



TFCA FINANCING FACILITY

Guidance Note TRA Human-Wildlife Conflict and Co-Existence



Supported by:



Implemented by:



ACRONYM LIST

TERM	DEFINITION
CRB	Community Resources Board
E&S	Environmental and Social
ESCP	Environmental and Social Commitment Plan
ESDD	Environmental and Social Due Diligence
ESMS	Environmental and Social Management System
ESS	Environmental and Social Standards
GMA	Game Management Area
GMP	General Management Plan
GN	Guidance Note
GRM	Grievance Response Mechanism
HWC	Human-wildlife Conflict
HWCM	Human-wildlife Conflict Management
HWCMP	Human-wildlife Co-existence Management Plan
HWC _x	Human-wildlife Co-existence
IUCN	Union for the Conservation of Nature
KfW	KfW Development Bank
LUP	Land-use Planning
SADC	Southern African Development Community
SEP	Stakeholder Engagement Plan

TERM	DEFINITION
SI	Serious Incident
SOP	Standard Operating Procedure
TFCA	Transfrontier Conservation Area
TFCA FF	Transfrontier Conservation Area Financing Facility
TRA	Thematic Risk Area
WB	World Bank

Table of Contents

1 Introduction	5
1.1 Purpose of the TFCA Funding Facility	5
1.2 Purpose of this Guidance Note	6
1.3 Applicable Standards and Guidance	7
2 Strategies and Approaches for Management and Mitigation of HWC in TFCAs	8
2.1 Land Use Planning	9
2.2 Removal of problem-causing animals	9
2.3 Deterrents	10
2.4 Physical barriers	10
2.5 Herding and guarding	10
2.6 Early warning systems	11
2.7 Responding to HWC incidents and losses	11
2.8 HWCM plans	11
3 The TFCA FF Environmental and Social Due Diligence Process	12
3.1 Mandatory Safeguard Requirements	12
3.2 Preparation Phase	13
3.2.1 Project context	13
3.2.2 Institutional Arrangements and Capacity	14
3.2.3 Proposed activities	14
3.2.4 Submission of additional documentation	16
3.3 Evaluation Phase	16
3.3.1 Review of Applicant Submissions	16
3.3.2 E&S risk screening process	17
3.3.3 E&S Risk Categorization	18
3.3.4 Final E&S Risk Categorization	20
4 Development of the Full Proposal	21
5 Examples of Good Practice	22
5.1 Good practice checklist	22
5.1.1 Guiding questions for Turning the Principles into Practice	22
5.2 Drafting a HWCM Plan	22
5.2.1 Outline for a HWCM Plan	22
5.3 Human wildlife co-existence in Game Management Areas in Zambia	24
5.4 Technical solutions for mitigating HWC	26
6 Bibliography	30

1.

Introduction

1.1 Purpose of the TFCA Funding Facility

The purpose of the Southern African Development Community (SADC) Transfrontier Conservation Areas (TFCA) Funding Facility (TFCA FF or “Facility”) is to invest in tangible measures that strengthen ecological, economic, cultural, and institutional connectivity within SADC TFCAs for the management of shared natural resources and sustainable development. The TFCA FF is designed as a programme which is open to a broad group of potential applicants who wish to receive grants for eligible key thematic areas supported by the TFCA FF including:

- Species Dimension: Improved habitat connectivity, especially for elephants and large carnivores as flagship species;
- Habitat Dimension: Improved management effectiveness of TFCAs and protected areas; and
- People Dimension: Improved livelihoods for communities affected by human-wildlife co-habitation.

To manage environmental and social (E&S) issues in line with the national laws and regulations in the respective host countries and in line with the requirements of international E&S safeguard standards, the TFCA FF has developed an Environmental and Social Management System (ESMS) which governs and guides TFCA FF supported projects. The ESMS is tailored to the projects and activities which are and will be funded by the Facility.

The ESMS covers the key risk areas which may be triggered by projects supported by the TFCA FF, including:

- Social risks and impacts related to access restrictions to protected areas;
- Social risks and impacts related to law enforcement operations in the conservation context;
- Social risks and impacts related to human-wildlife coexistence; and
- E&S risks and impacts related to the construction of infrastructure and other physical interventions.

1.2 Purpose of this Guidance Note

This Guidance Note (GN) focusses on the E&S risks which potentially could arise from support to human-wildlife conflict (HWC) or human-wildlife co-existence (HWCx) activities undertaken by the Applicants through the funding support from the TFCA FF. The purpose of providing funding to such projects would be to enhance HWCx in the long-term in TFCAs.

Within the conservation context, HWC is defined as “*struggles that emerge when the presence or behaviour of wildlife poses actual or perceived, direct and recurring threat to human interests or needs, leading to disagreements between groups of people and negative impacts on people and/ or wildlife*”¹.

HWCx refers to “*people and wildlife existing in proximity to each other in a larger landscape, whether in contentious, neutral, or beneficial coexistence. HWCx describes a dynamic state in which the interests and needs of both humans and wildlife are generally met, though this coexistence may still contain some level of impact to both and is characterised by a level of tolerance on the human side*”².

As part of the application process, Applicants will be required to complete a Concept Note as well as the ESMS Questionnaires (Annex D to ESMS Manual: General ESMS Questionnaire and Annex E: Thematic Risk Area (TRA) Specific ESMS Questionnaire) to identify situations or issues that could represent a risk to the environment or communities living and working and living in TFCA FF funded areas.

This GN is applicable to any Facility-funded project where:

- The proposed activities could potentially result in new HWC or in the increase of existing conflict; or
- The proposed activities aim at mitigating existing HWC in the project area or aim at enhancing HWCx

This GN will provide guidance and information on the ESMS requirements for each of the above scenarios to ensure that the proposed activities are implemented within the legal and management frameworks of the TFCA of the host country(ies) as well as international best-practice. It will provide Applicants with additional information to understand the need for risk screening regarding activities and provide explanations and descriptions of the information that will be required by the TFCA FF at various stages of the ESMS process which covers all phases of the proposed projects.

Examples of proposed activities could potentially result in new HWC or in the increase of existing conflict include:

- Is transparent and understood by stakeholders; decisions are taken in a transparent way, complainants are kept informed of progress regarding their cases;
- The expansion of the boundaries of a protected area;
- Establishment of new protected/conservation areas;
- Establishment of wildlife corridors/wildlife dispersal areas; and
- Infrastructure development activities such as the construction of roads, houses, patrol camps and ranger stations.

¹ www.hwctf.org

²Gross et al. 2022.

Examples of proposed activities that could indirectly result in new HWC include:

- Agricultural development including establishment of food gardens;
- Waste management/waste storage;
- Infrastructure development including tourism development; and
- Support to the development of protected/conservation plans.

Examples of proposed activities aimed at mitigating or managing HWC or fostering HWCx include:

- Development of HWC management plans;
- Support to the implementation of HWC management plans;
- Exploring zonation options for minimizing HWC;
- Support for the response to and monitoring of HWC incidents;
- Facilitating training and information sharing to foster HWCx;
- Building basic infrastructure and providing equipment to community members to reduce HWC losses; and
- Contributing to costs of responding to HWC incidents e.g., vehicle running costs.

It is important that Applicants clearly differentiate which of the above categories their application falls into. The analysis and outcome of the Environmental and Social Due Diligence (ESDD) process could trigger further requirements before the project can be funded.

