

Wildlife and Wildlife Management in Tanzania

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ABSTRACT: Tanzania, perhaps the most important conservation country on the continent, is rapidly losing habitat and natural resources. Slowing chronic deforestation requires moving away from a charcoal-based energy source and establishing long-term financing mechanisms for natural forests. Effective wildlife protection requires addressing governance and capacity deficiencies throughout the wildlife sector, including police forces, technical skills, and finance. These changes could occur in tandem with the implementation of new natural resource management models, such as community empowerment, organisational payment for ecosystem services, and nongovernmental organization empowerment in law enforcement, increased private-sector involvement, and novel community conservation strategies. Tanzania's wildlife's future seems uncertain—as shown by the present elephant crisis—unless the government addresses governance problems, welcomes innovation, and promotes more international cooperation.

KEYWORDS: Forest, Management, Organization, Tanzania, Wildlife.

1. INTRODUCTION

We assessed changes in wildlife conservation over this period and devised proposals for improving wildlife management in Tanzania based on our 20 years of conservation research in and around Katavi National Park in western Tanzania (TC) and 15 years working with the Wildlife Conservation Society 10 years as Tanzania Director. Our goal is to enhance Tanzania's constructive wildlife management discussion, which is also taking place in neighbouring African countries. Institutions for Wildlife Management: Background[1]–[3].

However, progress has been uneven in other areas of the industry. Wildlife management areas (WMAs) surrounding PAs, for example, are community-managed wildlife buffer zones, corridors, or dispersion regions intended to offer economic incentives via wildlife management. WMAs, which were first established in 2003, are legally and administratively complex (Nelson & Blomley), and capability gaps in financing, governance, transparency, and education at the village level have hampered their creation and implementation. Despite this, they should benefit wildlife; but, since monitoring is inadequate, their capacity to enhance or sustain healthy wildlife populations and improve livelihoods is mixed or too early to evaluate. Reducing the administrative barriers to WMA legislation will undoubtedly aid its development both institutionally and practically[4], [5].

Many game-controlled areas (GCAs), an earlier kind of multiple-use area (minimum total 83,343 km²), have been converted to grazing or agricultural use (Pelkey), and their populations of big animals have plummeted. GCAs with reasonably plentiful wildlife may be changed to GRs, for which protection is greater, while GCAs that are less promising could be handed over to local moneymaking businesses if their status is reassessed by the government within 5 years[6], [7].

1.1 Wildlife outside Pas:

Due to bush meat hunting, which was once confined to forest habitats but is now a problem in savannah as well, and deforestation of savannah and forested areas driven by small-scale farming and livestock grazing in conjunction with tree cutting for charcoal, large mammals are found in fewer parts of the country outside Pas. Efforts by the central, regional, and district governments to halt these activities are hampered by a lack of resources, despite occasional police and military operations. Land-use planning implementation has to be strengthened to ensure community buy-in: plans are presently developed at the national level, but execution is required locally, where plans may not be handed down to, or agreed upon, by villages. Better law enforcement and reforms to the justice system are part of the answer to bush meat and timber cutting. Land clearance, wood extraction, and hunting infractions need immediate criminal investigation, prosecution, and punishment, as well as revisions in village by-laws that enable local authorities to pursue rule-breakers. Because of the inherent complexity of these exploitation techniques and the challenges in bringing various parties to the table, they need external financing and are unlikely to occur soon[8], [9].

SAGCOT (Southern Agricultural Growth Corridor of Tanzania), a multistakeholder partnership that includes the Tanzanian government, private multinational investors, development partners, foundations, research organizations, nongovernmental organizations (NGOs), and farmers' organizations, has recently begun to develop bushland for agribusiness throughout southern Tanzania. Despite the fact that the goal is to assist small-scale farmers in the area and therefore enhance food security, decrease rural poverty, and ensure environmental sustainability, large-scale companies may be the primary benefactors (so-called land grabs).

