BRIEFING PAPER

Human-Wildlife Coexistence in Botswana and Beyond: Drivers, Impacts, and Response Mechanisms

Gaborone, Botswana
19 -21 January 2026

TABLE OF CONTENTS

List of Tables

List of Plates

Acronyms

AI	Artificial Intelligence
CBD	Convention on Biological Diversity
CBNRM	Community Based Natural Resource Management
CITES	Convention on International Trade in Endangered Species of Wild Fauna & Flora
DWNP	Department of Wildlife and National Parks
EIA	Environmental Impact Assessments
ELGA	Agricultural funding authority
EU	European Union
ESA	Endangered Species Act
HWC	Human-Wildlife Coexistence
IUCN	International Union for Conservation of Nature
KAZA-TFCA	Kavango–Zambezi Transfrontier Conservation Area
MP	Member of Parliament
NGO	Non-Governmental Organisation
SADC	Southern Africa Development Community
SEA	Strategic Environmental Assessments

INTRODUCTION

Human–wildlife coexistence has emerged as a strategic issue of growing importance for many countries across the world, with far-reaching implications for sustainable development, rural livelihoods, and biodiversity conservation.

In many rural areas globally, interactions between people and wildlife are a normal part of daily life. However, these interactions become a serious concern when they threaten human safety, undermine livelihoods, or place wildlife populations at risk. Rapid population growth, climate change, and increasing environmental pressures are intensifying competition over land and natural resources, making peaceful coexistence more difficult to sustain. As a result, communities are bearing rising social and economic costs, including crop losses, livestock predation, property damage, and the financial burden associated with compensation schemes and wildlife control measures.

This Briefing Paper introduces the subject from different perspectives and within the broader socio-economic and ecological context, drawing from experiences in Botswana, wider African region, the European Union and beyond. It underscores the critical role of informed legislative, policy, and oversight action in addressing the complex and evolving challenges associated with human–wildlife interactions.

The Briefing Paper has been commissioned as a background resource material for the ***International Parliamentary Roundtable on Human-Wildlife Coexistence in Botswana and Beyond*** - hosted by the National Assembly of Botswana and co-organized with **International IDEA** in Gaborone, on 19-21 January 2026.

The Briefing Paper has been primarily designed for Parliamentarians as well as other key stakeholders - participants of the Roundtable - those involved in natural resource management across different regions. The Paper aims to inform high-level dialogue and support evidence-based decision-making on how to strengthen policies, legislation, and practical strategies that promote effective and sustainable human-wildlife coexistence. In this context, it aligns with the objectives of the Roundtable in seeking to enhance the capacity of Members of Parliament to engage meaningfully with the issue and reflect on parliaments' critical role in shaping laws and policies through consultative and inclusive processes, exercising government oversight, and directing resources in ways that balance development priorities with community livelihoods and biodiversity protection.

The Briefing Paper is structured in four parts and several chapters. Part I provides a general overview of the concepts of human-wildlife coexistence with a historical snapshot; Part II explains different challenges caused by human-wildlife interactions, including human population growth, land use planning, climate change and other; Part III showcases a variety of approaches and mitigation mechanisms to managing wildlife impact, such as compensation and insurance schemes, community-based resource management initiatives and technological innovations; Part IV focuses on the role of parliaments in addressing human-wildlife coexistence underscoring the importance of inclusive stakeholder consultations while adopting legislation, voting budgets and/or overseeing governments' activities.

PART I: INTRODUCTION TO CONCEPTS OF HUMAN-WILDLIFE COEXISTENCE

Part I - which comprises Chapter 1 - offers a brief historical overview of human–wildlife coexistence and places the issue within the socio-economic and ecological context. It sets the foundation for the Roundtable by equipping Members of Parliament with a clear understanding of human–wildlife coexistence and its relevance to national and regional development priorities. In this regard, Part 1 aims to achieve the following:

- Build a shared understanding of the historical, socio-economic, and ecological dimensions of human–wildlife coexistence in Botswana, in the wider African region, the European Union and beyond.

