

Barriers to Community Participation in Governance Standards Setting for Sustainable Mangrove Management in Lamu County

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How to cite this paper: Ahmed, J., Kathambi, B., & Kibugi, R. (2023). Barriers to Community Participation in Governance Standards Setting for Sustainable Mangrove Management in Lamu County. *Open Journal of Forestry*, 13, 353-367.

<https://doi.org/10.4236/ojf.2023.134021>

Received: July 20, 2023

Accepted: October 7, 2023

Published: October 10, 2023

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Abstract

Mangrove management requires an all-inclusive community engagement for sustainability in protection and conservation of mangroves. Previously, community participation was not considered pivotal but the rapid degradation of mangroves has necessitated their participation. Despite much legislation enacted, there are still challenges hindering community participation in Lamu County and this paper seeks to highlight barriers perceived by the various stakeholders in mangrove management. The study used a mixed methods approach to answer both qualitative and quantitative research questions and a correlational research design to explore all variables. The study shows that only 60% of the respondents agreed that there is lack of enforcement in mangrove conservation through community participation. However, less than 50% agreed on the challenges of lack of good management in mangroves (46%), lack of implementation mechanisms on mangrove conservation (47%) and lack of consultation in decision-making processes for mangrove conservation (36%). This demonstrates that lack of enforcement is the greatest challenge to the implementation of standards for mangrove conservation.

Keywords

Governance, Community Challenges, Sustainability, Stakeholder Engagement, Mangrove Conservation

1. Introduction

Mangrove plays a vital role in forest ecosystem as species habitat and supporting humanity (Kumar et al., 2021). The benefits of mangroves are widespread in na-

ture, and more recently, they have provided a viable answer to the problem of lowering carbon emissions by acting as natural carbon stores (Brears, 2021). On the other hand, mangroves have been subjected to more than their fair share of degeneration as a result of the competing interests of rapid urbanization, an ever-increasing population, and the continually worsening effects of climate change (Marchant, 2021). Because of this, the local populations that rely on mangrove forests as their primary source of income have had to pay a high price for the repercussions that have resulted from the imbalance of interests. In the end, these repercussions provide an unjustifiable rationale for excessive exploitation and abuse (Kiprono, 2021).

Economic prospects and valuations for mangrove forests, for purposes of exploitation, are on the increase, creating an urgent need to have governance standards implemented more specifically on transparency, accountability, equity and inclusivity. Through these governance standards, local communities depending on mangroves are able to engage in ensuring sustainable use of this valuable resource and protecting the future. Community participation becomes a catalyst to fostering better stakeholder engagement and addressing prospects of biasness, gender inequality and opportunist mentalities in mangrove management (Bau-manova, 2022; Conservancy, 2021).

Lamu is a county on the Kenyan Coast that has a massive mangrove coverage accounting to approximately 62% of the total mangrove coverage in Kenya, with various local communities solely depending on it for their livelihoods (Okello et al., 2019). It is endowed with a rich cultural heritage, including Lamu old town, a UNESCO world heritage site of universal outstanding value built in coral stone and mangrove timber (UNESCO, 2023). Mangrove forests provide various sources of livelihoods ranging from fishing, weaving, construction and conservation among others overall contributing to the county's development agenda (Uku et al., 2021).

Incessantly, community participation on this key natural resource becomes paramount when competing interests and dynamics from climate change impacts affect their very source of livelihoods and wellbeing. Community participation provides a worthy platform for engaging in the setting of governance standards specifically underscoring transparency, accountability, equity and inclusivity and subsidiarity. This aligns with Principle 10 of the Rio Declaration which stipulates that environmental issues are best handled with participation of all concerned citizens at the relevant level, including giving opportunity to communities to participate in decision-making processes. In the process of involving community in setting these governance standards, the focus is on policy formulation, implementation and decision making processes for sustainable mangrove management (Walker et al., 2022; Wiegant, van Oel, & Dewulf, 2022; Yusof et al., 2022).

