THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF NATURAL RESOURCES AND TOURISM

TANZANIA ELEPHANT MANAGEMENT AND ACTION PLAN 2023-2033

DECEMBER , 2023

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LIST OF ABBREVIATIONS AND ACRONYMS

AA	-	Authorized Association (for WMAs)
APU	-	Anti-Poaching Unit
AfESG	-	African Elephant Specialist Group (IUCN/SSC)
AWF	-	African Wildlife Foundation
CBNRM	-	Community-based Natural Resource Management
CBO	-	Community-based Organization
CF	-	Conservation Force
CITES	-	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CoP	-	Conference of Parties
CIMU	-	Conservation Information Monitoring Unit
CWMAC	-	Community Wildlife Management Area Consortium
DC	-	District Council
DO	-	District Officer
DGO	-	District Game Officer
DVO	-	District Veterinary Officer
DW	-	Director of Wildlife
ETIS	-	Elephant Trade Information System
FR	-	Forestry Reserve
FZS	-	Frankfurt Zoological Society
GCA	-	Game Controlled Area
GoTz	-	Government of Tanzania
GEF	-	Global Environmental Facility
GPS	-	Global Positioning System
GR	-	Game Reserve
HEC	-	Human-Elephant Conflict
HWC	-	Human Wildlife Conflict
IUCN	-	International Union for the Conservation of Nature
LE	-	Law Enforcement
MIKE	-	Monitoring Illegal Killing of Elephants
MNRT	-	Ministry of Natural Resources and Tourism
NCAA	-	Ngorongoro Conservation Area Authority
NEMC	-	National Environment Management Council
NGO	-	Non-Governmental Organization
NP	-	National Park

NTAP	-	National Task Force Anti-poaching
NTSCIU	-	National and Transnational Serious Crimes Investigation Unit
PAC	-	Problem Animal Control
PIKE	-	Proportion of Illegally Killed Elephants
SOP	-	Standard Operating Procedure
SRF	-	Systematic Reconnaissance Flight (aerial census)
SADC	-	Southern African Development Cooperation
SUA	-	Sokoine University of Agriculture
TAHOA	-	Tanzania Hunting Operators Association
TANAPA	-	Tanzania National Parks
TATO	-	Tanzania Association of Tour Operators
TAWA	-	Tanzania Wildlife Management Authority
TAWIRI	-	Tanzania Wildlife Research Institute
TC	-	Total Count (aerial census)
TCGs	-	Tasking and Coordinating Groups
TEMP	-	Tanzania Elephant Management Plan
TFS	-	Tanzania Forest Service Agency
TNRF	-	Tanzania Natural Resources Forum
TRA	-	Tanzania Revenue Authority
TRAFFIC	-	Trade Records Analysis of Fauna and Flora in Commerce
UMNP	-	Udzungwa Mountains National Park
UNDP	-	United Nations Development Programme
VIC	-	Veterinary Information Correspondent
VGS	-	Village Game Scout
WCA	-	Wildlife Conservation Act
WCS	-	Wildlife Conservation Society
WFCTF	-	Wildlife and Forest Crimes Taskforce
WD	-	Wildlife Division
WMA	-	Wildlife Management Area

GLOSSARY

Adaptive Management	A process that can improve management practices incrementally by implementing plans in ways that maximize opportunities to learn from experience.
Convention on Biological Diversity	An international legal instrument for the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources that has been ratified by 196 nations.
Convention on International Trade in Endangered Species of Wild Fauna and Flora	An international agreement, signed by 184 parties, designed to ensure that international trade in animals and plants does not threaten their survival in the wild.
Dispersal area	An area habitually used by wild animal species for feeding, laying, storing eggs, rearing or feeding their young and includes breeding places.
Elephant Range	Natural habitat within and outside protected areas that harbour African elephants' populations.
Ecological carrying capacity	The maximum number of individuals that can be supported by the resources of a specific area in the medium term.
Ecosystem	A complete community of living organisms and the non-living materials of their surroundings namely plants, animals, micro-organisms; soil, rocks, minerals; as well as surrounding water sources and the local atmosphere.
Home range	The area in which an individual usually resides and moves in search of water, food and shelter.
Human-elephant conflict	Any human-elephant interaction which results in negative effects on human social, economic or cultural life, elephant conservation, or on the environment.

Hunting quota	A maximum number of individuals of a given animal species allocated for hunting in a particular season in a specified block in Game Reserves, and other areas (GCAs, OAs, WMAs, etc).
Migratory route	An area of a strip or zone of land used by herds of wild animals during their migratory cycle or seasonal movements.
Protected Area	An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and natural and associated cultural resources and managed through legal or other effective means (IUCN)
Range State	A Country or State in which African elephant currently or historically occurred.
Translocation	Movement of individual elephants from one area to another, either to improve chances of survival, to establish new populations, to keep established populations productive, or to introduce new traits into a population or to better protect them from poachers
Wildlife corridor	An area of land used by wild animal species in their seasonal movement from one part of the ecosystem to another in search of basic requirements such as water, food, space and habitat
Wildlife Division	A division under the Ministry for Natural Resources and Tourism responsible for overseeing the development of policies, legislations, regulations, and strategies to foster the long-term conservation of wildlife resources.
Wildlife Management Area (WMA)	Wildlife Management Areas (WMAs) is a form of Community Based Natural Resources Management (CBNRM) approach, aiming at integrating and fostering sustainable rural livelihoods, in line with improving wildlife conservation.

ACKNOWLEDGMENTS

The Ministry of Natural Resources and Tourism expresses its sincere appreciation to the diverse conservation partners, both national and international, for their invaluable material and technical support throughout the process of developing the Tanzania Elephant Management Plan for the period of 2023-2033. The Ministry recognizes the indispensable contributions made by these partners in shaping the content and structure of the plan. In particular, the Ministry wishes to extend its gratitude to Conservation Force and Wildlife Conservation Society for their unwavering commitment to partnering with Tanzania in the development and production of this significant plan. Their dedication to the elephant conservation not only within Tanzania but also in the broader region is truly commendable. Their expertise and collaboration have played a crucial role in ensuring the plan's effectiveness and comprehensiveness. Furthermore, the Ministry acknowledges the vital contributions of development partners, Non-Governmental Organizations (NGOs), and Intergovernmental Organizations (IGOs) in the formulation, review, and production of this Plan. The involvement of these organizations, along with conservationists and elephant biologists, has greatly enriched the plan's content and provided valuable insights from various perspectives. The Ministry anticipates that the commitment, enthusiasm, and professionalism demonstrated by all stakeholders involved in the development and production of the plan will transcend into the implementation phase. It is through the collective dedication of all parties that the objectives outlined in the plan can be effectively realized. As the plan enters its implementation stage, the Ministry remains confident that the collaborative spirit and expertise showcased this far will continue to guide and propel the successful execution of the Tanzania Elephant Management Plan. Together, we shall ensure the preservation and conservation of elephants, safeguarding their existence for the present and future generations.

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Dr. Hassan Abbasi

PERMANENT SECRETARY

FOREWORD

Tanzania is renowned for its remarkable biodiversity, proudly hosting a significant population of African savannah elephants (Loxodonta africana) that holds global importance. Regrettably, this population experienced a distressing decline in numbers since 2009, primarily attributed to a devastating surge in poaching activities that plagued the country from 2009 to 2014. Nevertheless, through unwavering dedication and resolute actions taken by the Government since 2014, the situation has shown signs of stabilization and growth. To combat the detrimental impact of poaching and safeguard the welfare of wildlife resources and biodiversity beyond the boundaries of National Parks and the Ngorongoro Conservation Area, the Government established a new agency named the Tanzania Wildlife Management Authority (TAWA). Furthermore, the Government has effectively implemented the National Strategy to Combat Poaching and the Illegal Wildlife Trade, which was in effect from 2014 to 2019, and has begun implementing the revised Strategy 2023-2033. The Government has also demonstrated its commitment to addressing the issue of human-wildlife conflicts which is evidently heightened by the human-elephant conflicts (HEC) through the implementation of the National Human-Wildlife Conflict Management Strategy, 2020 - 2024. This strategy aims to mitigate conflicts between humans and wildlife, ensuring the coexistence of both parties while conserving the natural habitat used by the migratory wildlife particularly elephants outside core protected areas (the wildlife corridors). In recognition of the invaluable contributions made by rural communities to the conservation of wildlife, the Government has enacted various regulations which aim at providing enhanced benefits to rural communities, serving as incentives to encourage their active participation in wildlife conservation efforts. Through the concerted efforts and initiatives mentioned above, the Government strives to reverse the decline in elephant populations, protect the country's rich wildlife resources, and foster sustainable coexistence between humans and wildlife.

The conservation and management of elephants remains a paramount concern, necessitating a unified approach involving the Government and diverse conservation institutions. Following a period of comprehensive reforms aimed at combating poaching and modernizing the wildlife sector, wherein the previous Management Plan (2010-2015) continued to be enforced, it became evident that a new National Elephant Management Plan was imperative. This plan would furnish an efficient framework to safeguard our elephant populations and implement sustainable strategies for addressing elephant conservation challenges. The formulation of the new Plan coincided with the onset of the COVID-19 pandemic, which precipitated a substantial decline in tourism arrivals and inflicted a severe blow to the country's economy. Despite these challenging circumstances, it is essential to persist in our commitment to elephant conservation and adapt our approaches to the prevailing crisis. It is vital to acknowledge that the

development of the new National Elephant Management Plan necessitates active collaboration among the Government, relevant stakeholders, and conservation institutions. By aligning our efforts and resources, we can confront the emerging obstacles and capitalize on this opportune moment to devise innovative solutions that ensure the long-term well-being of our elephant population and simultaneously support the recovery of the tourism sector. Together, we shall navigate these extraordinary circumstances, strengthen our resolve, and forge ahead in our mission to secure the future of elephants in Tanzania.

The purpose of this Management Plan is to provide a comprehensive overview of key elephant management issues prevalent in Tanzania, along with their associated impacts. Moreover, it aims to present existing and potential solutions that can enhance the efficacy of future elephant management endeavours. The plan gives due consideration to critical aspects such as the illegal utilization of elephants, human-elephant conflict (HEC), habitat loss, and management options for addressing these concerns. The active involvement of multiple stakeholders, including a crucial increase in sustainable utilization benefits for rural communities, is vital in tackling these challenges. In light of the aforementioned objectives, I urge all stakeholders to wholeheartedly engage in the implementation of the National Elephant Management Plan, 2023-2033. It is through collective efforts and collaborative actions that we can ensure the survival and long-term existence of elephants, while simultaneously reaping the associated benefits for both present and future generations.

Therefore, I extend a sincere invitation to all concerned parties to actively participate in this endeavour, thereby demonstrating our unwavering commitment to the preservation of elephants and the invaluable contributions they make to our society. Together, we can pave the way for a sustainable future, where elephants and humans thrive, while elephants' presence continue to enrich our natural heritage.

Statement of Endorsement

I hereby endorse this Elephant Management Plan and call upon all stakeholders to support its Implementation.

Angellah J. Kairuki (MP)
MINISTER FOR NATURAL RESOURCES AND TOURISM

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1.0. INTRODUCTION

1.1. Background to the Tanzania Elephant Management Plan

Tanzania takes great pride in its abundant and diverse wildlife populations, reflecting its unwavering commitment to conservation and the remarkable success of its conservation programs. The country has earned international recognition for its outstanding performance in megafauna conservation, ranking third globally (*Lindsey et al., 2017*). Additionally, the country boasts the distinction of being home to the third-largest population of African Savannah Elephants (*Loxodonta africana*) on the continent. To ensure the preservation of its precious wildlife, Tanzania has established a robust network of protected areas. This network covers approximately 32.5% of the country's total land dedicated to wildlife conservation within protected areas of different categories ranging from National Parks to Community Wildlife Management Areas. These protected areas comprise a variety of categories, including National Parks, the renowned Ngorongoro Conservation Area, Game Reserves, Game Controlled Areas, and Wildlife Management Areas (Table 1). The National Parks serve as havens for diverse ecosystems and iconic species, offering them a secure habitat in which to thrive. The Ngorongoro Conservation Area, in particular, holds significant importance due to its exceptional biodiversity. Furthermore, Game Reserves, Game Controlled Areas, and Wildlife Management Areas play a crucial role in wildlife conservation efforts, facilitating sustainable management practices and fostering harmonious interactions between wildlife and local communities. By dedicating substantial portions of land to wildlife conservation, Tanzania demonstrates its resolute commitment to conserving its natural heritage for future generations. The government's efforts in establishing and maintaining this extensive network of protected areas underscore its dedication to safeguarding wildlife populations and promoting sustainable conservation practices. Tanzania's remarkable achievements in wildlife conservation serve as a testament to the country's ongoing commitment to environmental stewardship and sustainable development. Through these conservation initiatives, Tanzania strives to ensure the long-term survival and well-being of its wildlife, while also recognizing the significant benefits that arise from their existence, including ecological, economic, and cultural values.

Table 1: Protected areas in Tanzania (Source. Wildlife Division)

S/N	Protected Area	Number	Areas (Km^2)	% of country surface
	Country Land Surface 947,300 km^2			
1	National Parks	21	104,661.5	11.04
2	Ngorongoro Conservation Area	01	8,292.0	0.9
3	Game Reserves	29	98,687.1	10.2
4	Game Controlled Areas	23	42,600.0	4.7
5	Wildlife Management Areas	38 (22 Gazetted)	28,223.1	3
6	Forest Reserves	419		
7	Nature Reserves	20		

Notwithstanding their wide distribution, elephants rely heavily on designated protected areas (PAs) for their sustenance, albeit their presence can also be observed in other ecologically significant habitats such as corridors, dispersal areas, and Ramsar sites located outside of PAs. It is worth noting that the estimated range of elephant occupancy encompasses approximately 41% of Tanzania's total land area (Thouless *et al.,* 2016). Elephants hold considerable significance for Tanzania due to various factors (Hariohay *et al.,* 2018; Ntalwila *et al*., 2019). They represent a "keystone species" that exerts a substantial influence on the structure and functioning of the ecosystems they inhabit. Additionally, as one of the "big five" species, elephants contribute to the nation's popularity as a favoured wildlife tourism destination, thereby offering social and economic benefits through their consumptive and non-consumption utilization. Moreover, elephants have been a subject of conservation concern, having witnessed substantial population declines in Tanzania and other regions of Africa, primarily due to the detrimental impacts of poaching activities targeting ivory.

In pursuit of elephant conservation, the Government has undertaken several measures, incorporating the adoption and implementation of key policies and plans. Notable among these are the Policy for Management of the African Elephant (1994), Elephant Management Plan (2001), and the Elephant Management Plan 2010, which was intended to remain in effect until 2015. It is noteworthy that the country has continued to implement this plan in conjunction with the African Elephant Action Plan (CITES, 2010), as the majority of the outlined actions in the Plan remain relevant and applicable to the present day. These accomplishments encompass various aspects related to elephant conservation and while numerous achievements exist, a few notable ones deserve mention since 2016 namely;

a. Developed and operationalized the strategy to Combat Poaching and the Illegal Wildlife Trade (2014-2019) which has enabled the country to control poaching of elephants and illegal trade in ivory;

b. Developed and implemented the National Ivory Action Plan (2014-2018) in line with Step 4, paragraph e) of the NIAP non-binding guidelines provided in Annex 3 to CITES Resolution Conf. 10.10 (Rev. CoP19). In 2018, the Country exited the NIAP process in accordance with Step 5, paragraph d), of the non-binding guidelines provided in Annex 3 to CITES Resolution Conf. 10.10 (Rev. CoP19);

c. Operationalized the National-Human Wildlife Conflict Management Strategy (2020-2024) which mostly addresses Human Elephant Conflicts and promotes coexistence, management, as well as the sustainable utilization of wildlife;

d. Developed and implemented the Wildlife Conservation (Wildlife Corridors, Dispersal Areas, Buffer Zones and Migratory Routes) Regulations, 2018 which secure the important habitats for elephants;

e. Reviewed the Wildlife Conservation (CITES Implementation) Regulations, 2005 and enacted new regulations of 2018 which provide for stricter measures for the illegal trade in ivory and other CITES-listed species;

f. Developed the Wildlife Conservation (Management of Wildlife Captive Facilities) Regulations, 2020. These regulations allow establishment of the open ranches within a distance of one kilometre from the borderline of protected areas. This allows for the expansion of the dispersal areas for elephants and opening up of corridors by allowing land use that complements conservation for wildlife;

g. Revised the Wildlife Management Areas regulations of 2012 and enacted new regulations of 2018 that increased benefits to rural communities living alongside the wildlife as an incentive for the conservation of wildlife;

h. Developed and implemented the “Combating poaching and the illegal wildlife trade through an integrated approach”[1] project whose main objective is to support the implementation of the National Strategy to Combat Poaching and Illegal Wildlife Trade. The project is implemented in collaboration with UNDP and financed by GEF and UNDP, and;

i. Conducted 11 elephant and large mammal censuses in major ecosystems between 2018 and 2023 which have helped to inform management authorities and the government at large about the health of major ecosystems harbouring the majority of the elephant populations.

1.2. Plan formulation process

The Ministry of Natural Resources and Tourism (MNRT) initiated the planning process with the objective of formulating a comprehensive ten-year Elephant Management Plan for Tanzania (TEMP). To accomplish this task, a Technical Committee was established, composed of representatives from key institutions including the Tanzania Wildlife Research Institute (TAWIRI), Tanzania National Parks (TANAPA), Tanzania Wildlife Management Authority (TAWA), and Ngorongoro Conservation Area Authority (NCAA), all operating under the supervision of the Wildlife Division (WD) within the MNRT.

The Technical Committee undertook an extensive process of data collection and analysis to inform the development of the TEMP. This involved gathering current information on elephant population status, demographic patterns, prevailing threats, the state of wildlife corridors, and levels of human-elephant conflicts in Tanzania. To ensure the plan's alignment with national interests and priorities, the Committee conducted consultative meetings, reviewed published and unpublished reports, and examined existing conservation strategies and plans. Furthermore, management plans for elephants in Southern African Development Community (SADC) countries, particularly Botswana, Namibia, Zambia, and Zimbabwe, were referenced to incorporate relevant ideas tailored to the Tanzanian context.

Throughout the planning process, the Technical Committee convened on four occasions (August 2019, September 2019, August 2020 and May 2021) to draft the Management Plan. The draft plan was then presented to the Ministry and the heads of wildlife-related parastatal institutions operating under the MNRT. In September 2022, an editorial team was convened by the Director of Wildlife - MNRT to produce an advanced draft of the plan. Subsequently, in July 2023, stakeholders' validation workshop took place to gather comments and feedback on the Action Plans outlined in the TEMP. The inputs received during the workshop were synthesized and incorporated to produce the Final Draft, that was submitted for approval to the MNRT Management in November 2023, which was ultimately approved for signing by the Minister.

1.3. Range and Status of Elephant Populations in Tanzania

1.3.1. Range of Elephant population

The geographical extent of the elephant range in Tanzania has exhibited a decrease over time, with documented figures indicating a reduction from 458,315 km^2 (equivalent to 49% of the country's area) in 1998 to approximately 389,921 km^2 (41%) in 2015 (Barnes *et al*., 1999; Thouless *et al*., 2016) (Fig.

1). It is essential to acknowledge that interpreting this range contraction solely as a decline in distribution necessitates careful consideration, as it could also be attributed to advancements in knowledge and improved methodologies employed in data collection. Nonetheless, there is a growing concern regarding the loss of potential habitat, including corridors, dispersal areas, and buffer zones surrounding protected areas (PAs), which were previously supportive of elephant populations (Section 2.1).

The encroachment of anthropogenic activities, characterized by increasing human presence and associated developments, has contributed to the diminishing availability of suitable habitats for elephants. Such activities are often incompatible with the ecological requirements of elephants, leading to the encroachment and eventual loss of critical areas that serve as corridors, dispersal zones, and protective buffers. The implications of this habitat loss extend beyond the immediate ecological context, as it exacerbates the potential for the increased human-elephant conflicts. As elephants are compelled to navigate through shrinking and fragmented landscapes, their interactions with human settlements and agricultural activities intensify, posing challenges for both wildlife conservation and human well-being.

Addressing the threats posed by these escalating anthropogenic activities demands concerted efforts in ensuring sustainable land use practices, effective land management, and promoting harmonious coexistence between humans and elephants. Strategies encompassing comprehensive land-use planning, strengthening protected area management, and fostering community engagement can play a pivotal role in mitigating habitat loss and minimizing the potential for human-elephant conflicts. Furthermore, bolstering public awareness and promoting education regarding elephant conservation and the significance of preserving critical habitats are instrumental in cultivating a shared responsibility toward safeguarding these majestic creatures and their habitats.

The Government remains committed to addressing the challenges associated with elephant habitat loss and human-elephant conflicts. Through collaboration between relevant ministries, departments, and agencies, integrated approaches and policy frameworks are being developed and implemented to promote sustainable development, protect key elephant habitats, and ensure the long-term survival and coexistence of elephants and communities. The conservation of elephants, as well as the preservation of their habitats, represents a crucial aspect of country's broader commitment to biodiversity conservation and sustainable natural resource management.