- Position human–wildlife coexistence as a strategic policy and legislative priority linked to sustainable development, livelihoods, and biodiversity conservation.

CHAPTER 1: Human-Wildlife Coexistence: a historical snapshot

The relationship between people and wildlife has existed for thousands of years, shaped by cultural beliefs, survival needs, and land use. Historically, communities lived close to wild areas, hunting for food and protecting themselves, while many indigenous cultures viewed wildlife as spiritually and culturally significant, promoting respect and sustainable use. The rise of agriculture and permanent settlements altered this balance, leading to a "separation" approach where large, protected areas and strict laws excluded communities, treating wildlife mainly as a resource or a threat. In the latter half of the 20th century, growing concerns about biodiversity loss highlighted the limits of this top-down model. Many early conflict-reduction efforts failed due to social, resource, and political gaps. Today, there is a stronger focus on integrating conservation with human development, emphasizing genuine human–wildlife coexistence that balances ecological protection with community needs and benefits.

Human-Wildlife Coexistence ***(HWC) is defined "****as a dynamic process of continuous adaptation that needs to take into consideration ecological constraints, social needs, and political will for humans and wildlife to share spaces"* (Linnell et al. 2025). HWC moves beyond merely mitigating impacts; it seeks sustainable, long-term solutions that recognize the intrinsic value of biodiversity and the rights and livelihoods of local communities. This evolution highlights a journey from **passive interaction** (ancient/indigenous models) to **active separation/conflict** (colonial/early modern models), and finally to **deliberate integration and shared responsibility** (contemporary HWC approaches).

1.1 Human–Wildlife Coexistence in the African Region

Across Africa, achieving peaceful and sustainable human–wildlife coexistence remains a major challenge. Rapid population growth, expanding settlements, habitat loss, and increased competition for land, water, and food are placing people and wildlife in closer contact—and in many cases, in direct conflict. While many countries have introduced community-based conservation, compensation schemes, and improved land-use planning, incidents involving elephants, large carnivores, and crop-raiding wildlife continue to rise. These conflicts threaten rural livelihoods, undermine community support for conservation, and put long-term wildlife

survival at risk. Lasting coexistence will therefore require coordinated, landscape-level approaches that balance human development needs with biodiversity protection.

East Africa hosts some of the continent's most iconic species, including elephants, buffalo, zebras, lions, and hippos. Coexistence in this region is heavily influenced by pastoralist traditions, seasonal wildlife migrations, and competition for rangelands. Kenya, Tanzania, and Uganda frequently experience conflict around protected areas and migration corridors, where wildlife and communities depend on the same resources. Pressures from agriculture, fencing, drought, and climate variability intensify these challenges. Governments in Tanzania and Kenya have made human–wildlife coexistence a national priority, focusing on fair and timely compensation, improved land-use planning, benefit-sharing, and the use of modern conflict-prevention tools. Community conservancies and locally driven conservation projects in Kenya, Tanzania, Uganda, Rwanda, and Ethiopia are showing promise, but rapid population growth, land-tenure disputes, and persistent poverty continue to limit progress.

Southern Africa—particularly through the Kavango–Zambezi Transfrontier Conservation Area (KAZA–TFCA), shared by Angola, Botswana, Namibia, Zambia, and Zimbabwe— has made human–wildlife coexistence a key conservation priority, supported by strong community-based conservation and wildlife-based economies. However, increasing human settlement, wildlife movement into communal areas, and climate-related pressures are intensifying coexistence challenges. Addressing these challenges is critical for conservation and rural development and requires solutions that strengthen governance and ensure communities receive tangible benefits that outweigh the costs of living alongside wildlife.

1.2. Europe and Other Regions: Approaches to Human–Wildlife Coexistence

In Europe, the relationship between people and wildlife has long been shaped by intensive land use, hunting traditions, and the need to manage wildlife in densely populated landscapes. Unlike regions where large, protected areas could separate people and wildlife, Europe relied on strict population control of wild animals to reduce their impacts on human activities. Over time, this contributed to the local extinction of many species. Today, however, Europe is shifting toward a more balanced approach that recognizes the importance of both human wellbeing and wildlife conservation. Because most European protected areas are small and surrounded by human activity, long-term coexistence depends on integrating conservation into working landscapes—farmlands, forests, and settlements.

