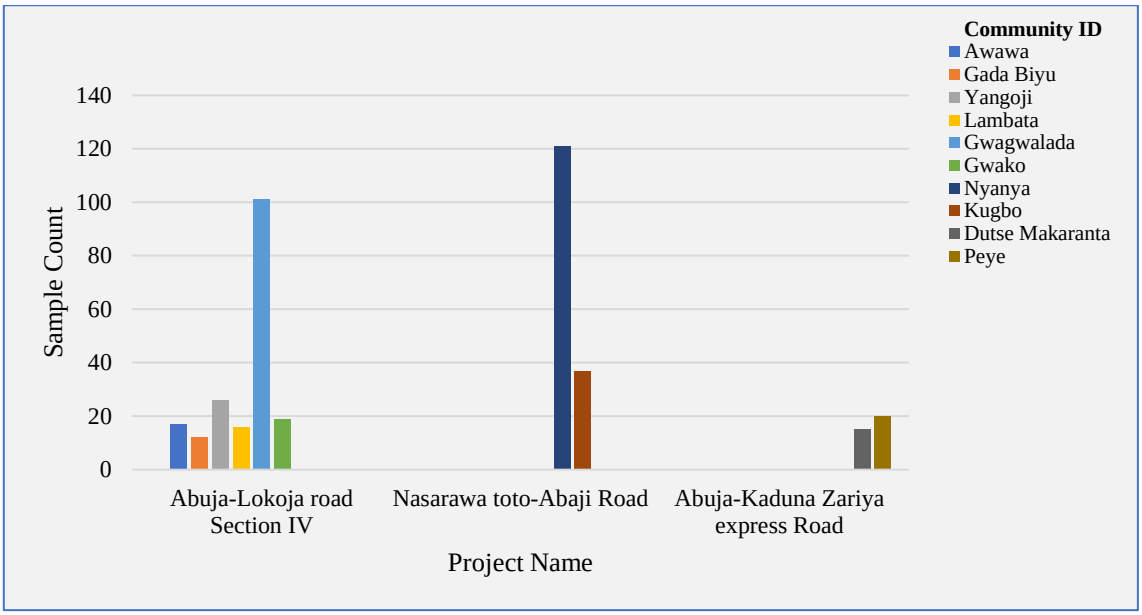


Figure 6.3 *Marginalisation*



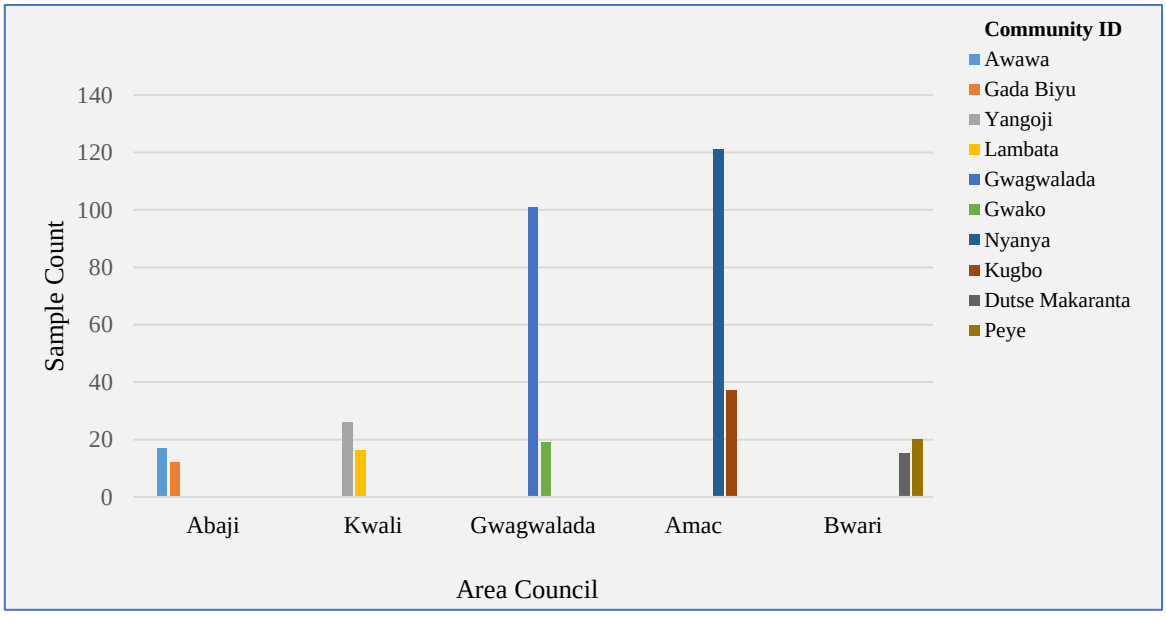
In terms of location, the study observed that six out of the ten communities were situated along Abuja – Lokoja road section IV, representing nearly half of the total respondents (49.7%). This is due to the road traversing three area councils. Additionally, two communities were located along Nasarawa Toto – Abaji road, comprising 41.1% of the participants, while another two communities were situated along Abuja – Kaduna express road, representing the smallest number of respondents (9.1%) primarily due to the smaller population size of these communities (see Figure 6.1).

Figure 6.4 *Distribution of communities based on projects names.*



In conclusion, the analysis also noted that two communities were present in each of the five area councils (Figure 6.2). However, Gwagwalada and Abuja Municipal Area stood out, representing a significant proportion of the respondents, accounting for 72.3%. In contrast, the remaining three area councils collectively represented 27.7% of the respondents.

Figure 6.5 *Distribution of communities based on area councils.*



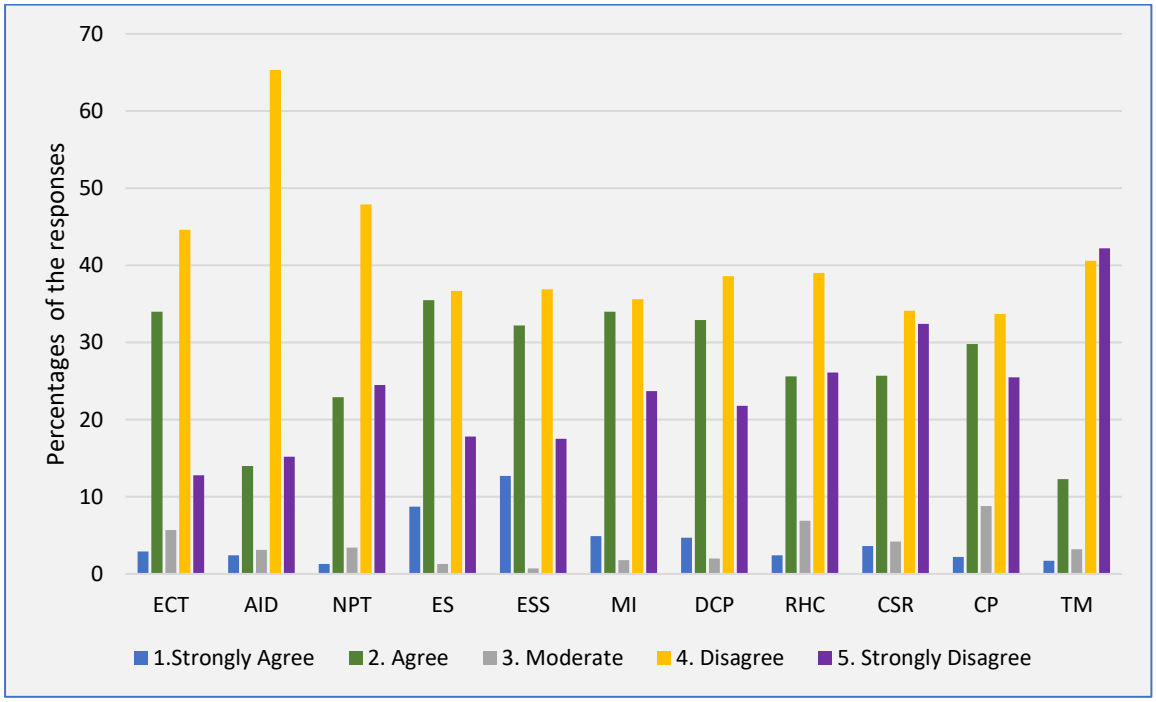
Descriptive Analysis of Public Perceptions and Responses

This section provides the results of the Likert scale questions, which comprised a total of 42 questions. The data were analysed based on each effectiveness dimension, and a statistical transformation was applied using SPSS to measure participants' opinions. The transformed

data were presented synthetically, utilizing statistical parameters, and the questions were categorized into eleven main variables, forming four effectiveness dimensions. Each dimension consisted of either three or two variables, as shown in Tables 6.4, 6.5, 6.6, and 6.7.

In this transformation, typical statistical parameters were used with caution, as advised by Brown (2011). Simply presenting the result using the arithmetic mean may not be sufficient or adequate to convey the information and could lead to misinterpretation or information loss from the survey. To address this, alongside the mean value, two other parameters were presented: the mode (representing the most frequent answers) and the Coefficient of Variation (CV). "The CV measures the degree of dispersion of a frequency distribution" (Rega & Baldizzone, 2015 P.109), and indicates the level of agreement among the respondents towards a specific item. A higher CV value suggests a higher level of disagreement, while a lower CV value indicates more agreement. Generally, a CV > 0.5 signifies dispersed answers, and vice versa (Nelson, 2003). Additionally, the frequency of each interval category was presented to understand the distribution of the answers (see Figure 6.6).

Figure 6.6 *The frequencies of each interval category.*



Procedural Effectiveness

The procedural effectiveness analysis evaluates the efficiency of the engagement process and information dissemination process as stipulated in EIA policies and guidelines. This section is divided into three sub-sections, each of which offers an evaluation of the findings related to

specific variables, thus highlighting the procedural effectiveness. The variables under inquiry encompass engagement and consultation techniques, access to information and disclosure, as well as notification and publication techniques. Table 6.4 presents the statistical parameters for each of these variables.

Table 6.4 *Statistical parameters of the procedural effectiveness.*

		Engagement & consultation techniques (ECT)	Access to information & disclosure (AID)	Notification & publication techniques (NPT)
N	Valid	384	384	384
	Missing	0	0	0
Median		3	4	4
Mean		3.2995	3.7729	3.7153
Mode		3.43	4	4
Std. Deviation		0.62409	0.49635	0.88763
CV		0.18	0.13	0.23

6.1.1.1.1. Engagement and Consultation Techniques (ECT)

The first variable examined in this study focuses on analysing the community's perceptions of how the engagement and consultation process aligns with EIA policies and guidelines. The preliminary findings indicate a notable concentration of responses on scores 2 and 4 (see Figure 6.6). However, the majority of respondents (57.4%) expressed concerns about inadequate public consultation, a lack of communication and identification of relevant stakeholders, and limited involvement of the projects' affected parties and vulnerable groups during the engagement process. The findings also reveal a lack of responsiveness to concerns and grievances from project-affected parties.

Although 36.9% of the respondents viewed the engagement and consultation processes as effective, the results exhibit some variation in responses. As presented in Table 6.4, the calculated mean and CV values are 3.29 and 0.18, respectively, with the CV value indicating a low level of disagreement among the respondents.

6.1.1.1.2. Accessibility to The Project's Information and Disclosure (AID)

This variable assesses the accessibility of project information and how it was disclosed to the local communities. A significant proportion of the responses (80.5% of the respondents) concentrated on scores 4 (see Figure 6.6). The calculated mean for this variable is 3.77, and the CV value is 0.13, which is less than 0.5. This indicates that the vast majority of respondents perceived that the local communities have limited access to project information, and relevant

information regarding the environmental and social impacts of the projects were inadequately disclosed to the public. On the contrary, only 16.4% of the respondents acknowledged that relevant project information was effectively disclosed to the public, and participants had access to the necessary information during the consultation process.

Notification and Publication Techniques (NPT)

Table 6.4 indicates a CV value of 0.23, and a mean value of 3.71, suggesting that the majority of responses align with the view that participation notices were not adequately published in local newspapers, radio, or television. Additionally, venues and times of consultation meetings were not properly communicated to the public during the process, amounting to 72.4% of the respondents. Conversely, only 24.2% of the respondents acknowledged that notification and publication techniques were effective during the consultation process. The results above demonstrate a significant concentration of responses on scores 4 and 5 (see Figure 6.6).

6.1.1.2. Substantive Effectiveness

In this section, the study presents the outcomes of substantive effectiveness, where public perception has been categorized into three variables: environmental sustainability, mitigation of impacts, and economic and social sustainability. Each variable assesses the extent to which broader PP/EIA policy objectives are achieved. For detailed results, please refer to Table 6.5.

Table 6.5 *Statistical parameters of the substantive effectiveness.*

		Environmental sustainability (ES)	Economic & social sustainability (ESS)	Mitigation of impacts (MI)
N	Valid	384	384	384
	Missing	0	0	0
Median		3	3	4
Mean		3.1927	3.1432	3.3919
Mode		3	3.33	3.25
Std. Deviation		1.01199	0.91977	0.76904
CV		0.31	0.29	0.22

6.1.1.2.1. Environmental Sustainability (ES)

Environmental sustainability serves as one of the key variables in assessing substantive effectiveness. According to the data presented in Table 6.5, the CV value of 0.31 indicates relatively low disagreement among respondents, with a majority of responses cantered around scores 2 and 4. However, the mean value of 3.19 suggests that over half of the participants (54.5%) recognized that involving local communities has a limited impact on

addressing adverse environmental effects caused by projects, such as deforestation, loss of biodiversity, and disruption of livelihoods. Nonetheless, a considerable proportion of respondents (44.2%) reported that environmental quality showed improvement due to community involvement, and participant inputs played a role in resolving environmental issues.

6.1.1.2.2. Economic & Social Sustainability (ESS)

Economic and social sustainability represents another variable that assesses how the process promotes job creation, citizen empowerment, conflict resolution, and contributes to social learning by improving participants' knowledge and awareness. The results indicate a notable concentration of responses around scores 2 and 4. However, a relative majority of respondents (54.4%) expressed opposition to the idea that public involvement in the project's EIA has led to job creation, empowerment, and social learning. On the contrary, 44.9% of the responses agree that these benefits have indeed been realized, particularly in terms of conflict resolution and problem-solving. The calculated mean and CV values for the collected responses are 3.14 and 0.29, respectively. For further details, please refer to Table 6.5.

6.1.1.2.3. Mitigation of Impacts (MI)

This variable explains the extent of community members' contributions to the impact identification process and how their involvement has influenced the operational conditions and alternative processes of the project. As depicted in figure 6.6, a significant number of responses were clustered around scores 2 and 4. However, most respondents (59.3%) indicated that community inputs were disregarded during the design of suitable mitigation measures to address the environmental risks of the projects, and participants were not given the opportunity to contribute to impact identification processes. The transformed CV value for this variable is 0.22, and the mean is 3.39.