The lack of involvement of communities in matters pertaining to mangrove access, utilization, and benefit sharing is one of the challenges posed by policy. This is illustrated by a lack of openness and responsibility about matters that are prescribed by legislation (Holly et al., 2022). It is interesting to note that gover-

nance principles such as accountability and transparency, if not well practiced can indicate a significant amount of corruption among the various parties involved in mangrove management. In regard to community involvement in decision making processes, decisions are based on top down approach and are trickled down with minimal engagement from the community casting doubts on governance standards of equity and inclusivity (Ali et al., 2022; Walker et al., 2022). In addition, it is difficult to put choices and policies into action, which results in the formation of barriers to the sustainable use of mangrove forests since it prevents communities from taking ownership of the processes involved in mangrove management.

The purpose of this paper is to evaluate the challenges in governance standard setting through community participation for sustainable mangrove management evidenced in Lamu County and, more specifically, their perspective in line with this study's objective. It further elucidates the critical role community involvement plays in scaling up transparency, accountability, equity, and inclusivity in natural resources and enhancing sustainability.

2. Materials and Methods

The study was carried out utilizing a correlational research design and a mixed methods technique, which included both quantitative and qualitative data (Creswell & Garrett, 2008). Respondents for the key informant interviews were purposefully chosen and included members of the community, officers from the Kenya Forestry Research Institute and officers from the Kenya Forestry Service, the Chief of each locality, and officials from non-governmental organizations that were active in the region. The sample size for the study, which was 296 out of a population of more than 10,000, was calculated using the Yamane sampling procedure (Olonite, 2021). The population included more than 10,000 people. In-depth interviews with key informants, talks with focus groups, and surveys were the methods of data collecting that were utilized. The triangulation of the quantitative data that was collected was helped along by conducting interviews with key informants and focus groups. The survey was carried out with the help of mobile software called KOBO collect, which offers GPS coordinates. This was done so that the authenticity and dependability of the population that was sampled could be guaranteed. The data was analyzed with R-Statistics, and the results were displayed in the form of graphs, tables, and frequency distributions. For the purpose of demonstrating the relevance of the variables, correlation tests were carried out. The content analysis of the qualitative data was guided by concepts that centered on the decision-making process in terms of promoting community participation for sustainable mangrove management.

Reason for the Study Area

Lamu County is located in Kenya's Coast Region with a land area of 6273 km². Lamu County possesses such a high level of ecological as well as cultural diversi-

ty. Dodori Creek, for example, is home to the most diverse collection of mangrove species found anywhere in Kenya. The Kiunga Marine Reserve is comprised of multiple islands, each of which is home to a diverse array of plant and animal life, such as rare and important coral reefs and large mangrove forests (Kimani et al., 2017). **Figure 1** shows surveyed areas in Lamu county.

