

Relevance of Marine Protected Areas in Nigeria and Sustainability

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Abstract

Effective administration and implementation of maritime Protected Areas (MPAs) in Nigeria is crucial to the advancement of biodiversity conservation, socio-economic development and sustainability of the maritime environment. The benefits are enormous but they are currently confronting barriers such as lack of regulations, lack of financing, lack of enforcement, community opposition and environmental challenges like climate change. Such problems might be addressed by an ecosystem approach to management, including scientific and traditional knowledge. Community engagement in co-management arrangements builds local stewardship, improves compliance and equitable benefit-sharing, and ultimately enhances conservation. Equally important are adaptive management measures that respond to environmental changes, such as rising sea levels and ocean acidification, in an attempt to preserve the durability of MPAs. Strengthening enforcement and monitoring mechanisms also means strengthening institutional capabilities and growing budgetary resources. Nigeria must translate its commitment to international treaties into tangible policies involving stakeholders at all levels. The integration of these approaches in the larger context of national development would be crucial in conserving biodiversity while simultaneously supporting socio-economic development via sustainable fisheries, eco-tourism and employment opportunities. Frameworks such as Ecosystem-Based Management (EBM) and Common-Pool Resources (CPR) are useful in creating governance models that maintain a balance between ecological health and human demands. To summarise, a holistic approach concentrating on policy reform, community participation, climate resilience, and enough funding would be vital in boosting Nigeria's capacity to safeguard its marine biodiversity and foster sustainable maritime development.

Keywords: Marine Protected Areas(MPAs), Biodiversity conservation, socio-economic development, Sustainability, Nigeria.

I. Introduction

Marine protected areas (MPAs) are becoming more essential in Nigeria as a critical aspect of environmental preservation and healthy development. These are significant areas for the local economy, for the marine life and for the biodiversity. Overfishing, pollution, loss of ecosystem and illegal fishing are the key risks facing Nigeria's coastline and marine environments (Olugbode, 2026; Nwachukwu et al., 2025). MPAs are intended to counter these hazards by maintaining vital ecosystems, rehabilitating fish stocks and promoting sustainable use of the maritime resources.

MPAs are vital to the environment but also to the economy and society in Nigeria. According to Agunsoye et al. (2025) and Youssef (2023), the blue economy is a framework for the utilisation of water resources in a manner that is beneficial to the economy, society and employment opportunities. Eli et al. (2025) and Olaniyi et al. (2026) address the significance of this method for marine protected areas. They assist to protect species but also enable people to perform scientific study, have fun and fish in these zones.

There are various obstacles in the operation and maintenance of MPAs in Nigeria however it's theoretically advantageous. These include rules not adequately implemented, not enough money, insufficient leadership and difficulties with local people who depend on the sea's resources for life (Obidimma et al., 2023; Abukari & Mwalyosi, 2020). In addition, effects of climate change such as rising sea levels and sea acidity pose threats to the durability of marine habitats inside the protected areas (Ariom et al., 2022).

Economically, MPAs are also vital, as shown by Adegoroye et al. (2024) and Baloch et al. (2023), since they may assist people make a living via ecotourism and sustainable fishing. But the needs of the local community are hard to reconcile with conservation goals. It has been proposed that co-management approaches including local groups may enhance compliance and provide equitable benefit-sharing across all stakeholders (Ma et al., 2023; Manda & Mukanda, 2023).

And, Nigeria is revising its policy on marine conservation but they don't have it all

figured out on how to implement it. Nigeria's ratification of international marine treaties signifies the country's commitment to better ocean governance, but translating such commitments into action is not easy (Edward, 2023; Olugbode, 2026).

Marine Protected Areas are therefore highly crucial for safeguarding Nigeria's rich marine life and for promoting the long term development along its shores. But their success relies on improved methods to do things, more community engagement, sufficient funding, and adaptable management plans that can react to emerging environmental concerns. As Nigeria's blue economy develops, it will be crucial to ensure that MPAs are part of wider national policies that preserve the environment and foster economic progress.

Research Question:

How can effective management and implementation of maritime Protected Areas (MPAs) boost biodiversity conservation, socio-economic development and sustainability in Nigeria's maritime environment?

Research Aims:

The research intends to critically analyse the status, difficulties, and prospects of Marine Protected Areas in Nigeria, emphasising their significance in biodiversity conservation, sustainable economic development, and community participation. The project is to provide information for policy and management methods that may maximise the advantages of MPAs for environmental conservation and socio-economic development.

Research Objectives:

1. To examine the efficiency of current policies and management methods of MPAs in Nigeria.
2. Determine the socio-economic implications of MPAs on local populations, including prospects for ecotourism and sustainable livelihoods.
3. To understand the environmental obstacles confronting MPAs including impacts of climate change and enforcement concerns and provide adaptive management options.

Justification of the Study:

This research is urgently needed since Nigeria's maritime environment is deteriorating and existing maritime Protected Areas (MPAs) are not fulfilling their functions. While MPAs are set up to conserve biodiversity, promote sustainable livelihoods and contribute to socioeconomic development, they confront serious challenges in

Nigeria, such as insufficient finance, poor enforcement and community disputes. Nigeria is committed to international marine accords and wants to establish a "blue economy" hence it is extremely vital to know how to administer MPAs efficiently so that policies may be put into reality. The research aims to bridge the gaps in our knowledge by providing a complete picture of how policies function, their social and economic repercussions, and the environmental risks they entail. This will allow managers to make better judgements balancing community interests with conservation.

