



## East African Journal of Environment and Natural Resources

[eajenr.eanso.org](http://eajenr.eanso.org)

Volume 8, Issue 1, 2025

Print ISSN: 2707-4234 | Online ISSN: 2707-4242

Title DOI: <https://doi.org/10.37284/2707-4242>



EAST AFRICAN  
NATURE &  
SCIENCE  
ORGANIZATION

Original Article

### When it Comes to Conserving for the People, Tanzania Wildlife Management Authority - TAWA is 'Walking the Talk'

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Article DOI: <https://doi.org/10.37284/eajenr.8.1.2996>

#### Date Published: ABSTRACT

14 May 2025

#### Keywords:

*Integrative  
Conservation,  
Wildlife Authorities,  
Local Communities,  
Conservation For The  
People,  
Biodiversity  
Conservation.*

Excluding people living in poverty from needed resources has inherent issues and conflicts since conservation is arguably for the people. As such, the integration of local communities' needs into biodiversity conservation has become one of the ways forward to ensure the sustainability of protected areas. While the integration of local communities into conservation is generally well documented, its analysis is rather rudimentary, and the depth of its implementation of it hardly exists in the literature. Taking a multiple-case design and a multiple-method approach, this study questions whether the authorities that are mandated to manage wildlife resources in Tanzania (NCAA, TANAPA, and TAWA) have really considered the approaches (benefit-sharing; mitigating human-wildlife conflicts; opening limited access to PA resources; and managing PAs in collaboration with communities) widely applied by protected area (PA) managers worldwide to integrate local communities into conservation. And if so, to what extent the integration has been, and how this has shaped their relationship with communities. The results indicate that while the extent of application of these approaches varies considerably across the three wildlife authorities in Tanzania (NCAA, TANAPA and TAWA), the focus of such authorities has been predominantly on benefit-sharing, mitigating human-wildlife conflicts, and managing PAs in collaboration with communities. The other approach (opening limited access to park resources) has been considered by TAWA only, making the authority 'walking the talk' when it comes to conserving for the people. Yet NCAA and TANAPA have not considered opening limited access to their PA resources, despite being relevant. Threat-based conservation embraced by NCAA and TANAPA places them in a permanently defensive mode of thinking and acting in a way that reflects resistance to allowing limited access to their resources.

#### APA CITATION

Muganda, M. (2025). When it Comes to Conserving for the People, Tanzania Wildlife Management Authority - TAWA is 'Walking the Talk'. *East African Journal of Environment and Natural Resources*, 8(1), 412-428. <https://doi.org/10.37284/eajenr.8.1.2996>.

#### CHICAGO CITATION

Muganda, Michael. 2025. "When it Comes to Conserving for the People, Tanzania Wildlife Management Authority - TAWA is 'Walking the Talk'". *East African Journal of Environment and Natural Resources* 8 (1), 412-428. <https://doi.org/10.37284/eajenr.8.1.2996>

#### HARVARD CITATION

Muganda, M. (2025) "When it Comes to Conserving for the People, Tanzania Wildlife Management Authority - TAWA is 'Walking the Talk'", *East African Journal of Environment and Natural Resources*, 8 (1), pp. 412-428. doi: 10.37284/eajenr.8.1.2996.

#### IEEE CITATION

M., Muganda "When it Comes to Conserving for the People, Tanzania Wildlife Management Authority - TAWA is 'Walking the Talk'", *EAJENR*, vol. 8, no. 1, pp. 412-428, May. 2025. doi: 10.37284/eajenr.8.1.2996

#### MLA CITATION

Muganda, Michael. "When it Comes to Conserving for the People, Tanzania Wildlife Management Authority - TAWA is 'Walking the Talk'". *East African Journal of Environment and Natural Resources*, Vol. 8, no. 1, May 2025, pp. 412-428, doi:10.37284/eajenr.8.1.2996

## INTRODUCTION

Throughout the world, the integration of local communities' needs and concerns into biodiversity conservation has become crucial, given the fact that conservation is for the people (Bobo & Weladji, 2011; Sayer, 2009; Singh, 2008) and that the exclusion of local communities from biodiversity conservation threaten the sustainability of protected areas (Walpole & Goodwin, 2001).

Protected areas (PAs) are considered a cornerstone of biodiversity conservation around the globe. They are a key strategy for conservation efforts following the growing appreciation of nature. The PAs have expanded rapidly worldwide, currently 114,000 PAs worldwide covering 13% of the world's land area, which exceeds the total area of permanent crops and arable land on the planet (Chape *et al.*, 2008).

In recognising the importance of nature, Tanzania has set aside an area of 307,800 square kilometres of land for biodiversity conservation, representing 32.5% of the total land, hence categorised as a 'mega-diversity' nation<sup>1</sup> (Stolla, 2005; WEF, 2012). Tanzania is the only country which has allocated this amount of land for conservation (URT, 2024). Contributing to this are the country's extensive tracts of wilderness and rich biodiversity realized in

various forms of protected areas, including 22 National Parks, 29 Game Reserves, 43 Game Controlled Areas, 1 Conservation area, 2 Marine Parks, 22 Wildlife Management Areas (WMAs), and 3 Ransar Sites (URT, 2024). Such protected areas play a major role in the conservation of biodiversity and demonstrate great conservation efforts of Tanzania (Chape *et al.*, 2008), from just 5% of land allocated to conservation during colonial administration in the country (Baldus, n.d.).