To avoid the risks of turning vast sections of miombo forest into monocultures and squandering critical water sources, provisions for environmental sustainability are being developed. As the Tanzanian and Finnish governments are presently developing, there is still possibility for building a patchwork of wildlife-friendly working landscapes that shelter (depauperate) species in tiny private forest areas and forest plantations. Such projects, on the other hand, must be subjected to transparent, independent, and obligatory environmental impact assessments (EIAs), as well as public scrutiny, and should be done early in the planning process. In large-scale agricultural operations, transparency is crucial.

Wildlife in National Parks

Following the extinction of big animal populations outside PAs, large mammal populations are currently decreasing inside PAs including within NPs. Poaching within PAs and altered hydrology from water demand outside PAs, as well as a variety of other factors such as habitat modification, wildlife diseases, illegal fishing, and competition with illegal cattle grazing, have all been blamed for the declines. New issues, such as road construction, arise on a regular basis[10].

TANAPA has mainly avoided habitat encroachment because to its relatively well-funded status as a result of photographic tourist revenue; Tanzanian tourism totaled to US\$1.95 billion in 2014. Although the majority of TANAPA's investments are in infrastructure and law enforcement, the degradation of animal populations in certain NPs, particularly elephants (*Loxodonta africana*), indicates that more international NGO participation in co-managing NPs should be considered. The community conservation service and ecological wings of TANAPA get less financing. A more serious commitment to revenue-sharing with local communities would reduce hostility toward some NPs, particularly among pastoralists, and a more flexible strategy of shifting resources quickly between community projects, patrols, education, and wildlife monitoring could help harmonize management with local economies while also contributing to the evaluation of trends in and losses of biodiversity.

Because there is no defined methodology other than collecting meteorological data and maintaining fire records, there have been many efforts to launch ecological monitoring programs in NPs.

Regular foot transect surveys in wooded NPs and yearly vehicle transects in savannah regions are examples of this. Wildlife monitoring is only done on a large scale in the Serengeti, but it may detect risks to populations ahead of time, allowing TANAPA to be more flexible in its yearly budget allocations and effort.

1.2 wildlife Inside GRs:

Despite the comparatively high hunting costs, safari firms still consider Tanzania as a top hunting destination, and there is no interest in outlawing hunting, as in other East African countries. GRs, which are home to much of the legal hunting, are crucial in keeping vast sections of the nation that are unsuited for photographic tourists from being turned to cultivation, and are therefore important for conservation. Large mammal populations in GRs are lower than in NPs, in part because these regions have never had high densities, but also because illicit bushmeat and animal parts hunting is on the rise in under patrolled areas. Cattle are becoming more of an issue. The Wildlife Division (WD) holds jurisdiction over GRs, although this is being transferred to the Tanzania Wildlife Authority, a parastatal organization (TAWA). The embryonic TAWA is presently in discussions with the Ministry of Natural Resources and Tourism about financing and will not be able to establish a plan and timeline until that problem is addressed. Hunting concessions and safari fees from both domestic and foreign hunters remain under the authority of the WD. Many Tanzanians think the WD has to be overhauled in order to enhance governance and transparency, which would be a wonderful chance for TAWA.

Following methods used to control wood cutting, such as the forest stewardship council model, hunting-company certification based on ecological and social standards agreed upon by hunting businesses, local communities, and independent certified certifiers may be investigated. Additionally, opening up hunting blocks for wildlife monitoring may result in science-based hunting limits and decrease poaching activities.

There are exceptions to the WD's long-held policy of not disclosing its data in order to establish sustainable hunting limits.

In Tanzania, the TAWA has the potential to establish a transparent monitoring system that would allow for a fast evaluation of sustainable offtake of all species in each hunting area, which can now only be done inferentially. Furthermore, strong government leadership may be able to remove hunting firms from regions where big animals are vanishing; otherwise, these areas may be considered empty reserves and degazetted.