The diversity of approaches across European countries emerges while moving North to South, whereby a more deterministic and controlling approach leaves space to protectionism and less monitored wildlife populations. Almost all Nordic countries have structured monitoring plans in place, while Mediterranean countries struggle to control poaching and population trends with robust monitoring methods. Nevertheless, all Member States of the European Union are obliged to report species conservation status every seven years based on population sizes/trends and their distribution ranges. The **Natura 2000 Network** plays a central role by creating a coordinated system of protected areas where strict nature protection and regulated human use support species recovery, including large carnivores and birds of prey. This approach requires ongoing collaboration with communities, landowners, and local governments to ensure that conservation contributes positively to rural livelihoods.

In **Asia**, human–wildlife coexistence is shaped by very large populations, fast-changing land use, and high biodiversity. Countries such as India, Nepal, and Sri Lanka face growing conflict involving elephants, tigers, leopards, and bears. Expanding agriculture, shrinking forests, and

climate-related pressures are increasing competition for space and resources. India's **National Human-Wildlife Conflict Mitigation Strategy and Action Plan (2021–2026)** highlights how rising demand for land and water is fragmenting habitats and pushing wildlife into farms and villages. This leads to crop losses, threats to human safety, and emotional stress for affected families—reducing tolerance for wildlife and undermining conservation goals. To improve coexistence, Asian countries are prioritizing solutions that protect both people and wildlife. These include early-warning systems, safer land-use planning, community involvement in decision-making, rapid compensation mechanisms, and programs that share the benefits of wildlife conservation with local communities.

In conclusion, this introductory part underscores the importance of informed parliamentary leadership in advancing sustainable human–wildlife coexistence. By appreciating the historical, socio-economic, and ecological dimensions of the issue, Members of Parliament are better equipped to craft responsive policies and provide effective oversight. The insights gained from this Part lay a foundation for meaningful dialogue and evidence-based decision-making throughout the Roundtable. Ultimately, strengthened parliamentary capacity will contribute to resilient communities, protected biodiversity, and sustainable development outcomes in countries with wildlife resources like Botswana, other countries from the regions and beyond.

PART II: UNDERSTANDING HUMAN-WILDLIFE COEXISTENCE & ITS CHALLENGES

Part II which includes Chapter 2, 3 and 4 explores the current realities and key challenges of human–wildlife coexistence from both regional and global perspectives. It examines patterns and trends across SADC, draws lessons from comparative experiences worldwide, and unpacks the root causes of human–wildlife conflicts—including land-use pressures, climate change, and habitat loss. Special attention is given to how these conflicts impact local communities, livelihoods, and resilience, as well as the lessons emerging from grassroots experiences. The key messages for Members of Parliament and decision-making stakeholders, therefore, is that of considering and comprehending the following**:**

- Human–wildlife coexistence carries real and escalating social and economic costs for communities, requiring policy responses that are fair, responsive, and grounded in local realities.

- Effective coexistence depends on coherent laws, strong institutional coordination, and adequate resourcing, with Parliament playing a central role in oversight and accountability.

- Sustainable solutions must balance community livelihoods, human safety, and biodiversity conservation, while aligning national actions with regional/international commitments and shared ecosystems.

CHAPTER 2: Human-Wildlife Coexistence: Cross-regional Reflections

This chapter examines human–wildlife coexistence through a cross-regional lens, beginning with an overview of Botswana's key wildlife areas, affected communities, and species involved. It then broadens the discussion by drawing comparative insights from Africa, the European Union, and other global contexts to inform parliamentary perspectives and policy choices.