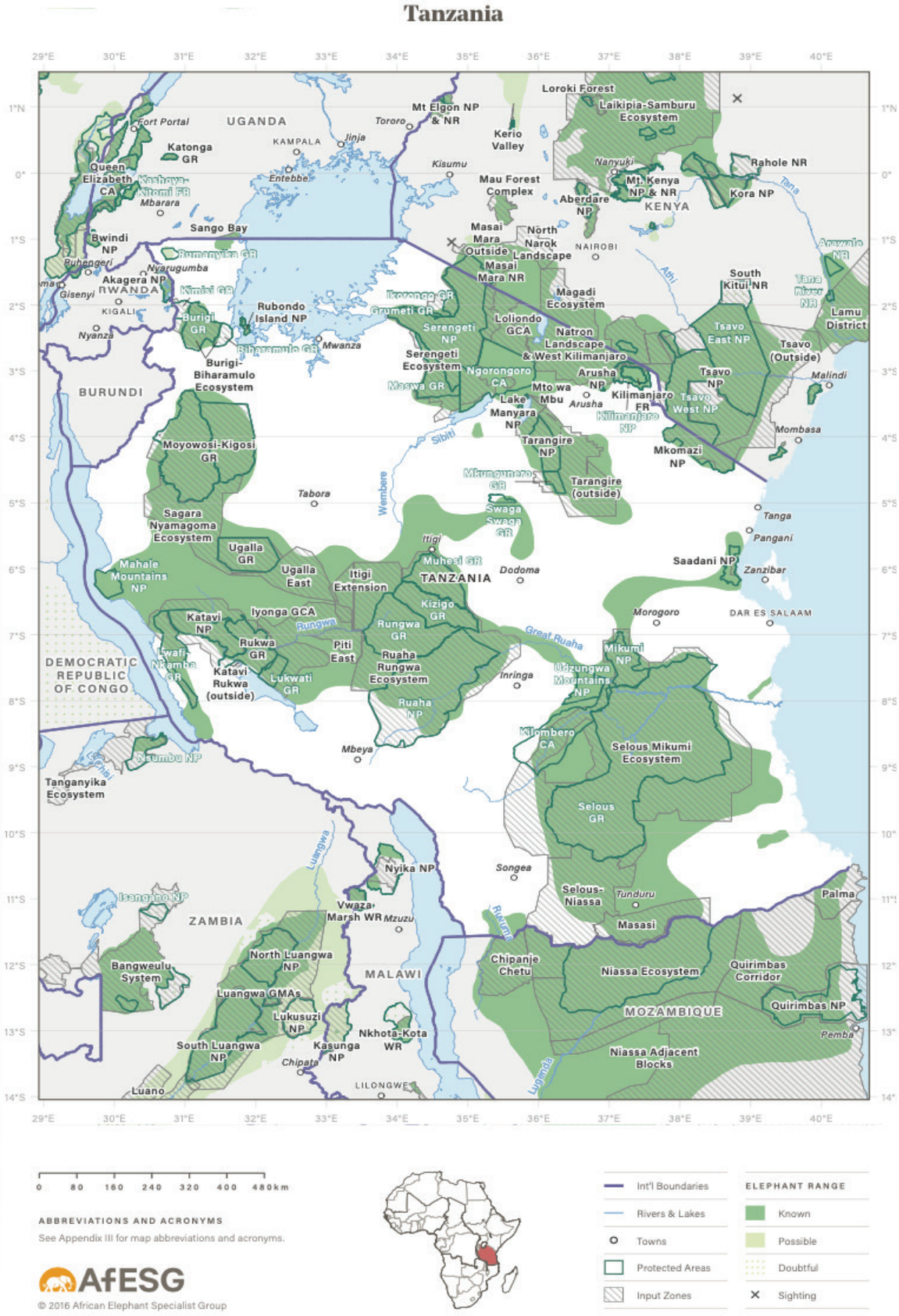


Figure 1. Distribution of elephants in Tanzania in 2015. The Map was adapted from African Elephant Status Report 2016 (Thouless *et al.* 2016).

1.3.2. Status of the Elephant population

From 2018 to 2022, the Government conducted eleven aerial censuses with the objective of updating the current status of elephant populations in the country. These censuses were executed using two primary techniques: Total Count (TC) in the Serengeti, Ibanda-Kyerwa, and Rumanyika-Karagwe ecosystems, and Systematic Reconnaissance Flights (SRF) in the Tarangire-Manyara, Nyerere-Selous-Mikumi, Ruaha-Rungwa, Katavi-Rukwa, and Mkomazi ecosystems. To ensure comprehensive coverage, any recent surveys or estimates of elephant populations that were not covered in the aforementioned ecosystems were also taken into account. By incorporating these additional data, the most accurate estimate of the total elephant population was determined to be 56,425 ± 4,207 individuals (Table 2 & Figure 2). This figure represents a slight increase compared to the previous estimate of 50,433 ± 8,502 individuals in 2015.

Table 2: Elephant population estimates in Tanzania by surveyed area. (Source: TAWIRI)

SN	Major Ecosystem	Season	Method	Year	Surveyed area (km^2)	Estimated population size	SE	Common SE
1	Serengeti Ecosystem	Dry	TC	2020	23,639	7,061	0	
2	West Kilimanjaro/ Lake Natron	Dry	TC	2021		219	0	
3	Nyerere-Selous-Mikumi	Dry	SRF	2022	101,537	20,006	1,793	
4	Katavi-Rukwa	Dry	SRF	2021	31,404	4,132	1,102	
5	Ruaha-Rungwa	Dry	SRF	2021	52,690	15,751	1,902	
6	Mkomazi*	Dry	SRF	2019	2,792	1,273	150	
7	Tarangire-Manyara (wet)	Wet	SRF	2019	16,523	4,538	987	
8	Moyowosi-Kigosi	Dry	SRF	2014	59,946	2,953	2942	
9	Burigi-Chato	Dry	TC	2014	110	110	0	
10	Arusha NP		Best Guess	2014	322	200	0	
11	Kilimanjaro NP		Best Guess	2014	1712	100	0	
12	SwagaSwaga GR		Best Guess	2016	871	60	0	
13	Rubondo Island NP(Mwambola *et al.*)		Dung count	2016	210	102	35	

SN	Major Ecosystem	Season	Method	Year	Surveyed area (km²)	Estimated population size	SE	Common SE
14	Saadani NP (minimum number) **		TC	2014	2,502	30	0	
15	Mahale Mountains NP							
16	Udzungwa Mountains NP							
17	Wami-Mbiki GR							
Total elephant population estimate						56,425		4,207
Total elephant population estimate _Lower limit						52,218		
Total elephant population estimate _Upper limit						60,632		

* Mkomazi National Park shares an elephant population with the much larger Tsavo National Park in Kenya, and elephant numbers are affected by movements across the border.

**A single herd of 30 elephants was seen in the coastal Saadani NP in 2014 (TAWIRI, 2015a)

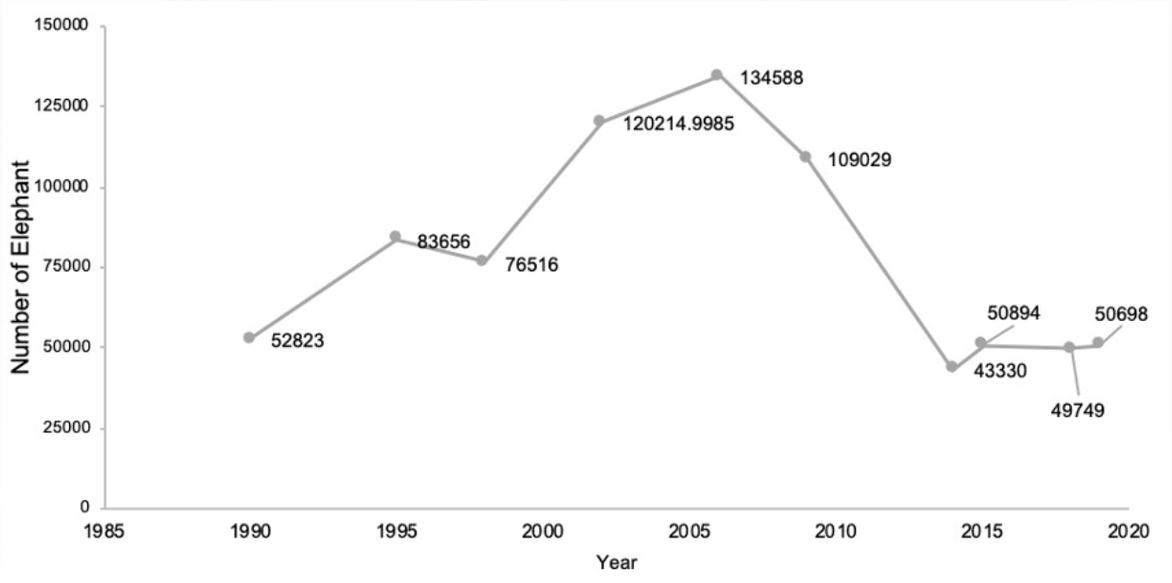


Figure 2: Elephant population trend 1989-2022. Data source: TAWIRI

1.4. Policies and Legislation related to Elephant conservation

Tanzania has an excellent record in terms of conservation policy and action, supported by a strong legal framework. Wildlife conservation laws date back to 1891 when provisions were enacted to protect certain species, including

elephants, were implemented by regulating the off-take, hunting methods, and wildlife trade.

1.4.1. Policy, Legal and regulatory frameworks

Wildlife management in Tanzania is guided by the Wildlife Policy of 2007. The Policy among others, focuses on the protection, conservation, and sustainable use of wildlife resources. It advocates for the conservation of wildlife and their habitats, managing and developing wildlife and wetland resources of biological importance, and preventing illegal wildlife use. Further, the Policy focuses on promoting greater public awareness and understanding of wildlife-related issues and generating sufficient revenue from tourism activities.

The government enacted Wildlife Conservation Act No. 5 of 2009 RE 2022 (WCA) to provide the legal and institutional framework for establishing and managing protected areas mainly Game Reserves, Game Controlled Areas, Wildlife Management Areas, wildlife corridors and dispersal areas. Besides the WCA No. 5 of 2009, some institutions' specific laws govern wildlife conservation in their jurisdictions. These include the Tanzania National Park Act (Cap. 282 RE 2002), which provides for the establishment, control, and management of national parks and related matters; the Ngorongoro Conservation Area Act (Cap 284 RE2002), which makes provision for conservation and development of natural resources therein and for related matters; Tanzania Wildlife Research Institute Act (Cap 260), which establishes the Tanzania Wildlife Research Institute and provide a mandate to conduct wildlife research, wildlife monitoring and disseminating information to wildlife authorities and the general public. Enforcement of these Acts has and continues to facilitate the conservation and sustainable utilization of wildlife resources.

Further, the government has enacted several regulations including;

a. The Wildlife Conservation (Tourist Hunting) Regulations, 2015 as amended in 2017, 2019, and 2020 to regulate tourist hunting/safari hunting in Tanzania,
b. The Wildlife Conservation (Non-Consumptive Wildlife Utilization) Regulations, 2016 to regulates non- consumptive utilization in areas outside NP and NCA,
c. The Wildlife Conservation (Wildlife Management Areas) Regulations, 2018 as amended in 2020 to manage wildlife in Community Wildlife Management Areas,
d. The Wildlife Conservation (Wildlife Corridors, Dispersal Areas, Buffer Zones and Migratory Routes) regulations, 2018 for designation, management

and administration of Wildlife Corridors, Dispersal Areas, Buffer Zones and Migratory Routes,

e. The Wildlife Conservation (Dangerous Animals Damage Consolation) Regulations, 2011, Local Government Laws (Miscellaneous Amendments Act No. 6 of 1999), Tourism Act (2008) for consolation of victims of human-wildlife conflicts, and

f. The Wildlife Conservation (CITES Implementation) Regulations of 2018, as amended in 2020 provide effective implementation for international trade regulation for endangered wildlife fauna and flora.

Several strategies have been developed for the conservation and protection of wildlife, including the National Biodiversity Strategy and Action Plan (2015–2020), the National Human-Wildlife Conflict Management Strategy (2020-2024), the Conservation and Management Plan for Black Rhino in Tanzania (2019-2023), and the National Antipoaching Strategy (2023–2033) and the National Wildlife Management Areas Strategy (2023-2033). Furthermore, the country has ratified and is implementing the Convention on Biological Diversity (CBD), Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Conservation of Migratory Species of Wild Animals (CMS) and United Nations Framework Convention on Climate Change (UNFCCC). These conventions are relevant to elephant management because they protect critical habitats for elephants and regulate the international trade for elephants.

Likewise, the Government has ratified and enforced several agreements and protocols such as the Lusaka Agreement on Cooperative Enforcement Operation Directed at Illegal Trade in Wild Fauna and Flora (LATF), and the Southern African Development Community (SADC) Protocol on Wildlife Conservation and Law Enforcement. These agreements remain instrumental in the protection of elephants by combating poaching and illegal trade across the Region.

1.4.2. Wildlife Law Enforcement in Tanzania

The protection and conservation of wildlife is the mandate of the government, with the support of other stakeholders. This mandate is executed by Tanzania National Parks (TANAPA) in National Parks (NP); Ngorongoro Conservation Areas Authority in Ngorongoro Conservation area (NCA); Tanzania Wildlife Management Authority (TAWA) in all areas outside NP and NCA and Authorized Associations responsible for the protection of wildlife in Community Wildlife Management Areas. Tanzania is also collaborating with regional (LATF) and international (INTERPOL) in combating poaching and illegal wildlife trade.

In intensifying wildlife law enforcement, the Government has implemented the following measures:-

- Establishment of the National Taskforce Anti-Poaching (NTAP); A multiagency task-force responsible for achieving highly coordinated and intelligence-led joint anti-poaching activities. The task-force is hosted at the Wildlife Division (WD) and comprises members from WD, wildlife and forest institutions (TAWA, TANAPA, NCAA, TFS), security and law enforcement agencies such as TISS, TPF, NPS, TPDF, and PCCB. Other members are being co-opted on a need basis (Immigration, Customs, TCAA, and Prisons). The taskforce has five sections namely Intelligence, Operations, Investigations, Prosecutions, and Logistics and Standing Operating Procedures (SOPs) and operates in accordance with the approved operation guidelines by the National Wildlife and Forest Security Committee. NTAP is dealing with poaching levels 4 and 5.
- Establishment of Tasking and Coordination Groups (TCGS) to date in ten (10) key ecosystems (Tarangire-Manyara, Selous North, Selous South, Kilimanjaro, Ruaha-Rungwa, South West Serengeti, North East Serengeti, Burigi-Biharamulo, Ugalla-Moyowosi, and Katavi-Rukwa). Of these, seven (7) TCGs (Tarangire-Manyara, Selous North, Selous South, Kilimanjaro, South West Serengeti, North East Serengeti and Katavi-Rungwa) have operational TCGs mainly dealing with poaching level 2 and 3 as defined by the Anti-poaching Strategy (MNRT 2023-2033), i.e., Illegal Hunters and Transporters/Couriers/ Brokers.
- Transformation of wildlife law enforcement into a paramilitary and establishment of the Wildlife and Forest Conservation Service (WFCS). The Service consist of TAWA, TANAPA, NCAA and TFS. These entities are led by the conservation commissioners and are responsible for conservation, management, utilisation, and protection of wildlife, forest, and bee ecosystems and resources.
- Establishment of a Rapid Response Team within each institution (TAWA, TANAPA, NCAA). These teams are deployed to provide for a rapid response with regard to poaching and illegal trade incidences.

Additionally, the government has reviewed the 2014-2019 National Strategy to Combat Poaching and Illegal Wildlife Trade and developed the National Anti-poaching Strategy 2023 – 2033. The new Strategy is aiming at reducing poaching incidences for key-stone species (elephant), reducing bushmeat poaching, reducing domestic illegal wildlife seizure, and obtaining zero international seizure of wildlife products originating from Tanzania by 2033.

2.0. CONSERVATION ISSUES

2.1. Habitat Degradation and Loss

Wildlife populations are currently experiencing adversity due to the escalating trends of habitat fragmentation and degradation. This is compounded by the rapid growth of the human population, necessitating the implementation of integrated solutions. A potential approach to mitigate, the decline of wildlife species is to enhance law enforcement efforts within protected areas while safeguarding identified corridors or migratory routes that facilitate connectivity between these areas and other ecologically valuable habitats. Conserving ecological connectivity is particularly beneficial for elephants and other wildlife species, emphasizing the importance of adopting an ecosystem management approach to landscape management to ensure habitat preservation.

To achieve this objective, it is imperative to minimize the fragmentation of protected areas and/or the remaining natural habitats that are of significant conservation value to wildlife species, with a particular focus on species that exhibit migratory or periodic movement patterns or have wide home ranges, including elephants. However, this cannot be attained if local communities residing adjacent to protected areas are underestimated during the implementation of legislation. Additionally, attention should be given to benefit sharing and the provision of incentives to adjacent communities, aiming to foster their active participation in habitat conservation and the creation of connectivity between protected areas. Moreover, land use plans, human activities, and developmental endeavours at various levels should be compatible with the conservation of natural resources.

The fragmentation and loss of natural habitat, along with the obstruction of wildlife corridors and insufficient incentive mechanisms to maintain such habitats, pose the most substantial long-term threats to wildlife populations (Fig. 4). For instance, a case study conducted in the Wami Mbiki–Saadani (WMS) wildlife corridor reveals a decrease in forest cover, which serves as suitable elephant habitat, by 3.0% between 1998 and 2008 and a further reduction of 20.3% between 2008 and 2018. Overall, the highly suitable elephant habitat decreased by 22.4% from 1998 to 2018, leaving fragmented patches of unprotected areas within the corridor (Ntukey *et al.,* 2022). The loss of natural habitats can be exacerbated by a decline in overall revenues from tourism, including activities such as tourist hunting and photographic tourism.

Given that elephants possess large home ranges and engage in seasonal movements in searching for food and water, including along corridors that historically connected various regions of the country, ensuring connectivity

within the protected area network is crucial. This approach contributes to the maintenance of natural ecological and evolutionary processes across extensive spatial and temporal scales, the preservation of wildlife populations, and the provision of essential ecosystem services that are vital to both elephants' and human livelihoods. In recognition of these considerations, the Government has enacted the "Wildlife Conservation (Wildlife Corridors, Dispersal Areas, Buffer Zones, and Migratory Routes) Regulation (2018)" outlining a demarcation process for these vital corridors. Furthermore, the Government has developed the "Tanzania Wildlife Corridor Assessment, Prioritization, and Action Plan" (MNRT 2022a) to secure 61 identified wildlife corridors, including eight transboundary corridors (MNRT 2022a, Fig 3).

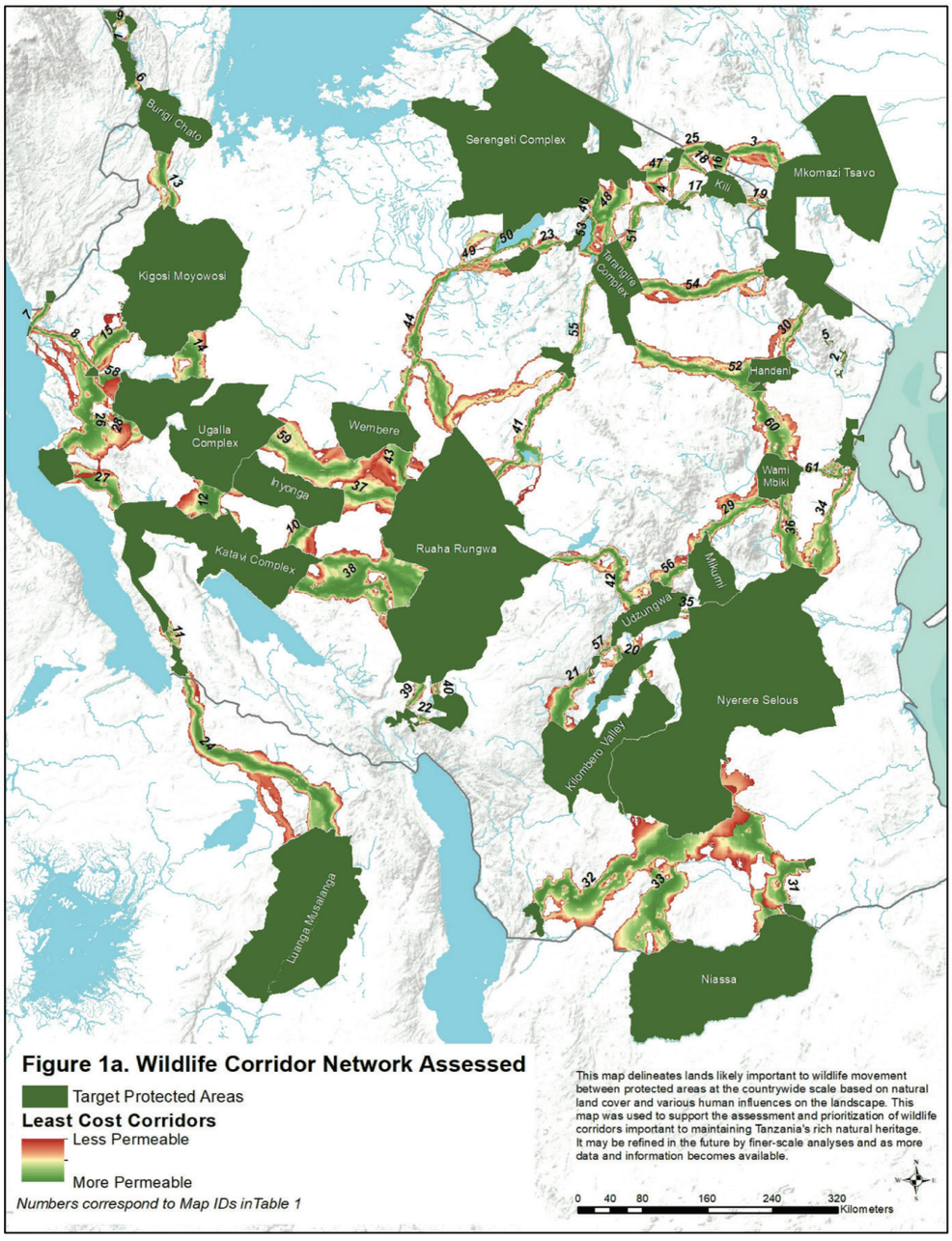


Figure 3. Wildlife Corridors in Tanzania (MNRT)

The rapid human population growth, accompanied by urbanization and resulting habitat fragmentation, is intensifying the isolation of natural areas and wildlife populations throughout the country. Despite elephants continuing to utilize many of these corridors, anthropogenic activities pose significant threats to their existence (Lohay *et al.,* 2020). Research indicates that approximately one-sixth of the wildlife corridors identified in Tanzania in 2009 have been lost due to land conversion, with one-third passing through lands likely to be converted for human use in the near future (Riggio and Caro, 2017). The absence of connectivity renders many protected areas (PAs) insufficient to sustain the forage needs of various wildlife species, consequently contributing to human-elephant conflict. As elephants attempt to access historical parts of their habitat or move along corridors and seasonal routes, they often traverse beyond protected areas and come into contact with agricultural lands and human settlements. While existing PAs may accommodate many species, wide-ranging ones such as elephants, lions, cheetahs, wildebeest, and African wild dogs may face local extinctions if agricultural expansion, road construction, and urbanization continue to isolate them. Species that once roamed freely through diverse natural vegetation types are now confronted with a complex network of human-made barriers that fragment previously expansive landscapes (MNRT 2022a, Debonnet & Nindi 2017).

