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From participation to stewardship: stakeholder analysis and roles in a community-based resource management project

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Abstract
Ecotourism has emerged as one of the surest approaches to harmonizing biodiversity conservation with rural livelihood enhancement. The Wechiau Community Hippo Sanctuary (WCHS) is touted as the model example of community-based natural resource management (CBNRM) with a myriad of stakeholders; chiefs community members, NGO, government agencies, and other development partners playing vital roles. This study employed Reed et al.'s (2009) stakeholder analysis framework to delineate eco-social, discuss stakeholder roles, and synthesize lessons for improved governance. The study conducted an in-depth interview with 23 purposively sampled participants from six sanctuary communities, including chiefs, members of the sanctuary management board (SMB), tour guides, rangers, and development partners, and undertook a narrative analysis. The findings revealed that primary stakeholders (chiefs and elders, and local community members) serve as custodians of the ecotourism project; the sanctuary management board and sanctuary management committees run the day-to-day operations; while secondary stakeholders comprising NGOs and other development partners make financial and technical commitments to the project. The study revealed notable benefits, including conservation and the provision of alternative livelihoods for the people. Despite these notable achievements, sustainability is threatened by issues such as role ambiguity, unequal benefit-sharing, and donor dependence, even amid noteworthy advancements in conservation and livelihood creation. To develop community-based ecotourism governance, the article concludes that clarity of roles, equitable participation, and capacity building are essential. It also provides insights for replicating similar models in Ghana and across Africa.

Keywords: Community-Based Natural Resource Management (CBNRM), Ecotourism Governance, Stakeholder Roles, Cultural Systems

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INTRODUCTION

Ecotourism has emerged as one of the fastest-growing segments of the global tourism industry, widely recognized for its potential to balance biodiversity conservation with socioeconomic development (Kumar et al., 2023; Baloch et al., 2023; Kesavan & Polisetty, 2025). In developing countries such as Ghana, ecotourism is more than a leisure activity; it is an innovative conservation strategy and a rural development tool that enhances local livelihoods while preserving fragile ecosystems (Dayour et al., 2024). The country's rich ecological and cultural endowment, ranging from savannah grasslands and coastal mangroves to dense tropical forests and sacred groves, has positioned Ghana as an important site for conservation-oriented tourism in West Africa. These

natural landscapes not only sustain biodiversity but also serve as sources of cultural identity, economic opportunity, and ecological resilience for rural communities (Tatay & Merino, 2023).

Community-Based Natural Resource Management (CBNRM) has been a central pillar of Ghana's conservation agenda since the 1990s. Under CBNRM frameworks, natural resource management is decentralized, shifting control from the state to local communities in collaboration with development partners, non-governmental organizations (NGOs), and private actors (Baddianaah & Baaweh, 2021). CBNRM emerged during the 1980s as a response to increasing demands for more inclusive and participatory approaches to conservation. This model stood in sharp contrast to the "fortress conservation" strategy, a legacy of colonial governance, which assumed that biodiversity could only be effectively protected by excluding human activity (Gross, 2023; Babu, 2024; Knox, 2024). The fortress approach often entailed the displacement of local populations, the expansion of state authority, and the imposition of restrictions or outright denial of access to natural resources and land (Babu, 2024). In contrast, CBNRM prioritizes fairness and inclusivity, situating communities at the heart of natural resource governance to promote empowerment, equity, and active participation (Adeyanju et al., 2021). Despite its promise, community-based conservation has not gone without criticism. Scholars question whether it can simultaneously meet ecological and socioeconomic objectives (Sele, 2024; Ghafran & Yamin, 2025; Gayo, 2025), noting that it often involves trade-offs between competing interests (Hajjar et al., 2021). Moreover, recent global assessments indicate that many CBNRM programs fail to deliver sufficiently on the promise of granting communities meaningful access and secure tenure rights, thereby undermining one of the core goals of the paradigm (Hajjar et al., 2021; Sibanda, 2024).

Beyond governance structures, conservation in community-based systems is deeply embedded in local cultural values, belief systems, and indigenous knowledge. In many African contexts, natural resources are not only economic assets but also sacred and socially regulated spaces governed by customary norms, taboos, and traditional authority systems. These cultural institutions shape how communities perceive, use, and protect biodiversity. At the Wechiau Community Hippo Sanctuary (WCHS), conservation practices are closely tied to local belief systems, respect for traditional leadership, and collective responsibility. However, existing studies have largely emphasized governance outcomes and economic benefits, with limited attention to how cultural values influence stakeholder collaboration and conservation behavior.

Ghana has witnessed notable successes of this approach in projects such as the Kakum National Park, the Boabeng-Fiema Monkey Sanctuary, and the WCHS, where local communities are at the forefront of conservation and tourism development. The WCHS, located in Ghana's Upper West Region, is one of the most remarkable examples of community-based ecotourism in West Africa. Established in 1999, the sanctuary was born out of community concern for the declining hippopotamus population along a stretch of the Black Volta River. With support from local chiefs, NGOs, and international partners, twenty communities came together to establish a unique conservation model grounded in customary practices, democratic participation, and external partnerships (Mohammed, 2021; Bonye et al., 2022). The sanctuary has since become a symbol of how ecotourism can empower communities, generate livelihoods, and contribute to biodiversity protection when implemented through collaborative governance structures. Yet, despite its relative success, the sanctuary has also revealed the complexities of managing competing interests, sustaining community commitment, and balancing ecological goals with socioeconomic realities (Mohammed & Osumanu, 2022).

Stakeholder collaboration is the lifeblood of ecotourism governance, especially in contexts where multiple actors' local communities, government agencies, NGOs, traditional authorities, and private operators interact within a shared ecological landscape (Koesponco et al., 2022). The theory of participatory governance emphasizes that no single actor possesses the resources, legitimacy, or knowledge to address complex socioecological challenges alone (May, 2022). Alternatively, partnerships that bring together diverse stakeholders provide a more holistic platform for sustainable resource management. In Ghana's ecotourism sector, stakeholder collaboration is

particularly critical given rural communities' reliance on natural resources for subsistence. Without collaborative frameworks that provide clear incentives, equitable benefit-sharing, and transparent accountability structures, ecotourism initiatives risk alienating local communities or creating conflicts over land use and revenue allocation (Adeyanju et al., 2021; Pienaah, 2025; Pelmin, 2025).