2.1 Overview of human-wildlife coexistence in Botswana

2.1.1 Human Wildlife Coexistence in Botswana

In Botswana, human–wildlife coexistence is shaped by geography, land use, human activities, and the ways wildlife use natural resources. As in other African countries, the main challenges are crop damage, livestock losses, destruction of water infrastructure, and, in some cases, injuries or deaths caused by wildlife. Elephants, hippos, lions, and buffalo are the species most frequently involved in serious incidents. Human-wildlife interactions are most common in northern, western, eastern, and parts of central Botswana, where wildlife populations are densest. Livestock predation by large carnivores is widespread, particularly in villages near protected areas. Large animals such as elephants, buffalo, hippos, and lions can also pose direct threats to human safety. Effectively addressing these conflicts requires strategies that reduce risks to people and property while maintaining opportunities for communities to benefit from wildlife, thereby fostering long-term coexistence.

Table 1: Types of Human Wildlife Interactions in Botswana

Forms of Human-Wildlife Interaction	Animal Responsible/People responsible
Crop damage	Elephant, hippo, baboon, warthogs, bushpigs, porcupines, Cape buffalo, zebra, kudu, jackal, and birds
Livestock depredation	Lion, leopard, cheetah, hyena, eagle, and crocodile, jackal
Damage to property [farm fences, tanks, boreholes/ watering equipment, thatched shelters)	Elephant, baboon
Death and injuries to human beings	Elephant, lion, hippopotamus, crocodile, snakes, leopard, wild-dog, and Cape buffalo
Illegal killing and injuries to wildlife	Communities
Threats/nuisance/presence of dangerous wildlife	Elephant, lion, leopard, baboon, birds

2.1.2 Hotspots of Human-Wildlife Impacts in Botswana

Wildlife impacts are not uniform across Botswana because species composition and population densities differ by region. Elephants and leopards are responsible for most incidents, accounting for over 80% of reported cases. The highest levels of human–wildlife conflict occur in Ngamiland and Central Districts, highlighting the need for strong engagement and coordination among stakeholders in these areas.

Key hotspots include northern regions near major protected areas such as Chobe National Park**,** Moremi Game Reserve in the Okavango Delta, and Nxai–Makgadikgadi National Park, all of which host large elephant populations. Other conflict zones exist near the Central Kgalagadi Game Reserve, where local communities and cattle ranches are affected. Northern Botswana's higher rainfall, abundant water sources, and extensive protected areas support greater wildlife diversity and numbers, which increases the likelihood of interactions with people. Effective management in these hotspots requires targeted strategies that protect human livelihoods while maintaining opportunities for communities to benefit from wildlife.

2.2 Global Trends and Challenges in Human–Wildlife Coexistence

Human–wildlife coexistence is shaped by broader social, economic, and environmental trends, and the challenges vary across regions.

In **Southern Africa**, human–wildlife coexistence is managed primarily through community-based natural resource management and wildlife-focused ecotourism. By giving communities rights and benefits from wildlife, these approaches link conservation with local development.

In the **Asia-Pacific**, rapid urbanization, economic development, and habitat loss threaten species such as tigers, leopards, elephants, and orangutans. Crop-raiding by elephants and livestock predation by large carnivores are common, creating direct conflicts with people. Conservation strategies in these regions increasingly focus on involving local communities to reduce conflict and promote coexistence. In Sri Lanka, for example, some NGOs work with farmers on alternative livelihoods and sustainable agriculture practices, particularly to improve coexistence with elephants. Sri Lanka's policy on human-wildlife coexistence focuses on integrated, community-based solutions, moving beyond simple fencing to habitat management, awareness, and compensation, recognizing coexistence as vital due to unavoidable interactions,

especially with elephants, by restoring corridors, promoting sustainable practices, and using technology for mitigation, supported by laws like the Fauna and Flora Protection (Amendment) Act.

The **European Union** faces coexistence challenges shaped by dense populations and widespread agriculture. Wildlife management relies heavily on strict environmental regulations and biodiversity policies, while public engagement—through education, awareness campaigns, and citizen science— sometimes helps local communities participate in conservation. However, strict protection of species, such as returning predators like wolves and bears, can impact farming and economic interests as well as human wellbeing, requiring careful balance between human livelihoods and conservation goals.