Despite their vital role of conserving biodiversity, delivering ecosystem services, job creation, education purposes, and their contribution to economies, PAs managements in many countries of the Global South face a number of challenges, including conflicts with various social actors (local communities, human rights advocates, investors etc.), mainly due to concerns over the place of people in such areas (Baldus & Hahn, 2009; Neumann, 2002).

### Theoretical Perspectives on the Integration of Local Communities into Conservation

The integration of local communities into conservation has seen its way back from public outcry over the place of people in relation to biodiversity conservation in PAs. The outcry has been in three major issues. First, the unilateral

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<sup>1</sup> Tanzania National Parks: Investment Prospectus 2020

establishment of such PAs - often associated with the forceful eviction of natives from their traditional lands (Walpole and Goodwin, 2001; Bobo & Weladji, 2011). Second, wildlife damage such as crop damage or costs inflicted by crop raiders and dangerous wild animals, livestock or human attack by wildlife (Kepe *et al*, 2001; Madden, 2004; Marshall *et al*, 2007; Ogra, 2008; Thapa, 2010; Warner, 2000). Third, the denial of access to resources in such PAs (land, wildlife, forest products, etc.) - upon which local communities depend for subsistence needs, and criminalisation of their practices when accessing such resources (Bobo & Weladji, 2011; Thapa, 2010). Local communities perceive this denial of access as ignoring their dependence on natural resources for their living (Norgrove, 2003; Ali, 2007; Thapa, 2010).

The outcomes from these concerns have often been conflicts, contentious relationships between PA managers and the PA's neighbours, and a reduction in the support for conservation by local communities (Lewis, 1996; Madden, 2004; Neumann, 2002; Thapa, 2010). On the other hand, it is increasingly clear that these PAs have limited future prospects without the cooperation and support of local communities (Mcshane & Wells, 2006). Therefore, the need to integrate local communities' needs and concerns into biodiversity conservation has become crucial (Bobo & Weladji, 2011). It is impossible for both practical and ethical reasons for conservationists to ignore the needs of poor people who live in and around the natural areas that are being conserved (Sayer, 2009). In fact, excluding people living in poverty from needed resources has inherent issues and conflicts since poverty is one of the key drivers of biodiversity degradation (Elliott & Sumba, 2010). More importantly, conservation is arguably for the people (Bobo & Weladji, 2011; Sayer, 2009; Singh, 2008). Thus, building and sustaining good relationships with local communities is increasingly becoming an important consideration for PA management (Walpole & Goodwin, 2001). The underlying notion is that positive relationships are created or

sustained when local communities believe that PAs serve, rather than ignore, their interests (Madden, 2004; Sifuna, 2011; Lewis, 1996).

Theoretical debates on how to accommodate such needs and concerns have led to four major approaches widely applied by PA managers worldwide to try to integrate local communities into conservation: (1) benefit-sharing; (2) mitigating human-wildlife conflicts; (3) opening limited access to park resources; and (4) managing PAs in collaboration with communities. All these approaches revolve around two key issues: (1) providing benefits as incentives for people to conserve nature, and (2) mitigating the adverse impacts of PAs on local communities (Madden, 2004; Lewis, 1996; Roe *et al*, 2000).

**The benefit-sharing approach** is widely adopted and is considered an important motivational factor in securing local support to conservation (Distefano, 2005; Kideghesho, 2007), increasing people's tolerance to wildlife damage (Sifuna, 2011), and creating positive relationships with people (Sifuna, 2011; Walpole & Goodwin, 2001). With this approach, protected areas share tangible benefits from conservation with the wider local communities to offset the opportunity costs of protection, including problems with wildlife, and restrictions on land uses and utilisation of natural resources (Walpole & Goodwin, 2001). These incentives are often in terms of community services provision of social services such as building schools, health centres, water supply, assistance in improving existing agricultural activities and introduction of new activities, among others. It can also be demonstrated by offering employment opportunities to locals on a preferential basis (Sifuna, 2011), encouraging local communities' involvement in investment opportunities available in the industry, such as tourism development (Goodwin, 2001; Tosun, 2006).

**Mitigating human-wildlife conflicts** entails helping communities to control crop damage, livestock predation, property damage, and attacks of

humans by wildlife. These undermine local communities' support for conservation, ruin the positive relationships between people and protected areas, and make the future of these areas unpredictable (Madden, 2004; Lewis, 1996; Thapa, 2010). Such outcomes are often evidenced by damage inflicted upon wildlife by humans, including habitat degradation and deliberate killing of wildlife (Ogra, 2008).

**Opening limited access to park resources** has its bearing on the importance of including local communities' subsistence needs as a consideration in PA management, especially following the rapidly increasing population and demand for natural resources (Heinen, 1993). Access to PA resources that are needed for subsistence, such as fuel-wood, building materials, and animal fodder, has been central for creating good relationships between protected areas and adjacent communities (Strede & Helles, 2000).

**Managing protected areas in collaboration with local communities** is another approach, which can be used to create good relationships between people and protected areas, win local communities' support for conservation, and avoid conservation conflicts. However, the approach to managing PAs in collaboration with communities depends on the management systems of the PA in question - whether state, community, private or co-management (Kellert *et al*, 2000). In the case of partnership between local communities and the state, the level of inclusion of local communities in managing the PA, the responsibility for sustainable use of the resources in the PA, management decisions, and ultimately the access to benefits, would obviously differ due to varying legal rights, institutions, and economic incentives (Kellert *et al*, 2000).