Statement of the Problem:

Overfishing, pollution, climate change impacts such as increasing sea levels and acidity, and regulations that are not backed up by conservation efforts are all placing Nigeria's marine environments in greater peril. MPAs are recognised as being important for protecting biodiversity and for using resources in a sustainable manner. However, implementation has been difficult due to poor policies, lack of funding, poor leadership and opposition from communities that depend on marine resources for their livelihood. Such concerns undermine MPAs' ability to play a meaningful role in conserving species and enhancing the economy. Also, with the present policy changes in Nigeria, there is lack of clarity on how they would be implemented which might create a disconnect between foreign promises and actual outcomes. To tackle these obstacles, we need to critically evaluate existing management practices and develop innovative community-based approaches and adaptable tactics to ensure the resilience and sustainability of Nigeria's marine environment.

II. Literature Review

Biodiversity Conservation: One of the key reasons why Marine Protected Areas (MPAs) are vital in Nigeria is to protect the natural wildlife. Marine environment and species are seriously threatened by climate change impacts (e.g. increasing sea levels and ocean acidity) therefore the need to safeguard marine environment (Mafiana et al., 2022; William, 2025). Problems such as overfishing, pollution, loss of habitat and the effects of climate change are included. MPAs conserve the biodiversity of Nigeria's maritime environment by maintaining the balance of the ecosystem and providing creatures with a broad variety of genes. This is highly crucial for the health of the marine environment as a whole."

Marine protected areas are good for the environment, but also for business and society. These protected areas contribute to the sustainability of fisheries by enabling fish populations to replenish as opined by Olubode (2026) and Nwachukwu et al. (2025). It's beneficial for the fishing communities around us, and for food security. Marine Protected Areas contribute positively to the development of the blue economy via ecotourism and sustainable living activities (Agunsoye et al., 2025; Youssef, 2023). Encourages employment development and economic growth in coastal towns.

But the efficiency of Nigeria's Marine Protected Areas is under serious question. However, they are handicapped by financial constraints, poor policy implementation, poor enforcement methods and community resistance to protection of wildlife (Obidimma et al., 2023; Abukari and Mwalyosi, 2020). Climate change exacerbates these difficulties since it threatens maritime regions due to sea level rise and ocean acidification (Ariom et al., 2022). To counteract such challenges we need open management approaches, with the community, and that all receive a fair part of the profits.

MPAs may also be longer if they are part of national development plans that are consistent with international accords. "We need more money for police facilities, more government structures and more community engagement to get the best results for wildlife protection." Such integrated approaches would not only save Nigeria's varied marine life, but also contribute to the nation's economic development and resilience to environmental threats.

To summarise, MPAs are very vital for the protection of Nigeria's maritime biodiversity in the face of worsening environmental concerns. Their success depends on good management, which can balance the need to protect the environment with the need to meet people's needs. The use of MPAs to meet contemporary issues via new legislation and the participation of all stakeholders may assist Nigeria in protecting its priceless marine habitats and in fostering sustainable development.

Socio-economic Development:

Marine protected areas (MPAs) are an important part of Nigeria's social and economic progress since they provide employment, bring in visitors and boost the blue economy. Agyeman et al. (2019) and Baloch et al. (2023), among others, highlight fish resource replenishment, scientific research, and leisure activities that create money for

local communities. This helps with economic progress and the eradication of poverty. The private sector-led blue economy depends significantly on MPAs for the aim of exploiting water resources to generate employment, improve society, and expand the overall economy (Agunsoye et al., 2025; Youssef, 20223). There are various reasons why we have protected areas (MPAs). They protect the environment, they help us to fish in a sustainable way and they may even help local businesses.

However, for various reasons, MPAs are faced with management and implementation obstacles that inhibit their potential to provide social and economic benefits. Key barriers include insufficient funding, poor leadership, local opposition from people whose daily lives rely on marine resources (Obidimma et al., 2023; Abukari & Mwalyosi, 2020). Climate change is impacting marine environments in two ways, by increasing the acidity of oceans and raising the sea level. This puts at risk the biodiversity and ecological stability within MPAs (Ariom et al., 2022).

Nevertheless, community-based co-management systems appear to be an effective answer to these difficulties. Such plans may encourage increased adherence to environmental norms, and when local people participate in choices about them, they can promote more equitable benefit-sharing (Ma et al., 2023; Manda & Mukanda, 2023). Local engagement promotes conservation and leads to more fair sharing of social and economic benefits, which escalates support for marine protected areas (MPAs).

Another sign of Nigeria's interest in improving ocean governance is its participation in international maritime accords. However, these pledges are ineffective due to lack of suitable processes for implementation and inadequate resources (Edward, 2023; Olugbode, 2026), making this aim impossible. Management plans must be flexible and sensitive to public input and scientific discoveries, so that economic and social advantages are maximised, and environmental protection is not compromised.

Despite the great potential that MPAs have for socio-economic development in Nigeria, it is important to tackle crucial management difficulties with MPAs before they can be employed. To fully exploit the potential of MPAs it is required to enhance enforcement, provide additional resources, include communities via co-management initiatives and include adaptation to climate change. These all-

encompassing initiatives will aid with animal preservation and would promote the business and social development of coastal Nigeria.

Sustainability:

The key to achieving sustainability of Nigeria's maritime environment is the development of adaptive management systems that can react effectively to changes in the environment and community demands. Adaptive management, as defined by Armitage et al. (2020) and Ma et al. (2023), entails monitoring natural conditions, engaging stakeholders, and adjusting policies as necessary to ensure long-term sustainability of Marine Protected Areas (MPAs). All of these are dangers, including increasing sea levels, acidity of the seas and severe weather events, so safeguarding environment has to be planned with climate resilience in mind (Ariom et al., 2022). "Strong enforcement to combat illegal fishing, pollution and other bad things that harm conservation efforts are just as important.