Because of short concession time frames, limited accountability, and institutional reluctance over independent wildlife monitoring, the private hunting sector, which includes tour operators and hunting companies that use GRs, WMAs, and GCAs, frequently lacks knowledge of wildlife population trends or is unconcerned. For example, if law enforcement patrols in GRs are only conducted during the dry season, when tourist hunting happens, they are frequently insufficient. Following that, retention systems, in which revenue is kept and maintained inside each GR, as well as international NGO involvement in GR patrols, must be seriously considered.

Under the present conditions of dwindling populations of iconic big animal species (e.g., lion and elephant), hunting firms may be able to reduce hunting of these species and enjoy public relations benefits as a result. The number of lions per 1000 km² should be restricted at 0.5. A ban on elephant hunting should be imposed until the present poaching problem is resolved. Under the umbrella of TAWA, the conservation community and hunting companies could collaborate to create new initiatives such as hunters darting elephants to collar them, bird photographic safaris conducted during non-hunting seasons, and more alternative nature-based tourism, such as walking safaris, mountain biking, white-water rafting, fishing, or paragliding, especially in hunting seasons. Outside of Masailand, local involvement in cultural and historical tourism may be boosted. All of these things would help to increase capacity.

To summarize, the hunting industry's long-term viability requires more openness and creative ideas from the WD, as well as more science and stronger incentives to clean up the most corruptible parts inside the business.

Forestry The Eastern Afromontane hotspot (Eastern Arc Mountains, Albertine Rift, and Southern Highlands) and coastal forests are home to much of Tanzania's remarkable biodiversity, with new species being discovered on a regular basis. Since 2012, the Tanzania Forest Service (TFS), previously the Forestry and Beekeeping Division, has been managing FRs totalling 67,740 km² (excluding overlap with other PAs). The TFS concentrates the majority of its efforts on preventing illicit firewood collection and charcoal extraction, as well as encouraging selective timber harvesting, however the organization is chronically underfunded and funds are poorly prioritized, making effective administration difficult. As a consequence, most forests have been severely damaged in the past two decades, resulting in gradual defaunation. A Tanzania Ministry of Natural Resources and Tourism study singled out forestry as being "systematically controlled by local and international private-sector interests in conjunction with top Tanzanian and foreign government officials".

The Tanzania Forest Working Group advocated community involvement in forest management via outreach and lobbying to decrease illicit logging in response to this study, which documented income shortfalls, large-scale corruption, unsustainable harvesting rates, and biodiversity loss. These community-based forest management programs, which are mainly limited to miombo woodland, include the creation of FRs on village property as well as collaborative forest management ventures, in which local communities collaborate with local or national forest authorities to manage forests. Local authorities often allow village lands to be unlawfully chopped and turned to farmland, and they struggle to resist a thriving international wood trade. Despite commendable efforts, Tanzania's forest cover continues to decrease at a rate of 1.16 percent per year, with estimates indicating that 1000 hectares of miombo are lost every day.

In cooperation with foreign experts, the Tanzania Forestry Research Institute (TAFORI) may undertake a biodiversity evaluation of every national and village FR in the country to determine which could be upgraded to NRs (now only a total area of 1974 km²). Many, for example, include important primate species and are wooded water catchment regions (Davenport et al. 2014). Since 1997, NRs have ranged from complete protection to various degrees of multiple use, allowing each NR to be adapted to the local environment. Photographic tourism and walking should be utilized to create income in more-protected NRs, whereas payment for ecosystem services, water, and carbon easements should be used to generate revenue in less-protected NRs (see Green et al. 2012). Currently, district budget shortages cause an institutional mismatch between government knowledge and ability and big-donor policies (such as revenue sharing or land-use planning exercises and their implementation in villages). In summary, the forestry sector is in bad condition

when compared to other wildlife sectors due to a lack of financing and transparency; but, if new NRs are created rapidly, there will be a stronger protective canopy and new income streams.