Moreover, changes in rainfall patterns can prompt elephants to modify their habitat usage or migrate to areas that were less used in the past. For instance, elephants have been observed shifting their presence and prolonging their stay in the Kalambo forest reserve in Rukwa. The southern sub-population of Tarangire elephants also exhibits changes in their movement patterns, spending more time outside the park. Consequently, the safeguarding of corridors and dispersal areas emerges as a critical objective in this Management Plan, aiming to enhance connectivity for elephant populations, mitigate the effects of climate change, and reduce human-elephant conflict.

2.2. Status of Human-Elephant Conflict

Human Elephant Conflicts (HEC) are recognized as one of the major challenges facing elephant conservation in Tanzania (Hariohay *et al.* 2020, Sanare *et al.* 2022, Gross *et al.* 2022). HEC contributes the lion's share of HWC and takes place when the need and behaviour of elephant impact negatively on the goal of humans or when the goals of humans negatively impact the need of elephants. Incidences of HEC are highly pronounced in areas where human activities overlap with areas preferred by elephants, as demonstrated by incidences across 91 Districts in the period 2016-2019 (Fig. 5). HECs are on the increase in the country and heavily impacting conservation and livelihood of rural people (a sign of an increasing elephant population, shrinking or blockage of wildlife corridors).

The impacts of these conflicts on people include crop loss, injury and loss of life, damage to property such as water infrastructure, and social costs such as increased time spent guarding farms, limitations on mobility, and reduced school attendance. The impacts of Human-Wildlife Conflict (HWC) on wildlife include retaliatory or problem animal control killing of wildlife, reduced community support for conservation, tolerance for poaching, and disputes between protected area managers and communities.

Records revealed that between 2018/19 and 2021/2022, elephants were responsible for approximately 186 of 600 human deaths and 180 of 427 injuries arising from HWC countrywide. This accounts for approximately 31% of all reported deaths and 42% of reported injuries attributed to HEC. Furthermore, there has been a significant surge in crop-raiding incidents by elephants, with the affected area increasing by 62% from 13,585 acres in 2018 to 22,032 acres in 2021. This rise in crop raiding incidents indicates that the security measures have improved to the extent that elephants can now roam freely in village lands. Crop loss is the most prevalent and widespread form of impact caused by elephants in comparison to other problematic animal species such as primates, rodents, and pigs. Between the years 2018 and 2021, wildlife raids resulted in damage to a total of 53,028.20 acres of diverse crops, with elephants accounting for 99% (52,659.20 acres) of the overall damage. The tangible and perceived costs associated with elephants can have adverse consequences, including a reduction in support for elephant conservation initiatives and exertion of political pressure for both legal and illegal killings of elephants. When it comes to addressing problem animal situations, elephant control measures are implemented in cases where elephants have caused human fatalities and/or when public safety considerations are at stake (Table 3).

Table 3: Number of elephants controlled as part of Problem Animal Control (Source: TAWA)

	Ecosystem	2016/17	2017/18	2018/19	2019/20	2020/21	Total
1.	Nyerere-Selous- Mikumi	3	0	1	5	1	**10**
2.	Ruaha-Rungwa and surroundings	0	2	0	0	0	**2**
3.	Katavi-Rukwa and surroundings	0	0	1	0	0	**1**
4.	Tarangire-Manyara and surroundings		0	0	0	1	**1**
5.	Malagarasi-Moyovosi and surroundings	1	0	0	0	0	**1**
6.	Serengeti and surroundings	0	0	2	0	0	**2**
Total		**4**	**2**	**4**	**5**	**2**	**17**

In response to the impacts caused by wildlife, particularly in cases of crop raiding, livestock depredation, and human injuries or fatalities, the government implemented the Wildlife Conservation (Dangerous Animals Damage Consolation) Regulations in 2011. These regulations establish guidelines and standards for the assessment and subsequent payment of consolation to individuals affected by such incidents. Analyzing the time frame between 2016/17 and 2021/22 March, the government allocated a substantial amount of funds, totaling USD 3.356 million, to console individuals affected by wildlife-related incidents. Notably, the majority of these funds, amounting to 99% (USD 3.322 million), were disbursed as consolation to victims of human-elephant conflict (HEC). Furthermore, it is noteworthy that the budget allocated for consolation has experienced a significant increase of 54% over the specified time period (Table 4). This demonstrates a growing recognition of the need to address the economic and social impacts inflicted by wildlife encounters and the subsequent commitment of financial resources to console affected individuals.

Table 4: Incidences of HEC and consolation paid from 2016/17- 2021/22 March (Source: Wildlife Division)

S/N	Year	Consolation (TZS)
1.	2016/17	1,114,835,011.50
2.	2017/18	1,157,996,044.00
3.	2018/19	1,319,955,362.50
4.	2019/20	890,192,320.00
5.	2020/21	1,718,276,350.00
6.	2021/22	1,617,310,250.00
	Total (TZS)	**7,818,565,338.00**
	Total (USD)	**3,355,621.84**

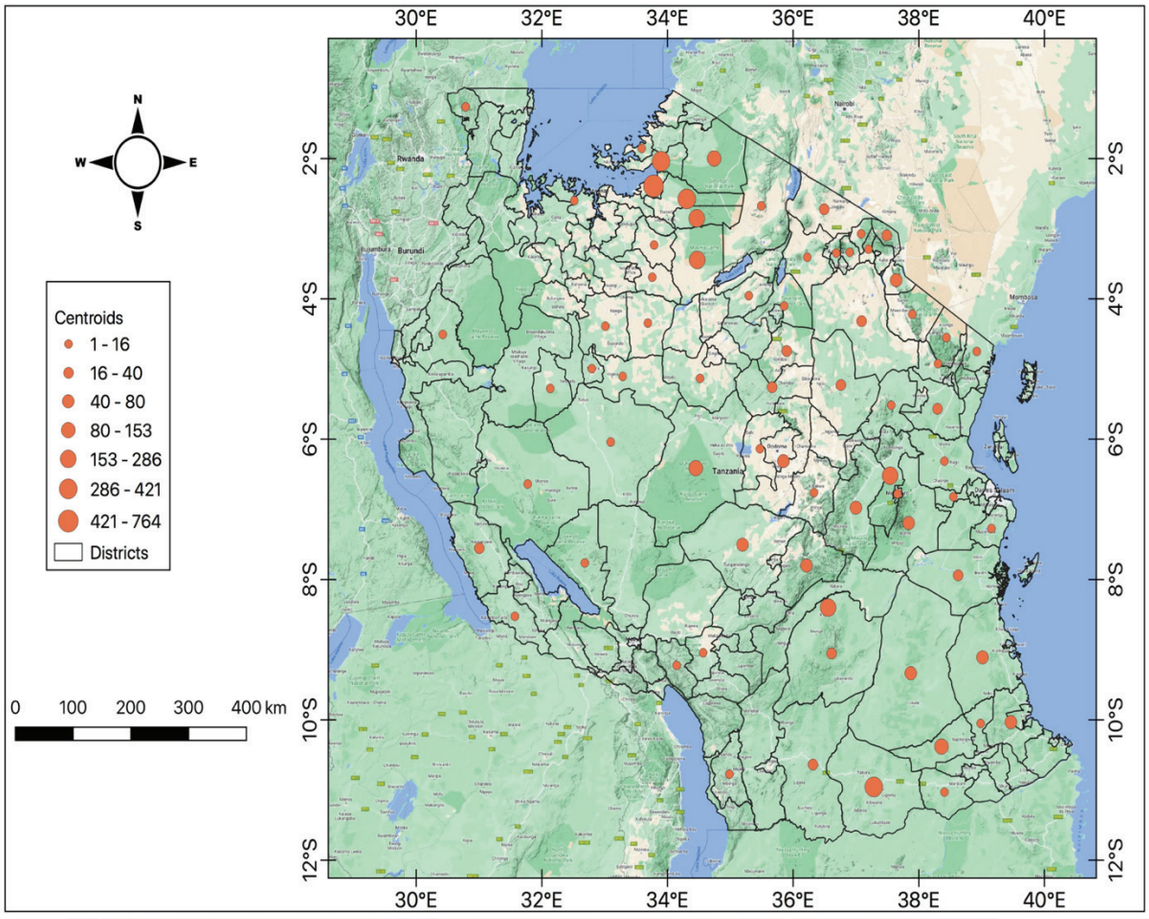


Figure 4: Incidences of Human Elephant conflicts across 91 Districts (2016-2019)-John Sanare (Source: Wildlife Division)

2.3. Poaching and Illegal Ivory Trade

Poaching for ivory has emerged as a significant contributor to the decline of African savanna elephants within their natural habitats, and while efforts have been made to curb this illegal activity in Tanzania, it remains a potential threat. Over the past 15 years, there has been a disturbing increase in elephant poaching and illegal wildlife trade, resulting in a staggering decline of over 50% in elephant populations in the country (TAWIRI 2015; Thouless *et al*., 2016). Consequently, there has been an intensified focus on law enforcement measures and intelligence-led anti-poaching operations to combat this issue. Encouragingly, there has been a noticeable decline in the number of elephants lost to poaching each year since 2014, indicating an improvement in law enforcement efforts. For instance, in Monitoring the Illegal Killing of Elephants (MIKE) sites, the recorded number of illegally killed elephants was 119 in 2015. However, by 2021, this number had significantly decreased to just 6, reflecting an impressive reduction of 95% in elephant poaching incidents. Similarly, the overall count of elephant carcasses observed has also shown a substantial decline, dropping by 76% from 153 in 2015 to 37 in 2021 (Fig.5). These findings demonstrate the positive impact of

strengthened law enforcement initiatives and intelligence gathering in combatting elephant poaching in the country. However, it is crucial to remain vigilant and continue implementing effective measures to sustain this positive trend and ensure the long-term conservation and survival of African savanna elephants.

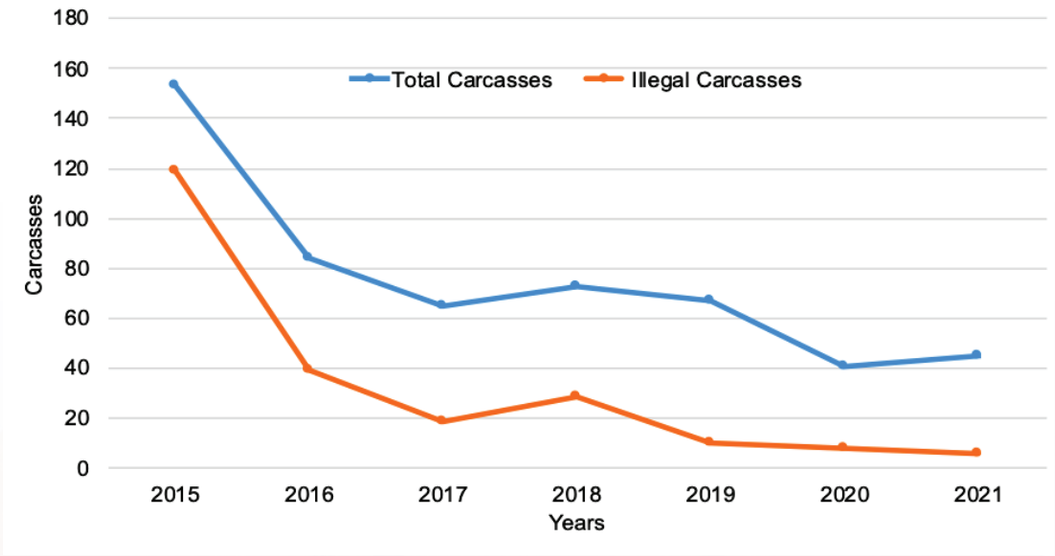


Figure 5: Number of elephant carcasses encountered from 2015 to 2021 (Source: MIKE Data)

The efforts to combat poaching in previous hotspots, specifically the Nyerere-Selous-Mikumi and Ruaha-Rungwa ecosystems, have yielded significant and noteworthy results, leading to a diminished perception of poaching as a substantial threat. Recent data collected between 2019 and 2021 provide compelling evidence of the remarkable progress achieved in these areas. Within the Ruaha-Rungwa ecosystem, the carcass ratio, which represents the proportion of elephant carcasses relative to the total elephant population, displayed a significant reduction from 15% in 2015 and 12% in 2018 to a mere 1.4% in 2021. Similarly, in the Katavi-Rukwa ecosystem, the carcass ratio declined from 14% in 2014 and 9% in 2018 to a substantially reduced 3% in 2021. Furthermore, the Serengeti ecosystem recorded only 2 carcasses, while the Nyerere-Selous-Mikumi ecosystem reported 5 carcasses during the same period, indicating a substantial decrease in poaching incidents in these regions. Significantly, some ecosystems that experienced severe poaching during the period of 2009 to 2014, such as the Nyerere-Selous-Mikumi ecosystem, witnessed a noteworthy decline in the carcass ratio from 39% in 2014 to 16% in 2018. It is important to note that this calculation only considered category 3 and 4 carcasses, which represent old or very old carcasses. The absence of fresh or recent carcasses (categories 1 & 2) during the survey indicates a highly positive sign of either no or minimal poaching in the year preceding the assessment.

These encouraging findings are further substantiated by data collected through the MIKE program, a comprehensive initiative aimed at tracking and documenting instances of illegal elephant killings. The MIKE data reveals a decline in the overall number of elephant carcasses encountered at MIKE sites, encompassing both natural deaths and illegal killings (Table 5). The evident reduction in poaching incidents and the notable decline in the carcass ratio within these ecosystems underscore the effectiveness of the ongoing conservation measures and the robust enforcement efforts in combating poaching. These achievements are a testament to the collaborative endeavours of various stakeholders, including governmental agencies, conservation organizations, local communities, and law enforcement authorities. However, it remains crucial to sustain the current momentum, employing proactive strategies and continuous vigilance to ensure that poaching remains under control and does not resurge as a significant threat to elephant populations within these ecosystems.

Table 5: MIKE Data for Tanzania sites 2010-2021 (Source: MIKE)

	MIKE SITE									
Year	Katavi Rukwa		Selous -Mikumi		Tarangire Manyara		Ruaha Rungwa		Mkomazi	
	TC	IC	TC	IC	TC	IC	TC	IC	TC	IC
2010	13	12	195	108	39	18	28	16		
2011	29	25	224	143	5	5	36	34	2	2
2012	29	25	186	95	17	12	110	73	4	2
2013	11	8	118	87	6	6	53	45	3	3
2014	14	11	42	34	10	8	50	29		
2015	27	25	68	51	9	7	47	35	2	1
2016	16	15	30	12	10	1	27	10	1	1
2017	9	6	23	6	4	0	28	6	1	1
2018	1	1	19	3	4	1	45	24	4	0
2019	3	1	19	1	17	2	27	6	1	0
2020	2	1	13	3	15	0	11	4	2	0
2021	1	0	20	1	2	0	14	5	0	0
Total	155	130	957	544	138	60	476	287	20	10
Key	TC: Total Number of Carcasses						IC: Number of Illegal Carcasses			

The overall trend in elephant conservation showcases promising outcomes, with substantial progress being made in curbing illegal activities and fostering the recovery of elephant populations (Fig. 6). It is evident that the concerted efforts and conservation interventions have yielded positive results, as indicated by the stabilization and growth of elephant populations within several ecosystems.

Notably, since 2014, no ecosystem has experienced a significant decline in elephant numbers, signifying the effectiveness of conservation measures implemented during this period. One ecosystem that exemplifies the success of these efforts is the Tarangire-Manyara ecosystem which despite recording a carcass ratio of about 11%, it has observed an overall increase in its elephant population. It is important to note that the elevated carcass ratio in this ecosystem was primarily influenced by an outbreak of anthrax, a bacterial disease that can affect both wildlife and livestock. The occurrence of such natural events can lead to localized fluctuations in elephant mortalities, but they do not diminish the overall positive trajectory of elephant conservation in the ecosystem. These findings provide optimism for the future of elephant populations and underscore the importance of continued conservation measures. The sustained growth and stability of elephant populations in various ecosystems serve as a testament to the effectiveness of anti-poaching initiatives, habitat protection, community involvement, and other conservation strategies implemented over the years. However, it is important to remain vigilant and adaptive in addressing emerging challenges and ensuring the long-term sustainability of elephant populations. By maintaining a proactive approach and bolstering collaborative efforts, we can further enhance the conservation status of elephants and secure their rightful place in Tanzania's natural heritage.

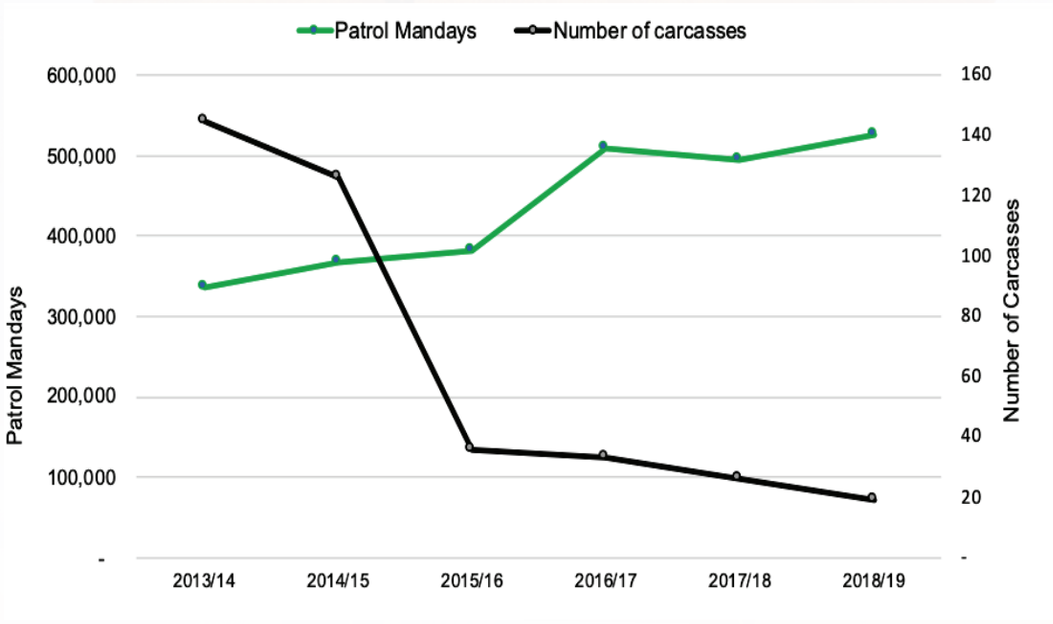


Figure 6: Patrol man-days conducted and number of carcasses spotted in PAs

(Source: Wildlife Division)

2.4. Infrastructure Development

The Tanzania Development Vision 2025, sets forth a comprehensive agenda for improving the quality of livelihoods and raising the standard of living for its citizens. Central to this vision is the development of an enabling environment and the creation of vital infrastructure that supports various sectors such as transportation, water, and energy (including electricity and gas) (Fig. 7). The fulfilment of this vision necessitates addressing critical needs, such as rural electrification, the enhancement of road networks, the expansion of railway lines, the establishment of oil and gas pipelines, the development of mining and tourism infrastructure, as well as the construction of hydroelectric power dams.

However, it is essential to recognize that these infrastructure development endeavours must be approached in a manner that is environmentally responsible and considers the conservation of biodiversity. Ideally, areas that are rich in biodiversity or ecologically sensitive, which may include areas with species of highly restricted range, vital breeding or calving grounds, or crucial migration routes, should be avoided for infrastructure development. In cases where the avoidance of such areas is not possible, it becomes imperative to establish guidelines that promote sustainable and “green” design principles for infrastructure projects. These guidelines should prioritize the improvement of the design and implementation of infrastructure projects to minimize negative impacts throughout all stages, including the planning, construction, and post-construction phases. By incorporating principles of ecological sustainability, these guidelines can help mitigate the potential adverse effects of infrastructure development on natural habitats, species, and ecosystems. This approach aligns with the broader conservation objectives and ecological considerations, ensuring that the development of essential infrastructure is harmonized with the conservation of the country’s unique biodiversity.

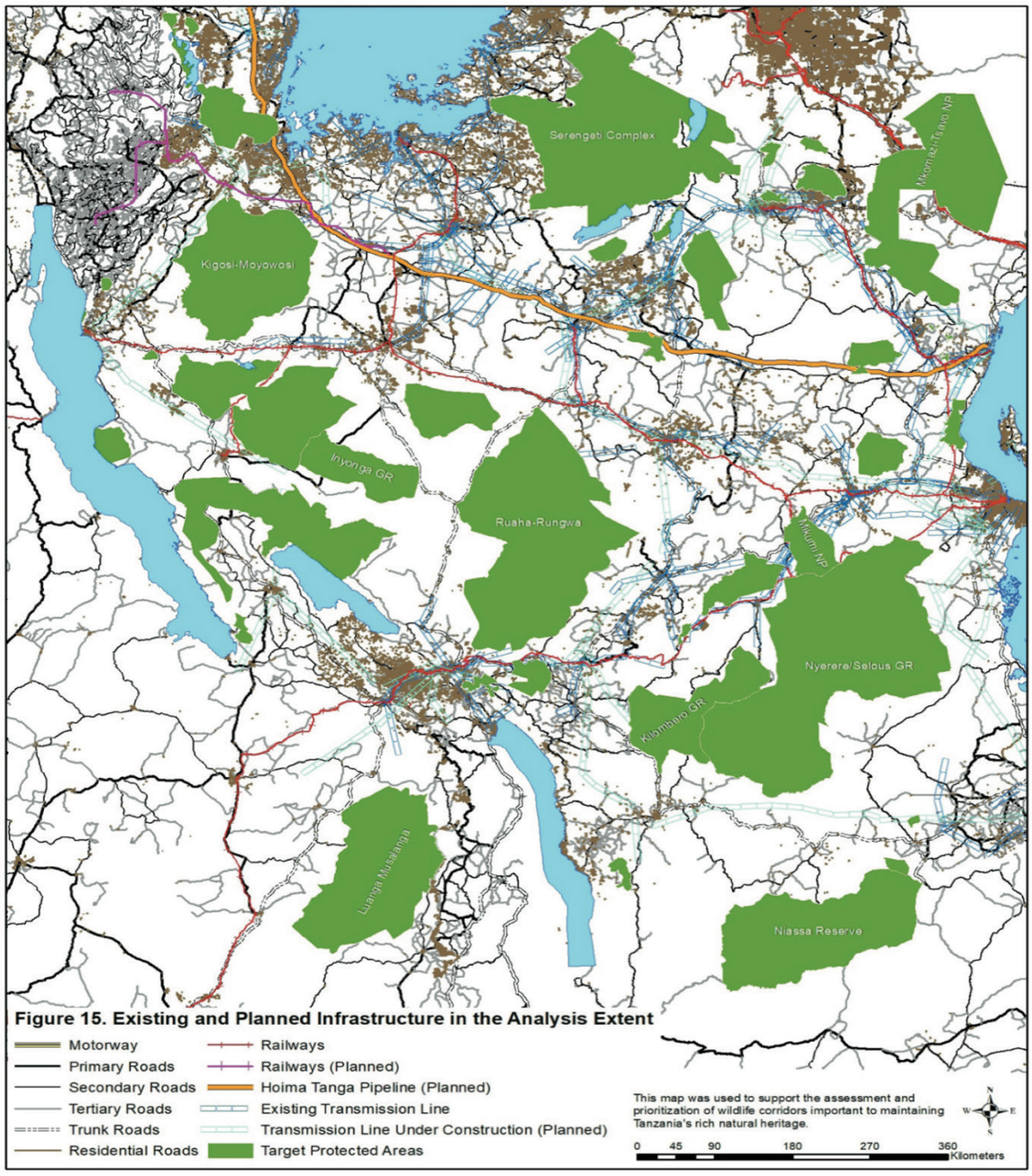


Figure 7. Existing and Planned Infrastructures in Tanzania (MNRT 2022a).