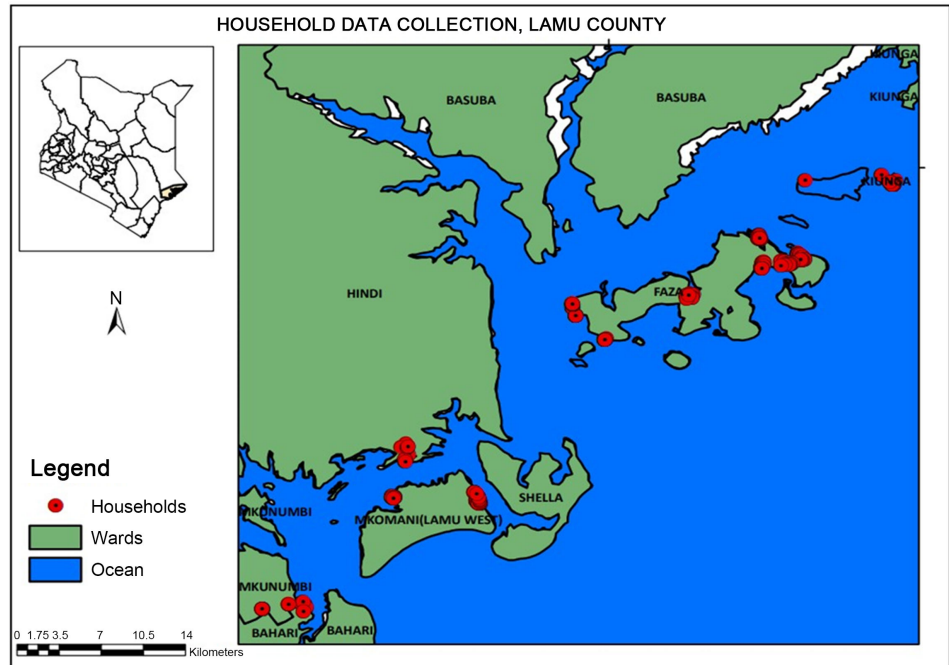


Figure 1. Study surveyed area in Lamu County Source (Author, 2023).

3. Results

Challenges in Implementation of Governance Standards Setting For Mangrove Management in Lamu County

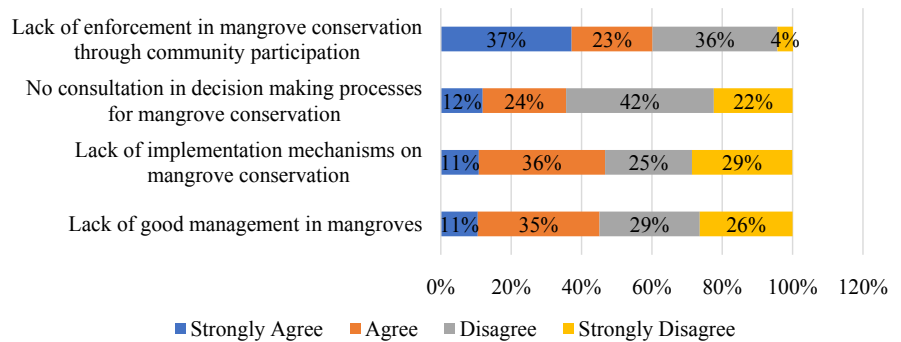


Figure 2. Challenges in implementation of governance standards setting for mangrove management in Lamu County.

Perceived challenges in implementation of governance standards setting for mangrove management varied between the community members. 37% of the respondents strongly agreed, that there was lack of enforcement in mangrove

conservation through community participation, whereas another 24% agreed that there was no consultation in decision making processes for mangrove conservation. A majority of respondents (36%), agreed that there was lack of implementation mechanisms on mangrove conservation. In addition to this, the majority of respondents (35%) agreed that there was lack of good management in mangroves, as shown in **Figure 2**.

These findings were consistent with a study carried out by (Dawson et al., 2021) stating that the mangrove conservation efforts are mostly regulated by who makes what decisions, in this case lack of proper governance integrated decisions making processes causes challenges in implementation of the mangrove policies. In addition the findings of this study are in agreement with those of (Hamza et al., 2023) outlining the importance of applying more inclusive and sustainable community engagement in the management of mangrove forests. It further details that challenges such as lack of engaging community can result to poor conservation efforts hence hinders the management of mangrove forests in Kenya. Moreover, the study relates to (Mohamed et al., 2023) findings stating that, for sustainable mangrove governance to be effective, policies implementation must be exercised, coupled with good decision making processes and effective community participation.

Respondent's perspective on Challenges in Implementation of Governance Standards Setting for Mangrove Management through Community Participation.

Figure 3 examines the correlation between the governance standards and the perspective respondents had on the challenges in the implementation of governance standards setting for mangrove management through community participation.