1.3 Applicable Standards and Guidance

In addition to national legislation, Facility-funded activities must also comply with applicable international E&S Standards and Guidelines.³

- KfW Development Bank (KfW) Sustainability Guidelines (2023) describe environmental, social and climate-related principles and procedures to be used in the planning, appraisal, implementation, and monitoring of projects. These require adherence to the respective national legislation as well as the application of international safeguard standards.
- World Bank (WB) Environmental and Social Standards (ESSs) apply to HWC:
 - ESS1: Assessment and management of environmental and social risks and Impacts;
 - ESS2: Labour and working conditions (occupational health and safety of responders)
 - ESS4: Community health and safety;
 - ESS5: Land acquisition, restrictions on land use, and involuntary resettlement;
 - ESS6: Biodiversity conservation and sustainable management of living natural resources;
 - ESS7: Indigenous Peoples/ Sub-Saharan African Historically Underserved Traditional Local Communities; and
 - ESS10: Stakeholder Engagement and Information Disclosure.
- The International Union for the Conservation of Nature (IUCN) ESMS; and
- KfW Guidance for Human Wildlife Conflict Management (2023).

³For a full list of applicable standards, refer to Section 2 of the TFCA FF ESMS Manual.

2. Strategies and Approaches for Management and Mitigation of HWC in TFCAS

A TFCA is defined in the SADC Protocol on Wildlife Conservation and Law Enforcement (1999) as a component of a large ecological region that straddles the boundaries of two or more countries encompassing one or more protected areas as well as multiple resource use areas. TFCAs are founded with the aim of collaboratively managing shared wildlife and natural resources across international boundaries for improved biodiversity conservation and socio-economic development. TFCAs often seek to establish a complementary network of formal and informal protected areas across the landscape, linked through corridors which ensure the continued existence of migratory wildlife species which are otherwise becoming increasingly isolated due to habitat loss and fragmentation. By definition, HWC is an inherent aspect of TFCA existence and thus needs to be managed and mitigated within this context. HWC has a direct negative impact on the livelihoods and well-being of people and simultaneously on the survival of species. Communities living in or near protected areas, wildlife corridors or at other human-wildlife interfaces can be directly affected by wildlife.

There are many contributing factors and ways in which conflicts between wildlife and people may arise. Here are some of the most common conflicts that are experienced in TFCA areas.

The list of the applicable standards for the development and implementation of the GRM includes:

- Loss of human life and injury to people;
- Injuring and killing of both large and small livestock;
- Damage to property including water points and boreholes, fences, gates, animal enclosures, houses, grain stores etc.;
- Destruction of crops and gardens resulting in lower yields or even crop failure;
- Impacting livelihoods by limiting access to harvesting sites or areas for collection of natural resources; and
- Competition with livestock for forage.

The level of conflict and magnitude of damage is strongly dependant on the context within which the conflicts occur and can negatively affect people's food security, livelihoods, and well-being. Such negative impacts of HWC are exacerbated for vulnerable, poor, and marginalized communities that may lack alternative income sources or other options. The identification of negative impacts and the assignment of the corresponding risk level is a component of the TFCA FF's ESDD process. The findings of the ESDD process will inform the TFCA FF's safeguard requirements which will be set out in the ESCP. It is important to note, that the determination of risks by the TFCA FF E&S processes is focussed not on the risks resulting from existing HWC but rather the potential risks associated with or resulting from the project activities.

Mitigation strategies attempt to reduce the level of impact and lessen the problem while preventative strategies endeavour to prevent the conflict occurring in the first place and act towards addressing its root causes. Some are efficient in the short-term while others show results only in the long-term; others are more effective within defined geographic regions or specific taxonomic groups. The section below provides examples of key approaches to managing and mitigating HWC that could be included in the Concept Note activities.

2.1 Land Use Planning

Land use planning is a long-term method for helping to reduce HWC. It is fundamental for the good management of wildlife, but land use planning and any changes in land use that are agreed to can take several years to negotiate and implement. The following approaches and principles can be considered during land use planning activities, as ways of minimizing HWC:

- Identifying areas with chronic HWC: Based on available HWC data, areas with chronic HWC problems should be identified and especially considered during land use planning exercises.
- Reducing the conflict interface: Using available information on wildlife populations and human settlement patterns, land-use activities that are spatially separated are promoted so that the areas of overlap are reduced as well as possible conflicts. Examples of this could be reducing human settlement encroachment into known elephant pathways; relocating agricultural activity out of elephant range or consolidating human settlement patterns. Relocation of agricultural activities and changing cropping regimes are more likely to succeed if the farmers in particular or the community in general derives significant benefits from the presence of wildlife in the area.
- Clustering human settlement: Clustering of human settlements would in many cases result in reduced HWC because wildlife generally tries to avoid areas with dense human settlement, and if wildlife does enter fields and gardens, then there are more people available to take action.
- Facilitating defence: This approach aims at making it easier to take mitigation measures in the event of conflict. For example, placing crops, gardens and developing vulnerable infrastructure close to dwellings where detection and defence tactics can be easily deployed. Examples include changing the location of crop fields (e.g. to close proximity with dwellings), and constructing livestock enclosures close to homesteads.
- Minimizing conflicting activities: This is done by avoiding human activities that attract wildlife species. For example, growing of crops that are less palatable or not palatable to wildlife; diversifying into different crops; using intercropping layout; or changing the timing of harvest.
- Diversification: Reducing the dependency of people on land uses which lead to HWC. This includes choosing economic land uses that are wildlife-based where wildlife offers a competitive advantage. For example, close to rivers where wildlife is abundant, wildlife-based tourism potentially offers economic advantages over traditional subsistence farming.
- Diverting wildlife: Modifying problem-causing animal movement by changing or influencing movement routes of wild animals; creating different access points to water for wildlife and humans or by repositioning PA boundaries.

2.2 Removal of problem-causing animals

Individual problem-causing animals can be removed either by lethal control measures (targeted killing of problem-causing individuals or culling of population of problem-causing species) or by non-lethal means (such as translocation or reproductive control). Non-lethal means are often expensive and complicated to implement and are not always effective.

The destruction of individual problem-causing animals will not permanently remove the HWC problem, but in some cases it is effective to destroy a specific animal which persistently causes problems or threatens human life. However, it is important to ensure that the correct animal is identified and that it is destroyed for a valid reason. When a decision is needed about whether to destroy an animal as a preventative measure, the decision-

making process needs to be clear and streamlined. If there is a long delay between the HWC incident and implementing measures to deal with the problem-causing individual, the animal may have moved away or the wrong animal may be removed. For these reasons, it is important to deal with local conflict at a local level.

The removal of problem-causing animals can be achieved through several different approaches. In some countries, the legislative framework allows for problem-causing animals to be hunted by professional hunters associated with safari operators. This approach removes a problem-causing individual and provides some income to counter the losses experienced by the affected community.

Live capture and sale of problem-causing animals can be a means of relieving some pressure in areas where HWC incidents are high. Small scale culling to reduce problem-causing populations can be used in situations where the numbers of potential problem-causing species are high. However, all of these strategies will require evaluation and planning and cannot be implemented quickly in response to a local level incident.

2.3 Deterrents

Many species respond to deterrents with fear and flight behaviour. Ideally, wildlife should learn to avoid areas protected with deterrents, resulting in a positive long-term effect. However, habituation can be a serious concern. An animal may repeatedly be confronted with a deterrent which is unpleasant but not life threatening. At some point, when the animal is successful in spite of the deterrent, the feeding success will outweigh the deterrent effect of the measure. Thus, some deterrents are effective only for a limited time.