From these theoretical perspectives, it is worth noting that all of these approaches revolve around two key issues: providing benefits as incentives for people to conserve, and mitigating adverse impacts of the protected areas on local communities

(Madden, 2004; Lewis, 1996; Roe *et al*, 2000). In addition, the type of benefits and mitigation varies depending on the context, but the underlying assumption is the same in all situations: positive relationships are created or sustained when local communities believe that PAs serve, rather than ignore, their interests (Madden, 2004; Sifuna, 2011; Lewis, 1996). As such, most PA managers use a variation of these approaches to integrate local communities' needs and concerns into conservation while resolving and avoiding conflicts with local communities, winning their support for conservation, and fostering positive relationships between people and PAs (Madden, 2004; Lewis, 1996; Thapa, 2010).

While the integration of local communities into conservation is generally well documented, its analysis is rather rudimentary, and yet the depth of its implementation hardly exists in the literature. This gap limits our understanding of how the integration of local communities into conservation actually takes place in time, place and specific contexts. This paper assessed the integration of local communities into conservation by the wildlife authorities in Tanzania. The idea was to understand if these conservation authorities have really considered the integration of local communities' needs and concerns into biodiversity conservation, and if so, to what extent the integration has been, and how this has shaped their relationship with communities.

## STUDY DESIGN AND APPROACH

This is a multiple-case study conducted between February - December 2024, involving wildlife conservation authorities in Tanzania under the Ministry of Natural Resources and Tourism (MNRT), which is mandated to manage all wildlife and forest resources in the country. Within the Ministry is the Tanzania Wildlife Authority (TAWA), which has authority over wildlife in Game Reserves, Game Controlled Areas and unprotected areas. National parks are managed by a semi-autonomous parastatal agency, the Tanzania



National Park Authority (TANAPA). Ngorongoro Conservation Area is managed by another semi-autonomous parastatal agency, the Ngorongoro Conservation Area Authority (NCAA). Forest resources in the country are managed by the Tanzania Forest Service (TFS). However, the study involved only NCAA, TANAPA and TAWA, whereas TFS was excluded because of the focus of the study. The study sought to involve wildlife authorities, which are mandated to manage wildlife resources in the country. It would be an unfair comparison to include TFS in the list.

In addition, NCAA, TANAPA and TAWA were chosen because they share some commonalities, but also have unique characteristics when it comes to wildlife conservation in the country, and how they interact with adjacent communities across their wide range of protected areas located country-wide. These three cases were ideal to explore, compare, and contrast how the integration of local communities into conservation has occurred in Tanzania across different settings of wildlife conservation in the country. Furthermore, the choice of these cases was in line with the study topic - conserving for the people, which necessitates using literal replication (cases with expected similar outcomes) to ensure fair comparison.

### Data Collection

Data for this study was gathered through a multiple-method approach, using in-depth interviews with outreach officers from the three conservation authorities (NCAA, TANAPA and TAWA) and decision-makers at the community level (village leaders), document search and review, observations, and informal discussions with members of the local community - particularly target groups (fishers and beekeepers) of the study.

Document search and reviews aimed to undertake an analysis of documents related to outreach programmes by such authorities and their implementation on the ground. The desk work review primarily focused on their Corporate Strategic Plans and the General Management Plans

(GMPs) of selected protected areas under their mandate. The idea was to understand the extent to which local communities have been integrated into these important management documents.

Field visits, informed by desk-based review and inspired by ethnographic research, were also sources of information for this study. These involved personal observations of the situation in the study area and allowed the researcher to cross-check desk work review and interview data, and frame follow-up questions. During fieldwork the researcher visited eight PAs managed by the authorities that manage wildlife in Tanzania (one under NCAA, four under TANAPA, and three under TAWA) to physically see, among other things, the nature of outreach activities going on, with the intention to gauge the extent of community integration into biodiversity conservation. The choice of these eight PAs was informed by desk work review, interview data, and the need for representation of PAs from each conservation authority as a basis for comparison. Field visits helped to disclose the realistic situation rather than just relying on reported information.

The fieldwork was further enriched with data from informal discussions with 20 ordinary members of the local community, who were involved in various outreach activities as entrepreneurs, particularly fishers and beekeepers. This was important to gather views of the wider community regarding their integration into biodiversity conservation in and around PAs. The criterion used to identify the 20 members was whether a person had knowledge about community integration into conservation in general, and this sample size was reached when new participants were no longer adding insights to the research questions. However, since this was a qualitative research, the sample size for informal discussions (and in-depth semi-structured interviews) was not meant to represent the large population of the study participants, but to obtain rich information that would help to understand and explain specific phenomena important for the research (Given 2008).

In-depth semi-structured interviews were conducted with 10 outreach officers from the three authorities (NCAA, TANAPA and TAWA). Eight of these outreach officers came from each of the eight PAs the researcher visited during fieldwork, while two were from the departments of outreach at the headquarters of TANAPA and TAWA. The NCAA was represented by one outreach officer because, unlike TANAPA and TAWA, which have several PAs each, the authority had only one PA during the time of data collection for this study. Among other questions, these outreach officers were asked to indicate to what extent their authorities have considered the approaches widely applied by PAs managers worldwide (benefit-sharing; mitigating human-wildlife conflicts; opening limited access to PA resources; and managing PAs in collaboration with communities) to integrate local communities into conservation. They were asked to indicate their responses on each of those approaches using a 4-point Likert scale (highly applied, moderately applied, lowly applied, and not applied at all).

The decision-makers from adjacent villages of such PAs were also asked if the management of PAs around them has really considered such approaches. This was important to double-check the responses from the outreach officers and to hear from the local community to understand if these conservation authorities have really considered the integration of local communities' needs into biodiversity conservation, and if so, to what extent the integration has been, and how this has shaped their relationship with communities.