As regards the WCHS, stakeholders include a wide range of actors, each playing different but interconnected roles. Traditional authorities act as custodians of land and cultural values; community-based organizations (CBOs) coordinate resource management activities and ensure that benefits are equitably distributed; NGOs and donor agencies provide technical expertise, capacity building, and financial support; while government institutions such as the Forestry Commission and Ghana Tourism Authority supply policy frameworks, regulatory oversight, and promotional support. The tourism market, including tour operators and visitors, also constitutes a crucial external stakeholder group whose patronage sustains the sanctuary economically. Effective collaboration among these actors can create synergies that enhance conservation outcomes, diversify livelihood opportunities, and strengthen the legitimacy of ecotourism projects (Mohammed, 2021). Conversely, weak collaboration characterized by role ambiguity, power imbalances, or conflicting interests can undermine the sustainability of ecotourism ventures.

The scholarly literature on collaborative governance in ecotourism consistently highlights the importance of clear roles, responsibilities, and benefits of stakeholders. A lack of such clarity would likely lead to ecotourism projects suffering from governance shortfalls, such as elite appropriation of benefits, disengagement of communities, and poor conservation outcomes. Role ambiguity is an additional issue, particularly in multi-stakeholder projects such as the WCHS project, where conflicting mandates and expectations may obscure accountability. This brings to the fore t the critical research question on the role of stakeholders in management of the sanctuary, and whether their roles are well defined, complementary, and sustainable.

While the WCHS is widely recognized as a successful model of community-based ecotourism, existing studies have primarily focused on governance structures, economic benefits, and ecological outcomes. There is limited empirical attention to the cultural dimensions of conservation, particularly how indigenous values, norms, and traditional institutions shape stakeholder roles and collaboration. This study, therefore, addresses a critical gap by examining not only stakeholder roles but also how these roles are embedded within local cultural systems that sustain conservation practices.

The ambiguity of stakeholder positions is concerning both practically and philosophically. Ambiguous positions lead to indistinct accountability, complicating resource management, heightening the potential for conflicts, and rendering benefit distribution inequitable. This may diminish individuals' faith in the project, reduce their commitment to conservation efforts, and jeopardize the sanctuary's long-term viability. The gap theoretically limits the development of comprehensive frameworks for understanding collaborative ecotourism governance in Ghana and elsewhere. Moreover, the sanctuary's governance structure operates within a broader context of evolving rural economies, climatic variations, and increasing pressures on land and water resources. These dynamics complicate stakeholders' duties as they must reconcile the demands of conservation, sustenance, and development. The ambiguity around stakeholder responsibilities requires thorough investigation to clarify the governance structure of the WCHS, identify areas of role duplication or neglect, and explore ways to improve collaboration for conservation and community development goals.

This work contributes to the expanding literature on ecotourism governance by examining the underexplored aspect of stakeholder role clarity. Secondly, it offers practical insights for policymakers, development partners, and conservation experts seeking to duplicate or enhance community-based ecotourism models in other regions of Ghana and Africa. Finally, the study emphasizes the need to harmonize conservation efforts with local development objectives by

prioritizing the perspectives and contributions of local communities. This will promote both ecological and social sustainability.

METHODOLOGY

The Wa West District is one of the eleven administrative districts in the Upper West Region of Ghana. It was created in 2004 through Legislative Instrument (LI) 1751 in line with the Local Government Act of 1993 (Act 463). Wechiau serves as the district capital. Geographically, the district (see Figure 1) is situated in the western part of the Upper West Region, lying approximately between latitudes 9º40´N and 10º10´N and longitudes 2º20´W and 2º50´W (Ghana Statistical Service, 2021). It shares boundaries with the Northern Region to the south, the Nadowli District to the northwest, Wa Municipal to the east, and Burkina Faso to the west. Covering an estimated 1,856 square kilometers, the district accounts for about 10 percent of the Upper West Region's total landmass (GSS, 2021). The district capital, Wechiau, is located about 15 kilometers by road from Wa Municipal.

The study area, which is made up of the twenty catchment communities, was divided into three zones, and two communities were selected from each zone, leading to the selection of Kpanfa, Tuole, Talawona, Pellinkpari, Dornye, and Dochere. Talawona and Pellinkpari were purposively selected because they are centrally situated, constitute one of the divisional areas, and, more importantly, Talawona serves as the host community of the WCHS. Pellinkpari and Tuole were also purposively chosen because they are among the twenty catchment communities with the lowest levels of poverty. The selection of Dornye and Kpanfa was based on the simple random sampling technique to ensure equal representation of communities in the northern and southern zones, which fall within the development zone of the sanctuary.