6.1.1.3. Normative Effectiveness

Normative effectiveness focuses on analysing the community's perception of how broader PP goals and policies have been achieved. Public perceptions were categorized into two variables. The first variable observed the various democratic ideals, while the second variable assessed the alignment of the process with human rights conventions, including adherence to citizen rights and access to environmental justice. For statistical parameters of each variable, please refer to Table 6.6.

Table 6.6 *Statistical parameters of the Normative effectiveness.*

		Democratic capacity & practice (DCP)	Respect for human rights conventions (RHC)
N	Valid	384	384
	Missing	0	0
Median		3	4
Mean		3.3958	3.6137
Mode		4.3	4
Std. Deviation		0.8923	0.74988
CV		0.26	0.2

6.1.1.3.1. Democratic Capacity & Practice (DCP)

Democratic capacity and practice serve as variables to analyse how participants' interests were expressed in the project's design and their influence on the decision-making process. Most responses were centred around scores 2 and 4, with CV values of 0.26. However, the mean value of 3.39 indicated that a significant proportion of respondents (60.4%) felt they were not given the opportunity to voice their concerns during the project design, and there was limited accommodation for different views from participants, resulting in limited influence in the decision-making process. Nevertheless, 37.6% of the respondents agreed that these democratic ideals were realized to some extent during the participatory process.

6.1.1.3.2. Respect for Human Rights Conventions (RHC)

Respect for human rights conventions constitutes another variable aimed at analysing how community members exercise their citizens' rights (such as the right to participate and the ability to fulfil social responsibilities) and access environmental justice within the decision-making process. The calculated mean is 3.61, and the CV value is 0.2. The results indicate a significant concentration of responses around scores 4 and 5. Consequently, 65.1% of the respondents acknowledge that most community members were not allowed to exercise their citizen rights, which includes the opportunity to communicate, deliberate on issues, and engage in social responsibilities during decision-making processes. The findings further suggest that the participatory process falls short of adhering to the principles of access to justice as established in human rights conventions. Most of the study participants admitted to having no access to environmental justice, and a lack of awareness among community members regarding their right to participate in environmental matters was also evident.

6.1.1.4. Transactive Effectiveness

Transactive effectiveness assesses the efficiency of the participatory process concerning how traction occurs in terms of utilizing time and human resources. Within this section, the transformed variables were divided into three categories, examining the capacity of partnership, time management, and clarity of stakeholder roles within the decision-making processes. The statistical parameters for each of these variables were presented in Table 6.7.

Table 6.7 *Statistical parameters of the Transactive effectiveness.*

		Clarity of stakeholder role (CSR)	Capacity of partnerships (CP)	Time management (TM)
N	Valid	384	384	384
	Missing	0	0	0
Median		4	4	4
Mean		3.6563	3.5072	4.0898
Mode		4	3.5	4
Std. Deviation		0.89799	0.77921	0.88673
CV		0.24	0.22	0.21

6.1.1.4.1. Clarity of Stakeholder Role (CSR)

This variable assesses the effectiveness of the participatory process regarding the specification of roles and awareness of responsibilities within the decision-making processes. A significant majority of responses, amounting to 66.5% of the participants, were concentrated around scores 4 and 5. This outcome suggests that the specification of responsibilities was not clearly defined during the consultation process, and participants were not adequately informed of their roles during the engagement exercise. Moreover, the result indicates that most of the respondents lack awareness of their responsibilities within the decision-making process. However, only 29.3% of the respondents scored lower, concentrating on scores 1 and 2 (See Figure 6.6). The calculated mean value is 3.65, and the CV value of 0.24, which is less than 0.5, indicates a relatively low level of disagreement among the respondents.

6.1.1.4.2. Capacity of Partnership (CP)

The capacity of partnership serves as another variable that examines the existence of partnership and collaboration among different stakeholders, as well as the balance of power within these partnerships. The calculated mean and CV values are 3.50 and 0.22, respectively. The findings reveal a significant concentration of responses around scores 2 and 4. However, a considerable majority of respondents (59.2%) reported a lack of collaboration among

various stakeholders, particularly the affected communities and community-based organizations during the EIA process. The results further indicate that members of the host communities were not adequately valued and recognized as partners in the planning and implementation process, leading to an imbalance of power within the decision-making process. Conversely, 32% of the respondents agreed that there was a high level of partnership and collaboration among all stakeholders, and the host communities were valued as equal partners during the process.

6.1.1.4.3. Time Management (TM)

This final variable assesses the efficiency of the process in terms of how procedural applications were conducted within a reasonable timeline without undue delays and how participants were provided with sufficient time to voice their concerns. The reported mean value is 4.08, indicating that most responses (82.8%) concur that affected communities were given limited time to raise their concerns and grievances during the participatory processes. The results further suggest that the project was not implemented according to the specified timelines and schedules. However, only 14% of the respondents agree that the process was carried out within a reasonable timeframe and that participants were given ample time to communicate their concerns throughout the process. The findings reveal a higher concentration of responses around scores 4 and 5, with a CV value of 0.21. For more details, please refer to Table 6.7 and Figure 6.6.

6.2. Ordinal Logistic Regression (OLR) Analysis for Effectiveness Satisfaction Levels in Case Studies

In this section, the study presents the results of inferential statistics aimed at predicting possible outcomes from the data sets related to each effectiveness dimension. Given that the data were derived from Likert scales and were not normally distributed (as discussed in section 6.3), this study followed Hinton (2014) recommendation to employ non-parametric tests. Several statistical articles, including those by Harpe (2015), Hollander and Wolfe (1973) and Leech and Onwuegbuzie (2002) also support the use of non-parametric tests for Likert scale data and data that do not follow a normal distribution.

OLR analysis is employed to ascertain the strength of the relationship or association between independent and dependent variables by predicting the dependent variable's value based on one or more independent variables. This statistical method proves particularly relevant in

determining the satisfaction levels across various effectiveness dimensions within the context of case studies. It reveals significant differences observed in the case studies, thereby revealing distinct patterns in the data. For each variable, regression models were created by pairing one independent variable with a single dependent variable, as presented in Tables 6.8, 6.9, 6.10, and 6.11. The parameter estimates were examined to observe the relationship between the variables and the level of satisfaction. The positive or negative values of the parameter estimates indicate the direction of the relationship (Nicol & Pexman, 2010).

Before conducting the analysis, the researcher assessed the model fitting information and performed goodness-of-fit tests for each model. The null hypothesis of goodness-of-fit was accepted when the P-value was greater than 0.05, indicating that the observed data were consistent with the fitted model. Conversely, the null hypothesis was rejected when the P-value was less than 0.05, in line with the recommendations of Lemeshow et al. (2013) and Hosmer Jr et al. (2013). For model-fitting information, the significant value had to be less than 0.05, as advised by Hilbe (2009) and Lemeshow et al. (2013). This indicated that the final model showed a significant improvement over the baseline model.

6.2.1. Procedural Effectiveness Satisfaction Level

The OLR analysis revealed that the data is significant for the model fitting information, as all models showed statistical significance with significant values less than 0.05. Specifically, the significant values for ECT, AID, and NPT are <0.001, 0.02, and 0.00, respectively. Additionally, further analysis of goodness of fits indicated that the observed data were consistent with the fitted models, as the P-values for each of the models were greater than 0.05, indicating a good fit.

Table 6.8 displays the parameter estimates of the satisfaction levels for the procedural effectiveness dimension in the three different models. ECT appears to be more effective in project 2, as it has positive estimates compared to the other projects. On the other hand, Project 1 is less effective compared to Project 3, based on its parameter estimate of -0.28.

Regarding AID, projects 1 and 2 show positive values of 0.549 and 0.407, respectively, indicating that AID is more effective in those projects compared to Project 3. The analyses also suggest that NTP is more effective in Project 1, with a positive value of 0.162, followed by Project 3, while it is less effective in Project 2, as it has a negative value.

Table 6.8 *ORL analyses for the procedural effectiveness satisfaction.*

Engagement and consultation techniques (ECT)						
		Estimate	Std. Error	Wald	df	Sig.
Threshold	[ECT = 1.00]	-5.309	0.595	79.53	1	0
	[ECT = 2.00]	-1.59	0.395	16.237	1	0
	[ECT = 3.00]	-1.272	0.392	10.558	1	0.001
	[ECT = 4.00]	3.556	0.54	43.322	1	0
Location	Abuja-Lokoja Road, Sect IV = 1	-0.28	0.419	0.445	1	0.505
	Nasarawa Toto - Abaji Road = 2	1.544	0.42	13.492	1	0.01
	Abuja - Kaduna Road = 3	0a	.	.	0	.
Access to information and disclosure (AID)						
		Estimate	Std. Error	Wald	df	Sig.
Threshold	[AID = 1.00]	-2.283	0.474	23.255	1	0
	[AID = 2.00]	-1.875	0.46	16.587	1	0
	[AID = 3.00]	-1.875	0.46	16.587	1	0
	[AID = 4.00]	3.521	0.519	46.084	1	0
Location	Abuja-Lokoja Road, Sect IV = 1	0.549	0.508	1.165	1	0.280
	Nasarawa Toto - Abaji Road = 2	0.407	0.514	0.625	1	0.429
	Abuja - Kaduna Road = 3	0a	.	.	0	.
Notification and publication techniques (NPT)						
		Estimate	Std. Error	Wald	df	Sig.
Threshold	[NPT = 1.00]	-4.488	0.549	66.899	1	0
	[NPT = 2.00]	-1.459	0.336	18.859	1	0
	[NPT = 3.00]	-1.278	0.334	14.661	1	0
	[NPT = 4.00]	1.217	0.333	13.368	1	0
Location	Abuja-Lokoja Road, Sect IV = 1	0.162	0.353	0.211	1	0.646
	Nasarawa Toto - Abaji Road = 2	-0.475	0.359	1.746	1	0.186
	Abuja - Kaduna Road = 3	0a	.	.	0	.

6.2.2. Substantive Effectiveness Satisfaction Level

The analysis of the model fitting information reveals that all models have significant values of less than 0.05, indicating their statistical significance. Furthermore, the goodness of fit assessments indicate that all the models fit the data well, as the observed data align well with the fitted models, and the P-values for all models are greater than 0.05.

Examining the parameter estimates of the satisfaction levels in the ORL analysis, ES appears to be less effective in project 1 compared to project 3. However, the data presented in Table 6.9 suggest that ES shows a higher satisfaction level in project 2, as it has a positive estimate compared to all projects.

Table 6.9 *ORL analyses for the Substantive effectiveness satisfaction.*

Environmental sustainability (ES)						
		Estimate	Std. Error	Wald	df	Sig.
Threshold	[ES = 1.00]	-4.57	0.433	111.268	1	0
	[ES = 2.00]	-2.12	0.321	43.591	1	0
	[ES = 3.00]	-0.826	0.307	7.253	1	0.07
	[ES = 4.00]	0.775	0.307	6.36	1	0.12
Location	Abuja-Lokoja Road Sect IV = 1	-0.439	0.325	1.821	1	0.177
	Nasarawa Toto - Abaji Road = 2	1.559	0.337	21.383	1	0.001
	Abuja - Kaduna Road = 3	0a	.	.	0	.
Economic and social sustainability (ESS)						
		Estimate	Std. Error	Wald	df	Sig.
Threshold	[ESS = 1.00]	-2.935	0.365	64.619	1	0
	[ESS = 2.00]	-1.015	0.332	9.347	1	0.002
	[ESS = 3.00]	-0.945	0.331	8.132	1	0.004
	[ESS = 4.00]	1.634	0.344	22.566	1	0
Location	Abuja-Lokoja Road Sect IV = 1	-0.256	0.353	0.526	1	0.468
	Nasarawa Toto - Abaji Road = 2	1.281	0.362	12.548	1	0.001
	Abuja - Kaduna Road = 3	0a	.	.	0	.
Mitigation of impact (MI)						
		Estimate	Std. Error	Wald	df	Sig.
Threshold	[MI = 1.00]	-5.727	0.557	105.911	1	0
	[MI = 2.00]	-2.51	0.339	54.935	1	0
	[MI = 3.00]	-0.985	0.314	9.839	1	0.002
	[MI = 4.00]	1.099	0.317	12.028	1	0.001
Location	Abuja-Lokoja Road Sect IV = 1	0.129	0.331	0.153	1	0.696
	Nasarawa Toto - Abaji Road = 2	2.153	0.352	37.415	1	0.001
	Abuja – Kaduna Road = 3	0a	.	.	0	.

The satisfaction level analysis further indicates that ESS is more achieved in project 2, followed by project 3. As for MI, it is observed to be more effective in project 2 with a positive estimate of 2.153. Nevertheless, both ESS and MI exhibit low satisfaction levels in projects 1 and 3, respectively.

6.2.3. Normative Effectiveness Satisfaction Level

The ORL results indicate that both DCP and RHC models had highly significant values of less than 0.001 for model fitting information, suggesting statistical significance. Additionally, the goodness of fit analysis showed that the observed data for both models was greater than 0.05. The P-values for DCP and RHC were 0.194 and 0.145, respectively, indicating a good fit to the data.

Table 6.10 presents the parameter estimates for the satisfaction level of the two models. It reveals that DCP was more effective in project 2 compared to other projects, as it had a positive parameter estimate. On the other hand, project 1 had a negative estimate, indicating that it was less effective than project 3. The analysis further revealed that RHC had a positive estimate for both projects 1 and 2, suggesting higher satisfaction levels compared to project 3. However, RHC was more effective in project 2 than in project 1, as evidenced by its higher parameter estimate. Nevertheless, both DCP and RHC showed low satisfaction levels in projects 1 and 3, respectively.

Table 6.10 *OLR analyses for the Normative effectiveness satisfaction.*

Democratic capacity & practice (DCP)						
		Estimate	Std. Error	Wald	df	Sig.
Threshold	[DCP = 1.00]	-6.187	0.676	83.655	1	0
	[DCP = 2.00]	-1.585	0.346	21.027	1	0
	[DCP = 3.00]	-1.477	0.344	18.388	1	0
	[DCP = 4.00]	1.177	0.339	12.066	1	0.001
Location	Abuja-Lokoja Road Sect IV = 1	-0.239	0.359	0.445	1	0.505
	Nasarawa Toto - Abaji Road = 2	2.026	0.377	28.81	1	0.001
	Abuja - Kaduna Road = 3	0a	.	.	0	.
Respect for human rights conventions (RHC)						
		Estimate	Std. Error	Wald	df	Sig.
Threshold	[RHC = 1.00]	-5.168	0.653	62.594	1	0
	[RHC = 2.00]	-1.736	0.323	28.907	1	0
	[RHC = 3.00]	-0.982	0.312	9.879	1	0.002
	[RHC = 4.00]	0.955	0.312	9.333	1	0.002
Location	Abuja-Lokoja Road Sect IV = 1	0.389	0.332	1.374	1	0.241
	Nasarawa Toto - Abaji Road = 2	0.839	0.338	6.155	1	0.013
	Abuja – Kaduna Road = 3	0a	.	.	0	.