In **North America**, urban expansion, habitat fragmentation, and invasive species bring wildlife into closer contact with people. This often results in property damage and health risks, including exposure to diseases like Lyme disease and West Nile virus. The U.S. Fish & Wildlife Service manages federally protected species, balancing conservation with human interests, with laws like the Endangered Species Act (ESA). In the US, the expansion of wolves is challenging State Authorities that alternate periods of strict protection to those of population control. In large areas, where ranching cattle is common, locally adapted strategies need to be promoted and implemented.

Table 2: Type of Critical Human Wildlife Interaction in Europe

Forms of Human-Wildlife Interaction	**Animal Responsible/People responsible**
Crop damage	Wild boar, brown bear, roe deer
Livestock depredation (including poultry and aquaculture)	Wolf, bear, lynx, wolverine, wild boar, jackal, weasels, foxes, cormorants
Forest damage	Red deer, Fallow deer
Damage to property [farm fences, grass, gardens, playgrounds, pets]	Wild boar, bear, wolf
Death and injuries to human beings	Bear, wolf
Illegal killing and injuries to wildlife (intentional or unintentional, eg vehicle accidents)	Hunters, Farmers/livestock herders, Citizens, rural communities
Wildlife poaching	For wild boar and deer meat only. Hunters.

Across all regions, the ways wildlife impacts people vary depending on culture, economy, and the environment. Lessons from global experiences show that successful coexistence requires:

- **Community involvement**, ensuring people benefit from wildlife;
- **Balancing human needs with conservation goals**; and
- **Adaptive strategies** that respond to changing environmental and social conditions, including climate change and emerging diseases.

Understanding these regional differences and sharing best practices is essential for developing effective, sustainable strategies that allow humans and wildlife to thrive together.

Plate 1: Crop Damage by wildlife at Khumaga, Botswana
Courtesy: Gontse (2017)

In conclusion, this chapter highlights that while human–wildlife coexistence manifests differently across regions, common challenges and lessons emerge. The comparative perspectives from Botswana, other African countries, the EU, and beyond demonstrate the value of adaptive, inclusive, and evidence-based approaches. For Members of Parliament, these insights reinforce the importance of learning from diverse experiences to strengthen national policies, enhance community resilience, and promote sustainable coexistence between people and wildlife.

Discussion points:
Illustrate one-two management interventions that have been successful and discuss their applicability

CHAPTER 3: Human-Wildlife Coexistence: Key Drivers of Conflict

This chapter examines the underlying triggers and drivers of human–wildlife conflict, with a focus on issues of direct relevance to parliamentary action. It explores how land use practices, environmental degradation, habitat loss, and climate change intensify interactions between people and wildlife. By reflecting on wildlife corridors, community resilience policies, and emerging accelerating factors, the chapter equips Members of Parliament with critical insights to inform legislation, planning, and oversight aimed at preventing and mitigating conflict.

To manage critical human-wildlife interactions effectively, it is important to understand what causes them in the first place. Growing populations and expanding cities put more pressure on natural areas. Often, economic interests focus on quick profits instead of long-term solutions. Constraints in planning and governance can sometimes lead to habitat fragmentation, leading to increasing interactions between wildlife and human activities. Major causes include changes in how land is used, loss of natural habitats, climate change, and population growth. Efforts like creating wildlife corridors and building community resilience can help, but urban growth, expanding agriculture and/or loss of traditional practices continue to make coexistence a challenge. Climate change also increases competition for resources, making it harder for both people and wildlife to thrive. These factors are described in detail below:

3.1 Human population growth

Rapid human population growth and increasing demand for land and natural resources are major challenges to human–wildlife coexistence. In **Botswana**, competition over land and different ways people use it are key reasons why wildlife impacts are increasing (Darkoh & Mbaiwa 2009). Repeated losses of crops, livestock, or even human lives can lead to frustration within communities, sometimes resulting in retaliatory actions against wildlife, such as poisoning, trapping, or shooting (Gontse et al. 2018; Jibajiba 2018). In **Europe**, although the population is growing at a slower pace, landscapes are dominated by human presence, thus interactions are increasingly frequent.