It is important to note that these techniques complemented each other and ensured comparison while enabling cross-checking of the results from one technique with those of another. However, all the results (regardless of their data sources) are integrated and presented together. This verifies, strengthens and greatly increases the validity of the findings while drawing and bringing together views from multiple stakeholders and the wider community (Simmons, 1994).

## Data Analysis

A small set of ordinal ratings that did not justify a statistical test was displayed in a table to get descriptive insights and a visual presentation of the quantitative responses. This was due to the fact that there were only a few respondents (10 outreach officials) to the question designed for ordinal ratings, rather than numerical values.

Content analysis was used to analyse qualitative data collected for this study. The analysis involved three stages. The first stage involved organising the data by question - sorting and putting all the responses for each question together. The second stage involved identifying themes – looking for consistencies and differences across responses to each question. The third stage is geared towards interpretation of the themes and their relationships – organising them into coherent categories that summarise the data and bring meaning to the question this research sought to answer.

After thematic analysis of qualitative data, the nature and extent of integration of local communities into biodiversity conservation were then drawn up. Two styles were used to structure the data across research themes: paraphrasing while remaining faithful to the original meaning; and the use of illustrative quotes that have been applied by study participants in a particular context. The results are also presented and discussed separately across the major themes relating to the main research question, “To what extent have wildlife conservation authorities in Tanzania integrated local communities into biodiversity conservation?”.

## RESULTS AND DISCUSSION

In order to assess the extent to which wildlife conservation authorities in Tanzania have integrated local communities into biodiversity conservation, respondents from those authorities were asked to rate the depth of implementation of each of the approaches (benefit-sharing; mitigating human-wildlife conflicts; opening limited access to park resources; and managing PAs in collaboration with

communities) widely used by protected area managers to integrate local communities into conservation, using a 4-point Likert scale (see methodology section). Table 1 presents the results

of responses for each of the approaches, ordered in a chronological flow in which the questions were asked to respondents about such approaches.

**Table 1: The Depth of Implementation of Community Integration Approaches Across Wildlife Conservation Authorities in Tanzania**

Name of conservation authority	Approaches widely used to integrate local communities into biodiversity conservation.			
	Benefit-sharing	Mitigating human-wildlife conflicts	Opening limited access to park resources	Managing PAs in collaboration with communities
<b>NCA</b> = Ngorongoro Conservation Area Authority	***	***	-	*
<b>TANAPA</b> = Tanzania National Parks Authority	***	***	-	**
<b>TAWA</b> = Tanzania Wildlife Management Authority	***	***	***	***

Key to the extent of application of each approach by the conservation authority:

\*\*\* = designates highly applied;

\*\* = designates moderately applied;

\* = designates lowly applied; and

- = designates not applied at all

**Source:** Field data for the study, February - December 2024

From the results in Table 1, it is clear that all three authorities that manage wildlife in Tanzania (NCAA, TANAPA and TAWA) have greatly considered the approaches of benefit-sharing and mitigating human-wildlife conflicts. This was shown by the depth of implementation indicated by the respondents, who rated them as highly applied approaches. However, only TAWA has greatly considered the remaining two approaches (opening limited access to PA resources, and managing PAs in collaboration with communities). Again, this was revealed by the extent of integration of these approaches by the authority as rated by respondents.

The respondents further rated 'not applied at all' regarding the opening, limited access to PA resources for both NCAA and TANAPA. This indicates that both the authorities have not considered allowing limited access to resources in their PAs. The two authorities have also considered the 'managing PAs in collaboration with

communities', but it has been or is being only partly applied. This raises the question whether NCAA and TANAPA have fully exploited all the opportunities to integrate the needs of local communities into biodiversity conservation, and highlights a major gap in efforts to win the support of local communities in wildlife conservation in Tanzania and the idea of conserving for the people.

Analysis of qualitative information revealed more insights into each of these integration approaches, especially regarding the extent of application of each of them by such conservation authorities in Tanzania (NCAA, TANAPA and TAWA). In the following section, the qualitative results are discussed in detail for each of the approaches, arranged in a chronological flow in which the questions regarding the approach were asked. The aim is to strengthen and provide a more consolidated understanding of the quantitative results.

## Benefit-sharing

While all three authorities have considered the benefit-sharing approach, the extent of application of the approach differed from one conservation authority to another, though there are lots of similarities in the way the approach is implemented.

Interviews with outreach officials from the wildlife authorities (NCAA, TANAPA and TAWA) and the analysis of the General Management Plans (GMPs) of PAs managed by these authorities revealed that each one has established its own benefit-sharing approach. The approach is implemented in the form of an outreach programme across each authority's network of PAs countrywide, through a full-fledged department or section with permanently employed staff at the headquarters and at PA level.

Each year, these wildlife authorities (NCAA, TANAPA, and TAWA) set aside a certain amount of budget to support local communities in the form of outreach services. For TAWA, for example, each PA sets aside 10 percent of its annual budget for supporting local livelihoods. For PAs with hunting blocks, there is USD 5,000 from each hunting block, and 25% of each game animal hunted to support local livelihoods. These benefit-sharing schemes have been in the form of support to community-initiated projects such as school facilities, medical dispensaries, health centres, youth centres, training centres, village offices, roads, water projects, and many other community development projects.