In addition, Nigeria has shown its commitment to international standards of ocean governance by ratifying international treaties such as the Marine Environment Protocol and the Convention on Biological Diversity (Olugbode, 2026; Edward, 2023). But inadequate institutions, lack of finance and lack of stakeholder participation makes it impossible to deliver on these promises. Bridging this gap requires effective policy reforms to develop a governance framework that encourages openness, accountability and community engagement.

Community interaction is especially important for the long-term management of MPAs. Sea resources are usually quite important for the local people's existence (Abukari and Mwalyosi, 2020). Co-management approaches that include community-based resource management may enhance local adherence to conservation norms and equitable benefit sharing (Ma et al. 2023). Not only do the participatory approaches inspire individuals to be good stewards, but they also improve society and the economy through things such as ecotourism and sustainable fishing.

To provide robustness, natural issues should also be included into management strategies. This involves using ecosystem-based approaches that consider how species and ecosystems in the ocean are interconnected. People from various government levels and industries need to work together to repair

the harm pollution, overfishing and climate change cause to the environment.

Finally, effective management and implementation of MPAs in Nigeria may assist to safeguard biodiversity, promote economic development and sustainability of the nation. This is particularly true when policies are flexible enough to adjust to changes in the environment and community needs. To achieve these goals, it requires active efforts to increase enforcement, increase engagement – particularly among communities, and include climate resilience into conservation plans. These factors must be given major priority in the present policy changes in Nigeria, so that MPAs may achieve their full potential as tools for sustainable maritime development.

III. Relevant Theories

Ecosystem-Based Management (EBM)

Ecosystem-Based Management (EBM) is an extensive strategy that emphasises an integration of human activities with the health of ecosystems for sustainable use of resources in Marine Protected Areas (MPAs). This kind of thinking recognises the interdependence between marine environments and human livelihoods and supports policies that combine environmental conservation with economic and social benefits. EBM offers flexible management strategies that may adjust to the environment. This allows marine environments to be resilient to issues such as climate change, overfishing and pollution (Lee et al., 2021). EBM in Nigeria may benefit wildlife by enabling cooperation among people of diverse communities. These groupings include government agencies, local communities and corporate sector. This is particularly essential since the country's economy and ecology both rely on marine resources and helps to restore ecosystems and utilise resources in a manner that does not hurt the environment. EBM also advocates the construction of integrated management plans that include both human needs and ecological processes. "This makes enforcement and community engagement more effective."

Common-Pool Resources Theory:

The CPR theory stresses the need of collective action in the management and governance of resources to avoid depletion. In Nigeria, maritime resources are commonly divided among many groups, including hunters, local communities and companies. This is a typical "tragedy of the commons" scenario where selfish interests lead to

everyone losing if these resources are not adequately managed (Olugbode, 2026). CPR theory encourages collaborative management approaches that include local partners in decision making to ensure fair access for all and usage of the resource in a manner that does not degrade the resource. In reality, this involves having clear laws for property rights or access, monitoring systems and techniques to ensure sure unlawful activities like fishing or pollution are halted.

In Nigeria's MPAs, the use of CPR principles may lead to increased compliance with conservation standards and empower local populations to be custodians, and not simply beneficiaries. This collaborative way of working makes people feel they own marine resources and are accountable for them, which is highly crucial for the long term survival. The integration of CPR approaches with national policy may also assist address compliance issues by devolving authority and fostering community-based administration. In general, the two ideas suggest that Nigeria's maritime ecosystem requires holistic governance structures. One is ecological integration (EBM) and the other community resource management. This will preserve biodiversity and stabilise the economy."

IV. Empirical Review

The empirical review is a vast body of research that contributes to our comprehension of the complex role that Marine Protected Areas (MPAs) and other conservation initiatives play in sustaining long-term development, conserving biodiversity and generating employment for local people and the economy.

Abukari and Mwalyosi (2020) study is especially relevant to understand how people view the impacts of MPAs on their way of life in the area. Their results reveal one of the important aspects of conservation: the necessity for inclusive management strategies that reflect what the community wants and how they view it. This agrees with the statement of Olaniyi et al. (2019) on the need for co-management strategies to improve community dependence on protected areas and their sustainable use. Both studies show that top-down management approaches do not always successful or are opposed if communities are not part of the decision-making process.

Adegroye et al. (2024) have reviewed the ideal management of nature reserves with the focus on sustainable development in this debate. Their analysis reveals all three to be very significant

elements of effective control systems, stakeholder participation and flexible management. This observation is consistent with the results of Adeyanju et al. (2022) who investigated the reason for animal preservation in holy woods. It implies that the usefulness of community-based initiatives is recognised in both groups. Sacred groves are a great instance of how traditional conservation practices that are rooted in culture may be incorporated into formal management systems to improve biodiversity benefits.

Djumanto et al. (2022) showed the significance of Indonesian MPAs to assist the fishing community. These findings are relevant to Nigeria because fishing is a significant source of income. Youssef (2023) explores the possibilities of the blue economy using MPAs. Their study indicates that if MPAs are maintained properly, they may help boost fish stocks and enhance resilience in communities. Both findings suggest that when contemplating the blue economy, MPAs should be used not only for conservation but also for driving economic growth.

This viewpoint is also backed by Eli et al. (2025) who explored the potential of MPAs to protect biodiversity and the blue economy. They found that MPAs can save forests, and help the economy by encouraging tourism and safe fishing. But they also warn that environmental goals and financial interests may not always align and stress the need for sensible management measures.