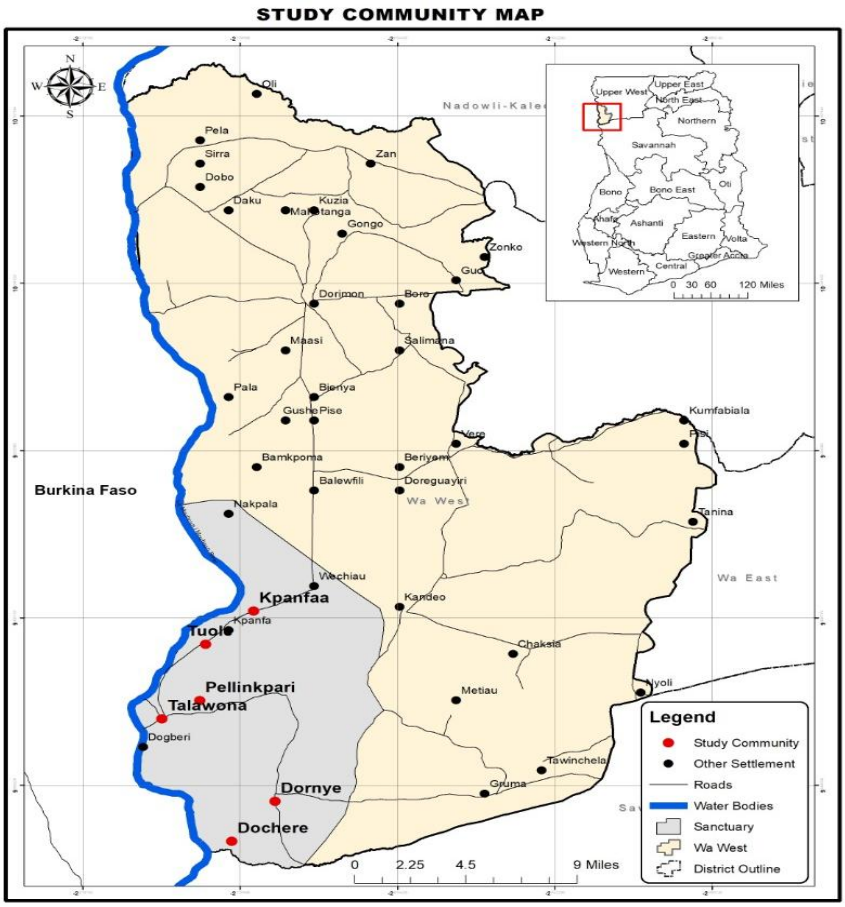

Figure 1: Map of Wa West Depicting Study Communities

Source: Modified from the Wa West District Assembly

The presence of diverse natural, cultural, historical, and human-made resources within the district provides considerable potential for tourism development, with the capacity to generate revenue for the local economy. Among these attractions, the Wechiau Community Hippo Sanctuary (WCHS) stands out as the most prominent site. The sanctuary represents a distinctive community-led conservation initiative spanning a 40-kilometer stretch of the Black Volta River in the Upper West Region of Ghana, dedicated to protecting hippopotamuses and preserving their habitat.

The sanctuary was established in 1998 through the collective efforts of the Paramount Chief, sub-chiefs, and local opinion leaders. Notably, these leaders had earlier resisted proposals from Ghana's Wildlife Division to establish a state-managed hippopotamus reserve, fearing loss of control over their ancestral lands (Mohammed & Osumanu, 2022). Instead, they opted for a community-managed model that emphasized both ecological protection and local participation. This approach sought not only to safeguard the hippo population and rehabilitate degraded ecosystems but also to ensure that decision-making power remained within the hands of the communities themselves. Over time, the WCHS has gained significant recognition for offering an exceptional ecotourism experience to both domestic and international visitors. The sanctuary is valued not only for its rich biodiversity but also for the opportunity it provides tourists to engage deeply with the cultural traditions and everyday life of the local Wala and Birifor communities. Through this integration of wildlife conservation and cultural immersion, the WCHS has become a unique example of how community-based tourism can simultaneously promote environmental stewardship, cultural preservation, and local development.

The study adopts the three-step framework for stakeholder analysis outlined by Reed et al. (2009) (see Figure 1). The initial phase involved delineating zones within the sanctuary, specifically, the core conservation zone and the surrounding peripheral areas, defined largely by their proximity and relationship to the protected habitat. The second stage focused on mapping the principal stakeholder groups involved in the management of the Hippo Sanctuary. Stakeholders were identified based on their degree of influence or vulnerability regarding the ecotourism initiative. This included individuals or groups with legitimate claims, rights, or interests, whether ethical, legal, or economic, as well as those who may incur costs or adverse effects from conservation activities. At this stage, the analysis extended to a deeper exploration of stakeholder attributes, such as their interests, influence, power bases, and the resources they could mobilize. Attention was also given to the dynamics of stakeholder interaction, including patterns of cooperation, conflict, interdependence, and negotiation. The final stage synthesized insights from the preceding steps, generating lessons learned and proposing forward-looking strategies and mechanisms to strengthen stakeholder participation and resolve challenges in the governance of the ecotourism project.

In addition to identifying stakeholder roles, the analysis explicitly incorporated socio-cultural dimensions of conservation. Particular attention was paid to how cultural values, traditional authority systems, and indigenous knowledge influenced stakeholder interactions, decision-making, and compliance with conservation rules.