6.2.4. Transactive Effectiveness Satisfaction Level

The results of the OLR demonstrate the statistical significance of all models, with each model having a significant value of <0.001. The goodness of fit analysis reveals that the observed data for CRS is 0.455, CP is 0.106, and TM is 0.118, indicating that the models fit the data well, and all observed values are greater than 0.05.

Regarding the parameter estimates, CRS shows higher effectiveness in project 2 compared to all other projects, with a positive value of 1.08. Conversely, Project 1 has a negative estimate, suggesting a lower effectiveness level compared to project 3. The OLR results further indicate that CP is more effective in project 2, with a higher positive value of 1.5, followed by project

1. Therefore, both CP and TM are more effective in project 2 but less effective in projects 3 and 1, respectively (refer to Table 6.1).

Table 6.11 *OLR analyses for the transactive effectiveness satisfaction.*

Clarity of stakeholder role (CSR)						
		Estimate	Std. Error	Wald	df	Sig.
Threshold	[CSR = 1.00]	-4.287	0.449	91.116	1	0
	[CSR = 2.00]	-1.699	0.331	26.397	1	0
	[CSR = 3.00]	-1.519	0.328	21.388	1	0
	[CSR = 4.00]	0.359	0.318	1.269	1	0.26
Location	Abuja-Lokoja Road Sect IV = 1	-0.261	0.343	0.577	1	0.447
	Nasarawa Toto - Abaji Road = 2	1.08	0.352	9.442	1	0.002
	Abuja - Kaduna Road = 3	0a	.	.	0	.
Capacity of partnerships (CP)						
		Estimate	Std. Error	Wald	df	Sig.
Threshold	[CP = 1.00]	-5.697	0.658	75.06	1	0
	[CP = 2.00]	-2.216	0.328	45.676	1	0
	[CP = 3.00]	-1.211	0.312	15.036	1	0
	[CP = 4.00]	0.859	0.309	7.701	1	0.006
Location	Abuja-Lokoja Road Sect IV = 1	0.198	0.327	0.367	1	0.545
	Nasarawa Toto - Abaji Road = 2	1.5	0.339	19.533	1	0.001
	Abuja - Kaduna Road = 3	0a	.	.	0	.
Time management (TM)						
		Estimate	Std. Error	Wald	df	Sig.
Threshold	[TM = 1.00]	-6	0.776	59.764	1	0
	[TM = 2.00]	-3.06	0.362	71.625	1	0
	[TM = 3.00]	-2.572	0.347	55.079	1	0
	[TM = 4.00]	-0.166	0.319	0.27	1	0.603
Location	Abuja-Lokoja Road Sect IV = 1	-0.415	0.344	1.456	1	0.228
	Nasarawa Toto - Abaji Road = 2	1.127	0.352	10.253	1	0.001
	Abuja - Kaduna Road = 3	0a	.	.	0	.

6.3. Summary of Effectiveness Satisfaction Levels

Table 6.12 provides a summary of the significant differences observed in the case study findings. In the OLR models, any value of less than 0.05 is considered significant, indicating substantial differences in satisfaction levels between the cases. While there may be misconceptions about the use of significant values in scientific research, Sterne and Smith (2001), recommend their application in non-medical research.

The findings from Table 6.12 reveal distinct patterns among the case studies. When comparing case study 2 (project 2) to case study 3 (project 3), it becomes evident that all effectiveness dimensions are achieved in case study 2. The levels of satisfaction for each

dimension show significant differences, with p-values less than 0.05, except for AID and NPT. On the other hand, case study 1 (project 1) does not exhibit significant differences compared to case study 3 (project 3), as all its p-values are greater than 0.05. Consequently, projects 1 and 3 (case studies 1 and 2) demonstrate no significant variations in the level of satisfaction across all dimensions.

Table 6.12 *Summary of the case study result.*

	Effectiveness Criteria	**Project 1**: Abuja-Lokoja Road Sect IV	**Project 2**: Nasarawa Toto - Abaji Road	**Project 3**: Abuja - Kaduna-Zaria Road
		Sig	Sig	Sig
Procedural	ECT	0.505	0.001	.
	AID	0.280	0.429	.
	NPT	0.646	0.186	.
Substantive	ES	0.177	0.001	.
	ESS	0.468	0.001	.
	MI	0.696	0.001	.
Normative	DCP	0.505	0.001	.
	RHC	0.241	0.013	.
Transactive	CSR	0.447	0.002	.
	CP	0.545	0.001	.
	TM	0.228	0.001	.

Thus, concerning the procedural dimension, all cases (projects 1, 2, and 3) raised questions about how the participatory process aligned with principles such as information disclosure, response to feedback mechanisms, access to information, and notification and publication techniques. However, in terms of the substantive, normative, and transactive dimensions, case study 2 stood out as having achieved more. This accomplishment can be attributed to factors like the fear of litigation due to the project's location and the higher awareness level among community members. Being closer to the city center, case study 2's participatory process proved to be more effective compared to the other two case studies.

Conversely, both case study 1 and 3 fell short in achieving procedural, normative, substantive, and transactive participatory quality efficiency compared to case study 2. These differences suggest that there were more deficiencies in the participatory aspects of case study 1 and 3, which hindered their effectiveness when compared to case study 2.

Chapter Seven: Comparative Analysis, Interviews, Survey and Systematic Review Syntheses

7.1. Introduction

In this chapter, the primary focus is on presenting the significant findings acquired from the afore-mention methodology, aiming to provide a comprehensive understanding of the participatory process. To align with the research objectives, the chapter is structured into four sections. The initial section consolidates three major findings that originate from a systematic quality review, surveys, and interview data, all pertaining to the assessment of procedural effectiveness (objective 1). The subsequent three sections synthesize the outcomes derived from survey and interview data, focusing on the dimensions of substantive, normative, and transactive effectiveness (objectives 2, 3, and 4, respectively).

7.2. A systematic Review, Survey, and Interview Syntheses of the Procedural Effectiveness Systematic Review Syntheses

The results of the systematic quality evaluation reveal the overall poor quality of EIS. However, the quality of reports in the oil and gas as well as energy/dam sectors surpasses that of road projects, indicating a disparity in performance. Notably, PP practices seem to be unsuccessful specifically in road projects, which aligns with recent research by Okowa et al. (2021) that highlights similar shortcomings in PP that require improvement (see section 4.4.3 for reference).

During the interviews, most of the interviewees from EIA consultants and NGO groups emphasized the inadequacy of information provided in most EIA reports, particularly those related to road projects. Therefore, the systematic review's findings are consistent with the outcomes from interviews and surveys. For instance, the results of interviews and surveys revealed low early consultation, inadequate identification, and involvement of the project's affected parties. Likewise, during the review, it was discovered that most of the EIA reports on road projects failed to provide evidence of how public concerns were collected during the public meetings Additionally, the review indicated that response to concerns and grievance mechanisms performed poorly, further substantiating the limitations observed (refer to sections 3.3.3, 4.3.4 and 4.3.6).

Moreover, the reports lacked disclosure of relevant project information, such as potential risks, project duration, and impacts. These limitations were echoed in both survey and interview findings. NGO stakeholders attributed these deficiencies to the consulting firms' lack of professional experience and the approving authorities' lack of competency. Brown (2021), expressed similar concerns. On the other hand, some stakeholders from EIA consultants attributed these limitations to the Nigerian administrative system, which prioritizes revenue generation and potentially compromises the quality of the EIA process. Non-compliance with EIA rules were also highlighted as a problem by certain stakeholders (see section 5.4.2.4 for more details).

The review findings further indicate that more than two-thirds of the projects did not comply adequately with the minimum requirements outlined in the EU directives. Among the sectors analysed, energy/dam and oil & gas had the lowest proportion of non-compliance, while road projects had the highest. Surprisingly, the quality of EISs does not seem to improve over time, as newer reports display equally low quality (refer to section 4.4.4). This finding contradicts a previous study by Okowa et al. (2021), which suggested an improvement in reports from 1994 to 2016.

7.2.1. Survey and Interview Syntheses

7.2.1.1. Engagement and Consultation Techniques

The survey data revealed significant findings regarding the perceptions of respondents. Approximately 57.4% of the participants expressed a low level of satisfaction with early consultation, involvement of affected parties in the projects design, and a lack of responsiveness to complaints and concerns raised by local communities. The interview findings echoed the results obtained from the surveys, with many interviewees from non-governmental agencies and community leaders also expressing dissatisfaction with the effectiveness of engagement and consultation techniques (see section 5.4.2.1 for more details).

A common reaction among the interviewees was that the engagement with relevant stakeholders, especially host communities, was weak, and there was minimal community consultation in the early stages of the process. This observation aligns with the survey findings, which indicated that certain communities, such as those along Abaji, Kwali, and Bwari area councils, had limited involvement, while communities along the Amac area council

demonstrated greater participation during the process. The interviewees further highlighted that the involvement of project affected parties seemed to be driven solely by specific reasons, such as compensation payments. Additionally, in this study, many interviewees from the EIA consultants attributed these problems to manipulation and non-compliance with the EIA rules, which are unique challenges faced in Nigeria, as noted by (Brown, 2021). Furthermore, it became evident that government-funded projects exhibited lower levels of compliance with EIA rules compared to projects funded by the private sector, as expressed by many the interviewees. Similar concerns were reported in Pakistan by Khan and Chaudhry (2021). This observation claims true for projects under government ownership. For instance, Khan and Chaudhry (2021), elaborated that in 2017, a sewerage line project undertaken by a government department was initiated prior to undergoing an EIA process. Subsequently, a consultant was engaged to conduct the EIA and obtain No Objection Certificate (NOC).

7.2.1.2. Accessibility to the Project's Information and Disclosure

The survey findings unveiled significant challenges, as reported by 80.5% of the respondents, regarding limited access to information, non-disclosure of relevant project information, and lack of response to feedback mechanisms (see section 6.4.3.1.2 for reference). These obstacles are commonly encountered in EIA and hinder the effective implementation of sustainable policies such as the SDGs, as mentioned by Ajulor (2018) and Aliyu et al. (2023). The interview results from community leaders reaffirmed the limitations identified in the survey findings. They emphasized that the potential risks and impacts of the projects were not adequately disclosed to the public. However, it is worth noting that SDGs recognize the importance of access to information and disclosure as a fundamental human right for all individuals, as highlighted by (Aliyu et al., 2023).

Furthermore, most interviewees expressed the belief that community members lacked sufficient knowledge about grievance mechanisms through which they could submit complaints as highlighted in section 5.4.2.2. This indicates a lack of enlightenment during the engagement process. The findings also indicate a low level of compliance with the EMP, which is designed to address community concerns in accordance with approval conditions. Similar limitations were reported in oil and gas projects in Nigeria by Hemba and Phil-Eze (2021). Therefore, the accessibility of project information and disclosure appears to be ineffective, as emphasized by multiple stakeholders during the interviews. These findings underscore the

need for improved transparency and information dissemination to foster meaningful community engagement and address concerns effectively.

7.2.1.3. Notification and Publication Techniques

In order to assess the community's perspective on notification and publication techniques, it was found that 72.4% of the respondents perceived that participation notices were not effectively communicated through newspaper advertisements and radio/television publications. Surprisingly, only 24.2% of the respondents acknowledged receiving the publication advert, indicating a significant gap in the notification and publication processes.

Similar trends were observed in the interview findings (see section 5.4.2.3 for more details), as all interviewees, including those from government agencies, highlighted practical limitations in these techniques. They emphasized that newspaper publications and displaying EIA reports on websites may not yield the desired outcomes, considering the financial constraints and unreliable internet services in rural communities. These factors could hinder the level of feedback and community engagement. Additionally, the effectiveness of radio announcements was questioned, as many community leaders were unaware of the announcements, especially in the Awawa and Yangoji communities. Furthermore, the interviewees also revealed a low level of compliance with the notification requirements in most government projects, attributing it to political interference. This finding aligns with the survey results, which indicated that the minimum notification period of 21 days was often disregarded. Thus, the interview findings corroborate the survey results, suggesting a significant gap in notification and publication techniques.

7.3. Survey and Interview Syntheses of the Substantive Effectiveness

7.3.1. Environmental Sustainability

The survey findings revealed that 54.5% of the respondents believed that public involvement in the project's design has limited influence in resolving the environmental and social impacts associated with the projects. These findings align with the views of community leaders expressed during the interviews (refer to section 5.4.3.1), highlighting the various environmental and social impacts experienced by host communities because of the projects. Nevertheless, it is crucial to note that the SDGs require the protection of biodiversity and the reduction of environmental effects on natural habitats, as highlighted by (Aliyu et al., 2023). The interview findings further exposed the destruction of ecosystem services, including

provisioning, regulating, and cultural services, particularly in communities such as Nyanya, Bwari, and Awawa. These ecosystem services are crucial for achieving sustainability goals, (Swangjang, 2022).

The participatory processes employed in the projects appear to be inadequate in addressing the environmental and social challenges. Most community leaders expressed the belief that integrating public opinions during the project design phase could help mitigate these impacts. For instance, they suggested the construction of pedestrian bridges and the implementation of dust control mechanisms, especially in communities such as Gwagwalada, Nyanya, and Bwari communities. In connection to the findings of (Aliyu et al., 2023), some interviewees from NGO groups highlighted that the current process does not align with environmental protection principles and international treaties, such as SDG protocols. Consequently, environmental quality is compromised, potentially putting communities at risk of health problems.

In conclusion, the survey and interview findings collectively indicate that public involvement in project design is perceived to have limited influence in addressing the environmental and social impacts. However, integrating public views from the outset of the projects could help mitigate these concerns. Several authors like Momtaz and Gladstone (2008) and Glucker et al. (2013) highlight that decision-makers might aim to bridge information gaps by actively seeking environmentally and/or socially relevant insights from local stakeholders. Additionally, the current process does not fully align with environmental protection principles and international protocols, leading to compromised environmental quality and potential health risks for communities. Khamraev et al. (2021) noted that dust generated from road construction is regarded as a primary source of pollutants that pose a health risk to individuals residing in urban regions.