Nwachukwu et al. (2025) explore the causes of environmental degradation and the possible remedies inside Nigeria's MPAs. Their study also raises challenges like as pollution, illegal fishing and damage to habitat that endanger conservation efforts. They call for strict enforcement and community cooperation in an effort to decrease these dangers. William (2025) concurs as well, exploring the biodiversity policy of Nigeria, noting the shortcomings that compromise the efficiency of conservation.

William's assessment highlights the necessity for policy adjustments to remedy the existing gaps by incorporating scientific research, local knowledge and stakeholder engagement. This is consistent with the conclusion of Onu et al. (2025) who studied the role of cultural property in the growth of tourism in MPAs. They argue that the use of cultural assets might increase the income of tourists and promote feelings of pride and caring in the community.

Most study agree that community interaction, co-management, traditional activities such as sacred woods or cultural treasures are vital.

But their interests range from the government structures to socio-economic advantages. Djumanto and colleagues' research of MPAs in Indonesia provides clear evidence of environmental benefits that sustain fisheries. However, to transfer such success stories to Nigeria, certain adaptations would be necessary to account for the differences in the social and political environment.

Furthermore, Eli et al. (2025) have a focus on the betterment of biodiversity that is in tandem with Nwachukwu et al. (2025) who call for action to solve environmental threats. Both studies highlight systemic problems that need collective solutions via legislative reform, stakeholder engagement and strict rules.

These themes are embedded in a wider sustainable development narrative. In Youssef's 2023 assessment, these subjects are combined via the prism of the blue economy model. It advocates for creative ways to pay for MPA benefits and increased technology and cooperation throughout the region to realise the benefits of MPAs.

In general, these empirical studies show that MPAs need to have governance systems that incorporate the sociocultural settings of local populations, and balance between conserving the environment and producing employment, to be successful for conservation and sustainable development. It is agreed that cooperative management systems are important but the comparative research also shows areas that require more attention including the fact that policies are difficult to execute and resources are low in Nigeria. To handle these issues, we need a framework that combines scientific research results with traditional knowledge systems. This will help to develop strong groups and ecosystems.

Summary of the section

In summary, the proper management and implementation of Marine Protected Areas are required for the protection of wildlife and socio-economic development in Nigeria. To do this we need a holistic approach that incorporates strong legislative frameworks, community engagement, enough funding, adaptive management strategies and addressing climate change. Marine Protected Areas (MPAs) may help maintain our oceans healthy, which is beneficial for both the environment and humans. This is particularly so for Nigeria's blue economy if MPAs are effectively integrated into the country's development goals.

V. Research Methodology

Marine Protected Areas (MPAs) in Nigeria are evaluated for their effectiveness using a systematic and rigorous approach that combines current studies with real-world data. This method makes sure that we fully understand what we already know, finds gaps in our knowledge, and uses that information to guide policy and management decisions.

And this is much more so for a systematic review. This strategy makes sure we have a thorough understanding of what we know, identifies gaps in our knowledge and utilises that knowledge to influence policy and management choices.

1. Criteria for the Literature Search and Selection

The first step is to provide precise criteria for deciding what research should be included and what should be excluded. Information will be available in academic journals, government papers, releases from international groups and "grey literature". Some of the key words will include "Marine Protected Areas Nigeria", "biodiversity conservation Nigeria", "socio-economic impacts MPAs", "climate change effects on marine environments" and "marine policy Nigeria". These will be used for searching in environmental science databases such as Google Scholar, Scopus, Web of Science and other relevant databases.

2. Collecting data, and coding it

Some studies' data will be carefully extracted to crucial elements such as management techniques, policy frameworks, levels of community engagement, financing sources, control mechanisms, environmental outcomes, social and economic advantages and issues encountered. Using a single code sheet will ensure that data is collected consistently.

3. Quality assessment

The methodological rigour of each research will be evaluated using well-known assessment techniques such as the Critical Appraisal Skills Program (CASP) checklists or PRISMA standards for systematic reviews. This stage ensures that only studies that are reliable and follow excellent research methodology may influence the synthesis.

4. Data combination and analysis

We will utilise meta-analytic approaches to examine quantitative data from research papers and determine the overall effect sizes for topics such as biodiversity or socio-economic benefits. Qualitative data will be thematically analysed to identify recurring themes, for example barriers to community engagement or positive management practices.

5. Pinpointing the gaps and constraints

The review will identify areas where there is not enough evidence or where the findings are inconsistent. This will assist to prioritise future research efforts.

6. Integration with other theoretical models

The review will leverage Ecosystem-Based Management (EBM) and Common-Pool Resources (CPR) theories to better interpret the findings in a larger governance context.

7. Reporting and What It Means for Policy

The data will be collated into a comprehensive research, with the aim of providing important information to law makers, environmentalists and local communities that may be used to enhance MPA management in Nigeria.

Such an approach of completing a comprehensive analysis is a good basis for the assessment of the present status of MPAs in Nigeria. It means that discoveries are factual and contribute to the protection and improvement of maritime regions that will stand the test of time.

VI. Data Presentation and Results

The value of Marine Protected Areas (MPAs) in Nigeria and their role in facilitating sustainability was the focus of the research. A systematic review approach was used to systematically examine the available literature and real-world data. This method makes sure that we fully understand what we already know, finds gaps in our knowledge, and uses that information to guide policy and management decisions.

This approach allows the researcher to comprehend what we currently know, to identify gaps in our understanding, and to utilise that knowledge to shape policy and management choices.

The first stage is to get specific criteria on what research to include and what studies to exclude. These should be peer-reviewed studies published within the previous 10 years and dealing with critical subjects such as biodiversity protection, social and economic impacts, policy effectiveness,

community engagement and the environmental concerns that MPAs in Nigeria confront.