Source: MNRT.

2.5. Diseases

Diseases affecting elephants in Tanzania encompass a range of conditions, including tuberculosis, anthrax, encephalomyocarditis, floppy trunk syndrome, herpes virus, and salmonellosis. Despite the presence of these diseases there is currently no systematic disease surveillance system specifically targeting elephants in the country. Consequently, our understanding of the epidemiology, pathogenicity, diagnostic sensitivity, and overall impact of these diseases, on the elephant population within individual ecosystems and the country as a whole

remains limited. Anthrax, for instance, is believed to be widespread in Tanzania and affects various wildlife areas, resulting in significant mortality across multiple species. However, reliable data regarding elephant deaths attributed to anthrax or other diseases in specific areas is lacking. Moreover, comprehensive information regarding the impact of diseases on specific species and the prevalence and distribution of these diseases in different regions of the country is also lacking. Nevertheless, in the Tarangire-Manyara ecosystem, an anthrax outbreak that occurred in 2018-2019 was identified through a 2019 aerial survey, which recorded a high carcass ratio (TAWIRI, 2019).

To ensure the sustainable conservation of African elephants, it is imperative to enhance disease monitoring efforts, including the development of protocols and specific plans dedicated to this purpose. Collaboration between wildlife veterinarians from organizations such as TAWIRI, NCAA, TANAPA, TAWA and the Tanzania Veterinary Laboratory Agency (TVLA) is crucial. These entities should work together to establish Standard Operating Procedures (SOPs) and protocols for disease surveillance and laboratory diagnosis specifically tailored to elephants. By improving disease monitoring and enhancing laboratory diagnostic capabilities, a more comprehensive understanding of elephant health and disease dynamics can be achieved. This will enable the implementation of effective management strategies and the development of targeted interventions to mitigate the impact of diseases on elephant populations. Such collaborative efforts will play a pivotal role in ensuring the long-term well-being and conservation of elephants in the country.

3.0. CONSERVATION OPPORTUNITIES

3.1. Non-consumptive Tourism

Tanzania is internationally renowned for eco-tourism, making it a prominent destination in eastern and southern Africa. The country's diverse landscapes and seascapes provide a wide range of ecosystem services, including carbon sequestration and biodiversity co-benefits. However, these services are often undervalued and underappreciated in economic terms, despite their significant contributions to the nation's economy, which extends beyond the tourism sector. The country's natural resources for nature-based tourism are of exceptional quality, ranking first in Africa and 12th globally, according to the World Economic Forum's Travel and Tourism Competitiveness Index 2019. Additionally, the country possesses cultural resources that place it 32nd in Africa and 112th globally. When managed effectively, the tourism industry can serve as a vehicle for protecting and conserving natural and cultural resources, while also generating tax revenue, licensing fees, high-quality employment opportunities, and fostering connections with other economic sectors. The tourism industry, despite its relatively underdeveloped state, accounted for an estimated 17.5% of GDP in 2019 and directly employed over 1.6 million individuals. This makes it the second-largest contributor to the country's GDP and the third-largest source of employment (Mashindano and Kazi, 2021). Tourism has been the largest foreign-exchange earner accounting for over a quarter of the country's foreign-exchange earnings in 2019. Moreover, due to its extensive linkages with various economic sectors, the tourism value chain plays a crucial role in fostering growth, employment, and poverty reduction (World Bank Group 2021).

However, the COVID-19 pandemic severely impacted revenue collection from tourism activities in protected areas. Public sectors tourism institutions, such as TANAPA, NCAA, TAWA, TFS, and National Museums of Tanzania (NMT), experienced a significant decline of 72.2% in revenues in 2020, dropping from TZS 489.4 billion in 2019 to TZS 136.2 billion in 2020 (World Bank Group 2021). This decline in revenue affected negatively the ability of conservation institutions to execute their mandate. Sustainable tourism represents a promising avenue to unlock the value of these assets, offering opportunities for the government, private sector, and local communities to benefit economically, while also ensuring environmental and cultural preservation. To fully capitalize on this potential, collaborative efforts are required, including public-private partnerships, investment in infrastructure, adoption of eco-friendly practices, and education and awareness programs for both tourists and local communities. By embracing sustainable tourism, Tanzania can optimize the utilization of its ecological resources, leading to long-term benefits for all stakeholders involved.

Despite Tanzania's significant ecological resources, its full potential for the tourism sector remains largely untapped. The country ranks third in Africa in terms of the share of protected land and is home to seven UNESCO World Heritage Sites. However, the costs associated with maintaining these valuable assets are considerable. Sustainable tourism presents an opportunity to unlock value for the government, the private sector, and local communities. Unfortunately, many areas surrounding national parks in Tanzania are among the poorest in the country. These protected areas are often situated in remote rural regions with limited infrastructure and high poverty rates. The lack of connectivity, physical resources, financial capital, and human capital hampers the ability of local communities to participate in economic activities supported by management authorities. This challenge is not unique and several African countries have implemented policies since 2000 to foster public-private partnerships (PPPs) for the co-management or delegated management of protected areas. Such arrangements aim to alleviate the costs of protected area management and improve development outcomes for local communities.

3.2. Tourist Hunting

Tourist hunting serves as a significant tourism product in Tanzania, aligning with a strategy of offering high-quality experiences and low-volume tourism. It is particularly suited for areas with dense vegetation, challenging terrains, remote locations, and limited infrastructure, making it an ideal complement to photographic tourism. Hunting activities take place in designated hunting blocks within Game Reserves (GRs), Game Controlled Areas (GCAs), Open Areas (OAs), Forest Reserves (FRs), and Wildlife Management Areas (WMAs). The vast biodiversity found in these areas, primarily utilized for tourism hunting, is conserved through a carefully regulated and sustainable off-take of huntable wildlife species. The revenue generated from tourist hunting plays a crucial role in funding essential conservation initiatives, such as anti-poaching operations, wildlife conservation programs, and community development projects.

Hunting activities are carried out in accordance with the Wildlife Conservation Act No. 5 of 2009 RE 2022 and the Wildlife Conservation (Tourist Hunting) Regulations of 2015, with subsequent amendments in 2017, 2019, and 2020. The legislation permits the hunting of male elephants that possess tusks weighing 20 kg or more or measuring 160 cm or above, ensuring that the hunting practices do not have a negative impact on the elephant population.

The administration and management of safari hunting in Tanzania are guided by four key principles, these include the responsibility principle, emphasizing the

sustainable, efficient, and equitable use of resources; the precautionary principle, which prevents the lack of scientific information from impeding conservation and management measures; the adaptive management principle, promoting flexibility and learning from experience; and the participatory principle, recognizing the importance of involving stakeholders in decision-making processes.

Importantly, tourist hunting plays a crucial role in the broader framework of protected area management, preventing abandonment or conversion of these areas for agriculture while simultaneously seeking to improve the well-being of communities living alongside wildlife. These habitats are of critical importance for wildlife conservation, and in many cases, ecotourism alone is not a feasible alternative. Tanzania is actively exploring solutions and implementing best practice guidelines to safeguard wildlife landscapes and habitats, with a strong focus on prioritizing conservation efforts, including those related to elephants, in these areas.

3.3. Community-based Conservation

Tanzania recognizes that wildlife conservation must consider the human aspect, particularly the influence of poverty, which drives poaching incidents. To address this issue, the government has implemented policy enhancements, focusing on equitable community benefits from hunting and tourism fees, as well as local governance of the wildlife sector. These measures aim to reduce poverty through legal and sustainable wildlife utilization. Community-based initiatives, require comprehensive support, including resources and guidance, to empower local communities in generating income from regulated wildlife utilization. Such initiatives play a crucial role in poverty alleviation and sustainable livelihoods. Recognizing the rights of local communities as equal partners in wildlife conservation is vital, as neglecting their involvement leads to increased poaching by criminal syndicates involving the same individuals. Community-based programs are integral to combat poaching and illegal wildlife trade. The government is committed to addressing poverty and wildlife conservation, providing support to community initiatives and prioritizing local participation by promoting legal wildlife utilization and community involvement which in turn helps to combat poaching and ensure the sustainable conservation of wildlife resources for current and future generations.

The establishment of Wildlife Management Areas (WMAs) in 1998 has yielded varying degrees of effectiveness. The regulatory framework governing WMAs has undergone multiple amendments in 2012 to align it with the Wildlife Policy of 2007 and the Wildlife Conservation Act of 2009. The WMAs regulations of 2012 were amended in 2018 and 2020 to enhance the benefits sharing scheme,

addressing various governance issues within WMAs and granting authority to the local communities residing alongside wildlife. For example, a total of US$ 17.8 million has been disbursed to 15 WMAs between 2016/17 and 2020/21 to support conservation and community development endeavours. This share is derived from tourist hunting activities conducted in WMAs.

These regulatory advancements signify the commitment to promoting equitable sharing of benefits from wildlife utilization, with a specific focus on empowering local communities. By strengthening the legal framework and enhancing benefit-sharing mechanisms, the government aims to ensure that communities living alongside wildlife receive their fair share of the revenues generated. This approach aligns with the broader objectives of sustainable wildlife management and community development, contributing to poverty reduction and promoting the harmonious coexistence between humans and wildlife.

Wildlife Management Areas (WMAs) in play a significant role in combating poverty by utilizing wildlife resources. When rural communities perceive wildlife as a valuable asset rather than a burden, they contribute to its conservation. WMAs have vast potential for conserving natural resources outside protected areas through tourism and other forms of development. They are considered an integral part of rural development and a potent tool against illegal utilization. However, despite the policy and legal framework for WMAs, several challenges persist including insufficient funding, limited community capacity to manage WMAs, inadequate knowledge in balancing wildlife tourism and conservation, inadequate community benefits, and challenges in investment management.

To address these issues, the MNRT, in collaboration with conservation partners, reviewed the Wildlife Management Areas (WMA) Implementation Strategy from 2014 to 2019 and launched a new Strategy for 2023 - 2033. The new Strategy is aiming to ensure effective community engagement in wildlife management for sustainable socio-economic development. Tanzania’s WMA network consists of 22 operating WMAs across five management zones, involving 334 villages and covering approximately 7% of the country’s surface area. These WMAs present opportunities to enhance community livelihoods, mitigate human-wildlife conflicts, conserve natural resources, and improve governance

4.0. MANAGEMENT FRAMEWORK AND TOOLS

4.1. Adaptive Management

Adaptive management is a concept rooted in the recognition that effective wildlife management requires an iterative process of learning and adjustment. It acknowledges that the knowledge and understanding of wildlife species and their ecosystems are often limited, especially for less well-known species. Even for species where some basic biological and ecological facts are known, adaptive management remains essential due to the complexities of ecological systems and the uncertainties surrounding their dynamics. Additionally, the impacts of environmental, social, and economic changes further emphasize the need for adaptive approaches in wildlife management.

The core principle of adaptive management is the incorporation of a monitoring system that enables the evaluation of management activities. By designing management interventions as trials, with clearly defined objectives and measurable outcomes, managers can scientifically assess their effectiveness. The monitoring system serves as a feedback mechanism, providing valuable data and information to guide decision-making and inform subsequent iterations of management strategies. It allows managers to learn from their actions and make adjustments based on empirical evidence.

One of the key advantages of adaptive management is its emphasis on sustainability. Wildlife management must not only aim to conserve and protect species and their habitats but also be sustainable in the long run. The ability to adapt to changing conditions is crucial in achieving this sustainability. Environmental, social, and economic factors are dynamic and subject to continuous change. Adaptive management provides a framework for managers to respond to these changes effectively, ensuring that management practices remain relevant and aligned with evolving circumstances.

Implementing adaptive management requires a commitment to ongoing learning and collaboration. It necessitates close cooperation between scientists, policymakers, resource users, and other stakeholders. By fostering a culture of shared learning and knowledge exchange, adaptive management promotes transparency, inclusivity, and accountability in decision-making processes. It encourages the integration of diverse perspectives and promotes a holistic understanding of ecological systems.

Adaptive management is particularly valuable in addressing the challenges associated with managing wildlife species that are less well-known. It acknowledges the inherent uncertainties and complexities involved and provides a systematic

and scientific approach to navigating these challenges. By continually refining management strategies through adaptive adjustments, the effectiveness and the efficiency of wildlife management can be enhanced.

In conclusion, adaptive management is a valuable approach to wildlife management, especially for less well-known species. It recognizes the need for ongoing learning, adjustment, and collaboration to address the complexities and uncertainties associated with ecological systems. Through the incorporation of a robust monitoring system, adaptive management allows for the evaluation of management interventions, enabling evidence-based decision-making and promoting sustainability. By embracing adaptive management principles, wildlife managers can enhance their ability to conserve and sustainably utilize wildlife resources, ensuring their long-term viability for future generations.

4.2. Elephant Monitoring

Monitoring plays a crucial role in the conservation and management of elephants, serving as a fundamental prerequisite for the implementation of adaptive management strategies. The monitoring of elephant populations, behaviour, and habitat conditions provides essential data and information that informs decision-making processes and facilitates adaptive adjustments in management approaches. Elephants, as iconic and keystone species, have significant ecological, social, and economic importance. Their conservation is paramount not only for maintaining biodiversity but also for ecosystem functioning and the well-being of local communities. However, the conservation and management of elephants face numerous challenges, including habitat loss, poaching, human-wildlife conflicts, and climate change. To effectively address these challenges and ensure the long-term survival of elephant populations, monitoring is essential.

Monitoring elephant populations involves the systematic collection of data on their abundance, distribution, and demographic characteristics. This information allows researchers and managers to assess population trends, identify key habitats, and determine the impacts of management interventions. Population monitoring techniques include aerial surveys, ground-based counts, and the use of advanced technologies such as remote sensing and DNA analysis. By regularly monitoring elephant populations, managers can detect changes in population size, age structure, and reproductive rates, which are crucial indicators of population health and conservation status. In addition to population monitoring, tracking elephant behaviour and movements provides valuable insights into their ecological requirements, ranging patterns, and interaction with their environment. This information helps identify critical habitats, migration corridors, and areas prone to human-elephant conflicts. By understanding elephant behaviour and

movement patterns, managers can develop targeted conservation strategies, such as the establishment of protected areas, wildlife corridors, or land-use zoning plans that minimize human-elephant conflicts.

Monitoring habitat conditions is equally vital for effective elephant conservation and management. It involves assessing vegetation cover, habitat quality, water availability, and other environmental factors that influence elephant distribution and foraging behaviour. Changes in habitat conditions can have significant implications for elephant populations, affecting their foraging opportunities, reproductive success, and overall well-being. By monitoring habitat conditions, managers can identify potential threats, such as habitat degradation or encroachment, and take appropriate measures to mitigate these impacts. The data collected through monitoring initiatives serve as a basis for evidence-based decision-making and the implementation of adaptive management strategies. Adaptive management recognizes the inherent uncertainties and complexities associated with wildlife conservation and acknowledges that management approaches need to be flexible and adaptable. By regularly monitoring elephant populations, behaviour, and habitat conditions, managers can assess the effectiveness of management interventions and make adjustments based on empirical evidence. This iterative process of learning and adaptation allows for the continuous improvement of conservation strategies, ensuring their efficiency and sustainability. Elephant monitoring is resource intensive and subject to the country's specific priorities.

Elephant mortality data collection is crucial for obtaining essential biological information, and its routine implementation throughout the country is recommended. The key data to be gathered include age at death, sex, and time since death, which can be reliably collected with relative ease. Determining the cause of death, although significant, present greater challenges and often relies on elimination techniques for conclusive determination. The emergence of smartphones with location tags and SMART monitoring technology has simplified the acquisition of accurate geographical references embedded in photographs. Additionally, GPS equipment can be utilized, with location details recorded separately. Physical descriptions of the location should be used sparingly to avoid record duplication, with precise descriptions being necessary. Marking carcasses with bright-coloured paint, when feasible, enhances visibility from the air and indicates that they have been recorded. Supplementary information, such as specific body dimensions, can be recorded to enrich datasets relating to age and sex, particularly for precise age estimation in hunting scenarios. Photos of the elephant carcass's ears and tusks are valuable for individual identification, enabling monitoring of population trends and age structure in relation to known elephant registers.

4.3. Quota Setting and Utilization

Tanzania has established a national hunting quota for elephant tusks as trophies, allowing the off-take of 100 tusks from 50 animals. This quota, published on the CITES website in February 2022, is considered conservative, representing only 0.083% of the elephant population. The minimum off-take required to maintain high-level trophy quality is 0.3%. The determination of hunting quotas is based on the National Wildlife Utilization Quota Setting Manual 2020, which considers factors such as population size, breeding history, recruitment rate, population estimates, and harvesting success rate.

The Quota Allocation Advisory Committee, consisting of wildlife conservation experts from various institutions, including TAWIRI, universities, and the Wildlife Division (CITES Management Authority), is responsible for annually setting the hunting quotas. The committee receives input from stakeholders and considers wildlife utilization and population status information derived from censuses, research work, and reports by field personnel.

In 2016, the quota was 100 elephants, equivalent to 0.23% of the total population, falling below the 0.3% minimum required for maintaining high-level trophy quality. The CITES Scientific Authority (TAWIRI) approved this quota, ensuring it does not pose a threat to the species' survival. In 2017, the CITES elephant export quota was further reduced to 50 elephants as a precautionary measure. The allocation of quotas follows an ecosystem-based approach. However, the utilization of the elephant quota has been low since 2016, with only 19 elephants (6%) utilized out of the total quota. The main ecosystems involved in hunting activities are Katavi Rukwa, Ruaha-Rungwa, Serengeti, and Nyerere-Selous-Mikumi. This utilization level is negligible from a biological perspective but remains crucial for conservation and community livelihoods. The decline in quota utilization in 2014, with zero elephants utilized in 2016 and 2017, can be attributed to a US moratorium on the import of elephant trophies from Tanzania and Zimbabwe (Fig 8). The US market represents a significant portion of hunters visiting Tanzania. Despite the low utilization, the quota has remained at 50 elephants since 2017, with this level considered non-detrimental to the species' survival and population.

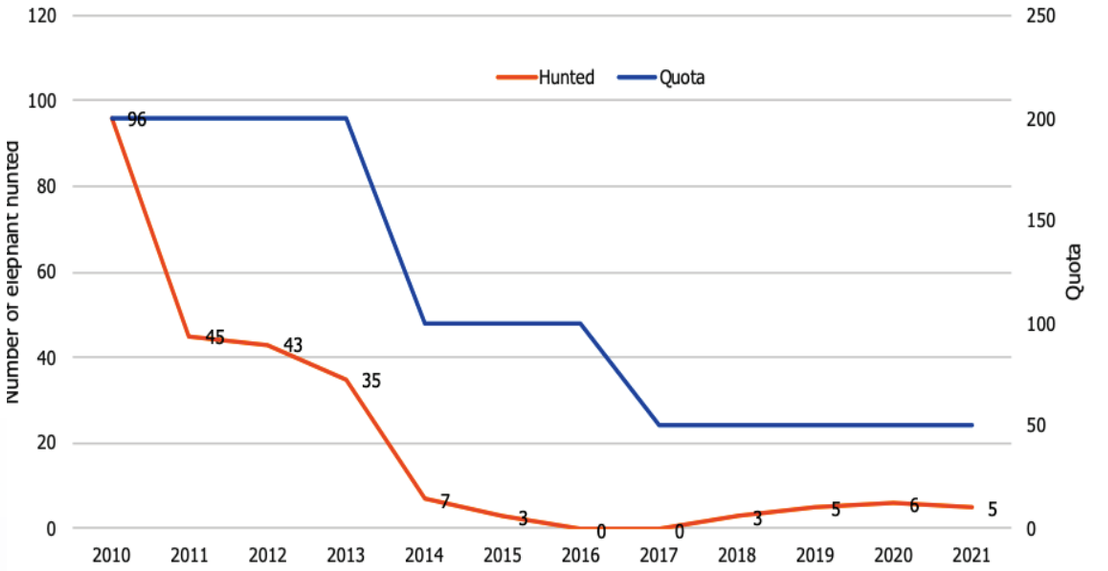


Figure 8: The trend in elephant sport-hunting from 2010 to 2021 (Source: TAWA)

4.4 Hunting Monitoring

Maintaining records of elephant sightings and harvested trophies is vital for acquiring comprehensive data on elephant population trends and sport hunting. This information enables the monitoring of elephant presence and hunting activities within concession areas, especially during staff turnover. Utilizing a straightforward datasheet, relevant raw data is recorded, including daily elephant counts, trophies harvested, off-take locations and dates, hunting effort, methods employed, and trophy measurements. Accumulated records over time facilitate the assessment of hunting activity trends, encompassing changes in elephant numbers, the age distribution of trophies, hunting effort per trophy, and annual hunting area yield. To capture and document these data consistently, safari operators are advised to employ Annex D, a designated form, and submit it monthly via email to TAWA).