7.3.2. Economic & Social Sustainability

The findings indicate that more than half of the respondents (54.4%) believed that the process did not adhere to the principles of economic and social sustainability, specifically in terms of social learning, conflict resolution, job creation, and empowerment. However, a significant portion of respondents (44.9%) expressed a belief that these benefits were being achieved during the consultation process.

Conversely, during the interviews, most non-regulating agency interviewees testified to the lack of commitment towards community empowerment, job creation, environmental education, awareness, and problem-solving. They perceived that the objectives of economic and social sustainability were not adequately fulfilled, except for conflict resolution, which demonstrated some positive outcomes. This observation aligns with other projects, such as the Ajaokuta steel plant project, where community disputes were successfully resolved with the involvement of community leaders (Olatunji, 2018). Furthermore, in the context of the Abuja-Lokoja Road, Section IV project, some community leaders expressed grievances over their limited ability to exercise their community role due to being non-indigenous to the region. They emphasized that women's groups were further marginalized and had fewer opportunities to engage in societal affairs (see section 5.4.3.2 for reference). Likewise, this pattern is prevalent in the GS nations. For instance, a recent study by Lwesya Sibale and Fischer (2023) in a recent study revealed that individuals and communities lacking specific positions (and the corresponding influence) were inadequately represented in project proponent meetings in Malawi. However, These findings contrast with the results of a recent study by Bjørgen et al. (2021), where different groups were actively involved in local planning processes in Norwegian cities.

Thus, the interviewees' responses regarding economic and social sustainability align with the survey results, indicating that there are indeed concerns and shortcomings in achieving the desired outcomes in terms of job creation, empowerment, and overall social and economic sustainability.

7.3.3. Mitigation of Impacts

The survey findings highlighted that 59.3% of the respondents believed that the host communities were not adequately allowed to contribute to the impact identification process, except in a few isolated cases. Moreover, community inputs were not sufficiently recognized during the design of appropriate mitigation measures. Similarly, the interviewees expressed the view that community concerns were often overlooked during the impact identification process and not effectively addressed prior to project implementation. This observation aligns with a recent study conducted in Tanzania, which identified similar constraints (Kaku et al., 2022).

Furthermore, the findings revealed that the host communities had limited voice in determining appropriate mitigation measures. These issues were specifically highlighted by the interviewees, particularly in relation to the Abuja-Lokoja Road, Section IV, and Abuja-Kaduna-Zaria Road projects (see section 5.4.3.3 for more details). Additionally, some practical challenges were identified by the interviewees, including manipulation within the system to serve personal interests and a lack of practical knowledge among community members to effectively address important matters. These factors may impact the legitimacy and feasibility of their advice and priorities. Similar constraints were also observed in the Iranian EIA system, as noted by Khosravi et al. (2019a).

In summary, the survey and interview findings collectively indicate that there are significant challenges in adequately involving host communities in the impact identification process and designing appropriate mitigation measures. The findings highlight the need for improved community engagement and addressing practical issues to ensure the legitimacy and effectiveness of community inputs in the decision-making process.

7.4. Survey and Interview Syntheses of the Normative Effectiveness

7.4.1. Democratic Capacity & Practice

The survey findings revealed that 60.4% of the respondents perceived the process to be undemocratic, lacking openness to participants' views, and failing to articulate the interests of the community in the project's design. These findings align with the interview results, as highlighted by Aliyu et al. (2023) which emphasized the absence of an inclusive participatory process that promotes knowledge sharing and expertise in Nigeria.

Furthermore, the interview findings indicated that non-regulating entities expressed that the project proponents paid little attention to community concerns. These have led to various environmental and social challenges during project implementation. Issues such as smoke, dust, vehicle-animal collisions, and traffic disturbances were reported in communities along case studies 1 and 2 (Abuja-Lokoja Road, Sect IV, and Abuja-Kaduna-Zaria Road project). The affected communities were not given the opportunity to communicate their concerns and influence the decision-making process. As a result, some community leaders expressed concerns about the devaluation of properties due to vibrations from heavy machinery during the construction phase, particularly in the Nyanya community (see section 5.4.4.1 for reference). This highlights the importance of conducting property condition assessments

prior to construction to ensure adequate compensation in case of construction-related damages. Similar measures have been implemented in Sydney's mega infrastructure projects (Searle & Legacy, 2021).

Furthermore, it was observed that host communities have limited influence in the decision-making process of most government projects, as administrative manipulation and political interference often diminish their involvement. Similar constraints were identified in many GS countries such Uganda, Sierra Leone and Pakistan (Hasan et al., 2018; Kahangirwe & Vanclay, 2022; Mason, 2014). The interviewees also revealed a lack of openness to participant views, with community members considered passive participants in participatory meetings, without the capacity to engage in dialogue. The emphasis appeared to be on one-way information flow from officials to citizens. However, some interviewees recognized that community members may lack experience in EIA processes, which could make them silent participants instead.

In summary, the survey and interview findings collectively demonstrate a lack of democracy and openness in the process, with limited community involvement and inadequate recognition of their concerns and interests. Addressing these issues requires a more inclusive and participatory approach, where community members are empowered to actively contribute and influence the decision-making process.

7.4.2. Respect for Human Rights Conventions

Based on the survey findings, it was observed that 65.5% of the respondents had limited opportunities to exercise their social responsibilities and citizen rights during the decision-making process. The survey results also revealed that the host communities lacked access to environmental justice and had a low level of awareness regarding environmental issues. These findings align with the research conducted by Ibe and Akwa (2021b), who argued that Nigeria lacks adequate access to environmental justice.

Similarly, the interview findings corroborated the survey results (refer to sections 5.4.4.2, and 6.4.3.3.2 for reference), indicating that the process deviated from the requirements of EIA rules and the principles outlined in the Aarhus Convention. Most interviewees expressed the belief that community members were not allowed to participate fully and that there was a lack of adherence to applicable laws. Stakeholders highlighted instances where the

government expedited work on projects without proper EIA application, which resulted in a similar scenario reported in Central Spain leading to a court case Enríquez-de-Salamanca (2018). Furthermore, interviewees from NGOs revealed that compliance with applicable laws was significantly low for road and railway projects, while in other sectors, particularly oil and gas, the application of EIA regulations was exceptionally high due to the fear of litigation, as evidenced in the Gbemre v. Shell case (Morocco-Clarke, 2021). Moreover, some study participants attributed the problem of low adherence to applicable laws and the citizens' lack of awareness regarding their environmental rights, poor judicial attitudes, and the high cost associated with legal proceedings.

In summary, the survey and interview findings jointly indicate that participants had limited opportunities to exercise their social responsibilities and low access to environmental justice. The process failed to adhere to EIA rules and the principles of the Aarhus Convention. Compliance with applicable laws was generally low, especially in road and railway projects, while the oil and gas sector exhibited higher compliance due to the fear of legal repercussions. The challenges were attributed to the citizens' lack of awareness, judicial attitudes, and the high costs associated with legal proceedings.

7.5. Survey and Interview Syntheses of the Transactive Effectiveness

7.5.1. Clarity of Stakeholder Role

In order to gain insights into the public's perception on the clarity of stakeholder roles, the survey data revealed that 66.5% of the respondents believed that the specification of job roles among different stakeholders was not clearly defined during the engagement process. This finding further highlighted a lack of awareness regarding responsibilities among community members. Similarly, during the interviews, two community leaders identified similar constraints, stating that public awareness was intentionally neglected during the engagement exercises. However, this perspective contradicted the perception of regulating agencies. A study conducted by Khan et al. (2018) and Owiny et al. (2022) also identified a similar gap in Pakistan and Kenya, indicating that participants were not adequately briefed and poor engagement with stakeholders during the engagement process.

Additionally, the interviews revealed other barriers, with most interviewees expressing the belief that the specification of job roles, particularly for community stakeholders, is a

significant issue in Nigeria's EIA practices. They highlighted that the law does not clearly outline their roles, leaving it open-ended and ambiguous.

In summary, the survey and interview findings indicate that there is a lack of clarity regarding stakeholder roles in the public's perception. The specification of job roles among different stakeholders was perceived to be poorly defined during the engagement exercises, resulting in a lack of awareness among community members. This issue is not unique to Nigeria, as similar gaps have been observed in other countries like Pakistan. Therefore, it is crucial to address this problem by providing clear guidelines and adequate information to all stakeholders involved in the EIA process.

7.5.2. Capacity of Partnership

The survey results revealed that 59.2% of the respondents perceived a low level of collaboration and partnership with community stakeholders during the engagement process. These findings align with recent research conducted in Nigeria on public-private partnerships, where the host communities were inadequately included during the partnerships (Ashade & Mutereko, 2021). The survey findings also highlighted the lack of equal treatment and instances of discrimination within partnerships, which have been observed in Pakistan as well (Khan et al., 2018). Similarly, the interview findings indicated that partnerships and collaboration were primarily limited to government-related agencies, rather than involving multi-stakeholder partnerships, except in a few communities where agitation was a concern, such as Gwagwalada and Nyanya. Aliyu et al. (2023), noted that these partnerships did not align with the expectations of sustainability frameworks. The interview findings further revealed that collaboration was more effective in communities located closer to urban centres, as they demonstrated higher levels of awareness and influence. Some interviewees attributed the lack of collaboration and partnership to a focus on cost reduction and time-saving measures.

Additionally, the interviewees highlighted that the host communities were not valued as partners in the planning and implementation process, further corroborating the survey findings. Overall, the interview findings largely corresponded to the results obtained from the survey, indicating a need to improve collaboration and partnership practices (see section 5.4.5.1 for more details).

7.5.3. Time management

The evidence provided by the survey findings highlights that time management failed to achieve policy proficiency. A significant majority of the respondents, 82.8%, perceived a limited timeframe for communicating community concerns and experienced delays in the implementation of the projects across all case studies. These survey results align with the findings obtained from the interviews (see sections 5.4.5.3 and 6.4.3.4.3 for more details). Most interviewees from non-regulating agencies revealed that the process was conducted within an excessively tight timeline, leaving little opportunity for the host communities and other interested parties to contribute effectively. This was often due to political pressure to expedite the projects for political interests, which is consistent with recent research conducted in Kenya (Owiny et al., 2022).

Furthermore, community leaders expressed frustration over project delays during the implementation phase and their inability to influence timely project completion. On the other hand, stakeholders from government agencies attributed the undue project implementation timelines and schedules to insufficient funding and budgetary constraints. Theophilou et al. (2010) and Bond, Morrison-Saunders and Howitt (2013) have previously noted that EIA systems are often constrained by changing budgets and timelines, which can have a significant impact on project completion.

In summary, both the survey findings and interview responses underscore the need for improved time management practices in order to enhance policy proficiency. Adequate time should be allocated for meaningful stakeholder engagement and project implementation to ensure effective participation and timely completion of projects.

7.6. Summary of the Comparative Analysis

Based on the results obtained from the aforementioned methodology, it is evident that the four effectiveness dimensions did not achieve overall policy efficiency. Procedurally, the process deviated from EIA policies and guidelines, including principles related to consultation techniques, feedback mechanisms, access to information, and disclosure. Substantively, the process failed to effectively mitigate the negative environmental impacts of the projects and did not adhere to the principles of social and economic sustainability, such as social learning, job creation, and empowerment, except for conflict resolution. Similarly, in terms of normative effectiveness, the process did not align with democratic ideals, principles, and

human rights conventions. Furthermore, transactive efficiency fell short of achieving policy proficiency in terms of partnership, collaboration among stakeholders, and time management.

Thus, the participatory practice did not adhere to the EIA and PP policies and sustainability frameworks. Additionally, to link between practice and theories as suggested by Brombal et al. (2017). The process did not follow the Wilson & Wilde framework of active partnership, which embodies the principles of effective public participation. Moreover, the process was situated at the lower end of Arnstein's ladder, where participants were unable to bring about significant social reforms that would enable them to influence the economic, social, and political development of their society.

Subsequently, the study examined the strength of the relationship or association between dependent and independent variables and assessed the level of satisfaction. The OLR models demonstrated a significant difference in the satisfaction level across all effectiveness dimensions in case study 2 compared to the other two case studies, with p-values less than 0.05. However, overall, the four effectiveness dimensions fell short of achieving policy efficiency in all case studies. It is worth noting that the process was relatively more effective in case study 2 (Nasarawa Toto - Abaji Road), which could be attributed to its location within the city centre. This finding confirms that communities in case study 2 were more actively involved in the process due to the fear of litigation.

Chapter Eight: Conclusion and Recommendations

8.1. Introduction

In the preceding chapter, the research provided an overview of the study's findings obtained through a comprehensive methodology, including systematic quality review, surveys, and interview data. These findings were subsequently compared to the existing literature. The current chapter aims to present the study's concluding section, which is based on the key findings discussed in the previous chapter and their alignment with the research objectives. Within this chapter, the study will delve into the main findings in relation to the study objectives, draw conclusions, provide recommendations, highlight research limitations, and contributions, and explore possibilities for future work.

8.2. Research Findings in Relation to Study Objectives

8.2.1. Objective 1

To identify the extent to which the Nigerian EIA policies and guidelines are followed for environmental decision-making, and to determine the actual practice and position of public engagement in road projects within the Nigerian context.

After conducting a comprehensive review of the relevant literature, this study successfully identified the factors that influence procedural effectiveness, as conceptualized by different scholars. The study explored various factors, including engagement and consultation techniques, notification and publication methods, accessibility to project information and disclosure, as well as the quality of EIA reports. This exploration has provided insights on the actual practice and how policies were applied.

To achieve this objective, the study employed a systematic quality review, surveys, and interview data. The study developed an EIS quality review template, building upon the methodology used in previous quality assurance studies, with a particular emphasis on PP. The review methodology is detailed in Section 3.5.1. Through this approach, the study systematically evaluated PP in EISs and compared their relative effectiveness across road, oil and gas, and energy sectors, enabling valuable comparative insights. The findings of the review, presented in chapter four, shed light on the actual practice and position of public engagement in road projects within the Nigerian context. Furthermore, to gain a comprehensive understanding of procedural effectiveness, the study analysed responses

from host communities and incorporated feedback obtained through interviews with various stakeholders. This in-depth analysis further enriched the research findings.