There are many different deterrents that are used in HWC. Here are a few examples:

- Olfactory deterrents such as chilli bombs, chilli fences or chilli blasters chase problem-causing animals away from crop fields and gardens by bombarding them with strong, unpleasant smells or smoke.
- Visual deterrents such as scarecrows, tins or cloths on fences have been found to scare wildlife from crop fields while spot lights or shade cloth around animal enclosures prevent predators from seeing the livestock so they do not try to gain access to the enclosure.
- Biological deterrents such as bees or planting of plants with strong smells or that cause irritation to wildlife has been used effectively in certain HWC situations. The successful use of biological deterrents is sometimes limited by animals becoming easily habituated.
- Auditory animal repellents (acoustic deterrent devices) have many different forms. Banging of drums, hitting tins with sticks, playing sudden and loud music, tying tin cans onto fences are all examples of auditory deterrents. These are widely used since they are cheap and easy to implement with locally available materials. Using chili blasters to chase animals from crop fields combines both auditory and olfactory deterrents.

2.4 Physical barriers

Physical barriers such as fencing, moats and reinforced livestock enclosures are often effective barriers and prevent access to livestock and crops thus reducing losses due to HWC. However, effective physical barriers are often expensive to build and require constant monitoring and maintenance. Whilst physical barriers are often immediately effective, they sometimes fail in long term usually because of maintenance challenges. The monitoring and maintenance of physical barriers has associated costs and when this is the shared responsibility of local communities, the required maintenance standards often become a challenge.

2.5 Herding and guarding

Herding of livestock is an extremely effective response to livestock losses from predators and one which has long been part of traditional pastoralist practices. Herding has many other advantages including managing grassland resources and livestock health. Herding animals during the daytime is usually coupled with placing them in protective enclosures at night. In some situations, guarding enclosures at night is necessary if the enclosures are not suitably strengthened or do not have deterrents such as lights or alarms.

Guarding of fields is a commonly used approach in many TFCA since it does not require special materials or the purchase of expensive components. The individuals guarding the fields (usually at night) will employ various methods to chase the wildlife away as they approach the field. This usually involves making a noise (beating tin cans or drums, shouting, shooting a rifle, electronic alarm) combined with other measures such as lighting fires, shining lights, burning chili bombs etc. All of these measures require much ongoing effort from the farmers and the efficacy of these measures is variable.

2.6 Early warning systems

In recent years, there have been efforts to trial various early warning systems. This involves using techniques to detect the presence or movements of wildlife, alert people in the area and prevent negative incidents from occurring. These trials have produced some positive results and further development of such systems is underway. Early warning systems are usually very expensive to install and to manage and maintain and require technical expertise in designing their installation thus are generally only suitable for areas with high levels of losses of high-value crops or livestock. . Some of these systems rely on human compliance and responses as one of the components of the process and this can present challenges in remote areas. The advantage of these systems is that they aim at preventing the losses from occurring.

2.7 Responding to HWC incidents and losses

Co-ordinated responses by various stakeholder groups within a landscape can contribute significantly to fostering HWCx. **Responses can be from village groups, community-based organizations, traditional leadership, government agencies or non-governmental organizations. Responses can include:**

- Immediate responses to investigate HWC incidents;
- Information-sharing on approaches to managing HWC;
- Providing support to implementing preventative measures;
- Monitoring incidents to document locality and extent of losses as well as problem-causing species;
- Rapid response units to travel to the site of the incident to prevent further losses from occurring;
- Introducing new and innovative approaches to dealing with HWC;
- Trialling and monitoring options for improved management of HWC;
- Providing technical and financial support to putting mitigation measures into place; and
- Facilitating collective discussions or measures to address HWC challenges and foster HWCx.

All of these responses require some level of support – whether it is human resources to undertake the tasks or resources such as communications, equipment and vehicles or funding to develop and support the implementation of Human-wildlife Conflict Management (HWCM).

2.8 HWCM plans

As the HWCM in a TFCA develops, HWCM plans are drafted to document the agreed upon approaches as well as the methods and implementation and the allocated responsibilities. These plans can be very site specific and outline in detail the type of management actions and methods of mitigation relating to a particular area or community, or these plans can be broader encompassing approaches throughout a TFCA or a landscape. Plans can also focus on HWC relating to a particular species within a landscape i.e. landscape or regional species-specific plans in contrast to area-specific plans. Any HWCM plan would need to take into consideration the applicable legislative frameworks as well as other existing management plans and local or TFCA agreements that already exist. The development of HWCM plans needs to be done using inclusive and consultative methods.

For a HWCM plan to be an effective tool in adaptive management processes, a monitoring system needs to be in place to collect data in a systematic and structured way to determine whether the objectives of the plan are being achieved. This might include measures to determine whether the number of HWC incidents is decreasing or whether the measures implemented are effective.

3. The TFCA FF Environmental and Social Due Diligence Process

3.1 Mandatory Safeguard Requirements

There are mandatory E&S safeguard instruments which need to be in place prior to the commencement of any TFCA FF funded HWC activities⁴. Mandatory safeguard requirements are listed below and need to be submitted together with the Concept Note and the ESMS Questionnaires to TFCA FF.

- Grievance Redress Mechanism (GRM) (see Annex L to the TFCA FF ESMS Manual) – an accessible, transparent and culturally appropriate GRM must be in place and operational at the time of the Full Proposal (the minimum requirement is a Draft GRM to be shared with at Concept Note stage). The GRM should be applicable, relevant and operational for all the project areas included in the Concept Note. This GRM should only be functional for the implementing partners as well as all the areas in which HWC activities are proposed. Applicants have to provide evidence that the GRM is operational and that grievances are recorded and responses tracked. The GRM must meet the requirements as stipulated in the TFCA FF ESMS Manual and Annex L to the Manual.
- Stakeholder Engagement Plan (SEP) (see Annex K to the TFCA FF ESMS Manual) or documented engagement measures (depending on the risk level of the activities supported by TFCA FF).
- Serious Incident (SI) Reporting (see Annex M to the TFCA FF ESMS Manual) – this tool is available from the TFCA FF and should be implemented in its entirety for all projects. Whilst all project staff members involved in the implementation of project activities need to be aware of the SI reporting requirements and procedures, it is essential to ensure that the Project Representative responsible for E&S management and reporting is clearly identified and certain of their responsibilities.
- Additional safeguard instruments that may be triggered which could include the development of specific management plans, such as a HWC Management Plan, to manage the identified risk.

Detailed information on the phases of project development and the related steps within ESDD process are presented in the TFCA FF ESMS Manual. Please read the manual before starting the application process. Before completing the Concept Note and the Questionnaire for the HWC TRA, reading through this GN will assist you in understanding the approach to and information required about your planned HWC activities. In order to set the scene, information about HWC and HWCx in TFCAs follows. The information presented in this chapter will assist you to contextualise your planned activities within the TFCA and within the project area. Whilst some Applicants may already have ongoing activities for HWCM, other Applicants might be initiating HWCM in the project area. Either way, this introductory information on approaches and tools for HWCM may assist you in the development of your application.

⁴In exceptional cases, the TFCA FF may agree to a staged development of these instruments based on case by case decisions.