5.0. TARGETS FOR ELEPHANT CONSERVATION IN TANZANIA

The National Elephant Management Strategies formulated in 1994 and 2001 have established predetermined upper limits for the national elephant populations, with targets set at 120,000 and 100,600 elephants respectively. However, the Management Plan (2010-2015) acknowledges the necessity to reassess these national population limits due to several reasons. Firstly, there is a lack of comprehensive ecological data that is crucial for accurately determining the carrying capacity of different elephant habitats. Insufficient information impedes the ability to establish precise upper limits on elephant populations at specific sites. Secondly, it is recognized that ecological circumstances and management

objectives can significantly differ across the country. The diversity of ecological conditions and conservation goals necessitates a flexible approach that acknowledges the unique requirements and characteristics of individual areas. Furthermore, the potential impacts of ongoing climate change on elephant range and resource availability demand further research. Understanding the potential consequences of climatic shifts on elephant habitats is essential for effective management and appropriate decision-making regarding population limits. Nonetheless, through enhanced monitoring efforts focusing on key elephant populations, encompassing factors such as population density, habitat use, and ecological impacts, it becomes feasible to establish targeted population goals tailored to different areas and habitats. This adaptive approach allows for the adjustment of population targets in response to long-term trends and the outcomes of specific programs designed to assess the impacts of elephants on ecosystem structure, function, and species diversity. By embracing an adaptive management framework, which integrates rigorous monitoring, evaluation, and research, it is possible to refine population targets and develop responsive strategies that promote sustainable elephant conservation while considering the unique ecological characteristics and management requirements of different ecosystems.

Conservation of elephants is inevitably interwoven with the needs and concerns of the communities, the desire to maintain the numbers of elephants without impacting negatively habitats and biodiversity and to maximise the benefits that can be achieved from their presence. The dilemma faced by elephant range states arises between attempting to protect as many elephants as possible at all costs, on the one hand, preserving a full range of functional habitats and ecosystems on the other hand, and lastly improve the livelihoods of rural communities. Targets for elephant management and conservation in different parts of the country depend on the values and needs of stakeholders and the values of those overseeing and managing the country's elephant population. Three primary targets for elephant management in the country are to i) maintain viable habitats and populations of elephants in Tanzania through adaptive management; ii) ensure elephant populations do not negatively impact community livelihood and biodiversity conservation goals; and iii) involve all sectors in the realisation of the full economic potential of elephants and other wildlife resources outside the protected areas through sustainable utilisation. Balancing the targets between the conservation of elephants, their habitats and utilisation require careful implementation of adaptive management by selecting appropriate activities and careful monitoring of their outcomes. At the same time as achieving these targets, it is necessary to consider public sentiment and meet national and international obligations and improve institutional and technical capacity for management.

6.0. LOGIC AND STRUCTURE OF THE PLAN

This plan adopts the Logical Framework format, a structured approach that ensures clarity and coherence in its design. The fundamental elements of the plan, including the vision, mission, targets, key components, and Action Plans, have undergone a rigorous validation process. A workshop conducted in July 2023 provided the platform for stakeholders to review and endorse these components, ensuring their alignment with the overall objectives of managing elephant populations effectively. To successfully accomplish the targets established for elephant management in Tanzania, the plan delineates six key components that require focused attention and concerted efforts:

i. Law Enforcement and Protection: This component emphasizes the implementation of robust law enforcement measures to combat illegal activities, such as poaching and the illicit wildlife trade. Strengthening protective measures is essential to safeguard elephant populations and their habitats;

ii. Human-Elephant-Conflict Management: Recognizing the potential conflicts between human communities and elephants, this component aims to address these challenges through effective strategies. Measures will be implemented to minimize human-elephant conflicts, promote peaceful coexistence, and provide sustainable solutions for affected communities;

iii. Social and Economic Framework: This component acknowledges the socioeconomic factors influencing elephant conservation. It aims to integrate conservation initiatives within a broader social and economic framework, ensuring that local communities benefit from conservation efforts while simultaneously fostering support and engagement;

iv. Research, Biological Monitoring, and Management: A strong foundation of scientific research is crucial for informed decision-making and effective management of elephant populations. This component emphasizes the importance of conducting research, monitoring biological parameters, and employing evidence-based management strategies;

v. Conservation Capacity: This component focuses on enhancing the capacity and capabilities of conservation organizations, institutions, and individuals involved in elephant management. Capacity-building initiatives, including training programs and knowledge sharing, will be implemented to strengthen the conservation workforce; and

vi. Coordination and Collaboration: Effective coordination and collaboration among relevant stakeholders are paramount for successful elephant

conservation. This component emphasizes the establishment of partnerships, information sharing, and coordinated efforts to maximize the impact of conservation actions.

By addressing these six key components in a comprehensive and coordinated manner, the plan aims to create a solid foundation for the sustainable management of elephant populations. This strategic approach recognizes the multifaceted nature of elephant conservation and emphasizes the importance of integrating various disciplines, engaging local communities, and fostering collaborative efforts to achieve the desired outcomes.

7.0. VISION, MISSION, TARGETS AND KEY COMPONENTS

VISION:

To ensure elephant conservation in Tanzania by securing and (where appropriate) restoring populations and their habitats, and promoting coexistence for the benefit of present and future generations

MISSION:

To facilitate the conservation of Tanzania's elephant population and the ecological integrity of elephant habitats by mobilizing resources and using the best available scientific, technical, and local knowledge.

TARGETS:

1. **To maintain viable habitats and populations of elephants in Tanzania through adaptive management;**
2. **To ensure elephant populations do not negatively impact community livelihood goals and biodiversity conservation goals; and**
3. **To involve all sectors in the realisation of the full economic potential of elephants and other wildlife resources outside the protected areas through sustainable utilisation.**

Key Components	Law Enforcement & Protection	Human-elephant Conflict Management & Reduction	Social and Economic Framework	Research and Ecological Monitoring	Conservation Capacity	Coordination & Collaboration
Strategic Objectives	1. Populations of elephants in Tanzania are protected.	2. An enabling environment for alternatives to decrease or, where possible, avoid conflicts between humans and elephants (HEC).	3. Develop strategies to increase the contribution of elephants to national development and rural livelihoods.	4. Implement effective biological, ecological and management monitoring to achieve elephants' populations that are within acceptable limits in numbers, impacts, and distribution.	5. Efficient adaptive management with enough, properly qualified staff, resources, infrastructure, and funding.	6. Ensure efficient coordination and cooperation with national and international stakeholders.
Outputs	Investigations, antipoaching operations & law enforcement implemented to minimise losses of Tanzania's elephants and their habitats.	Methods to encourage more acceptance of coexistence with elephants applied and greater acceptance of coexistence with elephants promoted.	At local and national levels participatory processes improved, incentives for coexisting with elephants increased and the distribution of financial benefits from elephants improved and effectiveness of different benefit- sharing models have been assessed.	Adaptive management to achieve viable populations and suitable habitat condition implemented.	Appropriate links and networks established to support population management and strategic planning at national, regional & global levels.	Implement strategies to provide the best possible collaboration at the national and international levels in order to monitor the progress of adaptive elephant population management.

8.0. ACTION PLANS

8.1. Law Enforcement & Protection enhanced

Rationale

Poaching and illegal elephant ivory trade remain a challenge in elephant conservation that has accounted for a 60% decline in the elephant population in the last Decade. The decline in the elephant population as a key species affects the ecosystem, community livelihood and the economy at large because of its importance in habitat modification, and as an economic tool through wildlife-based tourism. Therefore, law enforcement and the protection of elephant remains on the top agenda.

Target: The number of elephants killed due to illegal activities reduced to less than 3% of the total population by 2033.				
Output: Intelligence, anti-poaching operations, and investigations implemented to reduce illegal killing by 2033.				
MV: Monitoring data on illegal activity, successful convictions, carcass records, status & trends of the elephant population.				
Key Activities/Actions	Key Performance Indicators	Means of Verification	Time Frame	Responsibility*
• Increase equipment, and infrastructure for intelligence, anti-poaching operations, and investigation.	• Number of appropriate equipment procured. • Number patrol infrastructure developed.	• Procurement document • Presence of infrastructure • Certificates	2023-2033	WD, NCAA, TANAPA, TAWA, and Conservation partners.
• Provide adequate funds to support wildlife law enforcement activities.	Amount of annual funds increase.	Annual financial statement	Annually.	WD, NCAA, TANAPA, TAWA, and Conservation partners.
• Develop and operationalize informants' network system.	The informer network system in place.	Informer Management document Implementation report	2023 – 2033	WD
• Conduct inter-agency law enforcement meeting/workshops for cooperation	Numbers of law enforcement meetings/workshops.	Meetings Minutes	2023 – 2033	WD, NCAA, TANAPA, TAWA, and Conservation partners.
• Develop an ivory stockpile management system	• Guidelines or SOPs for ivory management. • MNRT-ivory management database	• Guidelines/ SOPs document . • Database .	2023-2033	WD and TAWA
• Involve the community as a first line of defence in law enforcement.	• Number of reported poaching incidences by local community • Number of communities that participated in law enforcement.	• Law enforcement report.	2023-2033	WD, NCAA, TANAPA, TAWA, and Conservation partners

Target: The number of elephants killed due to illegal activities reduced to less than 3% of the total population by 2033.				
Output: Intelligence, anti-poaching operations, and investigations implemented to reduce illegal killing by 2033.				
MV: Monitoring data on illegal activity, successful convictions, carcass records, status & trends of the elephant population.				
Key Activities/Actions	Key Performance Indicators	Means of Verification	Time Frame	Responsibility*
• Build law enforcement capacity in Wildlife Management Areas.	• Number of Village Game Scout trained • Number of VGS recruited.	• Training reports. • Recruitment reports.	2023 – 2033	WD, NCAA, TANAPA, TAWA, and Conservation partners
• Conduct awareness creation on elephant poaching and illegal ivory trade.	• Number of awareness meetings/ workshops/campaigns.	• Meetings & workshops reports • Awareness material.	2023-2033	WD, NCAA, TANAPA, TAWA, and Conservation partners
• Conduct international and transboundary collaboration in law enforcement to combat wildlife poaching	• Number of cross-border meetings. • Number of concurrent law enforcement operations. • Number of cases dealt with International and Regional Law Enforcement Agencies (ITERPOL, and LATF).	• Proceedings of meetings & workshops. • Reports of joint patrol activities & outcomes • Number of cases.	2023-2033	WD, NCAA, TANAPA, TAWA, and Conservation partners
• Apply appropriate technology to combat elephant crimes,	• Number of Technologies procured and deployed. • Number of elephant collars installed.	• Procurement document. • Collar monitoring reports.	By December 2033	WD, NCAA, TANAPA, TAWA, and Conservation partners.
• Review or develop policies and/ or legislations for the fight against elephant poaching and illegal ivory trade where appropriate.	• Number of policies or legislations reviewed or developed.	• Legislation or Policy Documents.	2023-2033	WD, NCAA, TANAPA, TAWA, and Conservation partners.

Target: The number of elephants killed due to illegal activities reduced to less than 3% of the total population by 2033.				
Output: Intelligence, anti-poaching operations, and investigations implemented to reduce illegal killing by 2033.				
MV: Monitoring data on illegal activity, successful convictions, carcass records, status & trends of the elephant population.				
Key Activities/Actions	Key Performance Indicators	Means of Verification	Time Frame	Responsibility*
• Conduct law enforcement capacity building to agencies involved in the fight against elephant poaching and illegal ivory trade where appropriate, such as Magistrates and lawyers.	• Number of individuals/ organizations capacitated.	Capacity building reports.		WD, NCAA, TANAPA, TAWA, and Conservation partners.

** Under responsibility the leading institution is marked with an asterisk.*

8.2. Human-elephant Conflict Management enhanced

Rationale

Human Elephant Conflict (HEC) is on the increase in the Country impacting heavily on the conservation and livelihood of rural people. At least 91 Districts (56.9%) out of 160 are experiencing HEC that include human injury and loss of life, crop/ livestock loss, damage to property such as water infrastructure, and social costs such as increased time spent for guarding farms, restrictions on movement while the presence of elephants in residential areas, and affects school attendance and performance. Furthermore, the Government budget for consolation has increased by 54%, for instance in the period between 2016/17 and 2021/22, the Government spent a tune of USD 2.987 Million on consolation of which 99% (USD 2.956 Million) was HEC related. As a result, addressing HEC is the Government's priority therefore has developed a National Human-Wildlife Conflict Strategy of 2020-2024 and other strategic tools to manage conflict situations. This objective provides a framework of actions to address HEC.

Target: At least 50% of human Elephant conflict incidences reduced by 2033.				
Output: HECs are managed by sound data collection, analysis, and reporting.				
MV: Monitoring & database of numbers of incidents & outcome of interventions.				
Key Activities/Actions	Key Performance Indicators	Means of Verification	Time Frame	Responsibility
1. Develop a National HEC Database in WD and roll-out of a Problem Animal Information System (PAIS) for data collection.	Number of elephant conflicts incidences.	Database/PAIS roll-out and reports generated.	2033	WD, TAWA, TAWIRI, TANAPA, NCAA, LOCAL GOVERNMENT AUTHORITIES, WMAs, TFS, and relevant stakeholders.
2. Establish and Develop diverse HEC mitigation measures (eg translocation, electric fences, Artificial intelligence, alternative crops, etc).	Number of HEC management strategies.	HEC reports.	2033	WD, TAWIRI, TANAPA, TAWA, NCAA, WMAs, Local communities, NGOs, and Research Institutions.
3. Develop capacity for key partners on HEC management.	Number of key partners trained, Number of equipment procured for HEC management.	HEC management training reports. Equipment procurement report.	2033	W D, TAWIRI, TANAPA, TAWA, NCAA, WMAs, Local communities, Research Institutions, TFS, and conservation NGOs.
4. Develop land use plans in elephant dispersal areas.	Number of land use plans.	Land use plans Certificate of Customary Right of Occupancy (CCRO) Gazette Notice (GN) Number of HEC ante and post a given period.	2033	Land Use Commission and MNRT WD, local communities, and WMAs.

Target: At least 50% of human Elephant conflict incidences reduced by 2033.				
Output: HECs are managed by sound data collection, analysis, and reporting.				
MV: Monitoring & database of numbers of incidents & outcome of interventions.				
Key Activities/Actions	Key Performance Indicators	Means of Verification	Time Frame	Responsibility
5. Conduct EIAs and SEAs for new infrastructure development in the elephant range (including roads, railways, fences, buildings, water, and oil pipelines etc).	Number of EIAs and SEAs The proportion of new infrastructure with EIAs and SEAs.	EIAs and SEAs reports	2033	NEMC, Ministry for Energy and Minerals, Ministry of Works and Transport.
6. Monitor HEC incidents using monitoring technology (SMART.	The proportion of stakeholders using monitoring technology.	Monitoring reports	2033	WD, TAWA, TANAPA, NCAA, LGAs, TAWIRI, CWMAC, WMAs, and NGOs,
7. Improve use of the Management Oriented Monitoring Systems (MOMS) in WMAs and village land in wildlife corridors.	Develop guidelines or improve existing MOMS schemes in WMAs. Introduce MOMS in village land.	MOMS modules in use	2033	CWMAC, WD, TAWA, TANAPA, NCAA, DGOs, DCs, and TAWIRI.
8. Conduct education and awareness to the general national public on HEC management (media-electronic, social and print, safety guidelines booklets.	Number of HEC management outreach programs.	Outreach reports (Posters, flyers, Booklets, Radios TV etc)	2033	WD, TAWA, TANAPA, NCAA, TAWIRI, and Training institutions.
9. Undertake restoration of critical elephant wildlife corridors, buffer zones, dispersal and open areas.	Number of wildlife corridors, buffer zones, dispersal, and open areas secured or restored.	GN	2033	WD, TAWA, TANAPA, NCAA, and TAWIRI.

Target: At least 50% of human Elephant conflict incidences reduced by 2033.				
Output: HECs are managed by sound data collection, analysis, and reporting.				
MV: Monitoring & database of numbers of incidents & outcome of interventions.				
Key Activities/Actions	Key Performance Indicators	Means of Verification	Time Frame	Responsibility
10. Establish an inter-ministerial committee on HEC management.	Number of inter-ministerial committee meetings.	Minutes of the meetings.	2033	Prime Minister's office, and MNRT.
11. Implement Climate change mitigations and adaptations actions for the management of human-elephant conflicts (supply of water dams, habitat restoration of river basins, invasive species control etc).	Number of Climate change mitigations and adaptations.	Reports.	2033	Vice Presidents office, MNRT, NCAA TAWIRI, and TANAPA.

8.3. Social and Economic Framework promoted

Rationale

At both the local and national levels, participatory processes improved along with the incentives for coexisting with elephants and the sharing of financial benefits from elephants.

KPI: Benefits to communities and contribution to national development increased and HEC reduced.				
Output: At local and national levels participatory processes improved, incentives for coexisting with elephants increased and the distribution of financial benefits from elephants improved and the effectiveness of different benefit-sharing models have been assessed.				
MV: Report on amounts and distribution of revenues from consumptive & non-consumptive utilization of elephants.				
Key Activities/Actions	Key Performance Indicators	Means of Verification	Time Frame	Responsibility
1. Establish more functional WMAs, especially in known Wildlife Corridors.	Number of functioning WMAs established	• Gazetted WMAs • AA Certificates	2023-2033	WD, NGOs, DC, TANAPA, NCAA, and CWMAC
2. Establish conservation-based income-generating businesses (Photo tourism, Safari Hunting, Game Ranching, Aquaculture) in less developed areas, especially in known wildlife corridors.	A number of agreements with land-holders on the establishment of conservation-based income generating businesses.	• Income-generating businesses agreements	2023-2033	WD, TAWIRI, TANAPA, NCAA, CWMAC, and relevant stakeholders
3. Create incentives to promote partnerships (e.g., WMAs/Safari Operators) and joint venture opportunities.	Number of Formal Joint Venture Agreements Developed.	Legal agreement documents.	2033	WD, TAWIRI, TANAPA, NCAA, CWMAC, and relevant stakeholders.
4. Improve community structures through training and recruitment of staff.	Number of Community institutional structures capacity assessments conducted.	Training needs assessment document Number of people recruited or trained.	2033	CWMAC, AAs, WD, TAWA TAWIRI, TANAPA, NCAA, and relevant stakeholders.

KPI: Benefits to communities and contribution to national development increased and HEC reduced.				
Output: At local and national levels participatory processes improved, incentives for coexisting with elephants increased and the distribution of financial benefits from elephants improved and the effectiveness of different benefit-sharing models have been assessed.				
MV: Report on amounts and distribution of revenues from consumptive & non-consumptive utilization of elephants.				
Key Activities/Actions	Key Performance Indicators	Means of Verification	Time Frame	Responsibility
5. Conduct training for communities in business skills using 'WMA promotion units'.	WMA promotion Units developed.	Number of WMA promotion Units established. Number of communities trained	2033	CWMAC, WD, TAWA, and private sectors.
6. Develop a handbook for the Integration of the use of traditional knowledge, beliefs and value systems into elephant conservation.	Number of Handbooks.	Handbook.	2025	WD, TAWA, and private sector CWMAC.
7. Develop & strictly implement systems to monitor tourist hunting.	Hunting monitoring system, Guidelines for elephant hunting in place.	Utilization Database Guidelines .	2025	WD, TAWA, and private sector.
8. Develop an elephant trophy ageing system based on available science and existing experiences in the SADC Region.	Elephant trophy ageing guidelines.	Elephant trophy ageing system developed.	2029	WD, TAWA, TAWIRITAHOA, and Hunting Operators.
9. Promote transparent and equitable distribution of the benefits and costs of elephant management and conservation.	Number of Reports of communications & agreements with communities & joint ventures Records of payments by operators. Explore the feasibility of increasing benefit sharing for communities.	Annual reports Annual financial statements Benefit sharing report.	Ongoing	WD, TAWA, and CWMAC.

8.4. Research and Monitoring enhanced

Rationale

Research and monitoring are critical in the elephant management as they provide vital information for planning and sustainable utilization of elephants. This Management Plan promotes science-based decisions making process in the conservation and management of elephant population in Tanzania. It also advocates sharing of information and research findings to a wider community to improve their awareness.

Output: Adaptive management to achieve viable populations and suitable habitat conditions implemented				
Target 1: At least ten demand-driven elephant researches conducted by 2033				
MV: Results from Aerial surveys and other monitoring methods				
Key Activities/Actions	Key Performance Indicators	Means of Verification	Time Frame	Responsibility
Target 1: At least ten demand-driven elephant researches conducted by 2033				
1. Conduct elephant population monitoring using scientifically accepted methods	i. Elephant population size ii. HEC Magnitude	Reports	Twice a year	TAWA, TANAPA, NCAA, Research Institutions, Researcher
Target 2: At least five potential areas for WMA establishment are identified by June 2032				
1. Conduct a need assessment for establishing collaboration and data sharing framework	A number of workshops/meetings conducted	Need assessment report	2024	TAWIRI, SUA, MWEKA, WD, TAWA, TANAPA, NCAA
2. Develop and operationalize National elephant Database.	Database	Elephant database in place	2025	Consultant
3. Develop elephant research projects across ecosystems.	Number of research projects	• Research report • Publication	2023-2033	WD, TAWA, TANAPA, NCAA
4. Establish and maintain an elephant genetic bank.	Forensic laboratory in place	Functional Genetic data bank in place.	2023	TAWIRI

Output: Adaptive management to achieve viable populations and suitable habitat conditions implemented				
Target 1: At least ten demand-driven elephant researches conducted by 2033				
MV: Results from Aerial surveys and other monitoring methods				
Key Activities/Actions	**Key Performance Indicators**	**Means of Verification**	**Time Frame**	**Responsibility**
5. Conduct and disseminate elephant research findings.	The number of research findings disseminated	Dissemination reports Media programs Promotional materials Conference proceedings reports	Yearly	TAWIRI, SUA. MWEKA and Elephant Researchers
6. Conduct education programs and awareness creation on elephant conservation	The number of people reached Number of meetings/educational programs	Minutes Meeting reports	Yearly	WD, TAWA, TANAPA, NCAA, TAWIRI and
7. Mobilise funds for elephant research and long-term studies	Fund mobilized	Funds	Yearly	WD
8. Facilitate 10 staff to attain postgraduate's degree in elephant conservation	Number	• Thesis • Postgraduate Certificates	June 2033	Research and Management Authorities

8.5. Habitat degradation and loss reduced

Rationale

The increased demand for land coupled with insufficient land use planning and human population increase has resulted in the expansion of human activities along protected area boundaries and into wildlife corridors and dispersal areas. In addition, incompatible land use activities place an artificial boundary for the free movement of elephants which requires a large home range that connects to different habitats in order to suffice their nutritional and breeding needs. A recent wildlife corridor assessment of 2022 has identified 61 corridors, many of which had already deteriorated beyond repair. Out of 61 wildlife corridors, 18 were at least in use by wild animals. The continual loss of wildlife corridors calls for an urgent need to institute management and restoration mechanisms of the remained corridors to ensure free movement and wild animals between habitat patches.