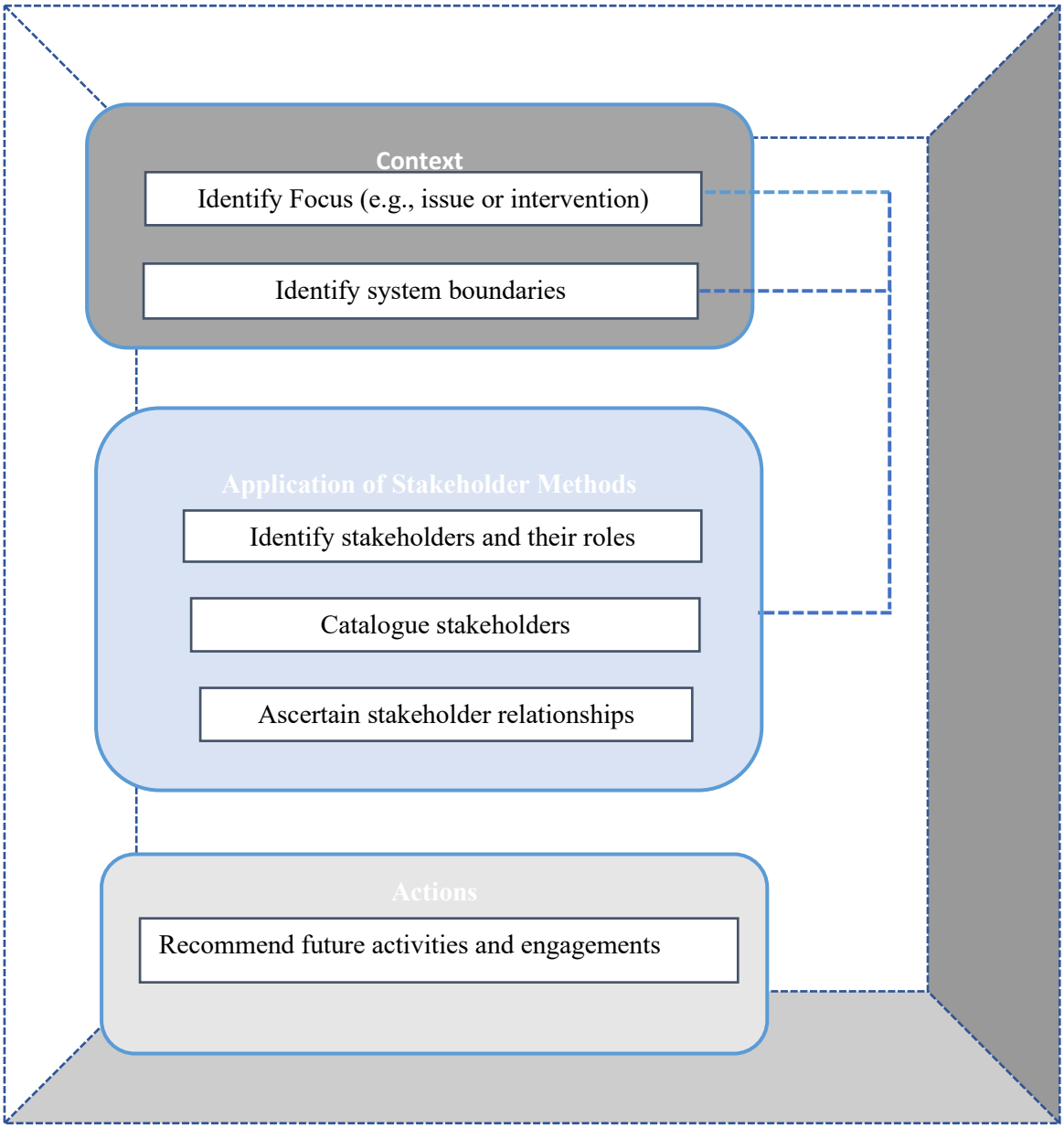

Figure 2. Stages used in conducting stakeholder analyses (Modified from Reed et al. 2009).

Primary data for the study were obtained through carefully designed in-depth interviews and interactive discussions with selected key informants. The fieldwork was undertaken between February and March 2020, with the process deliberately structured to secure comprehensive, reliable, and contextually nuanced insights. Informants were selected purposively, ensuring that only individuals with direct knowledge and involvement in the community-based ecotourism project were included. The sample comprised two staff members of the Sanctuary Management Board (SMB), six SMB representatives drawn from the participating communities, one representative of the Sanctuary Management Committee (SMC), two chiefs and elders from the sampled communities, one district assembly official, six tour guides, three rangers, and two boatmen. In all, 23 stakeholders participated in the interviews (Table 1).

Table 1: Number of Stakeholders Interviewed

Purposively Sampled Participants	**Number**
Staff members of SMB	2
SMB Representatives from Study Communities	6
Sanctuary Management Committee Members	1
Chiefs and Elders from Study Communities	2
District Assembly Officials	1
Tour guides	6
Rangers	3
Boatmen	2
Total	**23**

Source: Field Communications, 2020

Both scholarly recommendations and empirical judgment guided the determination of this sample size. Guest et al. (2006) argue that a study rooted in lived experiences can yield meaningful insights with as few as 10 to 20 participants, while Warren (2002) suggests that 12 interviews may be sufficient when the research objective is to uncover shared perspectives within relatively homogenous groups. Building on these perspectives, the study applied the principle of data saturation, whereby interviews continued until no new themes or insights emerged. Interviews and discussions were conducted with a high degree of respect and cultural sensitivity, which created a conducive environment for participants to express their views, experiences, and concerns regarding the ecotourism initiative. Each session typically lasted about one hour. To ensure accuracy and depth, responses were captured through detailed field notes and audio recordings, preserving contextual nuances and enriching the data collected. The entire data collection process adhered strictly to ethical research standards, including obtaining informed consent, safeguarding confidentiality, and protecting participants' anonymity.

The study employed narrative analysis to interpret stakeholder perspectives, focusing on recurring themes in governance, roles, and the cultural dimensions of conservation. The coding process combined both deductive and inductive approaches. Deductive codes were derived from stakeholder theory (roles, power, influence). At the same time, inductive coding allowed cultural themes such as traditional authority, communal responsibility, indigenous norms, and stewardship values to emerge from the data. This approach enabled the study to capture not only institutional roles but also the socio-cultural context within which conservation practices are embedded.

RESULTS AND DISCUSSION

The analysis of stakeholder roles in the Wechiau Community Hippo Sanctuary (WCHS) is presented and discussed through Reed et al.'s (2009) three-step framework for stakeholder analysis. This approach provides a structured lens through which the complexity of ecotourism governance can be better understood: first, by defining system boundaries; second, by identifying and analyzing stakeholder roles, relationships, and power; and finally, by synthesizing lessons and proposing future strategies for stakeholder engagement.

Delineating System Boundaries

The initial stage of the analysis required defining the ecological and social boundaries of the sanctuary. The WCHS encompasses a core conservation zone stretching 40 kilometers along the

Black Volta River, where human activities such as farming, hunting, fishing, and tree harvesting are strictly prohibited. This zone is complemented by peripheral or buffer communities, whose proximity and interaction with the core area position them as both beneficiaries and custodians of the ecotourism project. This spatial delineation was not merely technical but highly political and cultural. According to one elder in Kpanfaa:

> *"One cannot farm in the core zone anymore since it is punishable by the laws of the sanctuary. Some of the prohibitions are being flaunted by some people, but no one can farm in the zone because it is not a daily activity that one can just undertake without being noticed by the authorities." (65-year-old man, Kpanfaa).*

This testimony illustrates how conservation boundaries reshaped traditional livelihood practices. Activities such as charcoal production, oyster collection, and group hunting, once central to subsistence, were either abandoned or heavily regulated, as narrated by an informant at Tuole Community.

> *"It is true that people are prohibited from hunting. But it is not something that has been abandoned. It is being regulated and people are sometimes permitted to hunt using a quota system." (Tour Guide, Wechiau)*

The finding aligns with literature (Astella, 2021) suggesting that boundary-setting in CBNRM initiatives requires trade-offs between ecological protection and local livelihoods. Although limits impeded immediate access to natural resources, they simultaneously created new employment opportunities, particularly in tour guiding, hospitality, and conservation. This alteration corroborates Hajjar et al.'s (2021) assertion that establishing boundaries in community conservation not only safeguards ecosystems but also transforms the economic and social trajectories of rural communities.

Identifying and Analyzing Stakeholders

The second stage of the framework focused on identifying and analyzing the roles, interests, and interactions of stakeholders engaged in the management of the sanctuary. The analysis also examined how cultural norms and indigenous governance systems shape stakeholder roles.

Traditional Authorities and Sanctuary Management Board (SMB)

Traditional authorities and the Sanctuary Management Board (SMB) jointly constitute the apex governance structure of the sanctuary. Chiefs and elders provide customary legitimacy, while the SMB operationalizes this authority through formalized decision-making, including the formulation and enforcement of bylaws, conflict resolution, and revenue management.

This hybrid governance arrangement reflects a fusion of indigenous authority and modern institutional structures. The legitimacy of the SMB is deeply rooted in local cultural norms, particularly respect for chieftaincy, communal responsibility, and intergenerational stewardship. As one respondent noted, the project is sustained through "sacrifice and communal responsibility," underscoring the community's moral foundation for conservation.