3.2 Preparation Phase

The TFCA FF ESDD process begins with the submission of the Concept Note and ESMS Questionnaires (see Annexes D and E to the TFCA FF ESMS Manual) by the Applicant along with supporting institutional documentation. If HWC activities are proposed, then the Applicant has to submit any relevant documentation that supports the understanding of the HWC strategies and approach, and will enhance the ability of the TFCA FF to carry out the risk screening process. It is strongly recommended that the Applicant becomes familiar with the provisions of the ESMS prior to the identification of activities to be included in the Concept Note.

The Concept Note template provides a framework for the Applicant to provide background and objectives of the proposed project. The ESMS Questionnaires (General ESMS Questionnaire and TRA Specific ESMS Questionnaire) need to be completed by the Applicant and submitted together with the Concept Note. Applicants are requested to provide information on each of the four key TRAs, one of which is HWC. There are also sections on contextual risks associated with HWC.

The following sections explain the various aspects of HWC relating to the submission by the Applicant that need to be understood by the TFCA FF in order to identify risks and potential negative impacts, determine a risk categorization and ensure that appropriate instruments are in place (or will be developed by the Applicant/Grantee) to mitigate potential impacts. With HWC risk area, this is further complicated by the fact that two categories of grant activities have been identified and will be discussed in this GN and considered during the risk identification process. These are:

- Category 1: the proposed activities could potentially result in new HWC or in the increase of existing conflict; or
- Category 2: the proposed activities aim at mitigating existing HWC in the project area or aim at enhancing HWCx.

Comprehensive and specific information is needed about the project context and proposed activities so that the TFCA FF is able to identify risks and determine the risk categorization.

3.2.1 Project context

The areas within the TFCA where HWC-related activities are proposed need to be clearly indicated so that contextual risks can be identified. **The following contextual aspects are important:**

- What is the protection status of the project area?
- Are there communities living within the project area or adjacent to the project area?
- Is there documented evidence of existing HWC incidents? What types of HWC occur?
- Is there an organized response to HWC incidents, and who is responsible for carrying out the response actions?
- Does the project area have an approved and implemented HWCM plan?
- Does the TFCA have strategies, protocols, action plans in place to mitigate the impacts or reduce the occurrence of HWC?
- Does the government of the country in which the project activities will take place have recognised legislation, policies, or strategies to address HWC?

The Applicant will be required to submit supporting documentation along with the Concept Note and E&S Questionnaires. To fully understand the context of the proposed project, it is essential to be able to place it geographically. This can be done by including a map which clearly demarcates the different areas in which HWC activities will take place. The areas should be clearly labelled and named to correspond with the names of the areas mentioned in the submitted documentation. In addition to this,

copies of any legislation, policies, strategies, protocols, management plans or action plans to mitigate the impacts or reduce the occurrence of HWC in the TFCA and project area should also be provided to the Facility along with the Concept Note.

3.2.2 Institutional Arrangements and Capacity

The following aspects are important when considering institutional arrangements and capacity:

- Will project activities support fostering partnerships between key stakeholders, for sustainability and greater outreach in HWC mitigation efforts?
- Is the Applicant fully informed about government and TFCA policies, strategies and protocols regarding HWC?
- Do the proposed HWC activities and planned measures comply with existing government and TFCA policies and strategies?
- Has the Applicant worked together with the proposed implementing partners before?
- Are the roles and responsibilities of each of the implementing organizations clearly defined and understood?
- What is the experience and capacity of the Applicant and partners regarding HWC in the TFCA? Do these organizations have the required technical skills and capacity to implement the proposed activities using participatory and consultative approaches when working with communities?

3.2.3 Proposed activities

The application process requires the Applicant to provide a logframe (Annex 1 of the Concept Note) mapping out the proposed activities and the intended outcomes. However, it is not always possible to understand from the initial documentation some of the details required to identify and assess HWC risks. The TFCA FF risk screening process will need to know some details about the planned activities.

For risks to be identified and proposed actions assessed, it is important to understand how and why existing conflict is occurring or what could lead to HWC. HWC occurs where people and wildlife interact and overlap in space and time, for example5:

- Direct spatial overlap: Settlements and farms may be located within wildlife areas and pastoralists may graze their cattle in areas where wild herbivores and carnivores are resident.
- Occasional spatial overlap: In areas outside protected areas, people may experience overlaps with wildlife, when wildlife move out of the protected areas and deliberately or accidentally move into human-dominated landscapes.
- Localized overlap: People moving through wildlife areas may encounter wildlife in specific areas.
- Corridors: Where fragmented wildlife populations are connected through corridors and wildlife dispersal areas, there is an extended interface between people and wildlife.
- Natural resource harvesting: harvesting activities often result in people going into areas from time to time that may expose them to wildlife present in that area.
- Seasonal overlap: people and wildlife overlap only during certain times of the day or season, e.g., wildlife migrations, water scarcity due to droughts, etc.

This overlap in space and time is an important consideration for both categories of HWC activities. Infrastructure development projects (Category 1) within protected areas and/or other wildlife habitats may trigger HWC in areas where HWC was not prevalent before. Any changes that may impact wildlife dispersal, movement and behaviour can potentially impact on the interaction of people and wildlife. **Examples of these are:**

- Tourism facilities which are along wildlife migration routes;
- Activities that involve feeding of wildlife;
- Linear infrastructure developments, such as roads, railways, or fences;
- Changes in agricultural practices and land restoration projects may attract wildlife into areas due to the availability of food sources; and
- Livestock development without appropriate protection methods may draw carnivores to new areas.

In contrast, Category 2 activities aim at mitigating existing HWC in the project area or aim at enhancing HWCx, so it is important to understand the root causes of the conflict as well as the current situation and practices to ensure that the proposed interventions achieve the desired objectives.

When considering proposed Category 1 activities, the following aspects are important:

- What are the proposed project activities which could result in new or increased HWC? Why or how could they result in new or increased HWC?
- Will these activities be limited to targeted localities within the project area, or will they be implemented over the whole project area? Where exactly will they take place?
- Have consultations with affected communities been held regarding the proposed activities? Are they aware of the potential for new or increased HWC?
- Have the proposed activities been reviewed and discussed with the organizations responsible for responding to HWC incidents? Are they aware that these activities have the potential for resulting in new or increased HWC?

When considering proposed Category 2 activities, the following aspects are important:

- Do the proposed HWC activities and planned measures comply with existing government and TFCA policies and strategies?
- Is there documented and analyzed data available on existing incidents of damage or loss, their location and their extent? Which types of HWC are most significant in the project area?
- Is there already an organized response to incidents of damage or loss due to problem causing wildlife in the project area? Who is currently responsible for carrying out the response actions? What do these responses entail?
- Does the project area have an approved and implemented HWCM plan? What other plans, strategies or agreements already in place could impact project planning or activities?
- Are the proposed HWC project activities aligned with the existing HWCM plans/zonation plans for the project area? Are the proposed HWC project activities aligned with the national or TFCA landscape HWCM plans?
- Have the mitigation measures (proposed for implementation) already been tested in the area, have these been shown to be appropriate for the area and accepted by the residents? Are any new or innovative mitigation measures going to be introduced or tested through project activities?

⁵Gross. 2023 (HWC Guideline, KfW)

- Will the project activities be implemented uniformly throughout the project area or limited to targeted localities within the project area? How will sites be selected?
- Have consultations with affected communities as well as specific beneficiaries been held regarding the proposed activities? Are they in agreement with the proposed measures?
- Have aspects of training and awareness-raising with communities regarding HWC mitigation and management been included as a project activity? Have budget and resources been allocated to training activities?