Output: Key elephant habitat, corridors, and connectivity outside protected areas maintained.				
Target: Develop a framework for stakeholders' collaboration in restoring key elephant habitats outside protected areas.				
MV: Number of land use plans, viable corridors developed in elephant hotspots.				
Key Activities/Actions	Key Performance Indicators	Means of Verification	Time Frame	Responsibility
Develop a framework for collaboration to restore key elephant habitats by involving Stakeholders	Number of frameworks	Framework for collaboration in place	2025	TAWA, TANAPA, and NCAA
Develop and implement land use plans in identified Villages	Number of villages with land use plans	Village land-use plans in place	2033	TAWA, TANAPA, and NCAA
Demarcate and gazette key viable corridors used by elephants	Number of corridors gazetted	Government Notice Number (GN)	2023-2033	WD, TAWA, TANAPA, NCAA, and TAWIRI
Integrate corridor conservation activities into local Government Plans and Policies	Number of corridors integrated into Local Government plans	Integrated plans	2023-2033	LGAs, Lands, Housing, human Settlements, WD, TAWA, and TANAPA, NCA
Establish key elephant home-ranges	Number and size of elephant home ranges	• Reports • Distribution maps	Once after every three years	TAWIRI, SUA, MWEKA and UDSM

8.6. Conservation Capacity strengthened

Rationale

Ensuring that sufficient and appropriately trained personnel, equipment, infrastructure, and financing are mobilized, available, and used efficiently and effectively

Output: Effective adaptive management with sufficient and appropriately trained personnel, equipment, infrastructure and financing implemented.				
Target: 80% of staff from conservation agencies are equipped with relevant knowledge and skills in elephant conservation.				
MV: Records of training, equipment, staff promoted to various ranks and staff deployment.				
Key Activities/Actions	Key Performance Indicators	Means of Verification	Time Frame	Responsibility
1. Undertake needs assessment in all wildlife agencies.	Evaluation of staff in terms of qualifications, numbers & needs.	Number of personnel and qualifications.	Six months from acceptance of this plan.	WD, TAWA, TANAPA, and NCAA, TAWIRI.
2. Secure funds for elephant conservation in the Implementation of this Management and Action Plan	Funds for elephant conservation raised	Payment issued in implementation of this plan Records of funds received	2033	WD, TWPF, TAWA, TANAPA, NCAA, TAWIRI and conservation partners
3. Establish training and in-service retraining of personnel in law enforcement, research and monitoring, education and awareness, community elephant management, etc.	Increased levels 80% compared to June 2023 levels in: 1. Number of training days and programmes initiated. 2. Number of staff trained (rangers, ecologists, extension officers). 3. Number of communities trained and implementing elephant management programmes.	Record of staff training and re-training in staff files and annual summary report of training Record of communities trained Reports of training programmes.	Five years after launch of this Plan.	WD, TAWA, TANAPA, NCAA, TAWIRI. LGA, NGO, WMA, and CWMA

Output: Effective adaptive management with sufficient and appropriately trained personnel, equipment, infrastructure and financing implemented.				
Target: 80% of staff from conservation agencies are equipped with relevant knowledge and skills in elephant conservation.				
MV: Records of training, equipment, staff promoted to various ranks and staff deployment.				
Key Activities/Actions	Key Performance Indicators	Means of Verification	Time Frame	Responsibility
4. Secure budgets to build and maintain necessary human resources to strengthen elephant conservation & management capacity.	Funding & trained staff available for all aspects of elephant management (anti-poaching, HEC resolution, utilisation etc. MOMS patrol records & databases maintained.	Record of payments to implement these activities	Five years after launch of this Plan	WD, TAWA, TANAPA, NCAA, and TAWIRI.
5. Provide housing, infrastructure, and equipment needed for staff to effectively conserve and manage elephant.	• Audit of current status of housing, infrastructure, and equipment completed by December 2024. • Proportion of staff house build to implement this action plan.	• Audit reports • Annual reports on improvements made to housing, infrastructure and equipment • Certificate of building	2033	WD, TAWA, TANAPA, NCAA, TAWIRI. NGO, WMA, and LGA
6. Engage available external expertise.	• Number of informed decisions made, • External funding sourced, • Number of collaborative projects developed.	• Reports and records of collaboration with external experts, • Number of working permits issued by conservation institutions	2033	WD, TAWA, TANAPA, NCAA, TAWIRI. NGO, WMA, and LGA
7. Establish training and in-service retraining of Wildlife Agencies personnel in law enforcement, wildlife management, research and monitoring.	• Research officers qualified at tertiary levels trained to interpret aerial surveys, ivory weights & other monitoring data. • Management officers trained in management activities. • Communities trained in MOMS & other monitoring as required.	• Records of training • Number of officers trained • Number of communities supported	2033	WD, TAWA, TANAPA, NCAA, TAWIRI. NGO, WMA, and LGA

8.7 Coordination, Collaboration & Programme Management improved

Rationale

A robust and well-established national elephant coordination is essential for successful elephant conservation and management. When this plan is put into action, all wildlife agencies and stakeholders will be coordinated through a well-established Implementation framework. Under this framework exchange of information and technology regarding elephant management will be effected at all levels.

Output: Implement strategies to provide the best possible collaboration at the national and international levels in order to monitor the progress of adaptive elephant population management				
Target: At least 80% of the Plan activities are implemented by June 2033				
KPI: National elephant coordinator appointed and national and regional elephant conservation committees with appropriate stakeholder participation appointed and information dissemination programme in place.				
	Key Activities/Actions	Key Performance Indicators	Means of Verification	Time Frame	Responsibility
1.	Review and enter MoUs with neighbouring countries on wildlife law enforcement issues.	Number of MOU developed Number of MoU reviewed.	Signed MoU, Action plans.	2024	WD
2.	Develop a framework for the management of shared elephant populations, particularly in TFCA.	Number of cross-border Meetings. Number of joint surveys	Minutes of meetings Published census report.	2024	WD
3.	Exchange information on wildlife law enforcement and conservation with international organisations (CITES, INTERPOL, TRAFFIC, CMS, EAC, SADC).	Number of issues/information shared.	Reports, data sheets, minutes.	Regularly	WD, and TAWIRI
4.	Establish and facilitate National Elephant Steering Committee and National Elephant Technical Committee.	National Elephant Steering Committee. National Elephant Technical Committee in place.	Minutes of meetings.	2023	WD

Output: Implement strategies to provide the best possible collaboration at the national and international levels in order to monitor the progress of adaptive elephant population management				
Target: At least 80% of the Plan activities are implemented by June 2033				
KPI: National elephant coordinator appointed and national and regional elephant conservation committees with appropriate stakeholder participation appointed and information dissemination programme in place.				
	Key Activities/Actions	Key Performance Indicators	Means of Verification	Time Frame	Responsibility
5.	Establish a functional Elephant Coordination Office and recruit a National Elephant Coordinator (NEC) .	Elephant Coordinator Functional office.	Coordinator in place Implementation Reports.	2024	WD
6.	Recruit elephant focal persons in wildlife conservation institutions (TAWA, TANAPA, NCAA & TAWIRI) .	Elephant focal points.	Appointment letters.	2024	WD
7.	Conduct annual elephant stakeholder's meetings/ workshops/conferences.	Number of Meetings/ workshops/ conferences.	Meetings/ workshops/ conferences proceedings.	Yearly	WD, TAWIRI, TAWA, TANAPA, NCAA and Conservation partners
8.	Develop an effective information Dissemination and Communication Plan, including regular progress reports on the implementation of the plan.	Effective Information Dissemination and Communication Plan. Number of Stakeholders meeting.	Communication Plan document.	2023	WD
9.	Develop annual budgets and action plans for implementation of the Plan.	Annual budget & Action plan.	Annual budget & Action plan documents.	Annually	NEC

9.0. IMPLEMENTATION OF THE MANAGEMENT AND ACTION PLAN

9.1. Institutions and Roles

The implementation of the management plan necessitates collaboration among various stakeholders, including government agencies, non-government organizations (NGOs), research institutions, the community, and the general public. Government agencies, led by the Wildlife Division of the MNRT, provide strategic guidance and policy direction for plan implementation. These agencies encompass TANAPA, TAWA, NCAA, and local government authorities at village and district levels. Local government authorities actively involve communities in managing human-elephant conflicts through the enforcement of established bylaws, while communities offer valuable insights into elephant movements and poaching incidents. Research and academic institutions, such as TAWIRI, UDSM, UDOM, SUA, and the College of African Wildlife Management - Mweka, provide technical expertise and advice to support both management efforts and community engagement, thereby enhancing elephant management practices. NGOs dedicated to conservation and the private sector play a crucial role by providing the necessary technical and financial support for plan implementation. The private sector additionally contributes to government conservation efforts through investments in the wildlife sector. Moreover, the general public plays a vital role by actively supporting government initiatives aimed at wildlife conservation and resource management. The successful execution of the management plan relies on the collaborative and active participation of government agencies, research institutions, NGOs, the private sector, and the general public, with each stakeholder contributing their respective expertise, resources, and support to ensure the effective management and conservation of elephants.

9.2. Funding and resource mobilization

In order to ensure the effective implementation of this plan, a comprehensive document outlining the annual priorities and corresponding budget requirements will be developed and approved. To secure the necessary financial resources, particular emphasis will be placed on acquiring funds from the Tanzania Wildlife Protection Fund (TWPF). The primary mandate of TWPF is to mobilize financial resources to facilitate and support the conservation and management of wildlife resources. The establishment of TWPF can be traced back to the Parliamentary Act No. 21 of 1978, which was enacted following a review of Section 69 of the Wildlife Conservation Act No. 12 of 1974. Currently, the legal foundation for TWPF is found in Section 91(1) of the Wildlife Conservation Act No. 5 of 2009. From an administrative standpoint, the Fund operates under the supervision of the Board of Trustees, with the chairperson appointed by the President of

the United Republic of Tanzania. The Chief Executive Officer, supported by the Administrative Secretary, oversees the day-to-day operations of the Fund.

The Fund provides support for a range of interventions, including the strengthening of legal and regulatory frameworks, the mitigation of human-wildlife conflicts, the enhancement of wildlife protection measures, research and training initiatives, capacity-building efforts, awareness-raising campaigns on conservation, and the implementation of regional and international agreements. This plan will therefore be integrated into the Strategic Plans and Budgets of TWPF through targeted and strategic interventions. By aligning the priorities of the annual implementation with the objectives and goals of TWPF, the plan will be able to access the necessary financial resources and support for its successful execution. In addition to seeking funding from TWPF, efforts will also be made to secure funds from conservation and development partners through specific projects that are directly linked to the actionable items outlined in the Action Plans. These partnerships and projects will provide supplementary financial support to enhance the implementation of the plan, further reinforcing its effectiveness and impact on the conservation and management of elephant populations.

9.3. Coordination

The effective conservation of elephants requires a coordinated structure and framework that brings all conservation and management efforts and engagement from across all sectors and players together to address these challenges. The government requires a national coordination structure and framework that engage stakeholders in coordination efforts for effective conservation and management of elephant populations and their ranging areas. This Plan aims to establish an elephant management coordination framework that will account for all issues related to the conservation and management of elephants at all levels in ways that will be guided by national policy and regulatory frameworks as well as the incorporation of the multilateral framework (e.g. IUCN, CBD, CITES) to effectively conserve and manage elephant populations.

The effective conservation of elephants requires a coordinated and collaborative approach that unifies the efforts of various sectors and stakeholders. To ensure the successful conservation and management of elephant populations and their habitats, the government recognizes the need for a national coordination structure and framework. This structure will facilitate the engagement of stakeholders from diverse sectors in coordinated conservation efforts. The structure will establish a management coordination framework that comprehensively addresses all aspects related to the conservation and management of elephants at every level. This framework will be guided by national policy and regulatory frameworks, which

serve as the foundation for effective elephant conservation and management. Additionally, the incorporation of multilateral frameworks, such as the International Union for Conservation of Nature (IUCN), the Convention on Biological Diversity (CBD), and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), will ensure that the conservation and management efforts align with internationally recognized standards and guidelines. The major coordination entities include;

a) Wildlife Division

The Ministry of Natural Resources and Tourism's Wildlife Division (MNRT - WD) will have a prominent role in spearheading and harmonizing elephant conservation initiatives in Tanzania. The Director of Wildlife within the MNRT serves as the driving force behind these efforts, convening and presiding over the National Elephant Management Steering Committee as its chairperson. This committee brings together representatives from various institutions and organizations involved in elephant conservation, facilitating discussions on conservation strategies, policies, and actions. The Director of Wildlife will play a vital role in fostering collaboration, guiding decision-making, and ensuring effective communication within the committee.

b) National Elephant Management Steering Committee (NESC)

A National Elephant Management Steering Committee (NESC) will be established to oversee and guide the implementation of Action Plans. The committee will convene at least once annually to review the progress made in executing the Action Plans. It will document the advancements in implementation and propose any necessary revisions, presenting a comprehensive report to the Minister. Comprising the heads of key institutions, the NESC will possess decision-making and advisory functions. Its members will include the Director of Wildlife-MNRT, Conservation Commissioners of TANAPA, TFS, TAWA, NCAA, Director General of TAWIRI, Director of Environment Vice President Office, Director of Sectoral Coordination (DSC) TAMISEMI, Commissioner of Lands, Attorney General, Director of Criminal Investigations, and Community Wildlife Management Areas Consortium (CWMAC). Moreover, the Wildlife Authorities mentioned above (TANAPA, TAWA, NCAA, and TAWIRI) will appoint an elephant focal person. The broad membership of the Steering Committee extends beyond the wildlife sector to account for the interconnectedness of elephant conservation with national laws, policies, judiciary processes, land use decisions, and the development plans and policies of the livestock, agriculture, water, and infrastructure sectors. The Draft Terms of Reference for the National Elephant Management Steering Committee (NESC) are provided in Annex A.

c) Elephant Coordinator

This plan provides for appointing an Elephant Coordinator within the MNRT-WD to coordinate elephant management activities nationwide. The Elephant Coordinator, serving as the secretary of the NESC, plays a crucial role in facilitating its functioning and ensures effective communication and coordination with focal persons from wildlife authorities who are committee members. Additionally, the Elephant Coordinator will collaborate closely with the CITES Management Authority Office to ensure compliance with international regulations and guidelines for elephant conservation. The Action Plan includes a draft of the Elephant Coordinator's Terms of Reference in Annex B, outlining their responsibilities and qualifications to guide their contribution to the overall objectives of the Action Plan. The framework and structure are summarized (Fig 9).

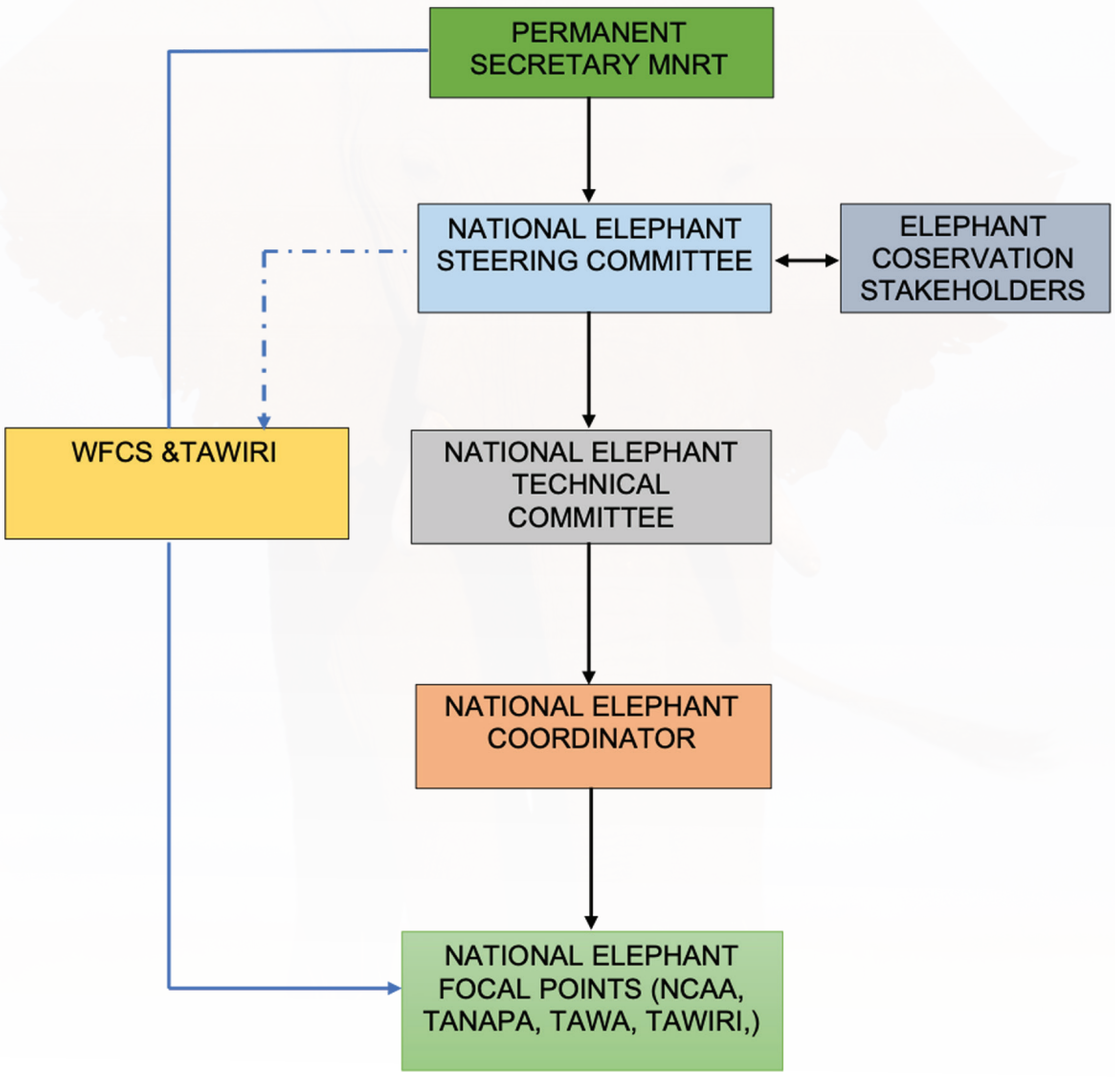


Figure 9: Coordination Scheme of the Elephant Management and Action Plan.

9.4. Monitoring and evaluation of the Action Plans

The implementation of this Action Plan will be closely monitored and evaluated using Key Performance Indicators (KPIs) that are integrated into the plan. The Elephant Coordinator, responsible for overseeing elephant conservation and management, will regularly monitor the progress on a quarterly and annual basis. The monitoring process will involve collecting relevant data to track the achievement of targets and identify areas needing improvement. The coordinator will provide comprehensive updates and address challenges encountered during implementation. Additionally, a mid-term review will be conducted after five years to evaluate the overall effectiveness and impact of the Action Plan. This review will assess the long-term trajectory of conservation efforts, validate the chosen strategies, and make necessary adjustments for improved outcomes. By integrating regular monitoring by the coordinator and conducting a mid-term review, the Action Plan can be effectively monitored, evaluated, and refined to ensure its relevance and success in addressing the critical issues surrounding elephant conservation and management.

9.5. Links with continental and regional initiatives

Within the framework of this Management and Action Plan, due recognition is given to the African Elephant Action Plan, along with various continental-level initiatives aimed at addressing the challenges surrounding elephant conservation. Notably, the African Union has played a pivotal role in this regard, developing the Common Strategy on Combating Illegal Exploitation and Illegal Trade in Wild Fauna and Flora in Africa. This strategic approach, endorsed by multiple African nations, serves as a guiding principle for combating illegal activities related to wildlife, including elephants. At the regional level, the Southern African Development Community (SADC) has undertaken significant initiatives to protect and preserve elephant populations. These efforts include the development of a comprehensive Plan of Action and the implementation of the SADC Protocol on Wildlife Conservation and Law Enforcement. Moreover, the SADC Law Enforcement and Anti-Poaching Strategy has been instrumental in strengthening law enforcement measures and enhancing anti-poaching activities across the region.

Within the East African Community (EAC), concerted efforts have been made to align regional policies and strategies with the goal of elephant conservation. The EAC Strategy to Combat Poaching, Illegal Wildlife Trade, and Trafficking of Wildlife and Wildlife Products (2017-2022) establishes a comprehensive roadmap to tackle these illicit activities and safeguard elephant populations. The EAC Wildlife Conservation and Management Policy also reinforces the commitment to conservation efforts within the East African

region. By acknowledging and integrating these continental and regional initiatives, this Management and Action Plan ensures a cohesive and synergistic approach to elephant conservation. Collaboration and coordination with relevant stakeholders at multiple levels contribute to knowledge-sharing, and promotes effective conservation measures across borders.

10.0. REFERENCES

Ahlering, M. A., Eggert, L. S., Western, D., Estes, A., Munishi, L., Fleischer, R., ... & Maldonado, J. E. (2012). Identifying source populations and genetic structure for savannah elephants in human-dominated landscapes and protected areas in the Kenya-Tanzania borderlands. *PLoS One*, *7*(12), e52288.