However, while this structure enhances compliance and legitimacy, concerns remain regarding inclusivity, particularly the representation of women and youth. Strengthening participatory mechanisms within the SMB is therefore critical for ensuring equitable governance.

The SMB serves as the apex decision-making body, comprising chiefs, community representatives, and executive members. Its responsibilities include legislating and enforcing bylaws, adjudicating grievances, and managing revenues from the sanctuary. An executive member of the SMB explained:

> *"The success of this project is what matters to us. We are here today because of the wisdom of our great chiefs who conceived the idea of this project, and we will not do anything to undermine their efforts. We will, therefore, continue to follow their lead and help build a legacy for our young ones to inherit. This can only be done through*

sacrifice and communal responsibility of all the people and communities within this jurisdiction." (Executive Member, SMB)

This remark illustrates the SMB's concept of conservation as a collective responsibility that transcends generations and is rooted in local cultural values. The reference to "sacrifice and communal responsibility" illustrates a stewardship ethic that transcends mere corporate operations to encompass moral obligation. The cultural integration of conservation aligns with Weiss's (2025) notion of intergenerational equity, which holds that current resource users must safeguard ecological assets for future generations. The SMB's authority to formulate and execute bye-laws underscores the need to maintain the sanctuary's ecological integrity and social order. This is consistent with Dawson et al. (2021), who asserted that robust local institutions are essential for sustaining conservation outcomes, as they provide legitimacy and the capacity to enforce regulations around access and utilization. In instances where governmental law enforcement is inadequate, devolved governance frameworks such as the SMB emerge as the most effective means to ensure compliance with conservation regulations.

The mixed form of the SMB, rooted in ancient chieftaincy systems and community representation, exemplifies what Ribot (2021) calls democratic decentralization. This occurs when authority is conferred upon institutions recognized by the local populace. Chiefs embody cultural authority, while community representatives ensure inclusive participation. Collectively, they establish a governance framework that harmonizes stability with transformation. This amalgamation of traditional and contemporary governance methods has been observed in various CBNRM contexts, such as Botswana and Namibia, where hybrid institutions facilitated adherence to regulations and collaborative efforts (Saeed, 2025). The SMB's function in income management illustrates the discourse surrounding various methods of sharing conservation efforts. Bennett et al. (2021) assert that institutions that equitably distribute rewards get greater community support and credibility for conservation initiatives. The SMB can reinvest in community development initiatives by managing revenue streams. This links environmental protection to tangible economic advantages. This approach adheres to Ostrom's (1990) design principles for the governance of common-pool resources, particularly emphasizing that regulations must align with local circumstances and that monitoring systems must be accountable to the community.

Despite a robust institutional structure, doubts persist about the SMB's inclusivity and representativeness. Nchanji (2024) cautions that conservation boards dominated by traditional elites may exclude women, youth, and marginalized households, despite the boards' claims to legitimacy as a collective. Dependence on primary authority, albeit culturally significant, may result in hierarchical frameworks that impede equitable participation for all individuals. To maintain long-term credibility, the SMB must ensure decisions are made transparently and that diverse perspectives are represented.

Community Members

Community members represented both the backbone of the project and the most directly affected stakeholders. They are responsible for conserving the protected area, attending community meetings, and adhering to sanctuary bylaws. Informants consistently emphasized communal responsibility:

"All the respondents unanimously agreed that they have one or two roles to play if the project is to be successful." (Field notes, 2020)

This profound sense of obligation to the collective underscores the importance of communal support for the sustainability of conservation initiatives. According to Sheppard (2021), conservation initiatives are more sustainable when integrated into local culture and social structures rather than imposed externally. The sanctuary initiative thrives owing to the ethical and practical commitment of community members who view themselves not just as beneficiaries but also as custodians of a shared ecological heritage. The evolution of ownership aligns with Rust et al. (2023), who demonstrate that social capital, trust, networks, and reciprocity promote collective action in natural

resource management. By attending meetings and adhering to regulations, individuals in the community engage in participatory governance that fortifies both the environment and the community. This participatory framework resonates with Ostrom's (1990) design principles for the sustainable control of common-pool resources, particularly emphasizing locally established norms, supervision, and gradual sanctions.

Despite the uniform values among the group, trade-offs and inequities emerged. Some individuals earned a livelihood through tourism-related endeavors such as tour guiding, artisan sales, or hospitality services. Conversely, several individuals struggled to sustain themselves because they lacked access to forest resources, fishing sites, or agricultural land within the protected zone. This tension reflects Kalvelage's (2021) critique of CBNRM as a "double-edged sword," wherein conservation advantages may coincide with socioeconomic disadvantages for certain populations. These dynamics illustrate that "community" is not a singular entity but a site of divergent interests and power relations (Gutierrez, 2023). The disproportionate allocation of expenses and rewards parallels occurrences in other African conservation initiatives. Pandey et al. (2024) illustrate that conservation-induced displacement and constraints often disproportionately affect disadvantaged households, whereas elites capitalize on new opportunities. In Namibia's conservancies, ecotourism earnings strengthened communal structures; yet, affluent and well-connected groups often reaped greater benefits from tourism contracts and employment (Van de Wat et al., 2024). These comparative cases underscore that equity and justice are essential for the viability of Community-Based Natural Resource Management (CBNRM) initiatives.

The sanctuary's emphasis on communal duty aligns with African traditions of collective stewardship and intergenerational accountability. Dawson et al. (2021) observe that conservation initiatives that reflect indigenous concepts of collective responsibility and reciprocity generally exhibit higher compliance and greater resilience. To avert discontent, it is crucial to negotiate the balance between conservation needs and livelihood security consistently. Benefit-sharing schemes, compensation for restricted resource use, and livelihood diversification initiatives are crucial for sustaining community trust and involvement (Kegamba et al., 2023).

Importantly, community participation in conservation is not solely driven by economic incentives but also by deeply rooted cultural values. Norms of collective responsibility, respect for traditional authority, and indigenous ecological knowledge play a central role in shaping conservation behavior. These cultural dimensions reinforce compliance with sanctuary rules and strengthen community ownership of the project.