3.2.4 Submission of additional documentation

In addition to the submission of the Concept Note and the E&S Questionnaires, Applicants are encouraged to provide additional documentation about HWCM processes that have already been developed and implemented. All the information provided by the Applicant in the Concept Note and ESMS Questionnaire, has to be reviewed within the context of the policy and legislative framework/s of the country/ies in which the Project activities are going to be implemented and against the provisions of the TFCA FF ESMS. **The documents which should be submitted by the Applicant along with the Concept Note and the E&S Questionnaires, if available, are:**

- TFCA HWC strategies, protocols, action plans in place to mitigate the impacts or reduce the occurrence of HWC;
- HWCM Plans;
- National legislation and policy relevant to HWC;
- Protected Area Management Plans and Strategies;
- Land-use plans and zonation maps for the project area;
- Standard Operating Procedures (SOPs) relating to the management and mitigation of HWC;
- HWC incident monitoring data (this data should come from a systematic monitoring process rather than anecdotal evidence);
- Any reports or publications documenting HWC and HWCx in the project area;
- Any risk assessments undertaken in the TFCA;
- Training records and training materials on HWC and HWCx;
- Minutes of meetings held with stakeholders or beneficiary communities regarding proposed project measures; and
- Letters of support from stakeholders or beneficiary communities.

The submission of the Concept Note, ESMS Questionnaires and any additional documentation by the Applicants will initiate the review process of these documents which will then lead to the TFCA FF E&S risk screening process.

3.3 Evaluation Phase

The evaluation phase will be initiated by the TFCA FF ESMS Officer in response to the Concept Note, ESMS Questionnaires and supporting documentation received from the Applicant. In order to identify, assess and address risks related to HWC in the project area, several issues need to be considered. These include the project context, proposed project activities and mitigation measures, institutional arrangements and capacity, and existing strategies and procedures. These in turn need to be reviewed by the ESMS Officer within the context of the policy and legislative framework of the countries where implementation will take place.

3.3.1 Review of Applicant Submissions

The Applicant will submit a Concept Note, the E&S Questionnaires and any relevant documentation that pertains to HWC and HWCx in the project area (as described in Section 3.2). The review of the submitted documentation will provide the required information for the process for risk screening and

determining the project risk categorization by the TFCA FF. **The ESMS Officer will consider the following questions in relation to the HWC TRA:**

Category 1 activities:

- Do the proposed activities comply with legislation, policies and plans?
- Has the Applicant identified all the possible HWC impacts and associated risks that may result from the proposed activities? Are there any which additionally need to be considered?
- Is there any way of avoiding or minimizing the identified risks? Has the Applicant considered other implementation options?
- Have the affected communities been consulted in a meaningful way and have they agreed to the proposed activities? Are they aware of the risks? Have these interactions been done in a meaningful manner? Have these discussions been documented?
- Have key stakeholders been consulted about the proposed activities and have they considered the implications for HWC? Have the organizations responsible for responding to HWC incidents been consulted?
- Has the Applicant included activities and allocated resources to manage and mitigate the identified HWC risks? Are the provisions made adequate?
- Do the project activities provide for monitoring and reporting on HWC incidents?

Category 2 activities:

- Will project activities support/contribute to the implementation of landscape level and project level mitigation of HWC and foster HWCx?
- Do the proposed activities comply with legislation, policies and plans?
- Are the areas with critical HWC identified as well as the problem-causing species?
- Are there any risks associated with the proposed mitigation or management measures? Have the proposed measures already been tested and proven to be effective? Are the proposed measures feasible given the area and the issues? Are the proposed measures sustainable?
- Have appropriate consultations been undertaken with all relevant stakeholders?
- Does a HWCM plan exist for the project area? If yes, is it adequate or does it need to be updated to incorporate the proposed measures? If no, has the project included the development of a HWCM plan in the project activities?

3.3.2 E&S risk screening process

The risk screening process considers institutional as well as operational aspects of the Applicant and implementing partners and reviews these within the context of the legislative framework of the countries where implementation and also the relevant international principles and standards (see Section 1.3 above and TFCA FF ESMS Manual). The TFCA FF ESMS Officer will evaluate the information provided by the Applicants, and also review external factors (e.g. any other historical background information about the landscape, media review). Applicant organizations will also be evaluated with regard to their experience, operational and financial strength and other qualifications described in the Call for Concepts.

The risk screening and due diligence process refers to two tiers of E&S risks.

- **Tier 1 risks** include:
 - Legacy and conflict
 - Human rights
 - Gender equality
 - Labour and working conditions

- Resource efficiency
- Community health and safety
- Access restrictions and involuntary resettlement
- Biodiversity conservation and sustainable use of natural resources
- Indigenous people and vulnerable groups
- Cultural heritage and
- Stakeholder engagement
- **Tier 2 risks** are the typical risks anticipated for Facility-funded projects. These TRAs are typical for biodiversity conservation projects. HWC is one of these TRAs. The HWC TRA Questionnaire pertains to social risks and potential impacts related to either Category 1 activities or Category 2 activities. During this process, the Facility may revert to the Applicant to obtain further information on a particular activity or a particular aspect of the project area. **This request could be for information in the following form:**
 - Written information explaining further details on a particular activity;
 - A meeting with the Applicant and/or implementing partners (this could be in-person or an online
 - A meeting with the beneficiaries or communities being supported by the project in terms of providing measures to counter HWC;
 - Submission of additional project area reports or data; or
 - A visit to the project area by a Facility representative to gather further information or meet with stakeholders.

The Facility may still reject a Concept Note during the evaluation stage if the outcomes of the review and screening processes indicate significant inconsistencies with the TFCA FF E&S requirements as well as posing a risk of damaging the reputation of the Facility and/or its partners if engaged further.

3.3.3 E&S Risk Categorization

The assessment of the significance of potential impacts of HWC occurrence is informed by the context in which it occurs and is a result a variety of factors including:

- The geographical extent of the incidents
- The number of independent incidents occurring at a site;
- The resource affected e.g. were crop fields damaged or livestock killed;
- Whether the losses are seasonal or continuous;
- The severity of the loss e.g. part of a field damaged or the entire crop destroyed
- The number of households affected;
- The implications immediate and long term for livelihood security;

All of the above listed factors will vary in intensity and impact depending on site specific conditions. Thus, the assessment of impacts and risk categorization will always be specific to the project area.

Once the E&S risks from the proposed activities have been identified, the TFCA FF ESMS Officer will then determine the E&S risk categorization and potential impacts for the proposed activities This will be a provisional risk categorization which may be adjusted as the evaluation process progresses.

The factors that will be considered for Category 1 activities include:

- The legal and policy framework of the country regarding the management and mitigation of HWC;
- The severity and extent of occurrence of HWC risks identified the TFCA and within the project area specifically;

- The impacts on local livelihoods due to HWC in the project area and how they are managed.;
- What systems are currently in place for managing HWC;
- Whether there is evidence of retaliatory wildlife killings in project area;
- Whether there are indications of HWCx in the project area or the potential for the development of this;
- The extent to which the proposed project activities could increase the occurrence of HWC risks.

The factors that will be considered for Category 2 activities include:

- The legal and policy framework of the country regarding the management and mitigation of HWC;
- The impacts on local livelihoods due to HWC in the project area and how they are managed.;
- What systems are currently in place for managing HWC in accordance with the TFCA FF's safeguard requirements;
- Whether there are indications of HWCx in the project area or the potential for the development of this;
- Whether the proposed interventions are likely to be effective and appropriate in the given context and with current ly accepted best practice.