Statistics from these authorities indicate that between July 2022 and April 2023, TANAPA had spent a total of TZS 2.6 billion (equivalent to approximately USD 1 million at an exchange rate of 1 USD = 2,592 TZS) in support of 29 community-initiated projects across villages neighbouring various national parks. On the other hand, TAWA spent a total of TZS 177 million (USD 68,287) in 2023 in support of 6 community-initiated projects across villages neighbouring various game reserves.

The NCAA was even more advanced on the benefit-sharing approach. The authority had established a

community representative body (Pastoral Council) that, among other duties, managed community development projects, including education, health, and livestock support programs. Sharing tangible benefits from conservation with the wider local communities is a motivational factor in securing local support to conservation (Distefano, 2005; Kideghesho, 2007), increasing people's tolerance to wildlife damage (Sifuna, 2011), and creating positive relationships with people (Sifuna, 2011; Walpole & Goodwin, 2001).

## Mitigating Human-Wildlife Conflicts

In recognition of the fact that communities living adjacent to protected areas have been experiencing important negative impacts from wildlife on their livelihoods and security, ranging from human injuries to deaths, livestock injuries to deaths, and crop damage by wildlife, the wildlife authorities (NCAA, TANAPA and TAWA) in Tanzania have been enhancing coexistence with wildlife. A number of approaches have been devised and implemented by these authorities to minimise human-wildlife conflicts and to enhance social acceptance and coexistence of human and wildlife. The approaches include the establishment of problem animal control (PAC) stations, payment of consolation, and provision of coexistence education.

“Yeah, we are working hard to ensure that we safeguard the lives of local communities and their property against problem animals, .....you know it's very challenging situation, but we are trying our level best to deal with them [HWCs] ....we also provide coexistence education and give them some equipment such as vuvuzela .....and train them how to use. And nowadays, we have advanced a bit .....we use modern technology such as ndege nyuki [drones] to chase away elephants .....so we are trying every option to reduce the impact to local communities ... we even pay consolation to the affected people .....so it's not that bad to be honest”.

Helping communities to control crop damage, livestock predation, property damage, and attacks



on humans by wildlife creates positive relationships between people and protected areas (Madden, 2004). Statistics from the MNRT indicate that currently, there are 16 established PAC stations across various PAC hotspots in the country. These stations are deployed with rangers (PAC response teams), primarily focusing on reducing the impacts of HWCs to safeguard human life and properties against wild animals. Apart from game rangers, there are also village game scouts (VGS) being deployed at these stations to ensure a timely response to PAC incidents. A total of 37 VGS have been trained on PAC and deployed country-wide at 9 PAC stations so far (URT, 2024).

### Opening Limited Access to PA Resources

The results indicate that only TAWA has the approach of opening limited access to its PA resources. The rest - NCAA and TANAPA - have not been considered at all, despite their relevance. TAWA has considered opening limited access to PA resources as a way to integrate local communities' needs into biodiversity conservation. Informal discussions with local communities during fieldwork and observations made in the field during the time of data collection for this study revealed that TAWA has opened limited access to reserve resources in five PAs under its mandate. These PAs were identified as Moyowosi, Uwanda, Ugalla, Kilombero, and Rukwa Game Reserves.

For Moyowosi Game Reserve (MoGR), TAWA has opened limited access for community beekeeping activities in the reserve. The management of the reserve has set aside a special beekeeping zone within the reserve as a way to integrate local communities' needs into biodiversity conservation. Local communities adjacent to MoGR are allowed to undertake activities in the zone. The area provides several options for beekeepers from the surrounding communities, including establishing traditional beekeeping camps (locally known as manzuki), setting up beehives, and timely access to apiaries as well as extension services to enhance good beekeeping practices. The beekeeping zone

covers the entire former Moyowosi GR North 1 hunting block with an area of 1,392 km<sup>2</sup>, equivalent to 343,970 acres, and covering 12.18% of the reserve size (Appendix 1). The area can accommodate more than 8 million beehives, based on the fact that an acre can accommodate 25 beehives. Interviews with reserve officials confirmed that the idea of doing so is to ensure communities benefit from conservation of resources in and around the reserve; to enhance local livelihoods, solidify reserve-people relations, and give local communities a more positive perception of biodiversity conservation in and around the reserve.

TAWA has also allowed similar access to reserve resources for community beekeeping activities in Ugalla and Rukwa Game Reserves. Beekeeping activities and trophy hunting are integrated in one management zone (Rukwa Mlele hunting block) in Rukwa Game Reserve (RuGR). Apart from beekeeping, TAWA has also opened limited access to these two reserves (Ugalla and Rukwa GRs) for local fishing activities. Local fishers are allowed to access the reserve water bodies (Ugalla River – for Ugalla Game Reserve (UgGR) and Lake Rukwa – for RuGR) to undertake fishing activities under special arrangements agreed upon by fishers, hunting investors, and the management of the reserves.

Similar fishing activities, under similar arrangements, are allowed by TAWA in Uwanda and Kilombero Game Reserves. Local fishers are allowed to undertake their fishing activities in parts of Lake Rukwa located in Uwanda Game Reserve (UwGR) and in parts of the Kilombero River located in Kilombero Game Reserve. It is worth noting that parts of Lake Rukwa are found in both UwGR and RuGR, among other PAs. Lake Rukwa is famous for certain species of fish - Lake Rukwa tilapia (*Oreochromis rukwaensis* and *Chelaethiops rukwaensis*, locally called bungunusi), which are endemic to the lake. Both UwGR and RuGR are considered by fishers the remaining strongholds of this type of fish.