The Sanctuary Management Committee (SMC)

As the administrative unit of the sanctuary, the SMC managed the day-to-day operations, coordinated staff (including tour guides, rangers, and caretakers), and enforced bylaws. The sanctuary manager described their responsibilities as follows:

> *"We implement projects as directed by the SMB, manage assets like lodges and canoes, record and report revenues, and enforce bye-laws through our rangers and tour guides." (Sanctuary Manager, Wechiau)*

This operational mandate makes the SMC the most important link between the SMB's policy-level decision-making and the practical implementation of the community and visitor interface. Reed et al. (2009) stress the importance of stakeholder engagement processes that take into account not only who is involved but also how relational dynamics affect outcomes. The committee's role as a link between the SMB, community members, and tourists reflects the above. The SMC maintains trust, ensures compliance, and guarantees the operational efficiency that supports both conservation and tourism goals. The SMC's administrative and enforcement roles are based on Warren's (2022) idea of nested enterprises in common-pool resource governance. This means that larger organizations (like the SMB) give smaller, more flexible groups the power to make decisions better suited to their specific needs. The SMC is responsible for enforcing bylaws through

rangers and tour guides. Sarmah et al. (2025) note that this is an important factor in ensuring that people follow the rules in community-based conservation systems.

The SMC's role in caring for physical assets, such as lodges and canoes, also underscores the importance of connecting ecological governance with job opportunities. Tourism infrastructure needs to be maintained and managed like a small business, meaning the committee acts as both a conservation authority and a micro-enterprise manager. This dual mandate supports Sheng's (2025) findings, which contend that integrating conservation with local economic incentives strengthens the sustainability of community-based initiatives. The SMC's accountability systems, such as revenue tracking and reporting, are equally important because they make processes more transparent and reduce the risk of elite capture, a common problem in CBNRM projects (Babu, 2024). Clear financial reporting builds trust among community members and donors, which is important for maintaining partnerships with external groups. Nuruzzaman et al. (2025) demonstrated that without such transparency, intermediary institutions may become tools of exclusion rather than empowerment.

The SMC's job as a liaison has important social effects as well. By serving as a bridge between tourists and residents, the committee mediates cultural encounters and shapes the narratives through which conservation is understood and valued. Paradiso (2024) emphasizes that conservation spaces serve as social arenas where identities, power dynamics, and meanings are contested. The SMC's guides, rangers, and caretakers not only enforce rules but also act as cultural brokers to strengthen community-tourist relations and improve visitors' experiences.

But the SMC's position is not without its problems. The delegation of authority can sometimes make it hard for the SMB to balance strict conservation rules with the needs of the community and the satisfaction of tourists. As Firdasari (2022) contends regarding decentralized forest governance, intermediary entities frequently encounter conflicts between vertical accountability to superior authorities and horizontal accountability to local constituencies. For the SMC, success means keeping legitimacy in both directions: following SMB orders while also being open to community needs.

Government Actors

The Wa West District Assembly was expected to provide infrastructure, policy support, and technical collaboration for the sanctuary. However, community members expressed dissatisfaction with its declining involvement. A board member lamented:

> *"The road that leads to the host community was constructed by the then Wa District Assembly. Currently, the assembly is having a hard time maintaining the road. Personally, I think they are just reluctant." (Board Member, SMB)*

This report indicates that individuals are increasingly concerned about the state's insufficient dedication to preserving vital infrastructure essential for community health and conservation-related tourism. Roads and transportation networks are essential for facilitating visitor mobility, reducing transaction costs, and ensuring accessibility for all individuals (Iamtrakul, 2025). Local stakeholders have asserted that the sanctuary's decline adversely affects its capacity to attract visitors, generate revenue, and sustain livelihoods. This disparity contrasts sharply with the assertions of Dangi and Petrick (2021), who emphasize the critical role of local governments in developing tourism infrastructure, ensuring regulatory compliance, and facilitating community-based initiatives.

The declining involvement of the District Assembly indicates substantial problems within Ghana's decentralization system, where local governments are responsible for service delivery but often lack the financial and technical resources (Tuokuu & Mohammed, 2024). Finn and Bandauko (2024) assert that decentralization efforts in sub-Saharan Africa often assign tasks without adequate funding, resulting in "unfunded mandates" that burden local governments and inadequately serve populations. In this context, community members may perceive the government's inaction as stemming from both insufficient resources and a deficiency of political will. Other governmental entities, such as the Ghana Tourism Authority (GTA) and the Wildlife Division, have also contributed significantly by providing technical counsel, certification, and marketing support. A GTA official

stated, "We were summoned initially to provide expert counsel on the appropriate course of action. We provided our complete support due to the project's significant potential" (Official document from the GTA Regional Office, 2020).

The involvement of these specialized institutions highlights the significance of official backing in legitimizing community-based enterprises. The accreditation and technical oversight by the GTA and Wildlife Division enhance the sanctuary's credibility and connect it to broader national and international conservation and tourism networks. This corroborates Zhang et al.'s (2024) assertion that governmental institutions function as gatekeepers of quality and legitimacy within the tourism sector through regulation and promotion. Moreover, their advisory roles agree with Wang et al. (2024)'s argument that partnerships between communities and governmental entities are essential for attaining ecological sustainability alongside developmental objectives.

Conversely, the varying degrees of engagement among government actors indicate a fragmented institutional landscape. The GTA and Wildlife Division has consistently shown support; however, the District Assembly's indifference may jeopardize the project's long-term viability. Ramaano (2025) asserts that in community-based tourism, state institutions must enhance their involvement beyond initial participation by providing ongoing policy, infrastructural, and technical support to help initiatives develop into sustainable development trajectories.

NGOs and International Partners

Non-governmental organizations (NGOs) and external partners have been instrumental in establishing and consolidating the sanctuary, providing critical support through funding, technical advice, and capacity-building. Calgary Zoo and Friends of Wechiau, for instance, offered both financial assistance and training opportunities that enhanced the sanctuary's institutional capacity. A tour guide reflected on this contribution:

> *"Our development partners have really helped the sanctuary a lot. Calgary Zoo has been our constant source of funding and technical advice. The Friends of Wechiau have even established a mutual trust fund in the name of the sanctuary." (Tour Guide, Wechiau)*

This testimony underscores the importance of transnational partnerships in advancing community-based conservation and ecotourism initiatives. These kinds of partnerships show how conservation governance connects the global and the local. International actors give resources and expertise that work with local governance structures (Cvijanović, 2025). The money that the Calgary Zoo and Friends of Wechiau gave not only helped the zoo stay in business, but also made it possible to set up long-term systems, such as the mutual trust fund, which brings outside help into a financial system based in the area.