Section 7.2 of this study presents the results derived from the aforementioned methodology. Unfortunately, the procedural effectiveness fell short of achieving overall policy efficiency. The process exhibited a lack of adherence to EIA/PP policies and guidelines, with PP practices proving to be more problematic in road projects. Deficiencies were observed in engagement and consultation techniques, notification and publication methods, accessibility to project information and disclosure, as well as the quality of EIA reports. Comparable constraints were identified in recent research conducted by Okowa et al. (2021), Echendu (2023), Awhefeada et al. (2023), Clarke and Vu (2021b) and Suškevičs et al. (2023). The study's interview findings identified several barriers to procedural effectiveness, including a lack of professional experience, issues with the administrative system, and poor compliance with EIA rules. Moreover, other practical limitations observed, considering the financial capabilities and unreliable internet services in rural communities, there are challenges with newspaper publications and the display of EIA reports on websites.

8.2.2. Objective 2

To assess the extent to which the participatory process mitigates negative environmental effects of road projects, and how wider EIA policy objectives are achieved, such as environmental sustainability, and economically and socially acceptable proposals.

This objective was achieved by evaluating various factors contributing to the achievement of broader PP policy objectives. These objectives were derived from fundamental philosophies and principles regarding EIA and the effectiveness of public participation. These encompassed environmental sustainability, economic and social sustainability, and impact mitigation. The study analysed survey responses and conducted interviews with multiple stakeholders. Sections 5.4.2 and 6.4.2.2 provided valuable insights into the participatory process from a substantive standpoint.

The combined findings revealed that host communities had limited influence in addressing the environmental and social impacts of the projects, leading to an inability to effectively mitigate the negative consequences. Consequently, the environmental quality was compromised (section 7.3.1). This problem is connected to low involvement of the host

communities in the planning and decision-making of the project. The study also documented a lack of commitment to community empowerment, environmental awareness, job creation, and problem-solving. However, the interview feedback indicated positive outcomes in terms of conflict resolution, suggesting that community leaders play a crucial role in resolving disputes. Furthermore, the research established that the public had limited involvement in establishing appropriate mitigation measures, and there was a low level of public engagement during the impact identification process (sections 7.3.1 and 7.3.3).

The study identified several practical constraints that hindered the efficiency of substantive policies. This included manipulation, a lack of practical knowledge among community members, marginalization of certain community groups, and insufficient adherence to relevant environmental protection laws and international treaties such as the SDG protocols. These challenges are not isolated incidents, as evidenced in similar findings by scholars such as Sandham et al. (2019) and Brown (2021) in their respective works. This highlights the pressing need for comprehensive and well-targeted efforts to address these issues not only within Nigeria but also within the larger context of GS nations facing related obstacles.

8.2.3. Objective 3

To analyze the stakeholder perception of public participation in EIA decision-making processes on the wider goal and policy achievements (social and individual norms), the extent of influence, and democratic capacity.

To accomplish this objective, the study conducted an analysis of survey responses obtained from the public, as well as interviews with various stakeholders. This approach allowed for integration and cross-validation of the findings. Specifically, the study examined stakeholder perceptions regarding the achievement of broader PP goals and EIA policies from a normative standpoint (sections 5.4.3 and 6.4.2.3). These goals were aligned with democratic principles outlined in the literature on EIA effectiveness.

The combined analysis of the key findings, presented in section 7.4, revealed that the process generally did not adhere to the recommended democratic ideals outlined in EIA policies. These ideals included openness to participants' views, consideration of public interest in project design, access to environmental justice, influence on decision-making, and exercising social responsibility. However, the study also identified several environmental and social

challenges that emerged during the project's implementation, such as property devaluation, issues related to smoke, dust, traffic disturbances, and vehicle-animal collisions.

Through interviews, the study identified various barriers to achieving normative effectiveness. These barriers encompassed low adherence to international conventions, protocols, and treaties, particularly in government-funded projects. Other observed barriers included unfavourable judicial attitudes, the high cost of legal proceedings, and a lack of awareness regarding environmental rights. Interestingly, the observations made in this study are consistent with the findings of Ibe and Akwa (2021a)) as well as Ibrahim et al. (2020), who encountered similar constraints in their related research. This confluence of findings across different studies underlines the persistence and gravity of these challenges within the broader context. This collective body of evidence reinforces the urgent need for multifaceted strategies to address these barriers and promote effective normative outcomes in the realm of environmental protection and governance.

8.2.4. Objective 4

To evaluate the factors influencing public participation in the road project EIA process in Nigeria, focusing on clarity of stakeholder role in the EIA process, timing, and the capacity of partnership in the decision-making process.

The study identified various key objectives of PP based on transactive ideas and principles, which ultimately contributed to the achievement of the study's objective. Stakeholder responses were evaluated through interviews and survey data analysis (sections 5.4.4 and 6.4.2.4) to examine the influence of the participatory process on specific criteria: partnership capacity, clarity of stakeholder roles in decision-making, and time management.

The combined findings were presented in section 7.5, revealing that the process fell short in achieving transactive efficiency. This was evident in the lack of awareness regarding responsibilities, as deliberate efforts to promote public awareness were not undertaken. The study also highlighted a low level of collaboration and partnership, with collaboration primarily limited to government-related agencies rather than involving multi-stakeholder partnerships. Host communities were not valued as partners in the planning and implementation process. Other limitations observed included unequal treatment within

partnerships, limited time for communication of concerns, and project implementation delays.

Furthermore, the interview feedback shed light on practical limitations to achieving transactive efficiency, such as inadequate funding, budget constraints, prioritization of cost reduction over benefits, time constraints, and political pressures that prioritized personal interests.

8.2.5. Objective 5

To offer possible recommendations and guidance to the regulators and policy makers for future improvement.

The study put forth potential strategies to tackle the identified shortcomings within the Nigerian EIA system. The proposed strategy aims to improve the overall effectiveness of policies and implement a strategic approach to enhance PP opportunities. Considering the study's findings, several actions can be considered. The following recommendations were emphasized for policymakers, EIA regulators, and the concerned stakeholders:

Recommendations for policy makers at various levels of government (federal, state, and local) include:

- Amendments to EIA Act: Section 25 of the EIA Act should be revised to strengthen procedural practices, particularly regarding the publication and notification process. Additional approaches should be utilized to disseminate information to the public, taking into consideration the limited financial capabilities and unreliable internet services in rural communities. Introducing posters and leaflets in local languages, in addition to radio/television and newspaper publications, can enhance information accessibility. In addition, efforts should be made to strengthen and improve the efficiency of existing policies related to EIA and PP, particularly on stakeholders' roles, duties, and responsibilities. This may involve revisiting and updating regulations, guidelines, and frameworks to align them with current best practices and international standards.

- Institutional Reforms: There is a need for institutional reforms to achieve desired outcomes in high-priority areas. The study suggests that using revenue as a performance

indicator for ministries is counter-productive and compromises the quality of the EIA procedural process.

- Environmental Liability Compensation Law: The establishment of an environmental liability compensation law is crucial to strengthen the efficiency of the participatory process across all dimensions. Considering the poor planning mechanisms, abuse of environmental protection protocols, and low implementation of EMP to address community concerns, the need for property condition surveys prior to road construction can ensure adequate compensation in case of construction-related damages,

- Public Defender Chambers: Government at all levels should establish Public Defender chambers to provide legal services for individuals who cannot afford to hire a lawyer in environmental matters. This addresses issues related to access to justice, inadequate involvement of affected parties in projects, and insufficient response to complaints and concerns from local communities.

- Streamline Administrative Bureaucracies: Governments should take proactive measures to reduce administrative bureaucracies and strengthen the application of environmental rules in government-funded projects. This would ensure public access to project information and disclosure and guarantee continuous inclusion of the public throughout the project design and implementation stages.

- Periodic Quality Review of EISs: The National Environmental Policy in Nigeria should establish a systematic periodic quality review of EISs specifically for the road infrastructure sector. This would monitor progress, ensure transparency, and improve the procedural application and performance. Enhancing access to EIA documents can also increase public awareness of the EIA process in Nigeria.

- Timely Implementation of Projects: Governments at all levels should maintain cash flow in government-funded projects to avoid unnecessary delays in implementation that adversely affect local communities. Projects should be implemented according to established timelines and schedules, thereby increasing transactive efficiency in the process.

Strategy approaches for EIA regulators and project proponents include:

- Strategies to Bridge Policy-Practice Gap: Regulating agencies should develop appropriate strategies to close the gap between policies and practice. This includes reducing discrimination and manipulation, enhancing the inclusivity of marginalized communities during engagement exercises, allowing the public to contribute to the impact identification process, and involving them in resolving environmental and social impacts of projects.

- Enhanced Focus on Road Projects: EIA regulating agencies, particularly the National Environmental Standards and Regulations Enforcement Agency (NESREA), should prioritize road projects. This entails enforcing environmental laws, policies, and standards more rigorously and encouraging project proponents to allocate adequate resources to the EIA process.

- Strengthen Capacity Building: There is a need to invest in capacity building initiatives for all stakeholders involved in the EIA system. This includes training programs and workshops, personnel working with national and local agencies should receive training on acceptable standards. Raising awareness among practitioners about acceptable standards and norms of EIA applications, to enhance understanding and knowledge of EIA processes, principles, and the importance of effective PP.

- Behavioural and Structural Organizational Changes: Ineffective application of relevant laws necessitates behavioural and structural organizational changes. Strict compliance with applicable laws, conventions, protocols, and environmental treaties is essential for an acceptable decision-making process. Establish robust mechanisms for monitoring project implementation, and adherence to international agreements should be ensured. Implement stringent enforcement mechanisms and ensure accountability for non-compliance.

- Promote Meaningful Public Participation: Emphasis should be placed on fostering meaningful and inclusive PP throughout the EIA process. This can be achieved by ensuring adequate representation of diverse stakeholders, providing accessible and comprehensible information, facilitating public consultations and hearings, and integrating public feedback into decision-making.

- Enhance Stakeholder Engagement: Encourage active engagement and collaboration among stakeholders, including government agencies, industry representatives, civil society organizations, and affected communities. Foster partnerships and multi-stakeholder dialogues to promote transparency, trust, and shared decision-making.

- Community Awareness Campaigns: Community awareness campaigns on the importance of PP in the EIA process should be strengthened at all levels of government, including federal, state, and local councils. This will create awareness of environmental rights and improve the performance of all dimensions of effectiveness. Lack of public awareness has been identified as a significant hindrance to effective PP in EIA.

- Integration of EIA and SDGs: The integration of EIA and SDGs can serve as a catalyst for achieving sustainable development. It can address long and medium-term goals, promote youth empowerment, job creation, inclusive participatory processes, and encourage multi-stakeholder and community partnerships at all levels.

8.3. Conclusion

This thesis employs a mixed-method approach to provide a comprehensive and enhanced understanding of the studied phenomenon. The research focuses on evaluating the quality and effectiveness of PP in EIA road infrastructure projects in Abuja, Nigeria. The systematic quality review reveals the poor quality of EIS reports. This corroborated Aung et al. (2019) findings which identified similar omissions, inadequacies, and deficiencies across projects, indicating a notable number of EISs not meeting satisfactory quality in Myanmar. Likewise, the research by Clarke and Vu (2021a) in Vietnam, where EIA procedural performance falls short of intended EIA goals. Additionally, the findings further suggest that PP practices demonstrate reduced effectiveness in road projects, with no improvement observed over time. Nevertheless, this finding contradicts a previous study by Okowa et al. (2021), which suggested an improvement in reports from 1994 to 2016 for oil and gas projects in Nigeria. This apparent contradiction highlights the nuanced nature of PP dynamics across different project types and sectors.

Based on the findings derived from three methodologies employed in the research. The assessment of procedural effectiveness indicates an overall failure to achieve policy efficiency. Both sets of findings highlight several key issues, the research identifies

deficiencies in engaging affected parties and shortcomings in notification and publication techniques. Nita et al. (2022) also noted comparable shortcomings in terms of procedural effectiveness, encompassing issues such as poor quality of EIA reports and a restricted participatory process within the decision-making framework. Miller-Rushing et al. (2021) maintained that the inadequacies of existing participatory practices in environmental decision-making became evident during COVID-19-related restrictions, which curtailed interactions between authorities, the public, and other stakeholders. Addressing these shortcomings is crucial and can be achieved by strengthening the procedural application and adherence to applicable laws and policies during the implementation of the EIA process, as suggested in the recommendations section.

Furthermore, it is evident that the participatory process fell short in achieving substantive efficiency. The process failed to effectively mitigate the negative environmental and social impacts associated with the projects, and it exhibited low adherence to the broader objectives outlined in the EIA policy. These apprehensions align with Geißler et al. (2019) findings conducted in Germany, where the practice does not align with the broader substantive objectives of SEA. Additionally, comparable constraints were identified in the recent investigation by Lwesya Sibale and Fischer (2023). The identified limitations significantly impacted the effectiveness of the substantive dimension. To enhance PP in the EIA decision-making process, it is imperative for EIA regulators, policy makers, and project proponents to take proactive measures to address these limitations. This may involve implementing strategies that promote greater transparency, accountability, and stakeholder engagement throughout the process. Additionally, efforts should be made to enhance participants' access to information, provide adequate environmental education, foster job creation opportunities, and empower local communities. By addressing these limitations, the overall effectiveness of PP in the EIA process can be improved.

Moreover, the surveys and interviews conducted indicate that both the normative and transactive effectiveness fell short in achieving overall policy efficiency. The normative dimension exhibited undemocratic characteristics, highlighting the absence of openness towards participants' perspectives, limited access to environmental justice, a lack of articulation of community interests, and inadequate opportunities for communication, deliberation, and influence in the decision-making process. These findings are consistent with

numerous studies conducted in GS countries, specifically in Bangladesh and Pakistan, as documented by Hasan et al. (2018), Khan and Chaudhry (2021) and Khosravi et al. (2019b). Furthermore, the transactive efficiency failed to attain policy proficiency in terms of partnership and collaboration among diverse stakeholders. There was a noticeable absence of equal treatment in partnerships, and collaboration primarily revolved around government-related agencies rather than multi-stakeholder engagements. Ashade and Mutereko (2021) identified comparable constraints in the public-private partnerships for infrastructural projects in Nigeria. Their study revealed a lack of comprehensive collaborations with community groups, underscoring similar limitations. This deficiency underscores the broader issue of inadequate community engagement and participation, suggesting a shared pattern of constraints across different contexts.