It is also important to note that these water bodies (Lake Rukwa, Ugalla River, and Kilombero River) are not just confined to the said reserves. Rather, TAWA, through Rukwa, Ugalla, and Kilombero GRs, owns just a fraction of the water bodies. For example, it is just two percent (2%) of Lake Rukwa, equivalent to 95 square kilometres, which is located in Rukwa GR. So, a large part of such water bodies is under the mandate of the local communities themselves. But, due to poor management of these water bodies by local communities, fish resources tend to concentrate more in areas managed and conserved by TAWA. Consequently, breeding grounds and significant populations of fish are found in the reserves. The reserves are, therefore, seen by local fishers as reliable sources of fish for their markets. For example, during informal discussion, one of the fishers at Nangori along Lake Rukwa in Uwanda GR had this to say,

“Honestly, we thank TAWA for introducing this kind of arrangement (allowing limited fishing in Uwanda GR). We do fishing and get our catch without being arrested by game rangers, we sell our catch and get money without disturbance”

As Strede & Helles (2000) noted, access to PA resources that are needed for subsistence, such as fish for the case of Uwanda, Rukwa, Ugalla, and Kilombero GRs, has been central for creating good relationships between protected areas and adjacent communities.

Informal discussions with local fishers during fieldwork and observations made across fishing camps revealed that opening limited access to the reserves for local fishing activities has a significant contribution to the livelihoods of local communities, particularly fishers. During the time of data collection, the researcher witnessed a number of fishers arriving at the lake shore (fishing camps) of Uwanda and Rukwa GRs with buckets full of fish as their catch of the day. Statistics from UwGR indicate that one fisher can earn between TZS 7 to 9 million (between USD 2,700 and 3,472) from fishing in one season. There are 9 months of fishing in a year or season, with 3 months left as the closed season – to prevent overfishing and allow fish populations to replenish and breed. In turn, this management tool protects fish populations and ensures sustainable fisheries.

#### **Plate 1: Fishing Activities at Legeza Camp Along Lake Rukwa in Uwanda Game Reserve**



**Source:** Uwanda Game Reserve General Management Plan

Beekeeping and fishing activities, as a result of opening limited access to PA resources, generate direct income to households, while revenue collected from tourist hunting, as a result of benefit-sharing, supports the surrounding communities' development projects. In this case, opening limited access to PA resources has its impact more at the household level, more at the family level. This helps to reduce poverty through improving the economic well-being of individuals and local livelihoods in general. Benefit-sharing, on the other end, has its impact more at the community level, more on community development or support to projects that aim to benefit the wider community. This is to say, of the three wildlife conservation authorities in Tanzania, TAWA is really 'walking the talk' when it comes to the integration of local communities' needs into biodiversity conservation under the broader idea that conservation is for the people. The authority is a step ahead as it has embraced both a benefit-sharing approach as well as opening limited access to its PA resources - though this is still limited to a few PAs (Moyowosi, Ugalla, Rukwa, Uwanda, and Kilombero Game Reserves). Currently, TAWA has a total of 28 Game reserves across the country. If it could consider opening limited access to resources in all these 28 PAs, then the impact of PAs on the livelihoods of local communities would be enormous, demonstrating further its strong commitment to integrating local communities into biodiversity conservation. But the focus of NCAA and TANAPA has been predominantly on the benefit-sharing approach. They have not considered opening limited access to PA resources, despite their relevance. This raises the question whether NCAA and TANAPA are really determined to integrate the needs of local communities into biodiversity conservation, and

highlights a major gap in efforts to attract the support of local communities in conservation in Tanzania. Currently, TANAPA has a total of 22 national parks countrywide, and NCAA has one. If, for instance, these 29 PAs could also allow limited access to their resources, obviously they would do far more to the livelihoods of the local communities in terms of poverty reduction, and consequently make a significant contribution to the lives of local communities in Tanzania.

It is, however, important to note that the decision by NCAA to allow communities to live and graze their livestock within the Ngorongoro conservation area (NCA) does not perfectly fit in this context. The establishment of NCA was a bit unique, based on a multiple land-use model for which the area was created to accommodate both conservation and human livelihoods. Pastoralists were allowed to move freely with their livestock within NCA to access pastures and water sources. There was even a special body (Pastoral Council) that oversees and presents pastoralists' concerns regarding grazing rights, land use, and conservation policies. So their access to the areas was not limited as this approach suggests.

Further, in supporting the livelihoods of fishers, TAWA, through the management of Kilombero Game Reserves, recently spent TZS 66,078,500/= in total (equivalent to approximately USD 25,500 at an exchange rate of 1 USD = 2,592 TZS) on the construction of a local fish market (Plate 2) at Kivukoni in Ifakara and renovating its toilet and setting up other amenities. Today, fishers, who undertake their fishing activities in the reserve, have a better marketplace to meet customers and sell their catch, with fairly improved amenities (Plate 2).



**Plate 2: A Newly Constructed Fish Market at Kivukoni in Ifakara**

**Source:** Kilombero Game Reserve Management Zone Plan

Apart from solidifying relations with adjacent communities and improving local livelihoods, opening limited access to PA resources can be a sustainable source of revenue generation for the protected area itself and the government at large. For the first time on record, statistics from Uwanda Game Reserve, for example, indicate that in 2021, when the practice was first introduced in the reserve, the management collected TZS 691 million (USD 266,590) as fees from fishing activities. The amount increased to TZS 1.04 billion (USD 385,803) in 2023. Still, there is a possibility for TAWA to collect more revenues if the practice is well planned and managed, including a consideration for allowing the same or similar activities in other protected areas under its jurisdiction. As Fyumagwa (2012) suggests, the integration of local livelihoods into conservation requires proper planning and design, coupled with appropriate research before, during, and after the integration. This is useful to evaluate and monitor

the integration and reduce the negative impacts on biodiversity conservation.