In addition to providing financial support, NGOs often share technical knowledge and training that help local people run conservation projects effectively. Silva-Ávila et al. (2025) assert that capacity building is fundamental to adaptive co-management, facilitating the integration of scientific knowledge with indigenous practices within communities. On the other hand, depending on external financing raises critical questions for the project's sustainability. Mbunda and Ndunguru (2025) warn that conservation models that rely on donors can make people dependent, take away local control, and fall apart when external funding stops coming in. This issue is especially important in rural Africa, where conservation projects often depend on changing donor priorities and international interest (Schleicher, 2025). In these instances, community institutions might find it difficult to continue functioning after external partners exit.

The WCHS case illustrates the advantages and weaknesses of NGO participation. External partnerships have made the sanctuary more visible around the world, given it more marketing power, and helped create networks of legitimacy that connect local conservation efforts with global biodiversity goals (Speiran, 2021). On the other hand, depending too much on international actors can lead to power imbalances, where outside groups have too much say over project priorities and decisions. Kipruto (2024) argues that this dynamic may lead to "conservation neoliberalism," in

which donor agendas eclipse local aspirations, potentially undermining community ownership over time. Nevertheless, mechanisms like the Friends of Wechiau's trust fund demonstrate that people are trying to reduce dependency by investing donor funds in long-term financial structures. When managed well, trust funds can generate steady income and reduce the likelihood that donors will withdraw (MacDonald, 2024). The sanctuary's ability to attract partnerships like these also shows that the local government is strong enough to use outside help without giving up all of its independence.

Tourists

Tourists provided financial resources through entry and facility fees while simultaneously serving as evaluators of the sanctuary's performance. Their contributions extended beyond monetary inputs to include feedback that informed management adjustments and improvements. As one informant observed:

> *"The roles of tourists include paying fees, adhering to the directives of tour guides, and critiquing the project for improvements to be made." (Key Informant, 2020)*

This highlights the dual role of tourists as both consumers and co-producers of the ecotourism experience. On the one hand, their payment of fees constitutes a critical revenue stream that sustains conservation activities and supports local livelihoods. On the other hand, their evaluations serve as informal monitoring, shaping management practices and service delivery. This dynamic reinforces Yuli's (2024) argument that tourism destinations are shaped not only by local management decisions but also by the expectations, perceptions, and feedback of visitors.

From an ecotourism perspective, tourists' critiques serve as a form of participatory governance, in which visitors contribute indirectly to the adaptive management of conservation projects. As Omma (2024) notes, ecotourists often position themselves as socially responsible actors who expect their experiences to align with principles of sustainability, community benefit, and environmental stewardship. Their assessments can therefore place constructive pressure on management committees to maintain high ecological and service standards. Furthermore, tourists serve as agents of social legitimacy. Positive visitor experiences generate reputational capital for the sanctuary, enhancing its attractiveness in competitive ecotourism markets. According to Jacobs (2024), tourist satisfaction is central to the long-term viability of community-based tourism, as repeat visitation and positive word-of-mouth marketing depend on meeting or exceeding visitor expectations. In this way, tourists' perceptions directly influence both the project's economic sustainability and its positioning within broader tourism circuits.

However, the evaluative role of tourists also introduces potential tensions. As Carlos and Rojas (2024) argue, tourists often carry culturally specific expectations about authenticity, nature, and community interaction. These expectations may not always resonate with local realities, leading to management decisions that prioritize visitor satisfaction over community preferences or ecological priorities. For example, pressures to provide more accessible facilities or "exotic" experiences can create contradictions between conservation goals and market demands. Moreso, reliance on tourist fees introduces vulnerability to external shocks such as political instability, pandemics, or economic downturns. The COVID-19 pandemic starkly revealed the fragility of tourism-dependent conservation models, with many community-based projects facing financial crises due to plummeting visitor numbers (Otundo Richard, 2024). For sanctuaries like WCHS, this reveals the need to diversify revenue streams and build resilience against the unpredictability of global tourism flows.

Synthesizing Lessons and Future Engagement Strategies

The final stage of analysis involved integrating findings to identify lessons and propose pathways for enhancing stakeholder collaboration. First, role clarity emerged as a critical factor. Instances of overlapping responsibilities between the SMB and District Assembly created confusion and inefficiencies. This challenge is consistent with Hajjar et al. (2021), who argue that ambiguity in

multi-stakeholder projects undermines accountability and legitimacy. A clearer delineation of institutional roles would help to streamline governance. Second, equitable benefit-sharing was identified as a pressing issue. While some community members gained scholarships and jobs, others felt the loss of traditional livelihoods outweighed the benefits. As one ranger in Tuole explained:

> *"I would not say these livelihood activities have been lost or declined. It is just a mere trade-off as some alternative livelihoods were generated with more economic benefits than the traditional livelihood activities." (Ranger, Tuole)*

A central lesson is the critical importance of role clarity in multi-stakeholder governance arrangements. The findings revealed instances of overlapping responsibilities, particularly between the Sanctuary Management Board (SMB) and the District Assembly, which may create confusion and inefficiencies. In some cases, stakeholders were unsure of which institution held ultimate authority over specific functions such as revenue allocation or infrastructure provision. This ambiguity weakened accountability and complicated decision-making processes. Such challenges reflect Hajjar et al.'s (2021) observation that unclear mandates in participatory conservation projects undermine both legitimacy and effectiveness. For the WCHS, establishing a transparent framework that clearly outlines the roles, responsibilities, and authority of the SMB, Sanctuary Management Committee (SMC), traditional leaders, government agencies, and development partners is therefore essential. Doing so would not only streamline governance but also minimize potential conflicts, foster trust among stakeholders, and strengthen institutional credibility.

Another critical insight relates to equitable benefit-sharing. While some community members acknowledged tangible gains from the sanctuary, such as employment opportunities, scholarships, and tourism-related businesses, others highlighted that restrictions on farming, fishing, and hunting curtailed their traditional livelihoods. This perception of uneven trade-offs threatens the legitimacy of conservation rules and risks eroding long-term community support. A ranger's statement in Tuole illustrates this tension, framing the issue as a "trade-off" between traditional practices and new livelihoods. Although alternative opportunities have emerged, they are not evenly accessible to all households, leaving some feeling marginalized. This reflects a wider pattern identified by Kennedy (2021), who emphasizes that equity in benefit distribution is a cornerstone of sustainable conservation. To address these concerns, more inclusive and transparent benefit-sharing mechanisms are required. Strategies could include diversifying income-generating opportunities across the sanctuary communities, introducing compensation schemes for those most affected by restrictions, and ensuring that vulnerable groups such as women and youth are intentionally targeted in employment and training programs. By doing so, the sanctuary would reinforce the principle that conservation must generate shared benefits for all community members, not just a select few.