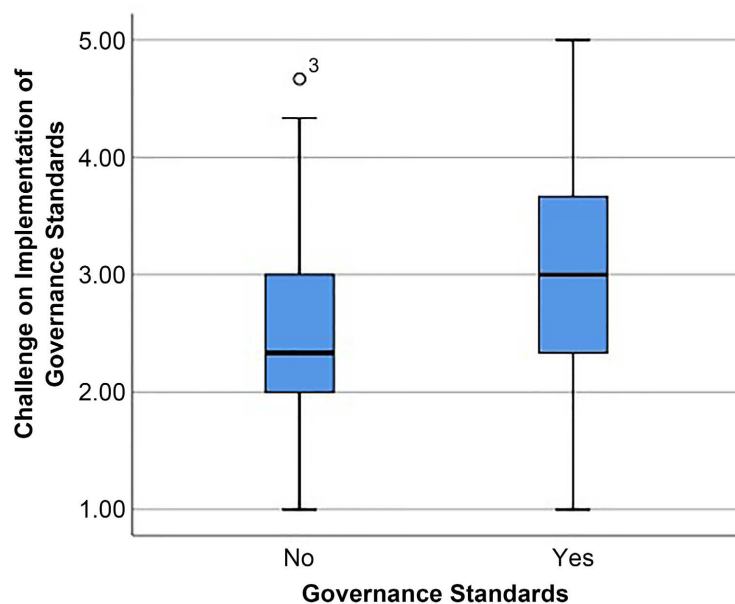


Figure 3. Correlation between governance standards and challenges on implementation of governance standards.

The results shown in **Figure 3** indicate that the respondents strongly agree (mean of 2.25) that challenges on the implementation of governance standards do not hamper the setting of governance standards in the management of mangrove forests. This is in contrast to the respondents who disagreed with the statement, which had a mean of 3.00. This is further reinforced by qualitative data gathered through Focus Group Discussions and Key Informant interviews, in which a substantial number of participants claimed that challenges on the implementation of governance standards have effect on governance standards in the management of mangrove forests. This is based on the fact that the Forestry Conservation and Management Act is the major piece of legislation in Kenya that governs the management of the country’s forests.

In addition, these findings are in line with (Ntibona et al., 2023) mentioned that the effective implementation of governance standards for mangrove management through community participation requires addressing these challenges with adequate resource allocation, coupled with transparent and accountable governance processes.

Barriers in Decision Making on Governance Standards Using Community Participation in Sustainable Mangrove Management in Lamu County

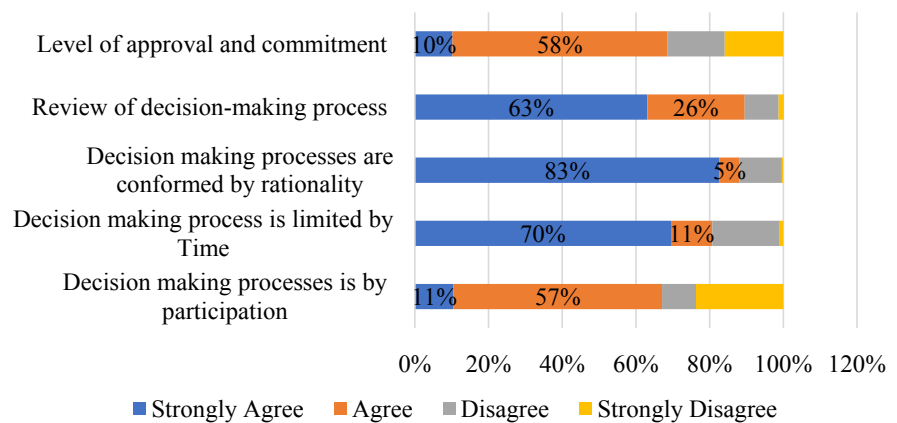


Figure 4. Decision making barriers in Governance Standards for Mangrove Management in Lamu County.