We conduct an extensive search through several reputable academic databases such as Scopus, Web of Science, Google Scholar, and databases specific to environmental science, using targeted keywords such as “Marine Protected Areas Nigeria,” “biodiversity conservation Nigeria,” “socio-economic impacts MPAs,” “climate change effects on marine environments,” and “marine policy Nigeria.” This search first pulls up around 650 results.

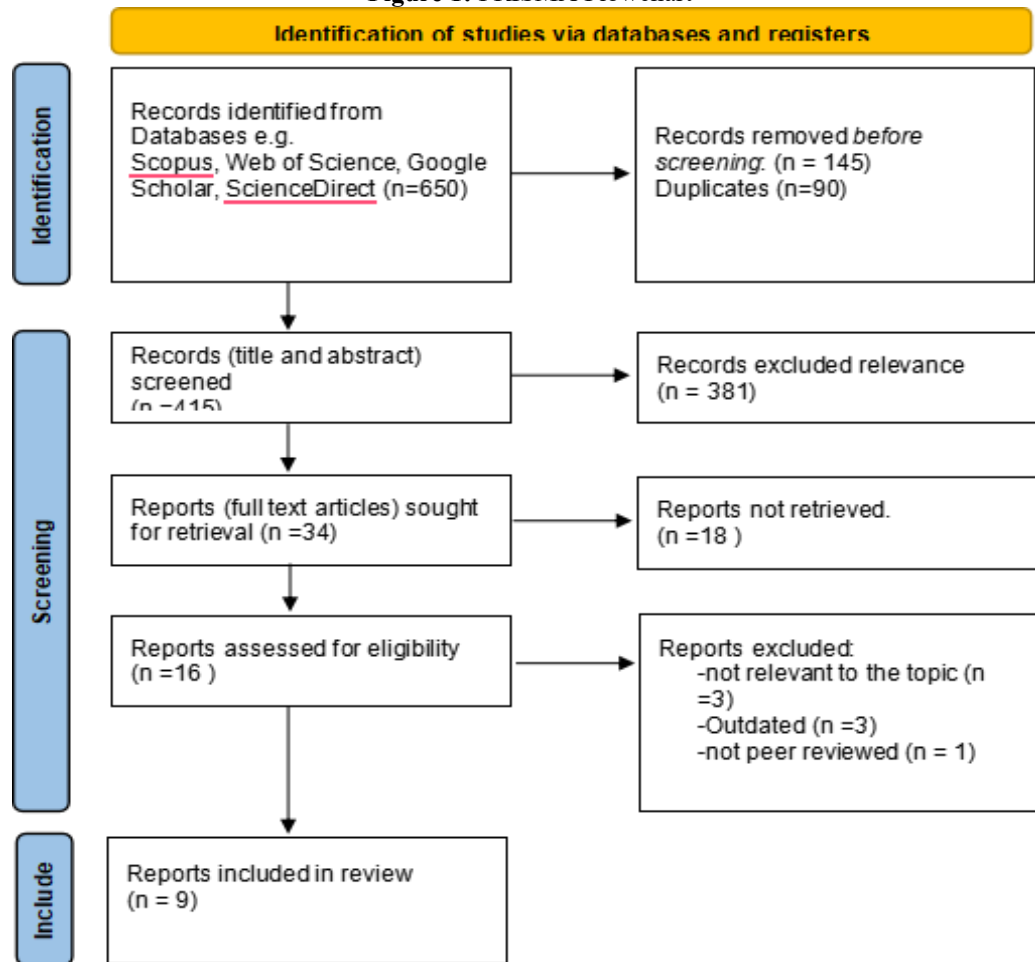
Then the duplicate entries are identified and deleted using Endnote software. This eliminates 145 duplicates from the data. Then another 90 duplicates are eliminated, resulting in 415 unique entries. First, the titles and abstracts of these records are reviewed to exclude research that are irrelevant to Nigerian MPAs or do not include sufficient real data. This approach deletes 381 records.

This method makes sure that we fully understand what we already know, finds gaps in our knowledge, and uses that information to guide policy and management decisions.

The 34 earlier studies were assessed at the full-text level for relevance and methodological soundness. Other studies are excluded because they do not meet the research goals or for methodological issues. This leads to 9 high-quality publications fulfilling all inclusion criteria and should be further studied.

The selected studies are meticulously classified for aspects such as management style, community participation, funding sources, rule enforcement, environmental impacts, social and economic advantages, and any challenges encountered. Quantitative data are analysed using meta-analytic approaches when appropriate to assess its overall impact on biodiversity and socioeconomic development. Thematic analysis is used to identify themes that recur in qualitative data such as community backlash or effective adapted management techniques. This information is summarise in the PRISMA Flowchart below.

Figure 1: PRISMA Flowchart



This is shown in a PRISMA flowchart (Figure 1), showing stepwise reduction from the original records to the final studies included in the screening. The flowchart describes each stage in the selection process: identification (650 records), elimination of duplicates (235 records in total), screening (415 records), exclusions (381 records), full-text review (34 records) and final inclusion (9 records).

This rigorous systematic review process guarantees that the results of the research are based on sound evidence. It also provides important insights as to how effective management techniques might promote the conservation of biodiversity, economic development and long term sustainability of maritime habitats in Nigeria.

Literature Matrix				
Author/Year	Purpose	Methodology	Findings	Implication
Dave, S. R. N. (2025).	To review the conservation effectiveness of Marine Protected Areas (MPAs) in safeguarding marine biodiversity.	Literature review.	MPAs contribute significantly to biodiversity conservation, but their effectiveness varies depending on management practices.	Effective management and enforcement are crucial for maximizing the benefits of MPAs.