The findings further uncovered that the process operated within extremely tight timelines, leaving insufficient time for communities to express their concerns adequately. Additionally, project implementation experienced significant delays. These findings collectively emphasize the need for substantial improvements to enhance overall policy efficiency. Measures should be taken to promote democratic ideals within the normative dimension, such as fostering openness, ensuring access to environmental justice, and facilitating meaningful community engagement. Moreover, the transactive dimension calls for the establishment of inclusive partnerships, providing equal treatment to all stakeholders involved. Addressing these shortcomings would require extending timelines to allow for sufficient community in

In conclusion, the results obtained from the OLR models indicate a significant disparity in satisfaction levels across all effectiveness dimensions in case study 2 compared to the other two case studies, with Sing-values below 0.05. Notably, none of the case studies demonstrated overall policy efficiency across the four effectiveness dimensions. However, case study 2 (Nasarawa Toto - Abaji Road) exhibited a comparatively higher level of effectiveness, which can be attributed to its location within the city centre.

The findings further revealed a discrepancy in perceptions, where stakeholder views from government agencies conflicted with the practical experiences shared by other participants. This suggests a potential bias or partiality from the regulating agencies, as they may be inclined to defend their job integrity. Similarly, a recent study conducted by Clarke and Vu (2021b) highlighted similar variations in participant perspectives, with practitioners

representing government and private companies expressing favourable comments, while academic experts and international donor agencies raised concerns about irregularities within the system. This further underscores the potential influence of bias and vested interests among the competent authorities responsible for EIA regulation (Enríquez-de-Salamanca, 2018).

8.4. Research limitations.

1. Initially, the study aimed to assess the effectiveness of PP in EIA road infrastructure projects across various states in the North Central region of Nigeria. However, due to security concerns related to prevalent kidnapping and banditry in the region, the research focused solely on the Federal Capital Territory of Abuja, following the travel advice provided by the Foreign, Commonwealth & Development Office (FCDO). Abuja was chosen as an alternative case study location due to its substantial number of ongoing road projects and its socio-economic similarities to the region.

2. This research employed a multidimensional approach, based on the procedural, substantive, normative, and transactive dimensions to evaluate the effectiveness of PP. Although differences in satisfaction levels were identified among the effectiveness dimensions across the three case studies, the interconnections between these dimensions were not explored. Nevertheless, the findings offer valuable insights for enhancing PP practices in EIA.

3. The questionnaire administration posed challenges as it was conducted during busy working hours, and the security situation in the country made it difficult to reach the target audience. To address concerns and build trust, the researcher established communication with community leaders prior to data collection, especially in rural communities. However, respondents' low level of environmental awareness prolonged the process, necessitating the researcher to explain the importance of their involvement in the EIA process. The accuracy and reliability of their information and experiences remained uncertain, which may impact the data's reliability (Wright, 2005).

4. Another limitation was the subjectivity observed in interview responses, leading to differing perceptions among stakeholders, particularly between government agencies and

other stakeholders. This divergence in viewpoints may stem from personal sentiments or bias in safeguarding job integrity.

5. Some interviews were conducted via phone calls, which, according to Novick (2008), may result in lower quality data. Network failures and instances of unanswered calls were encountered during phone interviews. In such cases, the researcher made efforts to reconnect and reschedule the interviews for better data collection.

8.5. Research contributions.

This thesis offers valuable theoretical and methodological contributions, making it a valuable resource for academia. It provides additional reference materials that can enhance the understanding of PP practices and stakeholder engagement for EIA regulators, policy makers, and other EIA practitioners.

Theoretical contribution

- This thesis makes a theoretical contribution by expanding the existing body of knowledge on evidence-based decision-making and enhancing the understanding of policy effectiveness in addressing challenges related to EIA processes and strengthening PP practices.
- The study identifies and addresses the obstacles faced in implementing PP in road infrastructure projects, and offers recommendations for policy makers, EIA regulators, and project proponents. These recommendations aim to promote governance at the grassroots level and facilitate environmental sustainability.
- In assessing the quality and effectiveness of public PP, this study employs a multidimensional approach, which is uncommon in Nigeria. The outcomes of this assessment contribute to the field of EIA practice and can provide a foundation for future research in infrastructure development, particularly in GS countries.

Methodological contribution

- Mixed method approach – The utilization of a mixed method approach sets this study apart from previous research on PP effectiveness in Nigeria. Unlike studies that relied on only one or two methods, this study employed a multi-dimensional approach. This

approach facilitated cross-validation and integration of findings from various methods, resulting in a more comprehensive understanding of PP practices.

- Review template - This study introduces a customized review template specifically designed for evaluating EIS in the context of road infrastructure projects in Nigeria. This innovative review template offers a distinctive approach, shedding new light on the actual practices and role of PP. Unlike previous checklists, which overlooked crucial aspects of effective public consultation and information quality, this template addresses these critical issues.

8.6. Recommendations for future work

Based on the limitations identified in the previous section, this study puts forth recommendations for future research aimed at bridging the existing knowledge gap and enhancing the effectiveness of PP in the EIA process in Nigeria. Building upon the research findings, the following areas for future investigation are suggested:

1. Future studies should broaden their scope to assess the effectiveness of PP in EIA process across different regions of Nigeria, especially in semi-urban centres where projects are developed by state and local government councils.

2. There is a need for comparative studies that employ a multi-dimensional approach to investigate the interconnections between different dimensions of PP effectiveness. Such research would enhance our understanding of how these dimensions interact and influence the overall effectiveness of PP.

3. In addition to government-funded projects, further research should investigate the actual practices of PP in projects funded by private entities and international lenders. Understanding the dynamics of PP in these categories of projects is essential for a holistic evaluation of PP effectiveness.

4. Based on the systematic quality review findings, it was observed that the quality of EIS was more robustly performed in the energy/dam and oil and gas sectors compared to road projects. This suggests that these sectors, due to their complex impacts and historical community agitation, prioritize better EIS quality. However, further research with a larger sample size is necessary to validate this assertion.

5. Future studies should explore the alignment between PP practices in EIA and sustainability frameworks such as the SDGs. This investigation would help monitor PP practices and ensure that IA processes are driven by objectives that align with sustainability frameworks

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Appendices

Appendix 1.1

Grading/scoring system used for EIS quality review for this study.

Grades	**Description**
A 5	Work has been performed to a high standard with no omissions.
B 4	Work is generally satisfactory and complete but with some minor omissions and/or Inadequacies.
C 3	Work is just satisfactory despite some omissions and/or inadequacies.
D 2	Work may include some parts that are well attempted but, overall, the work is just unsatisfactory due to important omissions and/or inadequacies.
E 1	Work is not satisfactory due to significant omissions and/or inadequacies.
F 0	Work is very unsatisfactory with important tasks poorly undertaken or not attempted.
N/A	Not applicable: the review topic is irrelevant or not applicable in the context the appraisal report

Source: Adapted from (Lee et al., 1999)

Appendix 1.2

ASSESSING PUBLIC PARTICIPATION EFFECTIVENESS IN EIA ROAD INFRASTRUCTURAL PROJECTS IN NIGERIA.

QUESTIONNAIRE

SECTION I: INTRODUCTION

I invite you to participate in this research project. Before making your decision, it is essential that you comprehend the purpose and scope of this research. Please take the time to carefully read the information provided below and feel free to discuss it with others. If you have any questions or need further clarification, don't hesitate to ask us.

By completing and returning the survey, you grant your consent for the information to be used in the thesis and any subsequent published works resulting from the research. It is important to note that your identity will remain anonymous throughout the reports and publications. The data provided will be presented in numerical form, focusing on the group of participants to which you belong, rather than revealing personal details.

The primary objective of this project is to facilitate a comprehensive understanding of the feasibility, challenges, and effectiveness of public participation in environmental impact assessment (EIA) processes within Nigeria. Additionally, the study aim to offer valuable recommendations and guidance to regulators and policymakers, aiming to enhance future efforts in promoting effective public engagement during EIA implementation for road infrastructural projects within the Nigerian context.

Your participation in this study will involve completing a questionnaire. Your responses will help assess stakeholder perceptions of public participation in EIA decision-making processes, focusing on broader goals and policy achievements. The questionnaire will also delve into the factors influencing Public Participation in the road project EIA process. Specifically, it will

explore the clarity of stakeholder roles in the EIA process, the availability of participatory opportunities, and the democratic decision-making process within Nigeria.

Thank you for considering participating in our research project. Your input will be invaluable in shaping the future of public engagement in environmental impact assessment processes.

SECTION II : RESPONDENT PROFILE

1. I have read the participation information sheet and I consent to participate in the survey?

   Yes [ ] No [ ]

2. Indicate the projects name.

   1. Abuja – Lokoja Road section IV ☐
   2. Nasarawa Toto – Abaji Road ☐
   3. Abuja – Kaduna express Road ☐

3. Indicate your community's name.

   Awawa – Abaji ☐ Gwako – Gwagwalada ☐

   Gada Biyu - Abaji ☐ Nyannya – Amac ☐

   Yangoji – Kwali ☐ Kugbo – Amac ☐

   Lambata – Kwali ☐ Dutse Makaranta - Bwari ☐

   Gwagwalada – Gwagwalada ☐ Paye – Bwari ☐

4. Have you participated in the project? Yes [ ] No [ ]

5. In what capacity have you participated
   (a) As community member [ ]
   (b) As NGOs representative [ ]
   (c) As government representative [ ]

6. Do you belong to the marginalised group during the process? Yes [ ] No [ ]

7. Please indicate your gender Male [ ] Female [ ]

8. Indicate your age group Under 18 ☐ 18–24 ☐ 25–34 ☐ 35–44 ☐

   45–54☐ 55-64 ☐ 65 Above ☐

9. Indicate your qualification (a) Primary [ ] (b) O level [ ] (c) Diploma/NCE [ ]
   (d) Degree [ ] (e) Others [ ]

10. Indicate your Occupation.
    (a) Managers [ ] (f) Professional [ ]
    (b) Clerical workers [ ] (g) Agriculture [ ]
    (c) Service/Sales Workers [ ] (h) Trade/Business [ ]

(d) Machine Operators and Assemblers [ ] (i) Armed Forces occupations [ ]
(e) industrial occupation [ ] (j) Others_____ [ ]

SECTION III: Public participation

	Procedural effectiveness (practice)	SD	D	M	A	SA
	Engagement and consultation techniques					
1	I feel that public consultations were made early in the planning process of the project to gather my initial views					
2	I feel that different stakeholders including project-affected parties and interested parties were identified during the EIA process					
3	I feel that project affected parties (individual/groups and vulnerable) were involved during the project's preparation					
4	I feel that projects affected parties were allowed to submit their grievances in person, by phone, text message, or email					
5	I feel that communication with stakeholders was handled throughout the project preparation and implementation					
6	As a stakeholder, I expressed my views during the public meetings					
7	I feel that all necessary measures were taken to remove obstacles to public participation					
	Access to information and disclosure					
8	As a stakeholder, I have access to project information					
9	I feel that sufficient information was provided to the public on the nature and scale of the project					
10	I feel that sufficient information was provided to the public on the nature and scale of the project					
11	I feel that response and feedback from project-affected parties were considered without external manipulation, interference, discrimination, and intimidation					
12	I feel that project information was disclosed in the relevant local language in a manner that is accessible and culturally appropriate					
	Notification and publication techniques					
13	I feel that participation notices were published in local newspapers, radio, and television					
14	I feel that notification of time and venues of public consultation meetings were communicated to public					
15	I feel that a minimum of 21 working days were considered for the notification period					
	Substantive effectiveness (Performance)	**SD**	**D**	**M**	**A**	**SA**
	Environmental sustainability					
16	I feel that the involvement of the public in the project's design has resulted in minimizing environmental damaging elements (ecosystem services)					

17	I feel that public involvement in the process has led to improving the environmental quality, and participant inputs have an impact on resolving environmental issues					
	Economic and social sustainability					
18	I feel that the participatory process has resulted in social learning (improving participant's knowledge, environmental education, and awareness)					
19	I feel that the participatory process has resulted in conflict resolution and problem solving					
20	I feel that the participatory process has resulted in economic and social benefits (job creation, and empowerment of marginalized groups)					
	Mitigation of impact					
21	I feel public involvement in the EIA process has contributed to reducing the adverse effects of the project					
22	I feel that participants were allowed to contribute to impact identification processes					
23	I feel my opinion and suggestions were considered during the design for appropriate mitigation measures to manage environmental risk					
24	I feel that public involvement has resulted in improving the operation condition and alternative processes of the projects					
	Normative effectiveness (purpose)	**SD**	**D**	**M**	**A**	**SA**
	Democratic capacity and practice					
25	As a stakeholder, I am allowed to articulate my concerns and interest during the project design.					
26	I feel that the project host communities were allowed to influence the decision that affect their life					
27	I feel that the participatory process has allowed for openness to different views of participants					
	Respect for human right convention					
28	I feel that the members of the affected communities were allowed to exercise their citizen right (right to participate)					
29	As a stakeholder, I am allowed to contribute and deliberate on social issues					
30	I feel that the affected communities were given the opportunity to provide consent for the project.					
31	I feel that participants have access to environmental justice					
32	I feel that the participatory process adheres to the principles of access to justice					
33	As a stakeholder, I am aware of my right to participate in environmental matters					
	Transactive effectiveness (proficiency)	**SD**	**D**	**M**	**A**	**SA**
	Clarity of stakeholder role					
34	I feel that responsibilities among stakeholders were clearly defined during the consultation process					

35	I feel that participant's roles were briefed during the engagements exercise					
36	As a stakeholder, I am aware of my responsibilities within the decision-making process					
	Capacity of partnership					
37	I feel that collaboration with the affected communities and community-based organizations was allowed throughout the EIA process					
38	I feel that all community members have equal opportunity in the partnership					
39	I feel that the host communities are valued and recognized as partners in the planning and implementation process					
40	I feel that there was close collaboration and partnership among the government agencies					
	Time management					
41	I feel that the participatory process allowed enough time for communities to raise their concerns					
42	I feel that the project was implemented within the timeline and schedule without undue delays.					

Source: developed by the author based on review literatures, legal requirement, guidelines, as well as EIA process in Nigeria.

Appendix 1.3

EVALUATING PUBLIC PARTICIPATION EFFECTIVENESS IN EIA ROAD INFRASTRUCTURAL PROJECTS IN NIGERIA.

Interview Guide

Introduction

You have been invited to participate in a research project aimed at gaining a comprehensive understanding of public participation in environmental impact assessment (EIA) processes in Nigeria. The primary goal is to examine the feasibility, obstacles, and effectiveness of public involvement in EIA processes, specifically in road infrastructural projects within the Nigerian context.

Your participation in this research is crucial as you possess valuable expertise as an EIA practitioner with specialized knowledge in EIA policies and practices. The researcher seeks to inquire about your firsthand experiences and perceptions regarding public participation in EIA decision-making processes.

The study will focus on identifying factors that influence public engagement in the EIA process for road projects in Nigeria. Key areas of investigation will include the clarity of stakeholder roles in the EIA process, the availability of participatory opportunities, and the democratic nature of decision-making processes.