1.3 Wildlife Trade:

(*Diceros bicornis*) population spread over most of the nation forty years ago, but it plummeted a huge black rhinoceros during the 1970s. Approximately 100 are now surviving in the Ngorongoro Conservation Area and via reintroductions in the Serengeti and Mkomazi National Parks. Due to a huge demand for ivory in the Far East, elephants are currently being lost at an alarming rate, with a 60 percent decline between 2009 and 2014. Trade in ivory between Tanzania and China is regularly featured in the Tanzanian and international press. In 2006, the Selous GR had 70,000 elephants, but just 13,000 in 2013, and the whole elephant population has decreased from about 109,000 in 2009 to 43,000 now. According to a recent study (EIA 2014), the ivory trade's size requires a high degree of complicity, which may explain the lack of political will to address the issue. Prosecutions at all levels, particularly at higher levels, are uncommon, and official statistics indicate that, despite the continued poaching of ivory, few criminals are sentenced to prison for any wildlife crime.

In addition, with the present emphasis on ivory, the worldwide pet trade is thriving, although mostly illegally. For example, a significant traffic in birds to Europe persists (e.g., lorikeets), and endemic populations of rare reptile and amphibian species are being decimated in Tanzanian woods. A robust and unregulated trade in cichlids from Lakes Malawi and Tanganyika exists as well. The CITES rules are disregarded, quotas are established at random, and there has been no monitoring or law enforcement in the past.

If the government pursued and prosecuted wildlife crime groups and lynchpins, significant progress might be achieved (Economist 2014). Minor actors, such as poachers and transporters, are presently affected, while intermediaries and exporters are seldom affected. Furthermore, a full prohibition on wild animal collection for the pet trade may be implemented immediately and finished by 2020. Unsustainable offtake of tens of thousands of individuals of hundreds of different mammal, bird, amphibian, reptile, and fish species could be avoided if all animals leaving Tanzania from 2020 were captivity bred with 0% wild-caught animals. It's noteworthy that there are no freshwater NPs in the world's most species-diverse lakes, Tanganyika and Malawi (Nyasa). To summarize, law enforcement in Tanzania need significant improvement in the near term to avoid the loss of Tanzania's unique species to the worldwide wildlife trade.

2. DISCUSSION

Tanzania is the most significant country for conservation on the continent of Africa (Davenport 2014). It is home to 914 faunal species designated as internationally endangered by the International Union for Conservation of Nature. More than 90% of Tanzania's important tourist industry is reliant on wildlife. Although poverty is a contributing factor in some of Tanzania's conservation issues, it is far from the sole one. The present ivory problem (as well as other elements of illicit wildlife trafficking) is a matter of governance and law enforcement inadequacies (Smith et al. 2015).

The ivory trade's kingpins, dealers, corruptible authorities, and intermediaries are motivated by greed and a low-risk, high-reward opportunity, not by poverty. Time, real political will, and donor consensus will be required to address governance and capacity deficiencies. Better governance is a significant economic and political issue (Gray 2015), yet the future of wildlife is grim unless it is addressed soon.

3. CONCLUSION

Donors could help by advancing mechanisms that reward people and officials financially for protecting wildlife, such as providing monetary incentives for Maasai and Sukuma not to kill lions, rewarding TANAPA and WD officials for transparently monitoring wildlife populations, and ensuring that village game scouts receive direct financial incentives for patrolling WMAs. Similarly, the wildlife sector may benefit from experimenting with innovative natural resource management methods, particularly in terms of capacity development and increasing private-sector participation, such as PA co-management.

National and international NGOs, in particular, should get engaged in the implementation of specific PAs, at least until the global wildlife problem is brought under control. One individual's foundation, for example, funds and protects the Grumeti GR, which is close to Serengeti NP. In addition, new methods for generating PA revenue in hunting blocks should be discussed.

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