Pettersen, A.K. et al. (2021)	To assess the impact of MPAs on the temporal stability of fish species diversity.	Empirical data analysis across different MPA sites	MPAs enhance the stability of fish diversity over time	MPAs are vital for maintaining resilient fish populations amidst environmental fluctuations.
Huang, S. et al. (2024)	To evaluate regional effectiveness and community engagement in MPAs	Case studies and stakeholder interviews.	Community involvement improves MPA effectiveness.	Engaging local communities is essential for sustainable MPA management.
Abukari, H., & M walyosi, R.B. (2020)	To explore local communities' perceptions of protected areas' impacts on livelihoods.	Surveys and qualitative interviews.	Communities perceive both benefits and challenges related to protected areas.	Incorporating community perspectives can enhance conservation strategies.
Eli, A.A. et al., (2025)	To evaluate the role of MPAs in biodiversity enhancement and supporting sustainable economic growth within Nigeria's blue economy.	Data analysis and case study review.	MPAs contribute positively to biodiversity and economic development	Investment in MPAs is beneficial for Nigeria's sustainable blue economy development.
Etta, C.A. et al. (2024)	To evaluate the role of Cross River National Park as a catalyst for community livelihood sustenance in Nigeria.	The study employed a combination of field surveys, interviews with local communities, and ecological assessments.	The park significantly contributes to community livelihoods through eco-tourism and conservation activities but faces challenges related to resource management.	Effective management of protected areas like Cross River National Park can enhance sustainable livelihoods and biodiversity conservation.
Schmidt, D.N.; Pieraccini, M.; Evans, L. (2022)	To explore the challenges faced by marine protected areas (MPAs) in the context of climate change and their impact on coastal social-ecological systems.	A comprehensive review of existing literature combined with case studies from different regions.	Climate change poses significant threats to MPAs' effectiveness due to rising sea levels, temperature changes, and ecosystem shifts.	Adaptive management strategies are essential for maintaining the resilience and sustainability of MPAs under climate change pressures.
Turnbull, J.W.; Johnston, E.L.; Clark, G.F. (2021)	To evaluate the social and ecological effectiveness of partially protected marine areas.	Empirical analysis involving ecological data collection and social surveys within selected MPAs.	Partially protected areas can be effective if properly managed but may also face issues such as enforcement challenges and stakeholder conflicts.	Properly designed and managed partial protections can contribute to conservation goals while supporting local communities.

Villegas-Ríos, D. et al. (2021)	To investigate how individual spatial behavior influences the effectiveness of MPAs and organism fitness over time.	Longitudinal tracking studies combined with spatial behavior analysis of marine species within MPAs.	Individual behavior significantly affects MPA outcomes; species with high site fidelity benefit more from protection.	Incorporating behavioral ecology into MPA design can improve their effectiveness and conservation success.
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VII. Summary of finding

The three core themes that emerged from the detailed literature review are:

Theme 1. The effectiveness of management and implementation of policies: This theme highlights the need of good management methods, strong enforcement, and solid regulatory frameworks to ensure that MPAs deliver their conservation and socio-economic objectives. According to the research of Dave (2025) and Huang et al. (2024), good management, stakeholder participation and community engagement are the precondition for the successful implementation of Marine Protected Areas (MPAs).

Theme 2. Community Engagement and Socio-economic Benefits: It is an ongoing debate how successful Marine Protected Areas are depending on the role of local populations. Community engagement, traditional knowledge and participatory management approaches provide opportunities to enhance compliance and fair benefit sharing to achieve sustainable livelihoods. According to Abukari and walyosi (2020) and Etta et al. (2024), community engagement positively contributes to the conservation of biodiversity and promotion of socio-economic development.

Theme 3. Environmental Issues and Action on Climate Change: Marine Protected Areas are significantly affected in their resilience by climate change and its problems, such as rising sea levels and increased ocean acidity. Schmidt et al. (2022) point to the need for flexible and adaptive management solutions to deal with environmental change and to sustain biodiversity and ecosystem health. Together, these themes underscore the need for a holistic approach to the effective management of Nigeria's Marine Protected Areas, integrating policy effectiveness, community engagement, and climate resilience strategies to support biodiversity conservation, socio-economic development, and sustainability.

VIII. Discussion of Findings

Theme 1. The effectiveness of management and implementation of policies

The effective management and administration of the country's Marine Protected

Areas (MPAs) is critical to the conservation of species, as well as the promotion of socio-economic development and resilience in Nigeria. The topic underscores the need of adaptive management techniques, stakeholder engagement, rigorous assurance procedures, and strong governance structures. MPAs need to be properly managed to obtain their full ecological benefits (Dave 2025). One plus is that it keeps fish populations healthy and other aquatic species safe. Poaching and illegal fishing are examples of poor management that impede conservation efforts (Obidimma et al., 2023). "The restrictions aren't strict enough and the enforcement isn't enough. The concept of Common-Pool Resources (CPR) is about community cooperation and participation in the sustainable management of the resources (Olugbode, 2026). Inclusion of local communities in the decision-making process resulted in greater conservation outcomes (Huang et al., 2024) since local people are more inclined to appreciate and own the choice. Ecosystem-based management (EBM) also promotes integrated approaches that consider the links between ecosystems and livelihoods together (Lee et al., 2021). Furthermore, robust organisations, well-defined regulations, and continuous monitoring are essential for these initiatives to function as intended. Being able to adjust to different circumstances and meet other people's demands is a key talent. But Nigeria has the political will, the police, and the funding to make its dreams a reality (Olugbode, 2026). The degradation of marine ecosystems brought about by rising temperatures exacerbates these issues (Schmidt et al., 2022). Success of a policy is not only about how it is designed, but also about how it is executed, including availability of funding, trained staff, community mobilisation methods and systems for compliance with the law. Theoretical models such as EBM may assist flexible policy formulation considering the needs of persons and changing environmental conditions. Participatory governance approaches also enhance openness and accountability, creating confidence amongst stakeholders such as NGOs, local communities and government institutions, which is vital to long-term management. To summarise, the implementation of

policy is to be improved in an integrated approach that blends scientific research with indigenous knowledge systems and also underlines the need of engaging stakeholders in the process. Targeted finance and capacity development initiatives may strengthen institutions. This may help bridge the gap between policy-making and implementation on the ground. This is a huge win for Nigeria to maximise the value of MPAs in protecting wildlife and spurring the country's economic growth.