Rest assured that any information you provide will be treated with the utmost confidentiality, in compliance with the permissions granted in the consent form. Your valuable insights will contribute significantly to this research endeavour as explained in the participant information sheet.

Procedural effectiveness (Practical compliance)

1. As a stakeholder in the EIA process, how can you describe the following public participation practices in road construction projects? Does it conform to procedural guidelines of the EIA Act and EIA best practices?
    a. Engagement and Consultation techniques
    b. Access to information and disclosure
    c. Notification techniques
2. I am interested in hearing your opinion regarding the quality of the information presented in EIS/EIA reports concerning public participation. Do you believe these reports offer adequate and technically appropriate information on the subject matter?

Substantive effectiveness (Transformative Performance)

3. To what extent do the participatory processes in the impact assessment contribute to achieving the following objectives?
    a. Minimising environmental damaging elements (ecosystem services)
    b. Improving operating conditions and alternative processes of the project (setting conditions for management measures and appropriate mitigation measures
    c. Environmental protection and encouraging the spirit of environmental conservation.

4. Based on the Nigerian experience, do you believe that the participatory process in the EIA has contributed to achieving the following broader public participation policy objectives?
    a. Improving participant knowledge, environmental education, and awareness.
    b. Economically sustainable development (conflict resolution, empowerment, job, and opportunity creation for community members)?
    c. Socially acceptable development proposals (less conflicts, and empowerment of marginalized groups)

Normative effectiveness (Achievement of purpose)

5. In your perspective, what are the objectives and purposes of involving the public in the environmental decision-making process?
6. In your opinion, to what extent does the participatory process in environmental decision-making has achieve the principles of public participation as laid down in human rights conventions and legislation such as access to information, access to justice, and meaningful participation?
7. To what degree do you think the participatory process allows the participants to raise their concerns, articulate their interests, and have sufficient opportunity to influence the decision that affects their life?
8. How does the participatory process allow for the following democratic practices in environmental decision-making processes?
    a. Openness to different views from stakeholders
    b. Development of citizen skills (cooperation and communication)
    c. Allow participants to exercise their citizen rights.

Transactive effectiveness (Efficiency of the process)

9. Do you think responsibilities among the stakeholders were clearly defined and allocated tasks were undertaken by the most appropriate subject during the consultation process, are the participants aware of their responsibilities within the decision-making process?
10. What is the level of partnership among the stakeholders?
11. Did the participatory process support and value the host communities as partners in the planning and implementation process?
12. How can you describe the level of close collaboration among the stakeholders (public, EIA agencies, and NGOs)?
13. Did the participatory process allow enough time for the participants to raise their comments and grievances without delay from the proponent?
14. To what degree do you think community involvement in the EIA process of road construction projects influences the timely completion of the projects?

Personal Details

1. What is the name of your organization?
2. What is your educational level and professional background?
3. What is your current job title?
4. what is your role and interest in the EIA decision-making process?
5. For how long have you been working in the current position?
6. For how long you have been practicing EIA

Appendix 1.4

Participant Consent Form

The school of Environment and life science

Peel Building

University of Salford

Greater Manchester

M5 4WT

United Kingdom

Research Title: Evaluating public participation effectiveness in EIA road infrastructural projects in Nigeria.

Please indicate your consent and Sign below.

Please tick both, if you agree:

- ☐ I confirm that I have read the Participant Information Sheet and comprehended the purpose of the research.
- ☐ I willingly consent to participate in this interview as outlined, and I am aware that I have the freedom to withdraw from the research at any point.

Please tick one:

- ☐ I grant consent to be referred to by my name in the final PhD thesis and any other publications related to the PhD thesis; or

☐ I consent to being referred to by the name of my workplace and job title in the PhD Thesis and any other publications relating to the PhD Thesis; or

☐ I consent to the information I provide being used for the purposes of the PhD Thesis only if it is fully de-identified (anonymized)

Optional:

☐ I would like to receive a copy of the PhD Thesis when it becomes ready and public. available

Name of Participant (please print): _____

Signature of Participant: _____

Date: _____

Declaration by Researcher:

I have given a verbal explanation of the interview; its study activities and risks and I believe that the research participant has understood that explanation.

Researcher Signature:

Date: _____

Appendix 1.5

Evaluating Public Participation effectiveness in EIA road infrastructural projects in Nigeria.

Participant Information Sheet

SEPTEMBER 2020

Participant Information Sheet

1. Research Project Title

Assessing Public Participation effectiveness in EIA road infrastructural projects in Nigeria.

2. Invitation

You have received an invitation to participate in a research project. Before making your decision, it's crucial that you comprehend the purpose of the research and its requirements. Please take the necessary time to thoroughly read the following information and feel free to discuss it with others if you'd like. If you have any uncertainties or require further details, don't hesitate to reach out to us for clarification.

3. What is the Project's Purpose?

The main purpose of this project is to provide practitioners with a comprehensive understanding of the feasibility and obstacles related to public participation effectiveness in Environmental Impact Assessment (EIA) processes in Nigeria. Additionally, the project aims to establish possible recommendations and guidance for fostering efficient public engagement in EIA implementation, specifically for road infrastructure projects within the Nigerian context.

4. Why Have I been chosen?

You have been selected due to your expertise as a practitioner with specialized skills and knowledge in Environmental Impact Assessment (EIA) practice in Nigeria.

5. Do I have to take part?

The decision to participate is entirely yours. Should you choose to be part of the project, you will be provided with a copy of this information sheet, and you will be required to indicate your agreement on the consent form.

6. What will happen to me if I take part?

As part of your participation, you will be invited to take part in an interview session. The interview can be conducted either face-to-face or through video teleconferencing applications like Skype or Zoom, and it will be carried out by the Ph.D. candidate. The anticipated duration of the interview is approximately 60 minutes.

7. What do I have to do?

During the interview, you will be requested to respond to semi-structured open-ended questions. These questions will primarily centre around gathering stakeholder perceptions regarding public participation in Environmental Impact Assessment (EIA) decision-making processes, considering broader goals and policy accomplishments. The interview will also explore factors influencing Public Participation in road project EIA processes, with a specific focus on aspects such as clarity of stakeholder roles in the EIA process, available participatory opportunities, and the democratic decision-making process in Nigeria.

8. What are the possible disadvantages of taking part?

Participating in this research is not expected to cause you any disadvantages or discomfort. Any potential physical and/or psychological harm or distress that might arise from participation will be no different from what one might experience in their everyday life.

9. What are the possible benefits of taking part?

Although there are no immediate benefits for research participants, the aim of this work is to promote effective public participation in the development of infrastructural projects in Nigeria, which could have beneficial impacts in the long run. Research findings will be shared

with those participants who request it on the consent form, providing valuable insights to inform their professional work.

10. Will my taking part in this project be kept confidential?

You will be given the option to keep your responses confidential. Additionally, you will have the choice to grant us permission to use your name, job title, or affiliation, if you wish, by indicating your preference on the consent form.

11. Will I be recorded, and how will the recorded media be used?

During the interview, participants will be audio recorded. Rest assured that these audio recordings will be kept confidential. The recorded content will be transcribed verbatim, accurately representing your words. The transcriptions will then be analyzed and may be quoted in the final Ph.D. thesis, as well as in any other reports or publications related to the research. Depending on the permissions granted on the consent form, the quotes will either be kept anonymous or attributed to you or your affiliation.

12. What type of information will be sought from me and why is the collection of this information relevant for achieving the research project's objectives?

You will be invited to share your experiences and perceptions regarding the phenomenon under study. Your views and experiences are of significant interest to the project as they will contribute to the exploration of the subject matter.

13. What will happen to the results of the research project?

The research findings will be published; however, you will not be personally identified in any report or publication unless you have given us permission to do so on the consent form. Similarly, your institution will not be identified unless you have granted us permission. If you would like to receive a copy of any reports resulting from the research, please let us know so we can include you on our circulation list.

14. Who is organising and funding the research?

A Ph.D. research student is conducting this project, and it is funded by the Tertiary Education Trust Fund (TETFUND) in Nigeria.

15. Who has ethically reviewed the project?

[To be completed] This project has been submitted for ethical review by the University of Salford)

Appendix 1.6

INTERVIEW TRANCRIPT
File: 2021_Nigeria_PP effectiveness_3.1

Duration: 00:28:23

Date: 18/11/2021

Interviewer: I would like to ask you some questions regarding your experience and perception of the effectiveness of public participation in the Environmental Impact Assessment (EIA) decision-making process. The purpose of this research is to gain a comprehensive understanding of the viability, challenges, and effectiveness of public participation in EIA processes in Nigeria. Our aim is to offer valuable recommendations and guidance to regulators and policymakers, aiming to enhance future efforts in promoting effective public engagement during EIA implementation for road infrastructural projects within the Nigerian context.

Specifically, I am interested in exploring your viewpoints on the factors that influence public participation in the EIA process for road projects in Nigeria. This includes aspects such as the clarity of stakeholder roles, available participatory opportunities, and the democratic decision-making process. Our goal is to learn from your insights for future improvements.

As stated in the participant information sheet, you were selected as a participant for this research due to your expertise and knowledge as an EIA practitioner with specialized skills in EIA policies and practices. We believe that your experience and perceptions will greatly contribute to our study. Rest assured that all the information you provide will be treated with confidentiality in accordance with the permissions granted in the consent form.

Before we proceed, may I switch on the recorder now?

START RECORDING

Interviewer: Good afternoon, and thank you for agreeing to participate in this research. As I mentioned earlier, the purpose of this study is to investigate practitioner perceptions of public participation effectiveness in the Environmental Impact Assessment (EIA) process.

Today, I would like to hear about your experiences with EIA practices in Nigeria. To begin, could you kindly share the name of your organization and your current position?

FMEV-DR: Hello Ibrahim, I am working with FMEV, I am the director of Environmental Assessment (EA) EA is one of the departments of the ministry of the environment, and we work basically in issuing the EIA permits of new projects.

Interviewer: As a stakeholder in the EIA process, could you please describe the engagement and consultation techniques used in EIA road construction projects? Do these techniques align with the procedural guidelines outlined in the EIA Act and follow EIA best practices?

FMEV-DR: It conforms to a large extent, the degree of conformity is a bit law, and the reasons mainly, because most of the road's projects in the country are government projects. when we look at the EIA in Nigeria, we have a high degree of compliance from the private sector mainly because of the loan they seek whether, from the international lenders such as IC, World Bank, or even the local banks, they require them to have the EIA before they release funds. But on the government side because of the complexity of government budgeting procedures, and because it's govt we have not really performed very well. Now you focus on road projects, well over 98% of roads are govt projects, except for a few projects that had been funded by a multilateral financial institution, I will share my experience based on that.

Interviewer: Do you believe that participants have access to project information and that relevant information was disclosed adequately during the EIA processes?

FMEV-DR: Ok, focusing on roads projects, like I have said the majority of roads doesn't run through those process, but the few government agencies and ministries have subjected their process to the EIA. To a large extent, I will say there is a high degree of PP was followed. A good agency I would love to use is the Niger Delter Development Commission, they do a lot of rural federal roads, Normally when they register the projects when the consultant goes to field for data gathering exercise, they do what we call public forum, we are invited as observers, our duty to ensure that the public is aware of the relevant information about the project, when the reports is ready we put its on for the public to have access, advertisement is given in selected newspapers and also on the radio, and during the panel review the public I then invited. In the past, the MNDC was very compliant.

Interviewer: How would you describe notification techniques in the EIA process?

FMEV-DR: yea we could do more, we are running a process of 20 years back, we still stick our old newspaper and radio advertisement, and we also put the reports on our websites and make the physical copies available at selected places in federal state and local councils but, these affect the level of feedback we get from the communities, but we are limited by law on how to publicise. Notification is also limited another thing I see I that if you do electronic advertisement it can run for days but a newspaper advert is just for one day, people may miss it,

Interviewer: I would appreciate hearing your opinion on the quality of the information provided in EIA reports regarding public participation. Do you believe that these reports offer sufficient information and are technically appropriate?

FMEV-DR: For PP, for the chosen sector, I have already said earlier, in anything it could be better, but most of the public projects do not get enough environmental due diligence not to talk of having enough PP in the process. but for a few projects that have subjected themselves to process, they do it very well. I can say the reports provides adequate and sufficient information on PP.

Interviewer: In your view, does public involvement in the impact assessment process contribute to minimizing environmental damage and preserving ecosystem services?

FMEV-DR: Yes, it does, because the local knowledge help a lot, when you interact with the public, they can tell you this road alignment should change, don't touch particular places because their ancestors kept it for particular reasons or the other. There have been several instances, where engaging the public makes you understand the cultural nuances that exist between one place or the other, even in terms of paying compensation they will tell you who are the rightful owners of the land. You cannot get such information without engaging them.

Interviewer: Based on the Nigerian experience, do you believe that public involvement improves operating conditions and alternative processes of the project by establishing conditions for management measures and appropriate mitigation measures?

FMEV-DR: Yes, it does in several ways, in many instances the public has contributed to setting the appropriate mitigation measures to improve the operating conditions of the projects.

Interviewer: Has public involvement in the EIA process, in your opinion, contributed to enhancing participant knowledge, environmental education, and awareness?

FMEV-DR: Yes, let's look at other sectors too where the process have been very robust, it has improved environmental knowledge, it reduced conflict, it has reduced necessary demand on government and reduced agitations, also it helped in job creation and empowerment of marginalized groups such as women groups.

Interviewer: Does the participatory process contribute to economically sustainable development, including conflict resolution, empowerment, and job and opportunity creation for community members?

FMEV-DR: Yes of course, its reduced conflicts, and provides avenues for jobs for the host communities.

Interviewer: In your view, to what extent does the participatory process in environmental decision-making achieve the principles of public participation as laid down in human rights conventions and legislation, such as access to information, access to justice, and meaningful participation?

FMEV-DR: To a large extent, for those who exposed their projects to PP have made the ways to environmental justice and what have you. In fact, the participatory process has achieved those principles, but not necessary for road project but also other sectors. There are a lot of instances.

Interviewer: To what extent do you believe the participatory process enables participants to voice their concerns, express their interests, and have ample opportunities to influence decisions that directly impact their lives?

FMEV-DR: Are you talking about the proponent and the public? Ok, it is a yes and no answer, in the sense that, when the EIA document is been prepared, you're haring a consultant, that is the third party to execute the project. To some extent the proponent is insulated, this quite happen especially the road projects, and the contractor does not participate actively in course

of the EIA process, conflict may begin to arise because, if the consultant has made some pledges to the public based on the project, the conflicts will begin to emerge.