The objective of this study is to identify the challenges that limit the involvement of community members in the setting of governance standards for sustainable mangrove management in Lamu County. It reflects challenges affecting community participation in decision-making processes that influence sustainable mangrove management, which can inform strategies to overcome these barriers and increase community engagement and ownership. According to the findings of this study, the vast majority of respondents (58%) concurred that one of the obstacles was the low level of approval and commitment in decision making of governance standards setting for mangrove management. More than 60 percent of respondents were completely in agreement that a review of decision-making process was important in governance standards setting for sus-

tainable mangrove management. 83% of respondents believed that decision making process is confirmed by rationality. Over 70% of respondents felt that the decision-making process is constrained by time, whereas only 57% of respondents thought that community participation had an impact on the decision-making process in governance standard setting for sustainable mangrove management as shown in **Figure 4**.

These results suggested that effective decision making on governance standards using community participation in sustainable mangrove management in Lamu County faces several barriers. One of the main challenges is effective community involvement as also mentioned in the findings of (Kochoni et al., 2023) described as the key element in contribution to a sustainable mangrove ecosystem. The study explains the long term impacts that affect the livelihood of the coastal people which leaves the community vulnerable to climate change effects. These results emphasize the importance of streamlining such decision making processes with effective governance standards. A study by (Romañach et al., 2018) emphasizes the successful efforts of conservation and restoration of mangroves must include the local community in decision making processes. This resonates with this study which states that the decision making processes are conformed by rationality, which means they are guided by values, ethics and logic hence minimize risks and maximizing sustainable benefits from mangrove ecosystems. It also underlines that for such effective decision making processes to be implemented, governance standards such as equity, inclusiveness, transparency and accountability must be included in the process.

Correlation between governance standards and challenges on decision making process

Figure 5 examines the association between the governance standards and challenges on decision making process in mangrove management.

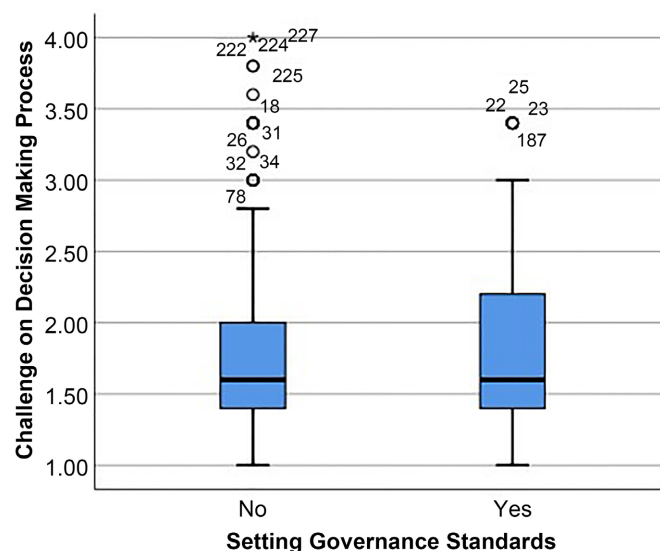


Figure 5. Correlation between governance standards and challenges on decision making process.

The results shown in **Figure 5** indicate that half of the respondents strongly agree (with a mean score of 1.75) that obstacles in the decision-making process governance norms exist in the management of mangrove forests, whereas the other fifty percent strongly disagree (with a mean score of 1.75) with this statement. This is further supported by qualitative data collected through Focus Group Discussions and Key Informant interviews. In both of these types of interviews, a significant number of participants reported that difficulties in the decision-making process have an effect on governance standards in the management of mangrove forests. As was mentioned in the following, which was brought up by one participant in the meetings of the focus group discussion:

“I haven’t engaged in any consultation meeting with the local government official at the department of forest because there have been difficulties in the decision-making process about governance standards. Neither have any of my relatives or friends contributed to any consultation meeting either. One of these issues is the lack of trust that exists between community members and officials in the local government.”