But, it appears the management of PAs in Tanzania embraces threat-based conservation rather than focusing more on managing the perceived threats of the integration of local livelihoods into conservation. In other words, they are being conservative with a defensive kind of conservation. Document analysis, for example, revealed that in the past, TANAPA allowed limited access to firewood in one of its protected areas, Udzungwa Mountains National Park. Local communities were allowed to enter the park and collect firewood - dead trees only. However, the practice was officially prohibited in 2011 due to difficulties in dealing with associated logistical challenges. This is what is described by Sayer (2009) as embracing a defensive kind of conservation or threat-based conservation, rather than managing the associated challenges. This places managers of PAs in Tanzania in a



permanently defensive mode of thinking and acting in a way that reflects resistance to the integration of conservation and local livelihoods. But, in reality, the challenges these PAs face today (rapidly increasing human populations, poverty, food security and supply, etc.) require more than ever that conservation and local livelihoods be integrated.

### **Managing PAs in collaboration with communities**

Despite the fact that this approach is important to win local communities' support for conservation, avoid conservation conflicts, and shape relationships between the management of PAs and adjacent communities, its application is still limited in Tanzania, especially for PAs mandated to NCAA, TANAPA, and TAWA.

The results suggest that local communities in Tanzania are not directly involved in managing PAs under NCAA, TANAPA, and TAWA. The level of inclusion of local communities in managing such PAs is minimal, ranging from being merely informers of wrongdoers to passive participation (in which people get involved by just being told what to do or not to do to conserve those PAs). This is partly because such PAs are purely state-owned, in which management responsibility is fully vested in the state through those institutions. There is no partnership between local communities and the state due to the lack of legal rights or institutions that often exist in partnerships (Kellert et al, 2000). With this situation, one could therefore argue that local communities in Tanzania have remained 'observers' and 'recipients' or 'listeners' of what is going on over such PAs though they wish to take part actively in managing the areas. For example, during data collection for this study, one interviewer from TANAPA said,

"To be honest, for Tanzania, it's difficult to directly involve local communities in the management of these areas [protected areas]..... hope you know that they [protected areas] belong to the government. So how do you just invite them [local communities] directly into managing the areas

while they are not employees of the PAs... we don't have any policy or guideline or regulation, no government order or directive whatsoever to follow .....so it's complicated and difficult at the same time! ... of course we do involve them in some situations, ... maybe in future when things change, but for now we just do everything on our own".

However, in recognition of the importance of local communities' involvement and participation in wildlife conservation, Tanzania has embraced the community-based natural resource management model, leading to the establishment of a new category of wildlife protected areas in the country, called Wildlife Management Areas (WMAs). The WMAs are a recent category of wildlife protected areas in Tanzania, established on village lands and are managed and owned by the respective villages. They are created to enable villages to benefit directly from natural resources while participating in conserving them through a formalised community-based natural resources management (Tetra Tech ARD & Maliasili Initiatives, 2013).

The WMAs are meant to generate income for local communities through tourism activities while serving as dispersal areas or buffer zones for wildlife between national parks, game reserves, and village lands, helping to conserve wildlife corridors and habitats while allowing communities to benefit from tourism and sustainable resource use. The Ministry of Natural Resources and Tourism, specifically the Wildlife Division, facilitates the establishment of WMAs in the country. Currently, Tanzania has 22 Wildlife Management Areas (WMAs) officially established across the country. These WMAs allow communities to benefit directly from wildlife resources and enhance communities' involvement and participation in wildlife conservation.

While somehow reinforcing the argument by Haukeland (2011) that local communities have limited capacity to conserve biodiversity (due to certain inherent factors arising from hindrances such as poverty, low level of education – reflected

in limited expertise), TAWA provides technical support and law enforcement – in collaboration with village game scouts. So for Tanzania, the approach ‘Managing protected areas in collaboration with local communities’ does not perfectly fit the state-owned PAs, instead, it applies perfectly well for WMAs, which are purely community-owned PAs. In WMAs, the level of inclusion of local communities in managing the PA, the responsibility for sustainable use of the resources in the PA, management decisions, and ultimately the access to benefits are quite high. So the study results on this approach extend what Kellert *et al* (2000) observed, that the depth of implementation of the approach of managing PAs in collaboration with communities depends on the management systems of the PA in question - whether state, community, private or co-management.

## CONCLUSION

This paper has examined the extent of integration of local communities into biodiversity conservation in Tanzania. The paper has gauged this extent using four major approaches commonly applied by PA managers worldwide (benefit-sharing; mitigating human-wildlife conflicts; opening limited access to park resources; and managing PAs in collaboration with communities) to integrate communities’ needs into biodiversity conservation, under the broad idea of conserving for the people. Evidence from NCAA, TANAPA and TAWA demonstrates that these approaches are important in improving local livelihoods and shaping relationships between the management of PAs in Tanzania and adjacent communities.

While the extent of application of these approaches varies considerably across the three wildlife authorities in Tanzania (NCAA, TANAPA and TAWA), until now the focus of such authorities has been predominantly on the benefit-sharing, mitigating human-wildlife conflicts, and managing PAs in collaboration with communities. The other approach (opening limited access to park resources) has been considered by TAWA only, though its

application remains limited to few PAs of the authority. Yet NCAA and TANAPA have not considered opening limited access to their PA resources, despite being relevant. So it can be underlined that of the three authorities, TAWA is really ‘walking the talk’ when it comes to conserving for the people. The authority has made a major milestone in integrating local communities into conservation in Tanzania. Although the other two authorities (NCAA and TANAPA) have not fully embraced the idea of conserving for the people, this milestone by TAWA signals a shift toward greater integration of local communities in the country’s wildlife sector.