Barnes, R. F. W., Craig, G. C., Dublin, H. T., Overton, G., Simons, W., Thouless, C. R. (1999). African Elephant Database 1998. Gland: IUCN. URL: http://iucn.org/afesg/aed/aed98.html.

Barnes RFW, Jensen KL (1987). How to count elephants in forests IUCN African Elephant & Rhino Specialist Group Technical Bulletin I: 1-6.

Barnes RFW (2002). The problem of precision and trend detection posed by small elephant populations in West Africa. East African Wildlife Society. Afr. J. Ecol. 40:179-185.

Blanc, J.J., Thouless, C.R., Hart, J.A., Dublin, H.T., Douglas-Hamilton, I., Craig, C.G. and Barnes, R.F.W. (2003). African Elephant Status Report 2002: An update from the African Elephant Database. IUCN/SSC African Elephant Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK. vi + 304 pp.

Blanc, J.J., Barnes, R.F.W. Craig, C.G, Dublin, H.T, Thouless, C.R , Douglas-Hamilton, I., and Hart, J.A.(2007). African Elephant Status Report 2007. An update from the African Elephant Database. Occasional Paper of the IUCN Species Survival Commission, No 33. IUCN/SSC African Elephant Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK. vi + 276 pp.

CITES (2010). African Elephant Action Plan. CoP15 Inf. 68. 23 pp.

Debonnet, G. and S. Nindi. 2017. Technical Study on Land Use and Tenure Options and Status of Wildlife Corridors in Tanzania an Input to the Preparation of Corridor Regulations. Prepared for United States Agency for International Development (USAID). Prepared by PROTECT. 106pp. https://conservationcorridor.org/cpb/Debonnet_and_Nindi_2017.pdf

Department of Wildlife-Tanzania (1994). The Policy for management of the African Elephant in Tanzania.

DWNP. (2021) Botswana Elephant Management Plan and Action Plan2021 – 2026. Department of Wildlife and National Parks. Gaborone.

Eggert LS, Eggert JA, Woodruff DS (2003). Estimating population sizes for elusive animals: the forest elephants of Kakum National Park, Ghana. Mol. Ecol. 12:1389-1402.

Eltringham, S. K., Cooksey, I. A., Dixon, W. J., Raine, N. E., Sheldrick, C. J., McWilliam, N. C., & Packer, M. J. (1999). Large mammals of Mkomazi. Mkomazi: The Ecology, Biodiversity and Conservation of a Tanzanian Savanna. Royal Geographical Society, London, 485-504.

Epps, C. W., Wasser, S. K., Keim, J. L., Mutayoba, B. M., & Brashares, J. S. (2013). Quantifying past and present connectivity illuminates a rapidly changing landscape for the African elephant. *Molecular ecology*, *22*(6), 1574-1588.

Gobush, K.S., Edwards, C.T.T, Balfour, D., Wittemyer, G., Maisels, F. & Taylor, R.D. 2021. *Loxodonta africana*(amended version of 2021 assessment). The IUCN Red List of Threatened Species 2021: e.T181008073A204401095. https://dx.doi.org/10.2305/IUCN.UK.2021-2.RLTS.T181008073A204401095.en.

Gross, E.M.; Pereira, J.G.; Shaba, T.; Bilério, S.; Kumchedwa, B.; Lienenlüke, S. (2022) Exploring Routes to Coexistence: Developing and Testing a Human–Elephant Conflict-Management Framework for African Elephant-Range Countries. *Diversity 2022,14,525.* https:// doi.org/10.3390/d14070525

Hariohay K.M.,FyumagwaR.D., Kideghesho J. R. &Røskaft E. (2018) Awareness and attitudes of local people toward wildlife conservation in the Rungwa Game Reserve in Central Tanzania, Human Dimensions of Wildlife, 23:6, 503-514, DOI: 10.1080/10871209.2018.1494866

Hariohay, K., Munuo, W., &Røskaft, E. (2020). Human–elephant interactions in areas surrounding the Rungwa, Kizigo, and Muhesi Game Reserves, central Tanzania. Oryx, 54(5), 612-620. doi:10.1017/S003060531800128X

Hoare, R. and DuToit, J.T.(1999). Coexistence between people and elephants in African savannas. Conservation Biology,13, 633-639

Hoare R. (2015). Lessons From 20 Years of Human–Elephant Conflict Mitigation in Africa, Human Dimensions of Wildlife, 20:4, 289-295, DOI: 10.1080/10871209.2015.1005855

Kamuzora, F., & Jeyacheya, J. (2019). Economic Leakage as a Constraint on Tourism's Effective Contribution to Local Economic Development in Tanzania. In D. Potts (Ed.), *Tanzanian Development: A Comparative Perspective*(pp. 258-272). Boydell & Brewer. doi:10.1017/9781787444294.013

LindseyP.A., RouletP.A., RomañachS.S. (2007). Economic and conservation significance of the trophy hunting industry in sub-Saharan Africa. Biological Conservation,Volume 134, Issue 4,Pages 455-469,

Lindsey, P. &Chapron, G.&Petracca, L.& Burnham, D.& Hayward, M,& Henschel, P.& Hinks, A.& Garnett, S.& Macdonald, D.& Macdonald, E.& Ripple, W. &

Zander, K.& Dickman, A. (2017). Relative efforts of countries to conserve world's megafauna. Global Ecology and Conservation. 10. 243-252. 10.1016/j.gecco.2017.03.003.

Lobora A., Keyyu J., Bukombe J., Juma R., Machoke M., Justin E., and Oola K. (2022). The Wildlife Monitoring Programme for the 400kv Kenya-Tanzania Power Interconnection Project (KTPIP). Pages 144, Unpublished report.

Lohay GG, Weathers TC, Estes AB, McGrath BC, Cavener DR. (2020) Genetic connectivity and population structure of African savanna elephants (Loxodonta africana) in Tanzania. EcolEvol. 2020; 10:11069–11089. https:// doi.org/10.1002/ece3.6728

Mariki, S.&Svarstad, H.&Benjaminsen, T. (2015). Elephants over the Cliff: Explaining Wildlife Killings in Tanzania. Land Use Policy. 44. 19-30. 10.1016/j.landusepol.2014.10.018.

Martin, R.B. 2014: Environmental Methodologies: Why Isn't the Use of Adaptive Management More General? In: CITES, animal rights, sustainable use and conservation in Africa: A Collection of Papers by Rowan Martin and Marshall Murphree. 2018 LAP Lambert Academic Publishing

Ministry of Environment, Forestry and Tourism, Namibia. (2020). National Elephant Conservation and Management Plan 2021/2022-2030/2031. Windhoek.

Morrison, T. A., Estes, A. B., Mduma, S. A., Maliti, H. T., Frederick, H., Kija, H. & Kohi, E. M. (2018). Informing aerial total counts with demographic models: population growth of Serengeti elephants not explained purely by demography. *Conservation Letters*, *11*(3), e12413.

MNRT. (2007). The Wildlife Policy of Tanzania, Dar es Salaam.

MNRT (2015) National Strategy to combat poaching and the illegal wildlife trade. Ministry of Natural Resources and Tourism. Dar es Salaam.

MNRT, TAWA, & TAWIRI. (2017). Non-detriment findings on African lion (*Panthera leo*) in the United Republic of Tanzania, including Enhancement findings. Unpublished report. Ministry of Natural Resources and Tourism (MNRT). Dar es Salaam.

MNRT(2019). The 2018 Wildlife sub-sector Statistical bulletin. Ministry of Natural Resources and Tourism (MNRT) Dodoma.

MNRT 2021 TWPF StrategyTanzania Wildlife Protection Fund (TWPF) Strategic Plan 2021-2026, Dodoma

MNRT 2022a.Ministry of Natural Resources and Tourism (MNRT) (2022). Tanzania Wildlife Corridor Assessment, Prioritization, and Action Plan. Editors: Penrod, K., H. Kija, V. Kakengi, D.M. Evans, E. Pius, J. Olila and

J. Keyyu. Unpublished report. Ministry of Natural Resources and Tourism (MNRT), Dodoma. 155 pp. + Appendices.

MNRT (2022b).The Wildlife Management Areas Implementation Strategy (2023-2033). Dodoma.

MNRT (2022c) Draft National Anti-Poaching Strategy (2023-2033). Dodoma

Mwambola, S., Ijumba, J., Kibasa, W., Masenga, E., Eblate, E., & Munishi, L. K. (2016). Population size estimates and distribution of the African elephant using the dung surveys method in Rubondo Island National Park, Tanzania.

Musika, N.V.; Wakibara, J.V.; Ndakidemi, P.A.; Treydte, A.C. Using Trophy Hunting to Save Wildlife Foraging Resources: A Case Study from Moyowosi-Kigosi Game Reserves, Tanzania. *Sustainability* 2022,*14*,1288. https://doi.org/10.3390/su14031288

Namibia Ministry of Environment, Forestry and Tourism, 2020. National Elephant Conservation and Management Plan 2021/2022-2030/2031. Windhoek 2021.

Ngene, S., Lala, F., Nzisa, M., Kimitei, K., Mukeka, J., Kiambi, S., ... & Douglas-Hamilton, I. (2017). Aerial Total Count of Elephants, Buffalo and Giraffe in the Tsavo-Mkomazi Ecosystem*(February 2017). Kenya Wildlife Service (KWS) and Tanzania Wildlife Research Institute (TAWIRI), Arusha.

Ntalwila, J., Mwakatobe A., Mtui D., Kavana P., Hariohay K.M., Mwita M., Mrisha C. , Fyumagwa R., Skjærvø G.R.& Røskaft E. (2019)Ecosystem services: social, cultural and economic values of elephants for community livelihood in the Serengeti ecosystem in *Proceedings of theTwelveth TAWIRI Scientific Conference, 4th – 6th December 2019*,Arusha International Conference Centre, Tanzania.

Ntukey, L.T.; Munishi, L.K.; Kohi, E.; Treydte, A.C. (2022) Land Use/Cover Change Reduces Elephant Habitat Suitability in the Wami Mbiki–Saadani Wildlife Corridor, Tanzania. Land, 11, 307. https://doi.org/10.3390/land11020307

Okita-ouma B, Lala F, Moller R, Koskei M, Dabellen D, Leadismo C, Mijele D, Poghon J, Pope F, Wittemyer G, *et al.* 2016. Preliminary indications of the effect of infrastructure development on ecosystem connectivity in Tsavo National Parks, Kenya. Pachyderm. 0(57):109–111.

Poole, J.H., Lee, P.C., Njiriani, N., Moss, C.J. (2011) “Longevity, Competition and Musth: A Long-term Perspective on Male Reproductive Strategies”. The Amboseli Elephants: A Long-Term Perspective on a Long-Lived Mammal. University of Chicago Press, Chicago

Riggio J, Caro T (2017) Structural connectivity at a national scale: Wildlife corridors in Tanzania. PLoSONE 12(11): e0187407. https://doi.org/10.1371/journal.pone.0187407

Sanare, J.E.; Valli, D.; Leweri, C.; Glatzer, G.; Fishlock, V.; Treydte, A.C. (2022) A Socio-Ecological Approach to Understanding How Land Use Challenges Human-Elephant Coexistence in Northern Tanzania. Diversity 2022, 14, 513. https://doi.org/10.3390/ d14070513

Smit, J., Pozo, R., Cusack, J., Nowak, K., & Jones, T. (2019). Using camera traps to study the age–sex structure and behaviour of crop-using elephants Loxodonta africana in Udzungwa Mountains National Park, Tanzania. *Oryx, 53*(2), 368-376. doi:10.1017/S0030605317000345

Snyder, K. D., Mneney, P., Benjamin, B., Mkilindi, P., &Mbise, N. (2021). Seasonal and spatial vulnerability to agricultural damage by elephants in the western Serengeti, Tanzania. Oryx, 55(1), 139-149.

TAWIRI, (2010) Tanzania Elephant Management Plan 2010-2015. 95pp. Arusha. Tanzania.

TAWIRI. (2013). Population Status of African Elephant in Selous – Mikumi Ecosystem, Dry Season, 2013. Arusha, Tanzania.

TAWIRI. (2015). Population Status of Elephant in Tanzania 2014. TAWIRI Aerial Survey Report. Arusha.

TAWIRI (2015) Aerial census in the Katavi-Rukwa Ecosystem, Dry Season, 2014. TAWIRI Aerial Survey Report.

TAWIRI (2015) Aerial census in the Malagarasi - Muyovosi Ecosystem, Dry Season, 2014. TAWIRI Aerial Survey Report.

TAWIRI (2015) Aerial census in the Ruaha-Rungwa Ecosystem, Dry Season, 2014. TAWIRI Aerial Survey Report.

TAWIRI (2019) Aerial Wildlife Survey of Large Animals and Human Activities in the Selous-Mikumi Ecosystem, Dry Season 2018. Tanzania Wildlife Research Institute TAWIRI Aerial Survey Report. Available from: https://tawiri.or.tz/wp-content/uploads/2020/02/Selous-Mikumi-2018-Final.pdf

TAWIRI, (2019) Aerial Survey of large Animals in the Mkomazi National Park, Wet Season, 2019. TAWIRI Aerial Survey Report.

TAWIRI, (2019) Aerial Survey of large Animals in the Tarangire-Manyara Ecosystem. Wet Season, 2019. TAWIRI Aerial Survey Report.

TAWIRI (2020) Aerial Elephant, Buffalo and Giraffe Total count census of in the Serengeti Ecosystem, Wet season 2020. TAWIRI Aerial Survey Report.

TAWIRI (2020) Aerial census in the Malagarasi- Ecosystem, Dry Season, 2020. TAWIRI Aerial Survey Report.

TAWIRI (2020) Aerial census in the Burigi-Chato Ecosystem, Dry Season, 2020. TAWIRI Aerial Survey Report.

TAWIRI (2021) Aerial census in the Katavi-Rukwa Ecosystem, Dry Season, 2021. TAWIRI Aerial Survey Report

TAWIRI (2021) Aerial Elephant, Buffalo and Giraffe Total count census of in the West Kilimanjaro/Lake Natron Ecosystem, Dry season 2021. TAWIRI Aerial Survey Report

Thouless CR, Dublin HT, Blanc JJ, Skinner DP, Daniel TE, Taylor RD, Maisels F, Frederick HL. 2016. African Elephant Status Report An update from the African Elephant Database. Gland, Switzerland: IUCN.

Tiller, L. N., King, L. E., Okita-Ouma, B., Lala, F., Pope, F., Douglas-Hamilton, I., & Thouless, C. R. (2022). The behaviour and fate of translocated bull African savanna elephants (Loxodonta africana) into a novel environment. African Journal of Ecology.

United Republic of Tanzania. (1999). National Development Vision 2025. Planning Commission. Dar es Salaam. Availbale at http://www.tzonline.org/pdf/theTanzaniadevelopmentvision.pdf

Walters Carl J. and. HollingC. S (1990) Large-Scale ManagemePlease provide these two reportant Experiments and Learning by Doing. Ecology, Vol. 71, No. 6 (Dec., 1990), pp. 2060-2068 Ecological Society of America http://www.jstor.org/stable/1938620

Wildlife Division-MNRT (2001). The 2001 National Elephant Management Plan, Department of Wildlife, Dar es Salaam.

Whitehouse, A. (2002). Tusklessness in the elephant population of the Addo Elephant National Park, South Africa. Journal of Zoology, 257(2), 249-254. doi:10.1017/S0952836902000845

World Bank Group (2021) *Transforming Tourism Toward a Sustainable, Resilient, and Inclusive Sector.*Tanzania Economic Update, July 2021, Issue 16. https://documents1.worldbank.org/curated/en/794611627497650414/pdf/Transforming-Tourism-Toward-a-Sustainable-Resilient-and-Inclusive-Sector.pdf

World Economic Forum (2019). Travel and Tourism Competitiveness Index Reporthttps://www3.weforum.org/docs/WEF_TTCR_2019.pdf

Zimbabwe Parks and Wildlife Authority (2021) Zimbabwe National Elephant Management Plan (2021 – 2025). Harare. Zimbabwe.

11.0. LIST OF ANNEXES

ANNEX A: Draft Terms of Reference for the National Elephant Management Steering Committee

Function: To Monitor the implementation of the Management and Action Plan through Annual Reports; to review budget and policy decisions by the Elephant Coordinator; to guide the Ministry of Natural Resources and Tourism to assume overall executive responsibility for elephant conservation and management in Tanzania; to review and advise responsible authorities on all matters relevant to elephant conservation and management in Tanzania; to advise on policies, legislation and other policy instruments related to elephant conservation and management; to evaluate elephant conservation and management strategies in order to minimize and/or avoid the risks and threats associated with the implementation of these strategies; to advise the Permanent Secretary and relevant ministries/higher Authorities on elephant management and conservation; to involve fully the participation of the private sector and the public at large in elephant conservation and management actions.

Role of Individual Committee Members: The role of the individual members includes:

- Understanding the strategic implications and outcomes of initiatives being pursued through the Action Plan Outputs;
- Appreciating the significance of the Action Plan's implementation for major stakeholders and for the future of elephant conservation;
- Being committed to and actively involved in, implementing the most efficient and effective Action Plan;
- Being willing to suggest changes to the Action Plan to achieve efficiency and effectiveness.

Duties: The Committee's primary responsibilities include:

- Ratifying major technical decisions concerned with elephant conservation and management;
- Developing and implementing elephant policy;
- Ensuring the successful implementation of all required actions;
- Advising the Elephant Coordinator and MNRT on sourcing of funds;
- Monitoring funding, expenditure and effectiveness.

Composition: The members of the National Elephant Management Steering Committee include:

- Director of Wildlife-MNRT (Chair);
- Elephant Coordinator (Secretary);
- Conservation Commissioners of:
- TANAPA
- TFS
- TAWA,
- NCAA
- Director General of TAWIRI
- Director of Environment Vice President Office,
- Director of Sectoral Coordination (DSC) TAMISEMI,
- Commissioner of Lands,
- Attorney General,
- Director of Criminal Investigations.
- Director CWMAC
- As Observers: a) CEOs of TATO (Tanzania Association of Tour Operators) and TAHOA (Tanzania Hunting Operators Association).

Time Frame: The Committee will meet at least twice a year, and can be called upon to meet more frequently as the need arises.

Minutes and Meeting Papers: Minutes will be kept by the Elephant Coordinator. Minutes will be circulated within one month of Committee meetings. Resolutions and action points will be kept by the Elephant Coordinator. Actions may be taken without a meeting by a signed unanimous consent circulated, compiled, and maintained by the Elephant Coordinator.

Quorum Requirements: A quorum exists when [75%] of the Committee members are present.

ANNEX B: Draft Terms of Reference for the National Elephant Coordinator

Function: To coordinate elephant management in Tanzania on instructions from the Steering Committee; to liaise and work with stakeholders including all Agencies represented in the Steering Committee, communities, private landowners, photo-tourism and safari hunting operators, NGOs and independent researchers on the duly and timely implementation of the Action Plan.

Duties: The Elephant Coordinator's duties include:

- Coordinating major technical decisions concerned with elephant conservation and management;
- Developing and implementing elephant policy;
- Ensuring the successful implementation of all required actions;
- Perform the duty of Secretary of the National Elephant Management Steering Committee;
- Liaising with stakeholders;
- Collecting, collating and disseminating required reports under the Action Plan;

The Elephant Coordinator is expected to undertake the following activities:

- Undertake intensive collection and compilation of various research and project documents that were implemented by various stakeholders on elephants;
- Collate information/data/comments from various stakeholders including those within areas outside protected areas on potential mechanisms to conserve and management elephants and their habitats
- Undertake review of respective sectoral policies and acts and provide recommendations;
- Provide /policy practical/lawful suggestions/recommendations targeting at resolving the challenges of elephant conservation and management in the country;
- Propose an institutional system for elephant information and data gathering management and information sharing;
- Develop the Annual Report on the Implementation of the Action Plan

ANNEX C: Elephant Mortality form

Ministry of Natural Resources and Tourism

Wildlife Division

Elephant mortality data collection form

This form must be completed for every elephant mortality, including those hunted for trophies, hunted for meat or problem animal control, illegally killed, natural mortalities, unknown mortalities, as well as ivory seizures. Please refer to notes at end of form for guidance.

Record Details

Date: _____ Time: _____

Name: _____ Designation: _____

Locality _____

_____

_____

GPS Coordinates	
E	S

Hunting Block: _____ Operator: _____

Email: _____ Cell number: _____

Signature: _____ Mortality number: _____

Type of mortality / cause of death

Please tick as appropriate. In the case of "other mortality", please provide a confirmed or suspected cause of death.

☐ Hunted for trophies Permit number _____

☐ Problem Animal Control

☐ Poached ☐ Tusk seizure[1] Case register: _____

☐ Other mortality ➔ Potential cause of death[2]: _____

Confirmed	Suspected

Age since death (tick as appropriate)

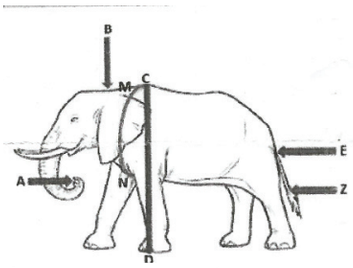
Carcass 1 Fresh (<1 month)		Carcass 2 Recent (<1 year)		Carcass 3 Old (>1 year)		Carcass 4 Very old (up to 10 years)	

Animal details

Sex[4]: ☐ Male ☐ Female ☐ Unknown

Age: _____ years Age class: _____

Animal measurements:



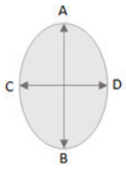
Body length (B-E)	cm
Shoulder height (C-D)	cm
Head length (A-B)	cm

Jaw measurements:

Jaw width at widest point

cm

Feet measurements:



	Front	back
Length A-B	cm	cm
Width C-D	cm	cm

Required (very important!):

~ The lower jaw must be collected and marked with the mortality number

~ Photograph of the lower jaw from above showing all the molars with a tape measure in

Tusk measurements:

	Left tusk	Right tusk
ISO Code		
Weight	kg	kg
Depth of tusk cavity (mm)[5]	mm	mm
Circumference at base (mm)	mm	mm
Circumference at lip mark (mm)[6]	mm	mm
Outside curve length (mm)	mm	mm
Outside curve length (mm) from base to lip mark	mm	mm

Photographs:

Full Body	Yes	No	
Tusks	Yes	No	
Ears	Yes	No	
Tail	Yes	No	
Lower jaw (left and right side) *With tape measure for scale*	Yes	No	*Jaw to be cleaned to such an extent that would make aging from photo possible*

\Ministry of Natural Resources and Tourism

Wildlife Division

Elephant mortality data collection form

Guidelines

Checklist of material to be collected

Material to be collected if mortalities occur:

- *Lower jaws of elephants (only after a forensic investigation of the incident has been completed) and after the carcass has dried out sufficiently*
- *In the case of anthrax mortalities, lower jaw and tusks to be treated in strong chlorine solution or in formaldehyde (formalin)*

Note: These materials should be kept at the park station or regional office in a safe place (designated storage area) and should be marked when the mortality was recorded. These can be marked in the field with a permanent marker/Koki pen, but ink marks do not stay long on elephant bone, so it is necessary to use a strong metal tag attached with binding wire to the jaw. The metal tag can be cut from galvanized roofing material or similar and punched with a number and date. The same number should be added to the mortality form.