Policy Challenges in setting and implementing governance standards on Sustainable Mangrove Management in Lamu County

The purpose of this research was to determine whether or not there are any gaps in the policy framework or governance requirements for the sustainable management of mangroves in Lamu County. According to the data, a quarter of the respondents think that there is insufficient monitoring and evaluation of how policies are put into effect. Approximately 42% of people believe that there are inadequate resources allocated to the implementation of policies. About 39% of respondents concur that there is insufficient enforcement on the policy execution, and 36% of respondents concur that there is a lack of clarity on the operational rules in governance standards for sustainable mangrove management as shown in **Figure 6**.

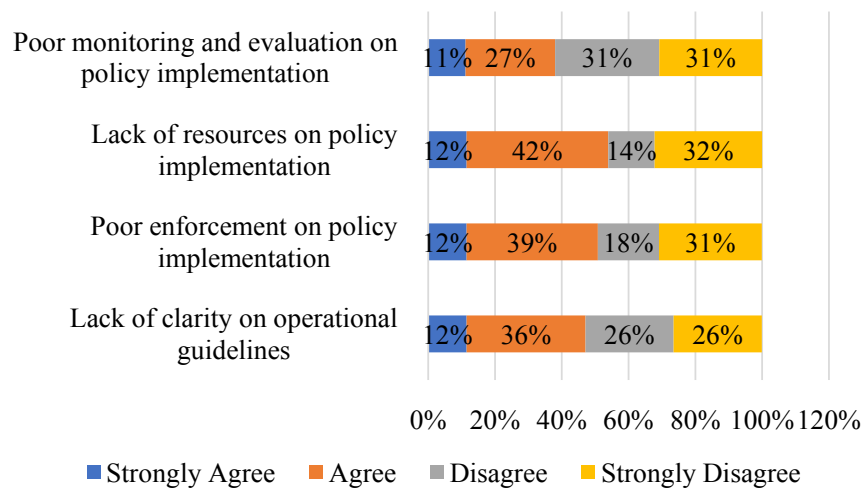


Figure 6. Policy challenges in setting and implementing governance standards for sustainable mangrove management in Lamu County.

These findings discuss the policy implementation challenges that cut across sustainable mangrove management in Lamu County. Notably, study by (Tuisuva & Shibata, 2023) narrates the impact of poor policy implementation has long term effects not only to the community but also to the entire mangrove ecosystem. Lack of resources on policy implementation is also an alarming challenge that has caused mangrove degradation over the years. A study by (Fathima Mafaziya Nijamdeen et al., 2023) states policy design and implementation needs to consider the diversity of stakeholders and should be flexible enough to include all relevant stakeholders. Local community is considered a major stakeholder which depends on the mangrove's ecosystem for better livelihood. In this study, Lamu local community is vulnerable to the effects of poor policy implementation, lack of adequate resources, poor policy enforcement and lack of clarity on policy operational guidelines as a result to poor integration of governance standards in policy implementation. Addressing these challenges is crucial to conserve and sustainably manage the mangrove ecosystem.

Correlation between governance standards and challenges on existing policies.

Figure 7 examines the association between the governance standards and challenges on existing policies in sustainable mangrove management.