The third key lesson centers on the dual role of external partnerships as both an asset and a vulnerability. Non-governmental organizations (NGOs) and international partners have been indispensable in providing financial resources, technical expertise, and global visibility for the WCHS. Their involvement has enhanced conservation outcomes, improved capacity, and created new opportunities for ecotourism. However, this reliance on external actors also poses risks. As the study revealed, donor dependence leaves the sanctuary vulnerable to shifts in funding priorities or the withdrawal of international support. Without a strong foundation of local capacity and institutional autonomy, such disruptions could destabilize the project (Kachena & Spiegel 2023). This dilemma emphasizes the need to strike a balance between leveraging external partnerships and strengthening internal resilience. Building the capacity of local institutions, enhancing financial self-sufficiency through diversified revenue streams, and expanding the role of government agencies in policy and infrastructural support are critical steps toward reducing dependence. When international partnerships are embedded within locally owned structures such as trust funds or community-managed enterprises, the risk of donor-driven agendas overshadowing local priorities can also be mitigated.

Conclusively, these lessons point to several strategic directions for future engagement. First, governance reforms should prioritize clarifying institutional mandates and creating platforms for regular stakeholder dialogue. Second, mechanisms that ensure equity, inclusivity, and transparency in benefit distribution should be institutionalized to maintain community trust and buy-in. Third, long-term sustainability requires reducing dependence on external actors by building robust local capacity, embedding donor contributions in sustainable financial models, and ensuring that government institutions provide consistent policy and infrastructural support. By addressing these interconnected challenges, the WCHS can not only consolidate its gains but also serve as a replicable model of community-based ecotourism and conservation in Ghana and across Africa.

CONCLUSION

The study revealed that the WCHS is a model example of CBNRM in Ghana, where different stakeholders work together to protect biodiversity and improve the lives of people in the catchment communities. The results highlight the principal roles played by traditional authorities and community members as guardians and enforcers of bylaws. The SMB and SMC are the main governing and operational bodies. NGOs and international partners provide important technical and financial support, and government agencies and tourists help legitimize, promote, and sustain. This system, with many actors, has made great progress in protecting biodiversity, creating jobs, and preserving culture.

Moreover, the study found that there are still challenges that need to be resolved. Role ambiguity within institutions, an unequal distribution of benefits, reliance on donors, and inconsistent government commitment persistently jeopardize the sanctuary's sustainability. Also, unequal benefit sharing emerged as a major hurdle. While selected individuals benefited from ecotourism-related opportunities, others lost their traditional livelihoods to conservation activities without alternative livelihoods from the project. These diverse experiences show that community-based ecotourism can lead to significant change, but it requires ongoing negotiation, clear roles, and fair participation to succeed. The study concludes that role clarity, inclusivity, and institutional strengthening are vital for the sustainability of the WCHS and for guiding analogous community-based conservation initiatives in Ghana and across Africa.

A key contribution of this study is its demonstration that conservation outcomes in the WCHS are not only products of formal governance structures but are equally grounded in local cultural systems. Indigenous values, customary authority, and communal norms play a critical role in shaping stakeholder collaboration and sustaining conservation practices.

Limitations and Future Direction

This study has elucidated the roles and interactions of stakeholders in the governance of the WCHS; however, several significant areas remain under-examined, offering opportunities for future research. One critical aspect is the necessity to comprehend the long-term effects of the sanctuary on household livelihoods. It is evident that the project has created new opportunities, including tour guiding and hospitality services; in contrast, there is limited understanding of how these changes affect long-term economic well-being, especially for marginalized groups such as women and youth. Subsequent longitudinal research examining these effects would yield significant insights into the equity and sustainability of community-based natural resource management.

Another important area worthy of scholarly attention is how the WCHS can withstand external shocks. Recent global events, especially the COVID-19 pandemic, have shown that economies that depend on tourism are very fragile. Future research should investigate methods by which the sanctuary can enhance its resilience through diversified income streams, including conservation trust funds, eco-friendly enterprises, or carbon credits, thereby mitigating excessive dependence on tourist influx. It would also be helpful to do comparative studies with other community-based natural resource management programs in Ghana and other parts of Africa. Researchers can find useful lessons and best practices to improve the WCHS by examining similar governance models in

different contexts. Finally, the increasing danger of climate change makes it necessary to examine how conservation projects like the WCHS can adapt to environmental and societal changes. Future research may investigate integrating habitat conservation, water resource management, and livelihood diversification with comprehensive climate adaptation strategies in northern Ghana.

Based on these insights, several recommendations can thus be made. First, there is a need for clarity in stakeholder roles. Setting up a clear framework for the SMB, SMC, the District Assembly, and other groups would help reduce overlap and make every stakeholder more accountable. It is also important to design a comprehensive and equitable benefit-sharing framework. To build trust among community members and sustain their long-term commitment to the sanctuary, it would be helpful to ensure that tourism benefits are fairly distributed, whether through scholarships, support for people's livelihoods, or compensation plans.

There is a need for the strengthening of decentralized government institutions through fiscal devolution. NGOs and international partners played key roles in the management of the sanctuary; however, over-reliance on external donors comes with associated risks. The sanctuary's operations would be more sustainable if the District Assembly and other state agencies could intensify their efforts in terms of infrastructure, policy, and technology. Building local capacity and independence remains equally indispensable. By providing more training to rangers, guides, and management staff, local people would be better placed to manage tourism and conservation ventures, making them less reliant on external persuasion.

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Declarations

Approval was obtained from the ethics committee of the University for Development Studies (UDS), supported by an introductory letter from the Department of Development Studies, UDS. The procedures used conform to the tenets of the University. Informed consent was sought from all individuals who participated in the study. The participants have consented to the submission of the manuscript to the journal. The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work reported in this paper.

All authors contributed to the study conception and design. Material preparation, data collection, and analysis were performed by Ali Dangaabo Mohammed and Issaka Kanton Osumanu. The first draft of the manuscript was written by Ali Dangaabo Mohammed, and all authors commented on previous versions. All authors read and approved the final manuscript.

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