Interviewer: How does the participatory process promote the following democratic practices: openness to diverse views from stakeholders, the development of citizen skills (cooperation and communication), and the exercise of citizen rights?

FMEV-DR: Yes, it does, the procedural guidelines of EIA act allowed for democratic practice in EIA process. During the engagement meetings and even during the review process we welcome different views from the stakeholders, and participants were allowed to develop their skills and exercise the citizens' rights.

Interviewer: Do you believe that responsibilities among stakeholders were clearly defined and allocated tasks were appropriately undertaken by the relevant parties during the consultation process? Additionally, are the participants aware of their responsibilities within the decision-making process?

FMEV-DR: I cannot give you the complete pass mark, because there is no-yes Tek to measure the stakeholder responsibility, the law is not clear about the responsibility of stakeholders, it is open ended, but during the review process we checkmate whether the stakeholders are engaged during the process. Most participants are not aware of their responsibilities, except for a few, because in the first instance, many don't even know laws are existing on EIA. Another thing there are gaps in our laws regarding PP in EIA, which is the reasons why the participant may not be aware of our roles, and in instances where they are, maybe some interest groups, layers, and NGOs may go and tell them you do this and that. We still have many gaps in our laws until now we don't have an environmental liability compensation law.

Interviewer: How can you describe the level of partnership among the stakeholders?

FMEV-DR: it depends on the stakeholders, but to the large extent the level of partnership is very high, especially among the host communities, the agency, and the state government during the project planning, but it only begins to change when the project is been at the stage of in execution, maybe promises are not fulfilled or misinterpreted then conflict began to emerge among the stakeholders.

Interviewer: Do you think the proponent supports and values the host community as partners in the planning and implementation process?

FMEV-DR: yes, to some extent, but you know, most of the grievances come from the host communities, and because they lay it out as the grievances that are already shown that they are ready for resolution. they don't take laws into their hands except for very few instances. but for road projects generally, everybody is willing to put up a particular degree of paying because they know at the end of the day is for the betterment of everybody.

Interviewer: How can you describe the level of close collaboration among the stakeholders (public, EIA agencies, and NGOs)?

FMEV-DR: I can say the partnership is very strong especially among the government agencies because like I have said earlier it's a government project.

Interviewer: Was the participatory process conducted in a manner that allowed participants sufficient time to raise their comments and grievances without experiencing delays from the proponent?

FMEV-DR: yes, the process allowed for 21 days for participants to raise their concerns. But the issue is that the awareness is low, they may not be aware of the project.

Interviewer: To what extent do you believe community involvement in the EIA process of road construction projects influences the timely completion of the projects?

FMEV-DR: Most times the road projects are not duly completed in time due to budgetary constraints, but most road projects are supported by the communities whatever the time frame because they think is for the betterment of their lives. They don't really agitate.

Interviewer: What is your role and interest in EIA decision-making.

FMEV-DR: my role in the ministry is to make a decision and to make sure it conforms with the EIA guidelines, and we also formulate policies that will help to guide the EIA practices.

Interview: What is your educational level?

FMEV-DR: I have a master's degree and many professional courses environment.

Interviewer: How long have you been working in EIA practice?

FMEV-DR: For more Than 27 years

Interviewer: Many thanks once more Engr for your time

FMEV-DR: It's my pleasure to meet with you.

Appendix 1.7

INTERVIEW TRANCRIPT
File: 2021_Nigeria_PP effectiveness_2.2

Duration: 00:51:49

Date: 24/09/2021

Interviewer:

I would like to inquire about your experiences and perceptions regarding the effectiveness of public participation within the decision-making process of EIA. This research seeks to gain a comprehensive understanding of the feasibility, obstacles, and efficacy of public involvement in EIA procedures in Nigeria.

Specifically, I am strong on comprehending your viewpoints concerning the factors that impact public participation in the EIA process for road projects in Nigeria. This includes a focus on the clarity of stakeholder roles within the EIA process, opportunities for active involvement, and the democratic aspects of decision-making. This insight will be crucial for informing future practices.

As previously outlined in the participant information sheet, you have been selected to take part in this research due to your role as an EIA practitioner possessing specialized expertise in EIA policies and procedures. We hold your experiences and perspectives in high regard as valuable contributions to our study. Rest assured, any information you provide will be treated as strictly confidential, as outlined in the consent form. May I proceed with activating the recording now?

START RECORDING

Interviewer: Good morning, Engineer Sode. I appreciate your time and willingness to participate in this research. As mentioned previously, the objective of this study is to delve into practitioner perspectives regarding the effectiveness of public participation in the Environmental Impact Assessment (EIA) process. I am eager to learn from your experiences

within EIA practices in Nigeria. To begin, could you kindly provide me with the name of your organization and your current position?

EIA-CONcol_MD1: Hello Ibrahim it's good to have you back, it's good to be doing this with you. So ahhhhh… let me give you a brief background about myself. I started my civil service carrier in Lagos state and transferred to FEPA in 1999, and I was posted to the public complain unit, and later moved to the Port Harcourt office where we were involved in EIA policy formulation and implementation. I was opportune to be involved in monitoring the first EIA Nigeria. In 2000 Federal Ministry of Environment (FMEV) was created, and I was posted to Abuja where we established the oil and gas division in FMEV, I was also involved in policy formulation for the division. In 2007 another enforcement agency (NESREA) was established, I was involved in establishing the road map for the agency, and I later posted to port Harcourt as a zonal director. I was opportune to work with a team on capacity building. In 2016 I was retired from civil services and later decided to establish an environmental consulting services company. Currently, I am the managing director of ULTEESS Engineering and Environmental Services Limited.

Interviewer: In your capacity as a stakeholder within the EIA process, could you elaborate on the methods of engagement and consultation utilized in road construction projects? Do these approaches align with the procedural directives outlined in the EIA Act and adhere to recognized EIA best practices?

EIA-CONcol_MD1: Ahhhhh… Based on my experience on road projects, most of the construction companies have the mentality of not consulting the public at the early stage of EIA process, just because they work for the government. For example, we went to the company handling the Logos-Ibadan expressway and we ask them where your EIA is? they said they have provisional approval, we told them provisional approval does not give them the right to start construction without proper EIA documentation. In short, for road construction projects most of the construction companies pay lip service to EIA, they hardly comply with EIA rules, they usually ask somebody to do something for them, they hardly involved the venerable groups. They don't care about the people's views and their livelihood during the construction period, for instance, for those people whose access roads have been

compromised, they don't go back and fixed the road, they leave people in jeopardy. Things are being done on paper, not on the actual process.

Interviewer: Do you believe that participants have been granted access to project-related information, and do you perceive that relevant information details were adequately disclosed throughout the EIA processes?

EIA-CONcol_MD1: Ohhhh… In the actual EIA guidelines before the project approval, the proponent must consult with the community and their concerns must be reflected on the TOR. It depends on the enforcement team, I was opportune to be one of the panel review members set by the Hon, Minister. At the panel review, we discovered some communities do not have access to project information and we ask the proponent to go back to communities before the approval. But you know the Nigerian attitudes some companies felt they have money; they cannot disclose project information with the affected communities.

Interviewer: Could you please characterize the methods employed for notifying stakeholders in the EIA process?

EIA-CONcol_MD1: Without newspaper and radio publication the ministry will not go ahead with the project approval. The project information must be on public display at the relevant ministry headquarters, where project stakeholders can have access to project information. Most of the time, the problems come from the consultant and community members, they don't pay attention to the project information.

Interviewer: I'm interested in obtaining your perspective on the quality of information presented in EIA reports regarding public participation. Do you believe these reports offer an adequate amount of information and meet the required technical standards?

EIA-CONcol_MD1: That is the function of the expertise of the consultant, my worries are, that the environment consultancy has been a commerce affair, where expertise does not really payout. Most of the experts are brief-case consultants, they lack experience in conducting EIA, the construction companies go for cheap labor to engage. Secondly, in Nigeria government use revenue as a yes-Tek for ministry performance, which compromised the integrity of the environment. How many consultant companies are complying voluntarily? that is my worry and my colleagues

Interviewer: Do you think that public engagement within the impact assessment process contributes to the reduction of damaging environmental aspects (ecosystem services)?

EIA-CONcol_MD1: Yes, for sure, for every proponent who wants to help himself or herself, most take public consultation very seriously, because participants will have shown them the actual challenges of that community, once they know the challenges, they can look for mitigation measures to incorporates in the EIA reports. But in the Nigerian experience, some proponents think they can bribe the host communities and at the end of the day, the problems will surface. Apart from these, some people from the community who are learned, who have a connection, hijacked the project on behalf of the community, that I why we experience the problems of environmental degradation in our land.

Interviewer: Based on the Nigerian context, do you believe that public engagement enhances operational conditions and alternative approaches for projects (establishing conditions for management strategies and suitable mitigation measures)?

EIA-CONcol_MD1: Yes definitely, it will improve, but in Nigeria's experience, those who are opportune to speak up for the communities conspire with the proponent against the community interest to better themselves and their families. I have across that in the EIA that I have done, I have told those of the people who want to be the spoke person of the community, they think because they have access to the proponent, they manipulate the community. that is the Nigerian mentality.

Interviewer: Has public participation in the EIA process played a role in enhancing participant knowledge, environmental education, and overall awareness, in your opinion?

EIA-CONcol_MD1: Yes, it will definitely improve, once the participant has the knowledge of the projects, they can make the meaningful contribution that will advance and strengthen the process and care of the concern of the community, but the problem in Nigeria, in most times the proponent does not allow the participant to have sufficient information about the projects.

Interviewer: Does the participatory process contribute to economically sustainable development, encompassing conflict resolution, empowerment, job creation, and the generation of opportunities for community members?

EIA-CONcol_MD1: For any company that is sincerer, they must improve the socio-economic aspect of the EIA, one of the first aspects is to create jobs for the community. They should consider the members of the community, because in Nigeria in every community you must find a relevant resource person to engage no matter the village type. But in most cases, they bring their workers from the cities without engaging the youth of those communities. The companies should use what we called employment bureau, open a bureau to allow members of the community who have relevant skills to submit their CV, and the company can screen them through the leadership of that community and engage them to work for that community, once members of the community are engaged in the project, it will reduce conflict, they will make sure that project survive.

Interviewer: From your perspective, how effectively does the participatory process in environmental decision-making align with the principles of public participation as outlined in human rights conventions and legislation, encompassing aspects like access to information, access to justice, and meaningful engagement?

EIA-CONcol_MD1: You know the EIA process makes it compulsory for public disclosure, when you engage the community, you will know the likely impact of the project both negative and positive, and it is to the benefit of the proponent to make information available to the community. But the issue is that in Nigeria things are done in different ways, people don't have access to justice, because some people think they are above the law. For example, I have seen a project that is been conducted by the state government without EIA, and I have told them, the company should conduct the EIA. Unfortunately, during the construction process the company driver crush a motorcycle rider and flush his brain out, and nothing was done in that case.

In our country some people feel they're above the law, and unless and, most of us in Nigeria we don't want to take anybody on. Those who think they are above the law take them on, make them accountable. Government should establish what we call public defenders, where those people who don't have money, and who have no access to legal services can lodge their complaints.

Interviewer: To what extent do you believe the participatory process enables participants to voice their concerns, express their interests, and have ample opportunity to influence decisions that have an impact on their lives?

EIA-CONcol_MD1: For road construction in Nigeria, most of them are consulted removed out from the community. Like I have said earlier, only the affluent of the community, those who have the connection want to meet with them, once you have such people meeting with them, they cannot be championing the course of the community, they only champion they're on Course. In most projects the host communities cannot influence decision-making, because the affluent of the society hijack the whole process.

Interviewer: In what manner does the participatory process facilitate the following democratic practices: Openness to different views from stakeholders, development of citizen skills such as cooperation and communication, and the exercise of citizen rights?

EIA-CONcol_MD1: You know I told you before when you are conducting EIA, you must look at different groups in the community, including youth, women groups, and any other groups within the community, but in Nigeria, things are done differently. Most of those groups were not consulted for their views. They will not allow the participants to exercise their citizens' rights and develop their skills during the process which fundamental.

Interviewer: Do you believe that responsibilities among stakeholders were distinctly outlined and assigned tasks were undertaken by the most suitable parties during the consultation process? Are participants well-informed about their responsibilities within the decision-making process?

EIA-CONcol_MD1: Yes, of course, every stakeholder knows his responsibility, from the government representative up to the community leaders. In most cases, participants are aware of their responsibilities within the decision-making process except for those who are not educated in society. This has to do with the strength and quality of people in the community.

Interviewer: Do you think the proponent support and values the host community as partners in the planning and implementation process?

EIA-CONcol_MD1: Yes, in most cases the proponent value the host communities in the planning process but not in the implementation process,

Interviewer: How can you describe the level of close collaboration among the stakeholders (public, EIA agencies, and NGOs)?

EIA-CONcol_MD1: Collaboration with NGOs and community-based organisations is not so high, but for other stakeholders for example the government agencies there is no way you conduct EIA in the state without involving relevant state and local government.

Interviewer: Did the participatory process allow enough time for the participants to raise their comments and grievances without delay from the proponent?

EIA-CONcol_MD1: What happens is this, once the consultant goes to the field for data collection, they make a consultation with the communities, they will now incorporate it in the draft EIA reports. That report will be displayed publicly for the community to read and make their inputs. Once they make their inputs at the point of another review all the concerns will be discussed and incorporated in the final report before approval. Once the project is approved it's become public a document.

Interviewer: To what degree do you think community involvement in the EIA process of road construction projects influences the timely completion of the projects?

EIA-CONcol_MD1: Yes, of course, they can influence the timely completion of the project, they can even disturb the projects for continuity. Usually, they make complaints to the approving Ministry to call the attention of the company. But in Nigeria, most people are not aware of their rights and sometimes the projects are awarded to those that are not qualified, and some projects are political projects.

Interviewer: What is your role and interest in EIA decision making.

EIA-CONcol_MD1: My role? I have a role as a consultant, which is to make sure the proponent follows the due process as stipulated in EIA acts which means they must consult with the community that is my role as a consultant. My other role, If I see things wrong, I will report to the ministry. I will also participate in the review panel when I am invited to act as an impartial member and will make sure that I protect the interest of the public.

Interviewer: What is your educational level?

EIA-CONcol_MD1: have a master's degree

Interviewer: How long have you been working in EIA practice?

EIA-CONcol_MD1 For more Than 25 years

Interviewer: Many thanks once more Engr for your time

EIA-CONcol_MD1: It's my pleasure Ibrahim