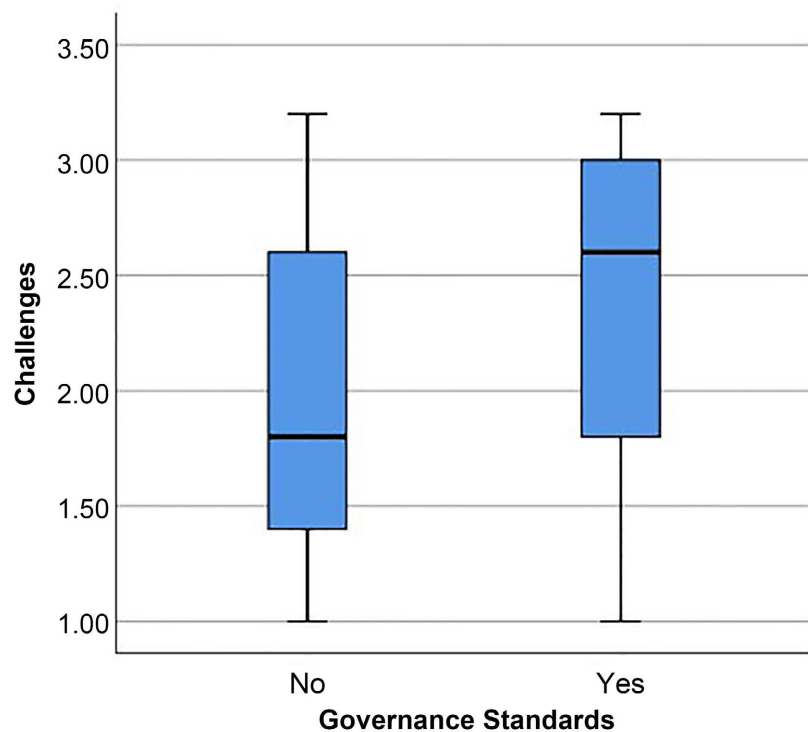


Figure 7. Correlation between governance standards and challenges on existing policies.

The results shown in Figure 7 indicate that the respondents agreed (with a mean score of 3.0) that challenges on existing policies affect the setting of governance standards. This finding is further supported by the findings of Focus

Group Discussions and Key Informant interviews. In these cases, it was established that the community-based mangrove forest management was affected by challenges on existing policies. It appeared that collaboration processes and organizational structures were readily susceptible to abuse by the more powerful members of society, which cast doubt on the strategy's viability over the longer term. For instance, one of the respondents mentioned that in order to gain permission to extract mangrove resources, one needs to be able to successfully navigate a complex web of laws and regulations. Those who are able to do this are the people who have the most influence in society because of their abilities.

4. Discussion

The findings of this study highlight the significance role of communities in setting and implementing governance standards, impediments to decision making, and poor policy implementation affects the role of community in sustainably managing mangrove forests in Lamu County. According to the findings, putting more emphasis on the variables that have been described so far could be beneficial to the process of implementing governance standards for the sustainable management of mangroves. When individuals believe that the governance principles would assist to protect the mangrove and make it easier to access, they were more willing to engage in the project (Golebie et al., 2021). Previous research shows that the challenge faced by community who are conscious of the significance of maintaining their environment and who depend on it for their livelihoods. It also draws attention to the fact that those planning conservation initiatives have a different cultural viewpoint on the environment and conservation (Prosperi et al., 2021). Structures of shared governance need to find a means to blend distinct sets of values in a way that can be comprehended by a variety of stakeholder groups. Diverse community perspectives need to be governed by effective governance standards that will help them deliver sustainable mangrove conservation and management efforts.

To meet the aims of shared governance, challenges in community participation in governance standards setting in sustainable mangrove management should be addressed (Sattayapanich et al., 2022). Chamberland-Fontaine, et al. (2022) highlighted that sustainable mangrove management aims to address mangrove degradation and reverse trends of mangrove loss while empowering local stakeholders to participate in governance processes. In Lamu, the main challenge in sustainable mangrove management is the weak governance and institutional frameworks (Mbatha et al., 2022). Weak governance and institutional frameworks refer to the inadequacy of laws, policies, institutions, and regulatory mechanisms that oversee mangrove management and conservation (Momanyi, 2015). The lack of clear legal frameworks and institutional arrangements can lead to conflicting mandates and responsibilities for overseeing mangrove resources. Additionally, institutional fragmentation and lack of coordination between different stakeholder can also hinder effective management of mangroves

(Hällgren & Lindahl, 2017). Institutional frameworks should also embrace the community participation since it's a constitutional right. Every citizen is entitled to a healthy environment (GoK, 2010). These factors undermine the transparency, accountability, and integrity of decision-making processes, resulting in ineffective management and conservation of mangroves. In Lamu, community participation is reinforced by the laws and policies such as participatory forest management guidelines, and forest management and Act of 2016 stating the importance of strengthening local people's participation in forest governance (GoK, 2016; Kenya Forests Working Group, 2007). The Constitution of Kenya mandates individuals in leadership and government, and the community, to ensure that the use and utilization of these mangrove forests benefits both the current generation and the generations that will follow after it by explicitly declaring sustainable development (Prosperi et al., 2021). Despite the effort to include community participation, there is a significance loss of mangroves over the years. Mangrove degradation continues to negatively impact the livelihood of people. In order to restore balance to mangrove biodiversity and ecosystem services, community must be involved accountably and transparently in policy design and implementation, and decision-making processes to attain sustainable mangrove management.