A colour photograph of the lower jaw shall be submitted to TAWA, WD CITES Office for assessment.

Notes

1. *Seizures*
   - *If tusks are the only sources of information about an elephant mortality, e.g. when tusks are discovered or seized but no carcass is found, it is important to assess the age of the elephant and its sex.*

     A separate form should be completed for each tusk individually, since tusks in a seizure may come from more than one elephant:
     - *date of discovery or seizure*
     - *locality (preferably including coordinates)*
     - *sex estimated from the tusk circumference of L and R tusks in mm at the base and at the lip mark. Note that male tusks are conical i.e. the base of the tusk is thicker than at the lip mark (except sometime for very old elephant bulls but the tusk diameter in general for a male will be much greater than that of a female). Female tusks are almost always the same diameter at the base as at the lip mark*
     - *age estimated from the depth of tusk cavity for L and R tusks in mm and circumference of L and R tusks in mm at the base and at the lip mark*
     - *case register number if available*

2. *Checklist for determining potential cause of death*

- *Have the tusks been removed, and/or is there any evidence that the animal was shot or wounded by shooting (illegal killed)?*
- *Is there any evidence of one or more bullet wounds?*
- *Is there any evidence of predation by lions, i.e. bite marks on the head, neck or throat of a juvenile or sub-adult elephant?*
- *Is there any evidence of death by starvation – i.e. was the animal severely emaciated, ribs and hips showing prominently)?*
- *Is there any evidence of death from old age (teeth worn down severely with no new molar tooth emerging, thus leaving only one small molar tooth or a fragment of a molar tooth on each side of the jaw)?*
- *Is there any evidence of disease? Is there sign of the animal having bled from the trunk, mouth and/or anus? If so, the case must be treated as suspected anthrax and no contact must be made with the carcass or the blood. If anthrax is suspected, the case must be reported to the nearest State veterinarian or veterinary inspector. If carcass is not yet opened, efforts should be made to keep the carcass intact for at least 48 hours, to minimize sporulation and contamination of the surroundings. Once the carcass has started to decompose to stage 2 the lower jaw can be removed and taken to the park station/regional office and on a precautionary basis disinfected along with all items used to remove it and transport it.*
- *Is there evidence of poisoning, e.g. foam at the mouth? It is mostly predators that are targeted with poison, and there is often vomit on the scene of death, but in neighbouring countries elephants are poisoned with cyanide or organochloride pesticides put in waterholes. Vultures may also ingest poisoned bait and all vulture deaths must be recorded and reported to TAWA Head Office. Head Office may ask that certain samples are collected from poisoned animals for laboratory analysis.*
- *Is there evidence of large wounds that could have been caused by the tusks of another elephant?*
- *Is there evidence of a broken limb bone, broken jaw or broken ribs?*

3. *Determining the approximate time since death*

Classification of the carcass in one of four categories based on its appearance and stage of decomposition:

- *Carcass 1 - Fresh (<1 month)*

  Skin covered, with flesh present giving the body a rounded appearance; vultures often present; ground still moist from body fluids

- *Carcass 2 - Recent (<1 year)*

  Rot patch from body fluids and decomposing tissue still visible around the carcass; hide still attached to carcass; bones not scattered

- *Carcass 3 - Old (>1 year)*

  Skin absent; bones not scattered; vegetation re-grown in rot patch

- *Carcass 4 - Very old (up to 10 years)*

  Bones bleached and scattered

4. Sex

- *If not a fresh carcass of a fully adult individual where the shape of the head and the genitalia indicate the sex, estimate the sex from the tusk measurements*

5. Measuring the depth of tusk cavity

- *Insert a rigid object e.g. a length of steel fencing wire (or car radio antenna) into the tusk opening as far as it will go without bending more than the curvature of the tusk requires and take the measurement at the longest point of the open end of the tusk and transfer that to a tape measure*

6. Measuring the circumference of the tusk at the lip mark

- *Take the measurement in the middle of the lip mark (the lip mark runs diagonally across the tusk and there is thus a near and far end which could influence the measurement unless it is taken in the middle of the mark*

ANNEX D: Elephant Hunting Return Form

MONITORING OF ELEPHANTHUNTING

ELEPHANT HUNTING RETURN FORM (3 PAGES)
PLEASE FILL OUT ONE FORM FOR EACH ELEPHANT HUNT

Form No.

ELEPHANT HUNTING RETURN FORM
GENERAL DATA ON THE HUNT

HUNTING BLOCK		DATE OF HUNT	
HUNTING OPERATOR		CLIENT NAME	
HUNTING PERMIT:		NATIONALITY:	
PROFESSIONAL HUNTER		CELLULAR NUMBER	
EMAIL ADDRESS		SIGNATURE:	

HUNTING EFFORT

1. Hunt start date:

2. Hunting Package:

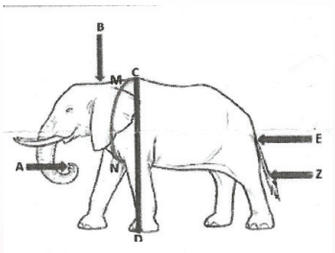
3. Was the hunt successful? If not, Why?
   ……
   ……

4. ELEPHANT SIGHTINGS	NUMBER:	EVIDENCE (SIGHTING, TRACKS, TRAIL CAMERA):
Adult male		
Adult female		
Sub-adult male		

Sub-adult female		
Juvenile		
Calves:		
	NOTES:	

5. IF A TROPHY WAS TAKEN:
6. Number of Days spent in Searching Elephant:
6. GPS location of hunt:

Animal measurements:

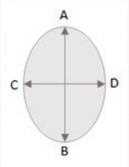


Body length (B-E)	cm
Shoulder height (C-D) (Straight line)	cm
Head length (A-B)	cm

Jaw measurements:

Jaw width at widest point
cm

Feet measurements:



	Front	back
Length A-B	cm	cm
Width C-D	cm	cm

Required (very important!):

- ☐ The lower jaw must be collected and marked with the form number
- ☐ Photograph of the lower jaw from above showing all the molars with a tape measure in

Tusk measurements:

	Left tusk	Right tusk
Weight	kg	kg
Circumference at base (mm)	mm	mm
Circumference at lip mark (mm)	mm	mm
Outside curve length (mm)	mm	mm
Outside curve length (mm) from base to lip mark	mm	mm

Photographs:

Full Body	Yes	No	
Tusks	Yes	No	
Ears	Yes	No	
Tail	Yes	No	
Lower jaw (left and right side) *With tape measure for scale*	Yes	No	*Jaw to be cleaned to such an extent that would make aging from photo possible*

Ensure all data are accurate and no blank spaces are left. Page 1 and 2 must be completed even if an elephant hunt was unsuccessful. Ensure GPS coordinates are provided throughout. Send via email to TAWA.

ANNEX E: Population trends for selected ecosystem

The current elephant population is estimated 52,030 ± 8,268 (SE) (Figure 1). Six ecosystems have been surveyed since 2019, 2020 and 2021. Two census techniques were used: Total Count (TC) for the Lake Natron-West Kilimanjaro and Serengeti ecosystems and Systematic Reconnaissance Flight (SRF) in Nyerere-Selous-Mikumi, Ruaha-Rungwa and Katavi-Rukwa.

Elephant populations survey estimated the population is increasing at Tarangire – Manyara ecosystem, Serengeti Ecosystem and Nyerere-Selous-Mikumi Ecosystems. Oher ecosystems has remained fairly stable. (Figures, 1, 2, 3, 4, and 5).

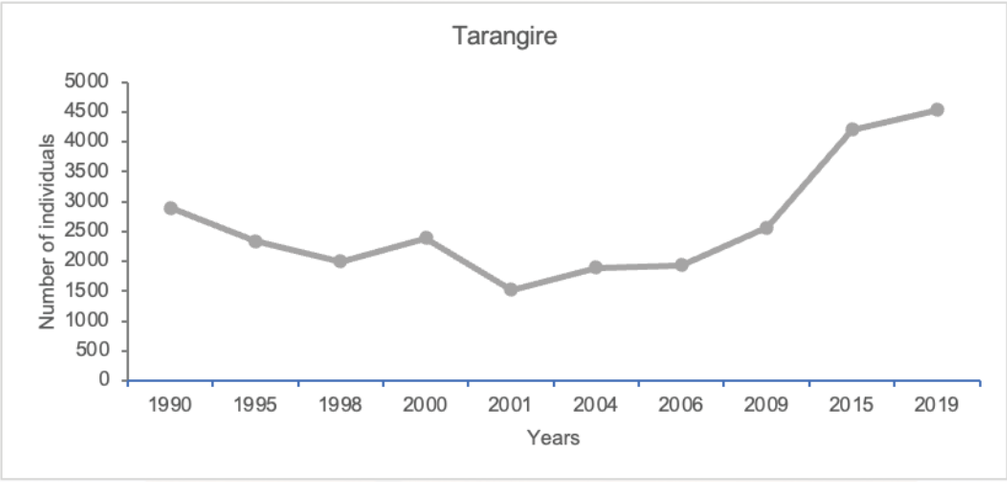


Figure1: Population trend Tarangire – Manyara Ecosystem

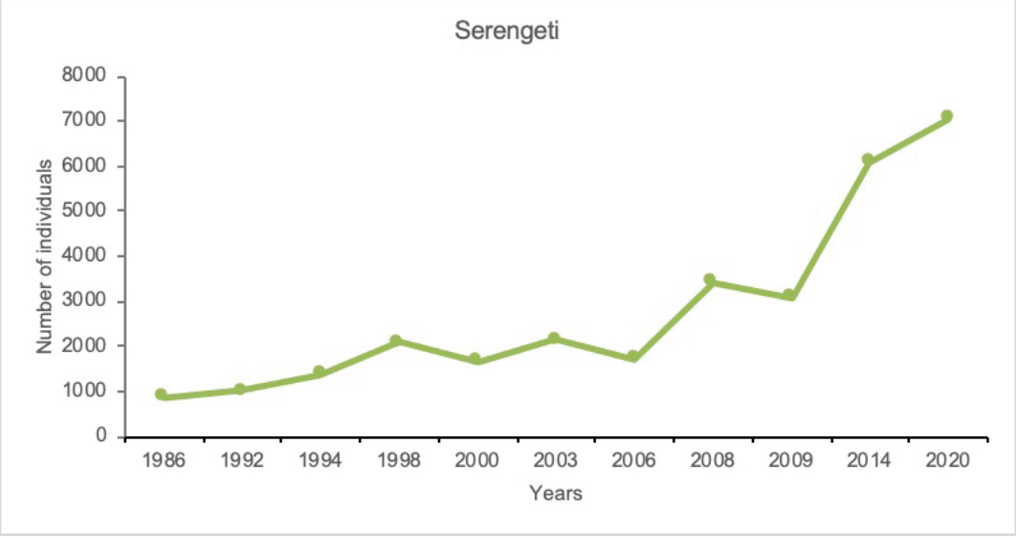


Figure 2: Population trend Serengeti Ecosystem

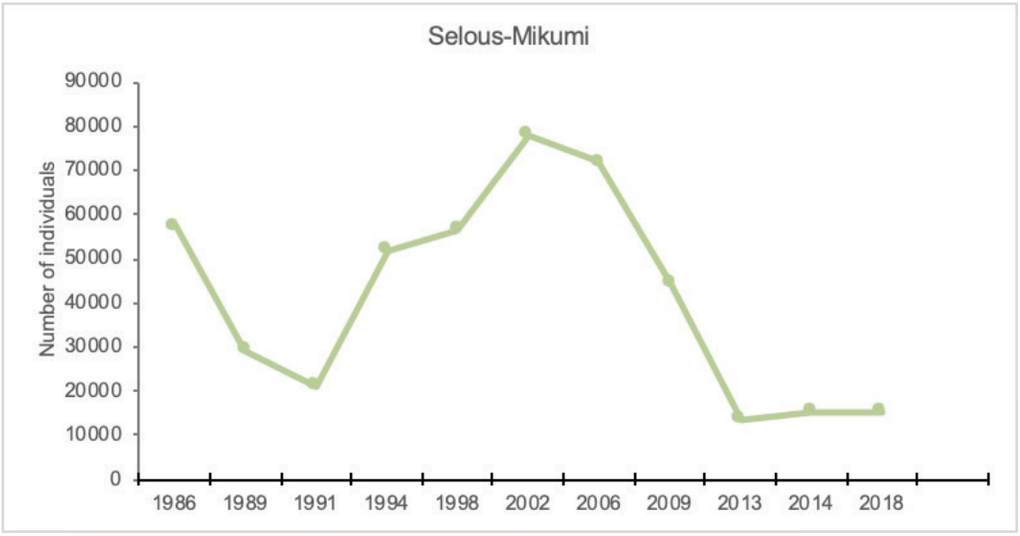


Figure3: Population trend Nyerere-Selous-Mikumi Ecosystem

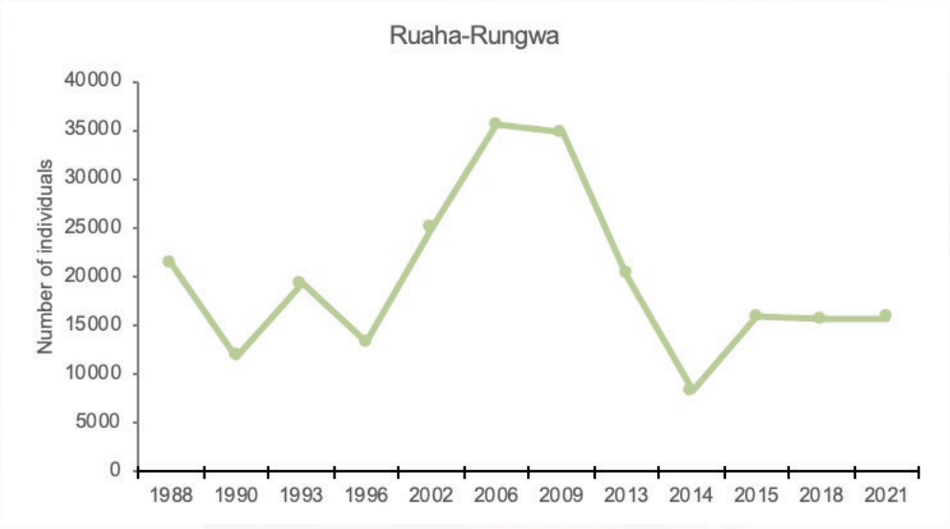


Figure 4: Population Trend Ruaha – Rungwa Ecosystem

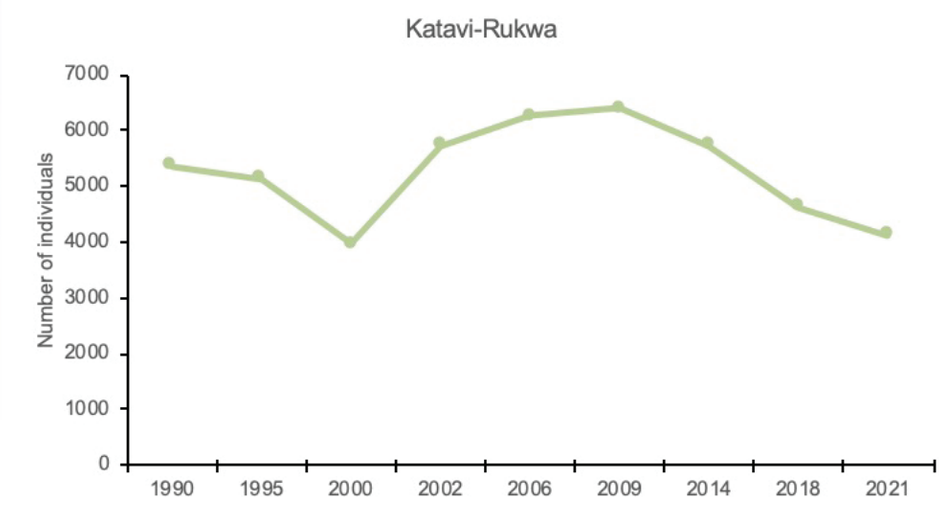


Figure 5: Population trend in the Katavi Rukwa ecosystem

The sex and age class distribution in the surveyed ecosystems indicates signs of recovery population. There are many calves compared to the old elephants (40years and above). Figure 6, 7 and 8 provide a reflection of the sex and age distribution in sampled ecosystems

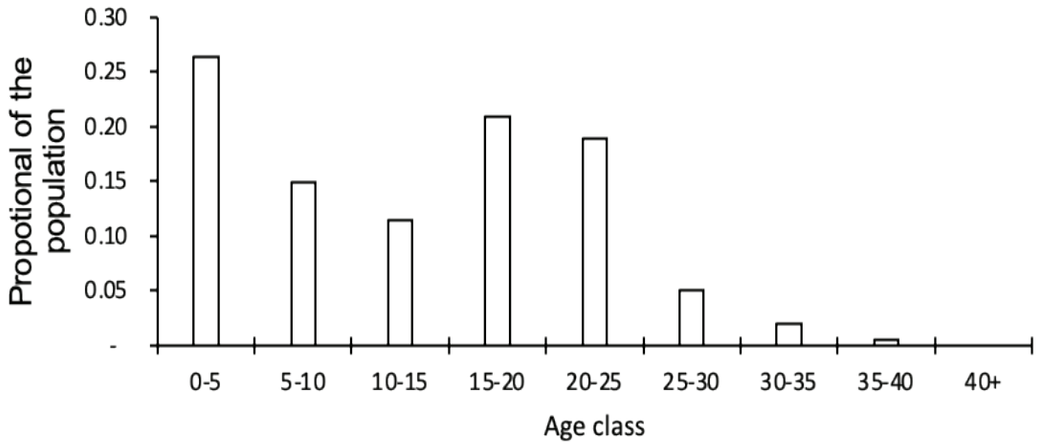


Figure 6: Age and sex distribution in the Katavi Rukwa ecosystem 2018

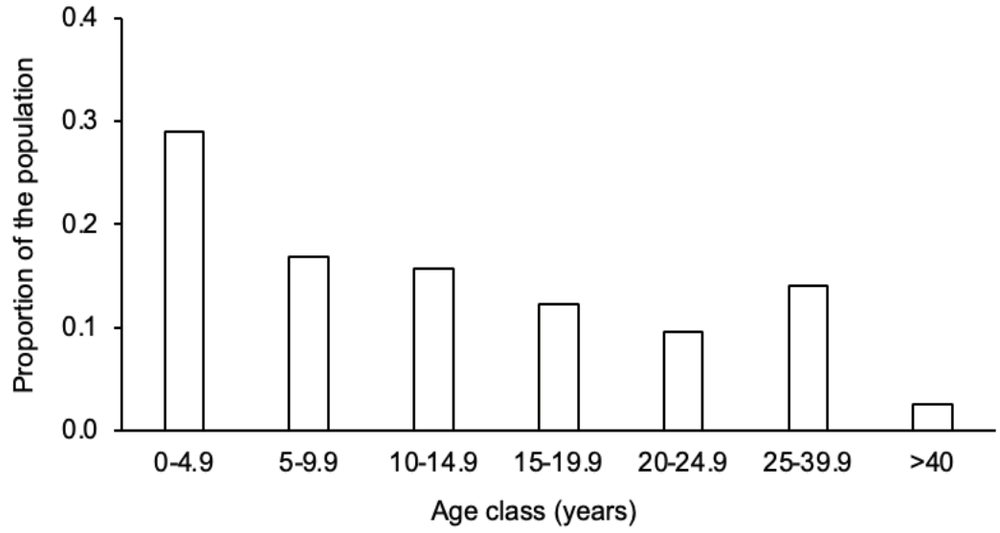


Figure 7: Age and sex distribution in the Ruaha-Rungwa 2021

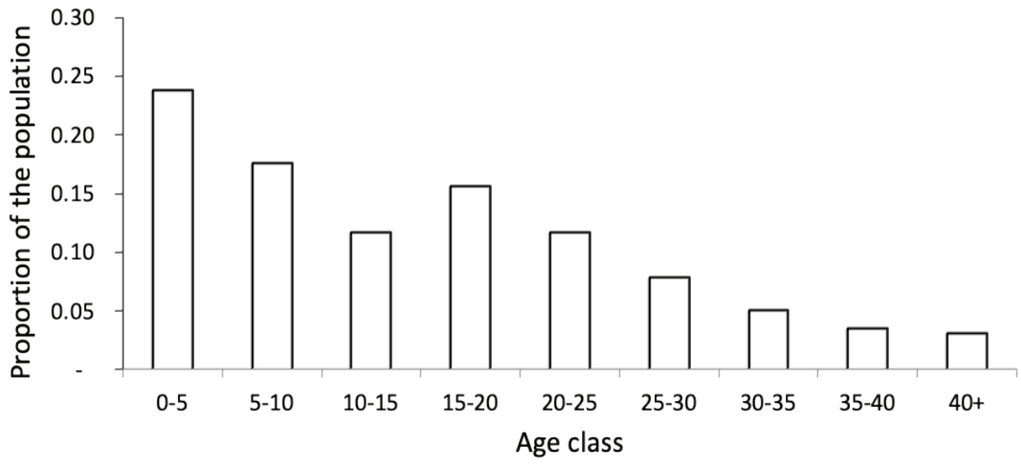


Figure 8: Age and sex distribution in the Nyerere-Selous-Mikumi 2018

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