In addition to this, the information provided by the Applicant will be used to establish the maturity of the HWC management systems (see Appendix 1). More mature management systems are associated with fewer risks.

Risk levels are allocated according to categories (these are either A, B+, B or C as per ESMS Manual). Also considered for the determination of risk levels is the likelihood of occurrence of negative impacts, the significance of a given potential impact and the level of compliance of existing risk management procedures with the TFCA FF safeguard requirements.

For any project classified as high risk (Category A) or substantial risk (Category B+), the Facility ESMS Officer will request the Grantee to re-design the project and/or project activities in a way that adverse E&S risks would be avoided or if avoidance is not possible, minimized and mitigated to acceptable levels. This will be especially relevant for Category 1activities. The re-designed proposal will be reviewed by the ESMS Officer, and the project will go through the categorisation process again.

If it is not possible to re-design the project and/or project activity to avoid the high risks, the Facility ESMS officer and KfW ESMS Specialist will decide on a case-by-case base whether a given application for a high risk project would be accepted and which specific safeguard instruments would have to be developed and implemented by the Grantee.

The TFCA FF may also consider whether a full ESDD is required to provide the Facility with sufficient detail regarding risks and potential impacts of planned activities where a given project is complex and Category A or B+. The ESDD could be undertaken for one specific activity or the TRA as a whole and may involve an external specialist's support (if required). The level of effort for the full ESDD will be determined by the anticipated significance of the identified risks and potential impacts. The Facility will decide on a case-by-case basis whether to assign external specialists to undertake an in depth ESDD.

All projects selected by the Facility and classified as category B+ and/or B will have mandatory requirements which they will need to commit to and include in the Environmental and Social Commitment Plan (ESCP).

3.3.4 Final E&S Risk Categorization

Based on the ESDD results for all proposed activities and covering all TRAs, TFCA FF will assign an E&S risk category to the project based on the information obtained from the Applicant using the TFCA FF E&S Categorisation Tool (this tool will be shared with Applicants/Grantee upon request). Thus, all projects will be classified into one of the four categories according to the relevance of their potentially adverse E&S impacts and risks: "A" (high risk), "B+" (substantial risk), "B" (moderate risk) or "C" (low risk) (see TFCA ESMS Manual, Section 3.3 and

The factors that will be considered for Category 2 activities include:

- The legal and policy framework of the country regarding the management and mitigation of HWC;
- The impacts on local livelihoods due to HWC in the project area and how they are managed.;
- What systems are currently in place for managing HWC in accordance with the TFCA FF's safeguard requirements;
- Whether there are indications of HWCx in the project area or the potential for the development of this;
- Whether the proposed interventions are likely to be effective and appropriate in the given context and with current ly accepted best practice.

In addition to this, the information provided by the Applicant will be used to establish the maturity of the HWC management systems (see Appendix 1). More mature management systems are associated with fewer risks.

4. Development of the Full Proposal

The development of the Full Proposal has to incorporate the identified measures and the project budget must reflect the required activities. These measures and their associated activities will then also be included in the ESCP as part of the Grant Agreement. The implementation of the ESCP is a contractual requirement including provisions for regular monitoring and reporting on ESCP implementation. Monitoring and reporting (as described in the Full Proposal) will cover reporting on the implementation of HWC activities and the corresponding safeguard measures and actions as well. As such, an internal monitoring system will need to be put in place by the Grantee so that the information required by the TFCA FF monitoring systems is available.

5. Examples of Good Practice

Some examples of good practices for risk management in the context of HWC are given below.

5.1 Good practice checklist

Extract from: IUCN (2023). IUCN SSC guidelines on human-wildlife conflict and coexistence. First edition. Gland, Switzerland: IUCN pages 13 – 14.

This checklist, building on the foundational Principles, is considered from the perspective of parties seeking to support and manage the mitigation of human-wildlife conflicts and conflicts over wildlife, and facilitate progress towards coexistence. These parties include conservation organizations, government agencies, local organizations, and grant-giving institutions.

5.1.1 10 Guiding questions for Turning the Principles into Practice

1. Has the level of conflict been identified?
2. Have the ethics, consequences and roles of actors been considered?
3. Have the natural, ecological, and land-use factors been considered?
4. Have the underlying social, cultural, historical, and political contexts been understood?
5. Has the project/intervention been planned together with stakeholders?
6. Is the initiative benefiting from multidisciplinary teams across sectors?
7. Are planning and actions based on evidence and sound science?
8. Are relevant aspects of governance and policies incorporated?
9. Are interventions based on best available and jointly led knowledge?
10. Is there an exit strategy from financial or technical dependence?

5.2 Drafting a HWCM Plan

Adapted from: Facilitators Guide: Develop a conservancy Human Wildlife Conflict Management and Action Plan, CCFN, Namibia

5.2.1 Outline for a HWCM Plan

Each of the points in bold below should be a heading in the plan.

- **Introduction and background:** this should be a brief statement introducing the area and the institutional status, its management structures, and the relationship of this plan to other natural resource management plans e.g., the General Management Plan.
- **Problems and Issues:** identification of areas most affected and responsible species. This should be described in the narrative and indicated on a map.
- **Plan development:** this should include a list of all the participants at the various workshops and consultation opportunities and a brief description of the processes followed.

- **Authority of the plan:** this should describe the process of presenting the plan to the members/residents and getting their approval. It should also be noted whether the plan will/has been submitted for approval to the relevant wildlife authority. There should be provision for signatures of approval.
- **Vision and Objectives:** the Vision should complement that expressed in the general management plan or other applicable plans. In addition, it should include a statement about HWC and the Vision for HWC management and mitigation. The objectives should relate to the HWCM specifically and should include statements on management, mitigation, and adaptive management. It is recommended that different objectives should be formulated for different problem-causing species since this will determine the structure of the components of the plan that follow.
- **Problems and Issues:** identification of areas most affected as well as the species responsible or problem causing species.
- **Zonation map:** this map indicates the different zonation categories already identified and their locations. The categories should indicate the acceptable land-use practices for that area. The zonation map should clearly indicate the acceptable livelihood practices for each of the zones.
- **Strategies:** for each objective listed above, there should be various strategies to achieve the objective. For each strategy, there should be several associated activities. **This section of the plan should be structured as follows:**

Objective 1:

- Strategy 1.1
 - Activity 1.1.1
 - Activity 1.1.2
 - Activity 1.1.3
- Strategy 1.2
 - Activity 1.2.1
 - Activity 1.2.2
 - Activity 1.2.3
- Strategy 1.3
 - Activity 1.3.1
 - Activity 1.3.2
 - Activity 1.3.3

Objective 2:

- Processes for responding to HWC incidents: in this section it is important not to just document current processes but review the processes and explore ways of improving the current processes and procedures. There should be a clear description of roles and responsibilities so that community members know who to contact and what level of support they can expect.
- Monitoring, reporting and adaptive management: for any management plan, it is important to have a monitoring plan to measure the outcome of the implemented strategies and activities. This in turn will inform the adaptive management processes which may adjust activities or even strategies. With time, this may also lead to objectives being amended.
- Action plan and budget: timeframes, responsibilities and resources need to be allocated to each of the activities. These need to be realistic and feasible.