According to the findings of the study, community participation was not fully and effectively practiced in setting and implementing governance standards for proper decision-making processes relevant to the management of mangroves. Community-based management, on the other hand, refers to the management techniques in which the responsibility for natural resources is shared between state authorities and the consumers of those resources. At each stage of the decision-making, implementation, and enforcement processes, both the community and the government are given opportunities to participate (Audu, 2022). On the other hand, in Lamu, the implementation of mangroves is managed via a top-down approach, meaning that commands for activity are sent from on high to the community members below. It has been shown that excluding local people from the decision-making process regarding conservation might result in acts of resistance (Frosch et al., 2011), which in turn leads to a lack of proper ways in setting and implementing governance standards through effective community participation regarding the sustainable management of mangroves.

The study found one of the barriers to good governance of mangrove resources is poor decision-making processes. As a result, issues in making decisions have an impact on how well mangrove forests are governed and managed. According to the findings, insufficient approval and commitment, review of the decision-making process, reasoning, and time all play a role in slowing down the decision-making process. Respondents also mentioned that the distrust between residents and local government officials is a major barrier to decision making.

According to Damastuti, de Groot, Debrot, & Silvius, (2022) it highlights the inefficient method of top-down approach in which affects community participa-

tion and reduce the ability of funded projects to support local community based programs within the project time. It is evident that local communities depend so much on mangrove ecosystems, as a result it promotes the importance of streamlining the governance standards in the decision making processes (Banjade et al., 2017) these impacts the conservation of mangrove forests. Further, the study established that there are gaps in the policy framework or governance requirements for the sustainable management of mangroves. According to the findings, the respondents think that there is insufficient monitoring and evaluation of how policies are put into effect. In addition, there is an inadequate number of resources allocated to the implementation of policies. And there is insufficient enforcement on the policy execution, as well as lack of clarity on the operational rules. According to (Mohamed et al., 2023), poor forest policy and legal frameworks for the enforcement and governance of the forests may make it impossible to solve the challenges associated with the protection and management of mangrove forests. Overregulation is seen to be a major cause of environmental degradation since it leads to incompatible policies. As a result, people and the government may be in a state of perpetual conflict if they do not have secure and legal tenure over forest land (Ogada et al., 2017). Overall these challenges and gaps can hinder effective community participation in governance standard setting initiatives, can prevent the development of sustainable and equitable mangrove management practices. Addressing these challenges requires concerted efforts from government and non-governmental organizations to improve community awareness, build capacity, and enhance access to resources and decision-making spaces.

5. Conclusion

Mangrove forests play a crucial role in the prosperity of the Lamu people. According to the study, there are a number of challenges in managing mangroves in Lamu County due to the decision-making process and policy framework. The study found that the existing legal and regulatory frameworks had structural issues that make it difficult to properly manage and conserve mangrove forests. The study suggests streamlining and strengthening forest rules and laws. Finally, the study came to the conclusion that in order to maintain and manage the mangrove forests in Lamu, appropriate policy interventions must be made.

Recommendations

Based on the findings of the study concerning Lamu perspective on challenges in community participation in governance standards setting in sustainable mangrove management, it is recommended to:

- Establish a community decision making mechanism to help in decision making processes and build local capacity to collaboratively manage mangrove forests;
- Upscaling trainings and develop synergies with other community-led conservation institutions, assess their governance structures and compare results.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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