Theme 2. Community Engagement and Socio-economic Benefits

The emphasis is on community engagement and economic benefits. "When you successfully engage a community, they will have a sense of ownership. This is important for the enforcement of conservation regulations and for the sustainable use of marine resources. Local people participation in decision-making makes them more dedicated to conservation (Abukari and Mwalyosi, 2020). This means they are less likely to be involved in illegal activities such as fishing without a permission or polluting.

Community engagement is also an excellent way to tap into traditional knowledge sources for adaptive management solutions. Etta et al. (2024) emphasise that when local people participate in the operations of MPAs, they have a better understanding of how ecosystems work, which enhances the effectiveness of their conservation and stewardship efforts. The notion of Ecosystem-Based Management (EBM) suggests that humans and ecosystem health should work together to ensure sustainability (Lee et al., 2021). There's a number of folks working with these types of techniques.

The environmental protection areas (MPAs) offer employment via ecotourism and sustainable fishing which are significant factors of decreasing poverty and improving the economy in coastal Nigeria. According to Youssef (2023) and Eli et al. (2025), well-managed MPAs may boost local economy by drawing tourists and sustaining small-scale fishing businesses. These advantages are important when marine resources are important to earn a living, particularly in under-developed countries.

However, these social and economic advantages are difficult to achieve owing to lack of money, poor execution of rules and regulations and public displeasure with perceived limits on access to resources. Without equal opportunities for

individuals to benefit from MPAs, local communities may see them as limiting rather than helpful, working against conservation goals (Obidimma et al., 2023). This underscores the significance of co-management structures (Olugbode, 2026) in the Common-Pool Resources (CPR) ideology that calls for joint responsibility and cooperation amongst stakeholders. These frameworks may help members of a group to trust one another, be responsible, feel like they are taking care of things.

Incorporating traditional cultural practices into official management plans may also help the community adopt MPAs. For example, holy trees or cultural places inside the MPAs are protective images that bolster conservation ethics based on indigenous beliefs (Adeyanju et al., 2022). Hybrid models might be created via the fusion of traditional traditions with scientific management, which would preserve national identities and achieve environmental goals.

Community engagement is crucial to achieve the maximum social and economic advantages of MPAs in Nigeria. It encourages involvement in governance and shared accountability and is consistent with EBM and CPR ideals. To maximise these advantages, inclusive frameworks must be developed by policymakers to ensure equitable benefit-sharing, include traditional knowledge and balance conservation and socio-economic demands. All these holistic strategies are needed in the long term to safeguard Nigeria's maritime resources and improve the lot of the people.

Theme 3. Environmental Issues and Action on Climate Change

The third subject, which focuses on the environment and what is to be done to avert climate change, is highly crucial for the long-term management of Nigeria's Marine Protected Areas (MPAs). Climate change presents a host of new hazards to marine environments, including rising sea levels, ocean acidification, greater sea surface temperatures and extreme weather events. All of these make it difficult to conserve biodiversity (Schmidt et al., 2022). Such natural stressors may cause loss of habitat, coral bleaching and changes in species distributions, and render marine habitats inside MPAs less robust.

Armitage et al. (2020) inquiry stress the need of flexible management practices. They need

constant monitoring and should be given rules that are flexible enough to adjust to changing world situations. The need for these techniques has become more imperative because of the influence of climate change on the coastal ecosystems in Nigeria. For example, a considerable percentage of Marine Protected Areas are situated in coastal areas; hence, they are subject to coastal erosion and floods, as reported by Ariom et al. (2022). Marine creatures such as corals and crabs that depend on hard shells for protection are more vulnerable to the impacts of ocean acidification.

The issues with regulation exacerbate the problems with the environment. There is a dearth of resources and poor institutional structures to implement climate adaptation strategies (Obidimma et al. 2023). This issue requires a management approach compatible with Ecosystem-Based Management (EBM). EBM policies are designed to take into consideration the interaction between people and environment, therefore highlighting the health and stability of ecosystems (Lee et al., 2021). EBM supports the development of comprehensive strategies that integrate scientific research and traditional knowledge systems. It fosters community participation in efforts to make the globe more resilient to climate change.

And contribution from all sectors of society is needed for the consequences of climate change. Community engagement is particularly crucial since many people in the region rely on marine resources for income. Community-based co-management approaches increase the likelihood that people will comply with conservation measures and share the benefits of environmentally friendly habits (Ma et al., 2020). Such participatory strategies strengthen the Common-Pool Resources Theory by allowing the parties to work together and care for resources (Olugbode, 2026).

“Nigeria’s signing of international agreements like the Convention on Biological Diversity, demonstrates that the country is committed to taking action on climate change globally. But for these commitments to translate into meaningful action, institutions need to be strengthened and climate adaptation programs in MPAs need to be adequately funded. This involves investing in infrastructure that can withstand bad weather, and setting up early warning systems for them.