While the findings from these conservation authorities should be considered only within the specific institutional and legal framework of a particular PA, there are important implications that can help to guide conservation policies and management decisions in the Ministry of Natural Resources and Tourism (MNRT) of Tanzania and elsewhere. Threat-based conservation embraced by conservationists places them in a permanently defensive mode of thinking and acting in a way that reflects resistance to allowing limited access to PA resources (Sayer, 2009). Since the inclusion of local communities into biodiversity conservation is crucial for the sustainability of PAs, the conservation authorities in Tanzania, particularly NCAA and TANAPA, need to focus more on managing the perceived threats than being conservative with a defensive kind of conservation.

The findings further highlight the need for the MNRT to put more emphasis on greater integration of local communities into the country’s conservation sector. Opening limited access to PA resources (such as allowing limited access to fuelwood, building materials, and animal fodder, and allowing controlled fishing, beekeeping, etc.) has its impact more at the household, more at the family level. The approach contributes significantly to reducing poverty by improving the economic well-being of individuals and local livelihoods in general. Thus, there is a need for the MNRT to develop

Tanzania's specific models that would integrate local communities into conservation more realistically and practically, since existing conservation frameworks do not really support opening limited access to PA resources, especially for state-owned protected areas.

The study has revealed the extent of local communities' integration into biodiversity conservation in Tanzania by looking at the authorities that are mandated to manage wildlife resources in the country. However, similar studies across forest PAs would be important to provide the basis for comparison between wildlife and forest conservation authorities or agencies in the country and elsewhere. This is important to understand the extent of integration of local communities into biodiversity conservation across wildlife and forest PAs in the country.

It is worth noting that this study focused only on few PAs under NCAA, TANAPA and TAWA, which may limit the generalizability of the findings to other PAs in the country. However, such a limitation should not invalidate the findings of this study, but rather be taken as a basis for improvement in future studies.

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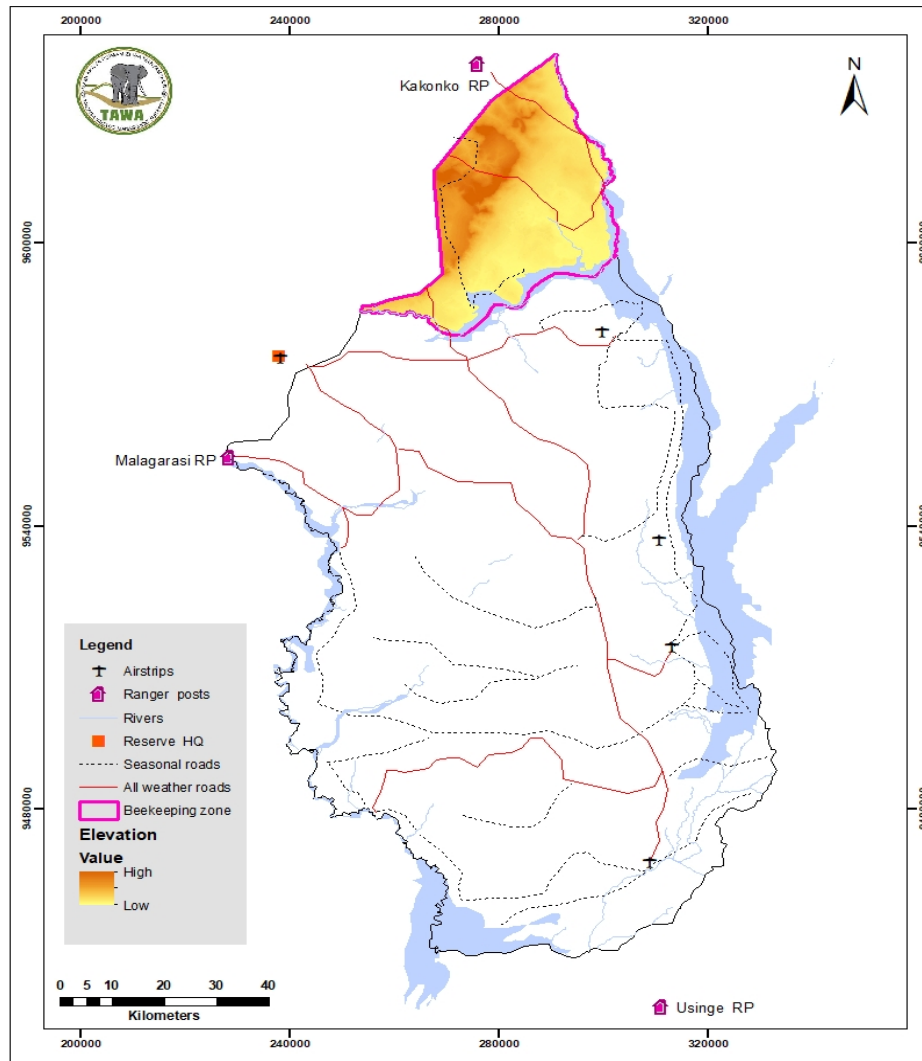
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## APPENDIX 1

**Figure 1: Map of Moyowosi Game Reserve Showing the Location of Beekeeping Zone**



**Source:** Moyowosi Game Reserve General Management Plan