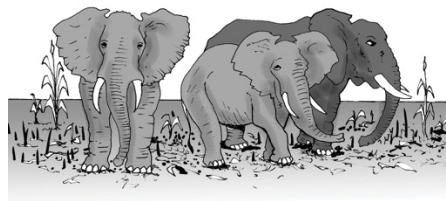
5.3 Human wildlife co-existence in Game Management Areas in Zambia

Extract from: *Zambia CBNRM Governance Manuals (2022). Human wildlife co-existence in Game Management Areas.* Department of National Parks and Wildlife, USAID, and Zambia CRB Association.

Different Actions for Different Problems

There are different types of wildlife that are responsible for different types of damage or losses, hence require different strategies. Also, different members of the communities are impacted differently by the damage and losses because of the different roles and responsibilities they carry in society. For example, when women search for cooking fuel, they could be at risk from animal attack.

EXAMPLES OF CONFLICTS BETWEEN HUMANS AND WILDLIFE



Different approaches are needed for different problem-causing animals, and these may also vary in different Game Management Areas (GMAs).

Co-Existence Strategies

General Management Plans (GMPs) follow the principle of adaptive management. This means that GMPs should be reviewed and changed as more information becomes available or as the situation in the GMA changes. Within the GMP, strategies for human-wildlife co-existence (HWC) suitable for that GMA are described. Some of these strategies aim at preventing conflicts from taking place while other strategies put processes in place for dealing with conflict when it happens. Community Resources Boards (CRBs) should not only be updating, but continually improving their GMPs as they gain experience and knowledge.

A GMP will provide a general description of any conflicts the CRBs in the GMA experience and identify areas where conflicts mostly occur. Some GMAs may even develop a Human-wildlife Co-existence Management Plan (HWCMP) which can either be included as part of the GMP or can be developed even if the CRB does not have a GMP. This HWCMP plan will provide details on ways to mitigate the effects of conflict and outline ways of co-existing.

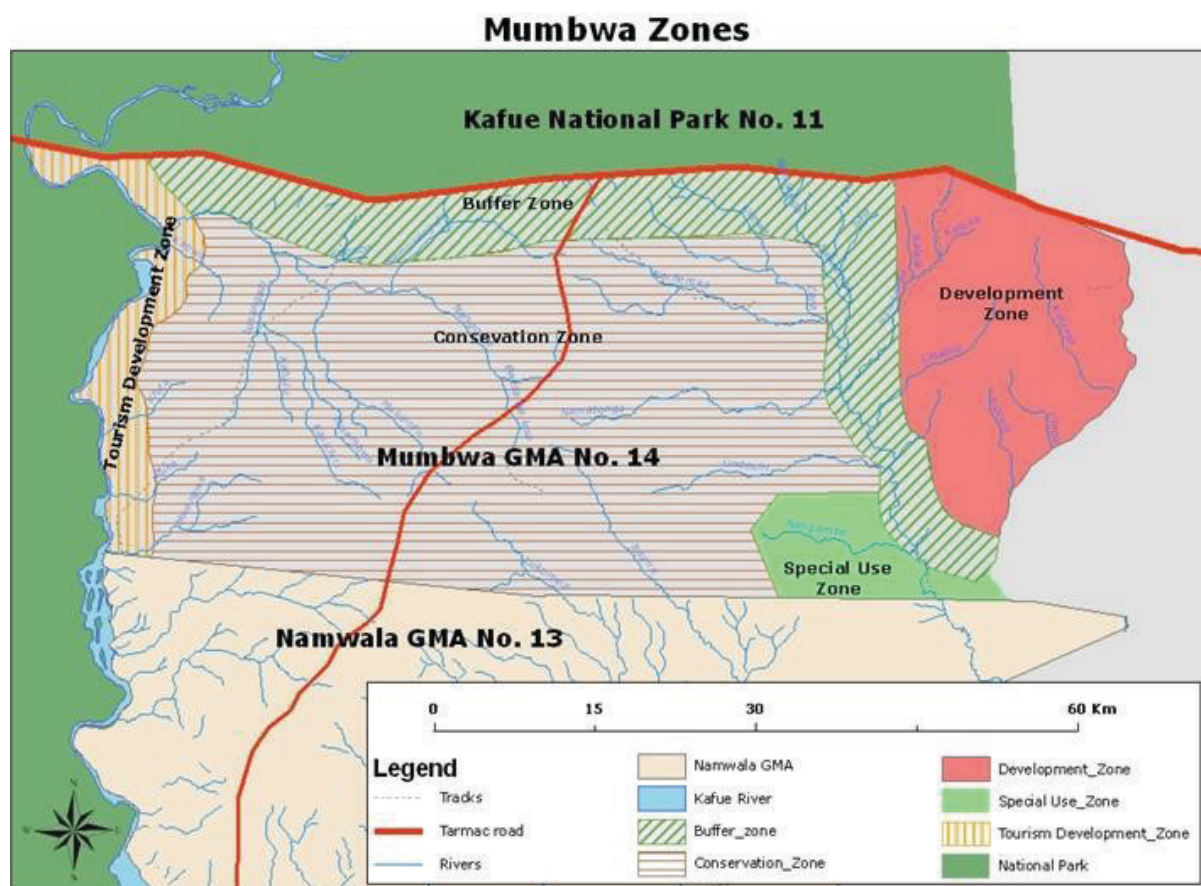
One of the key strategies for facilitating HWC is Land-use Planning (LUP) which comprises of the following components:

- Identifying areas with high levels of conflict;
- Promoting land-use activities that spatially separate wildlife populations and human settlement so that areas of overlap are reduced as well as possible conflicts;
- Clustering settlements and villages;
- Placing crops, gardens, and vulnerable infrastructure close to dwellings where detection and defence tactics can be easily deployed;
- Minimizing conflicting activities;
- Reducing the dependency of residents on land uses which lead to conflict; and
- Creating wildlife corridors which allow animal movement by creating or securing movement routes of wildlife.

Zonation

Zonation is a key aspect of managing HWC. Different areas within the GMA are zoned for different land-use practices to reduce the interactions between communities and wildlife and hopefully reduce conflicts. The Wildlife Act states that a person who settles or lives in a GMA must comply with the provisions of the GMP for that GMA. This means that communities should know about the zonation plan for their area and what they need to do to comply with this plan. In the process of developing a GMP, a zonation map for the area is compiled which shows the boundaries of the different zones. The different zones are usually shaded different colours with a key identifying the name of each.

There is also usually a description of what activities are allowed within the zone boundaries. Zones may include areas for development, tourism, conservation, or a special use zone. For each zone, there is a description of what can or cannot take place in that zone. An example of a zonation map from Mumbwa GMA follows. There is also an example of the definition of the zones from the GMP of Lunga Luswishi GMA.



ZONE	ALLOWED	NOT ALLOWED
Natural preservation zone	Hunting, tourism and carbon trading	Mining and farming
Special conservation zone	Tourism	Human settlements, mining and farming
Buffer zone	Tourism and research	Human settlements, hunting, mining and farming with crops or animals
Development zone	Human settlements, hunting, sand mining, grass and timber harvesting, and farming	All settlements and associated activities must be within the relevant laws

5.4 Technical solutions for mitigating HWC

Summarized from Chapter 7 of the Namibian Ministry of Environment, Forestry and Tourism's document: Measures and Guidelines for Implementation of the Revised National Policy on Human Wildlife Conflict Management (2019).