To summarise, addressing climate change induced environmental challenges inside MPAs is

necessary to conserve Nigeria’s maritime species. We need to have adaptive management strategies that are ecosystem-based, that involve the community, and make things more resilient. Policy changes should be aimed at enhancing enforcement, resource allocation and stakeholder engagement to ensure MPAs can withstand environmental pressures and promote socio-economic progress. The unified approach is aligned with the larger aims of long-term conservation success and healthy expansion.

IX. Summary of the study

Based on the findings of the whole assessment, the marine protected areas (MPAs) are important to Nigeria’s objectives in the areas of economic growth, environmental protection and species conservation. It is revealed that the present legislation and management approaches are not enough. Studies have shown that conservation objectives can only be fulfilled by sound legislation, community engagement, and adaptive management (Dave, 2025; Huang et al., 2024). Results support the Ecosystem Based Management (EBM) theory that a combination of measures that protect the health of the ecosystem and fulfil human needs makes them more robust to environmental stress.

Community participation is one of the most important factors for the success of MPAs. Compliance is more likely when there is local participation in management, traditional knowledge is more likely to be recognised, and benefits are equally shared by everyone (Abukari and Mwalyosi, 2020; Etta et al., 2024). Such community centred co-management systems are based on the main premise of the Common-Pool Resources (CPR). The community-based resource management (CPR) approach is concerned with the avoidance of resource depletion and the promotion of responsible stewardship.

Environmental challenges, notably global warming problems such as the rising sea levels and the acidity of the oceans, threaten marine protected areas. The management systems should be flexible and adaptable to the external effects, which is vital according to Schmidt et al. (2022). MPAs thus need to have strategies in place that safeguard against the implications of climate change on wildlife and environmental services.

Well-managed MPAs might also promote social and economic well-being via sustainable fishing, ecotourism and job possibilities (Youssef, 2023; Eli et al., 2021). But the gains are frequently

eroded by economic shortages, weak regulation and community antagonism. These are problems that need inventive solutions -- co-management models and more money. One means of making formal management systems more acceptable and practical is using traditional practices.

Nigeria's dedication to international agreements also demonstrates an understanding of the relevance of global rules to the management of the ocean. However, these promises have been difficult to actualise due to institutional flaws and financial limitations (Olugbode, 2026; Edward, 2023). Strengthening government systems is vitally necessary. This may be done by adjusting policies in line with scientific researches and traditional knowledge.

To conclude, the management and use of MPAs in Nigeria needs a comprehensive approach including robust policy execution, community participation, climate resilient solutions, and fair resource distribution. Applications of theory such as EBM and CPR serve as a good conceptual basis for building integrated governance models that may foster both social and economic development and environmental protection. In the future, policies need to emphasise public engagement at all levels. This would make people feel they own the policies, ensure they are obeyed, and conserve Nigeria's maritime environment for the long term. The integrated approach is in line with the research objectives to examine the effectiveness of current management, its impacts on the social and economic life of local populations and the issues in the environment. This will in the long run further aid Nigerian marine development.

X. Recommendations and Conclusions

This study demonstrates the importance of effective management and implementation of Nigeria's Marine Protected Areas (MPAs) in protecting wildlife, improving the economy, and ensuring the country's sustainability. Based on the Ecosystem-Based Management (EBM) and Common-Pool Resources (CPR) theories, and a detailed literature review and real-world data analysis, some noteworthy proposals may be made.

First, it is vital to enhance policy frameworks. Nigeria must develop policies that are clear, enforceable and consistent with international accords such as the Convention on Biological Diversity and the Marine Environment Protocol. These policies should have adaptive management

solutions that are adaptive to changes in the environment such as climatic variability (Olugbode, 2026; Ariom et al., 2022). Poaching, pollution and other illicit activities are compromising conservation efforts today. "Strong legal systems will help to better enforce the law against these crimes.

And second, it's very vital to get people engaged in their communities via co-management approaches. Involving local people in decision-making may result in more environmentally friendly procedures and better compliance as they rely on marine resources for their livelihoods (Abukari & Mwalyosi, 2020; Manda & Mukanda, 2023/24). Management plans should be supplemented with traditional knowledge techniques to improve their cultural relevance and acceptability.

Thirdly, it is vitally necessary to enhance the expenditure of cash. Nigeria must find funding from its own budget and from foreign donors to pay for law enforcement, monitoring systems and programs that benefit people in the neighbourhood. There are new means of supporting these initiatives and sustainable sources of revenue from ecotourism may aid local people and promote conservation objectives (Youssef, 2023; Baloch et al., 2023).

Fourth, to enhance governance we must develop people's talents and strengthen institutions. Training staff on scientific study, policing methods and how to work with interested parties will make MPAs run more smoothly (Huang et al., 2024). One strategy to ensure that marine conservation concerns get the attention they need is to establish distinct organisations or agencies to manage MPAs.

Fifth, it is critically crucial that MPA management plans contain methods to address climate change. In the face of climate change, this entails adopting ecosystem-based techniques that take into account species interactions and habitat connections (Schmidt et al., 2022). Keeping biodiversity and ecosystem services alive will need managing systems flexible enough to adjust to changing weather conditions.

To summarise, Nigeria's maritime ecosystem is facing various challenges that might harm its biodiversity and economic development. Good MPA management requires strong policies, community engagement, funding, capacity development and climate change adaptation planning. The application of theories like EBM and CPR facilitates the development of governance models that strike a balance between human demands and environmental protection (Lee et al., 2021; Olugbode, 2026). Implementing these

recommendations will help Nigeria to conserve its abundance of marine living resources and contribute to sustainable economic development aligned with the blue economy vision. Future research should consider using these strategies in test projects and continuous tracking to improve best practices for long-term success.

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