Table 5-1 Summary of preventative measures and their effectiveness for problem-causing predators

PROBLEM ANIMAL	TYPE OF DAMAGE	PREVENTION MEASURE	EFFECTIVENESS
Lion	Cattle predation	Lion-proof kraals used at night	High
		Mobile kraals	Initial tests indicate high effectiveness
		Early warning systems	Still being tested
		Herding	High
		Lion rangers	Still being tested
		Rapid response unit	Untested
		Relocation	Medium
	Small stock predation	Lion proof kraals used at night	High
		Predator proof living fences	Still being tested
		Relocation	Medium
Spotted hyena	Livestock predation	Kraaling at night	High
Leopard	Small livestock predation	Livestock guardian dogs	High
		Kraaling at night and during lambing season	High
		Protective collars on small stock	High
		Relocation	High/medium

PROBLEM ANIMAL	TYPE OF DAMAGE	PREVENTION MEASURE	EFFECTIVENESS
Cheetah	Small livestock predation	Livestock guardian dogs	High
		Management: kraaling, lambing season	High
		Protective collars on small stock	High
		Relocation	High/medium
		Herding	High/medium
African wild dog	Livestock predation	Kraaling	High
Jackal	Small livestock predation	Livestock guardian dogs	High
		Kraaling at night and during lambing season	High

Table 5-2 Summary of preventative measures and their effectiveness for problem-causing crocodiles

PROBLEM ANIMAL	TYPE OF DAMAGE	PREVENTION MEASURE	EFFECTIVENESS
Crocodile	Livestock predation and threat to human life	Crocodile fences	High

Table 5-3 Summary of preventative measures and their effectiveness for problem-causing hippos

PROBLEM ANIMAL	TYPE OF DAMAGE	PREVENTION MEASURE	EFFECTIVENESS
Hippopotamus	Crop damage	Guarding fields	Medium
	Threat to human life	Avoidance	High

Table 5-4 Summary of preventative measures and their effectiveness for problem-causing elephants

PROBLEM ANIMAL	TYPE OF DAMAGE	PREVENTION MEASURE	EFFECTIVENESS
Elephant	Water infrastructure	Elephant proof walls around water installations	High
		Trenches around water installations	High
		Elephant block barriers	Undetermined
		Alternative water for elephants at a distance from homesteads	Medium
		Elephant friendly water points with storage tanks and solar pumps – and overflow going to communities	High
		Early warning system: tracking of herds, known individual identification	Medium/Low
	Crop damage	Wire with tins around crop fields	Medium/Low
		Chilli pepper buffer crop	Medium
		Chilli pepper fences	Unknown
		Chilli bombs	Medium/High
		Chilli darts	High/Medium
		Fencing (electric / cable fencing)	High
		Traditional methods – drums, whips, loud noises	High/Medium
		Night guards (solar flashing lights)	Not fully tested
	Human life	Human-elephant co-existence techniques and safety skills training	Medium

Table 5-5 Summary of preventative measures and their effectiveness for problem-causing buffalo

PROBLEM ANIMAL	TYPE OF DAMAGE	PREVENTION MEASURE	EFFECTIVENESS
Buffalo	Crop damage	Fencing	Medium
		Guarding fields	Medium
	Human Life	Avoidance	High

6. Bibliography

Gross, E. M. (2021) HWC Management Niassa: Status Quo and Recommendations for a Way Forward. Study commissioned by WCS Mozambique with funding by the GIZ Partnership against Poaching and Illegal Trade.

Gross, E.M.; Pereira, J.G.; Shaba, T.; Bilério, S.; Kumchedwa, B.; Lienenlücke, S. 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>

IUCN (2023). IUCN SSC guidelines on human-wildlife conflict and coexistence. First edition. Gland, Switzerland: IUCN

IUCN (2020). Position Statement on the Management of Human-Wildlife Conflict. Gland, Switzerland: IUCN

KfW (2023). Sustainability Guideline Assessment and management of Environmental, Social, and Climate Aspects: Principles and Procedures. Frankfurt, Germany.

KfW (2023). KfW Guidance for Human Wildlife Conflict Management. Draft, unpublished document.

SADC (1999). SADC Protocol on Wildlife Conservation and Law Enforcement. Gaborone, Botswana.

Appendix 1: Maturity matrix for HWC management systems⁶

Level of consistency	Legal environment	Spatial management	Social strategies	Technical strategies	Financial strategies	Monitoring of HWC and its management
No consistency with integrated/holistic HWC management	No policies in place regulating HWC-related issues.	Land-use planning does not exist or exists only on paper.	Informal stakeholder engagement. No sustained attempt to understand community concerns with regard to HWC.	No or uncoordinated technical strategies in place.	No clear mechanism to buffer economic losses caused by wildlife.	HWC/M monitoring unsystematic and ineffective. No mechanisms for external parties to raise concerns.
Little consistency with integrated/holistic HWC management	General policies and regulations but no specific reference to HWC management. Applies to organizational level only.	Land-use planning exists but does not consider safe space for wildlife and people.	Stakeholder engagement mainly one-way with established leaders. No real attempt to understand power dynamics and stakes.	Technical strategies are implemented without clear strategy. Maintenance is challenging and sustainability deficient.	Financial strategies are implemented without clear strategy. Compensation is delayed and unreliable. Sustainability is deficient.	HWC/M monitoring reports informal and not shared. Engagement with external stakeholders is ad hoc, no formal processes to raise concerns.
Partial consistency with integrated/holistic HWC management	General policies and regulations with reference to HWC management. Applies to all individual, organizational.	Land-use planning considers to some extent safe space and connectivity for wildlife and secured space for stakeholders.	Active stakeholder consultation, providing for meaningful two-way communication. Community concerns feed into HWC management.	Technical strategies are developed and coordinated across the project area and reduce HWC to some extent.	Financial strategies are developed and coordinated across the project area and buffer negative economic impact caused by wildlife. to some extent.	HWC/M monitoring reports informing HWC/M. Regular meetings with external stakeholders but no specific procedure for raising concerns.
Moderate consistency with integrated/holistic HWC management	Specific policies, regulations and SOPs on HWC management cover key principles including in relation to risk assessment, security and incident management. Applies to all employees, and third parties.	Land-use planning considers safe space and connectivity for wildlife and secured space for stakeholders' lives and economic activity, and implementation is ongoing.	Active stakeholder participation ensures that all affected parties and voices of women and minority groups are heard. Incorporates feedback into design of HWC/M plans. Stakeholders actively involved in HWC/M.	Technical strategies are embedded in an integrated HWC/M and reduce HWC and its negative impact to a tolerable level.	Financial strategies are embedded in an integrated HWC/M, and buffer negative economic impact caused by wildlife.	HWC/M monitoring reports shared with stakeholders regularly and informing HWC/M. Multiple channels where external stakeholders can raise HWC-related concerns.
Effective consistency with integrated/holistic HWC management	Specific policies, regulations and SOPs on HWC management clearly aligned with other policies. Applies to all individual, organizational, regional and national level.	Participatory micro- and macro level land-use planning secures safe space and connectivity for wildlife and secures space for stakeholders' lives and economic activity.	Joint HWC/M of all stakeholders with high level of ownership and collaboration. Clear definition of roles and responsibilities and required capacity available.	Technical strategies are embedded in an integrated HWC/M and prevent HWC to happen. In case of HWC it is adequately and timely responded to and negative effects are mitigated.	Financial strategies are embedded in an integrated HWC/M, reward good HWC/M performance and effectively buffer economic hardship caused by wildlife.	HWC/M monitoring data-base reports shared with stakeholders regularly and informing HWC/M. Effectively managed GRM includes HWC-related subjects.