As the global population increases, more land is turned into farms and grazing areas, often near the edges of protected areas or within wildlife habitats (Lobora et al., 2017). Currently, the world's population is about 8.25 billion and is growing by roughly 0.84 % per year—adding around 69–70 million people annually—which contributes to ongoing land-use change pressures near natural and protected ecosystems (Wordometer, 2025). At the same time, increasing demands for food production leads to intensifying agricultural practices at the expenses of natural habitats. Studies estimate that cropland overlaps with around 6 % of officially protected land worldwide, with a significant portion occurring even in strictly protected areas—highlighting pressures on conservation lands (Morgan Erickson-Davis, 2021). This brings people and wildlife closer together, increasing the chances of critical interactions. In some places, this growth and land conversion are happening especially quickly near protected area boundaries, making the problem even more severe (Estes et al., 2012). Addressing these pressures requires integrated land-use planning, community engagement, and conflict-mitigation strategies that balance human needs with wildlife conservation.

3.2 Land Use Planning and Habitat Loss

One of the main drivers of human–wildlife conflict is how land is used associated with the weak land use planning policies. Growing populations and expanding farms, settlements, and businesses reduce natural habitats, pushing wildlife closer to human communities and

increasing competition for water, food, and space. Limitations in land-use planning can exacerbate these conflicts. In some areas, planning is insufficient or poorly enforced, and the risks of wildlife interacting with people are not adequately considered. For example, when forests are cleared for agriculture, wild animals may enter crop fields, cause significant damage and increase tensions between communities and wildlife. Effective land-use strategies that integrate conservation considerations are essential for reducing conflict and supporting coexistence. In **Europe**, policies for greener cities possibly induce the creation of wildlife corridors that bring animals in urban areas. Although greener cities are desirable, designing habitats that are less likely to bring wildlife into conflict with humans and promoting policies that encourage responsible behaviour towards wildlife are key steps.

3.3 Environmental Degradation

Environmental degradation increases the chances for human–wildlife interactions. Activities such as deforestation (clearing forests for agriculture or settlements), pollution (water and soil contamination), and unsustainable agriculture (overgrazing, monoculture farming) reduce the ability of ecosystems to support wildlife, forcing animals to move into human-inhabited areas in search of food and shelter. The globally increasing claim for biofuels is pushing deforestation in **South and North America** at alarming paces, creating monoculture plantations that often impact biodiversity dramatically. Loss of biodiversity further destabilizes ecosystems, which can lead to unpredictable wildlife behaviour and more frequent encounters with humans. Protecting and restoring habitats is therefore essential for reducing critical interactions and supporting sustainable coexistence between people and wildlife.

3.4 Climate Change

Climate change intensifies human–wildlife interactions by altering weather patterns, habitats, and animal behaviour. Rising temperatures, droughts, and changing ecosystems can push wildlife into areas where people live, increasing the likelihood of crop damage, livestock loss, and direct encounters.

In many **African countries**, prolonged droughts reduce water and food availability for both people and wildlife, prompting animals to move into new areas and heightening conflict with local communities. Climate change can also affect wildlife health and reproduction, while creating conditions that allow diseases to spread more easily, impacting both humans and animals.

In **Europe**, milder temperatures make bears not hibernating during winter months, increasing the likelihood of encounters on ski resorts and the length of time bears search for food in orchards and pens. The rising temperatures also create positive conditions for some alien species to thrive and eventually outcompete native species (e.g., coypus, procyon and grey squirrels in Europe).

Repeated flooding in tropical countries also facilitates semi-aquatic wildlife, such as crocodiles, to enter human settlements (e.g., in Malawi) posing a direct threat to human lives.

Promoting human–wildlife coexistence in a changing climate requires adaptive, community-focused strategies and policies that protect livelihoods while supporting wildlife conservation.

3.5 Wildlife Corridors and Community Resilience Policies

Protected areas alone cannot cover entire ecosystems, and wildlife corridors—used by animals to move between habitats—are often unrecognized or unprotected. As a result, much of the land critical for species such as elephants, ungulates and large carnivores lies outside parks and overlaps with human settlements. Establishing corridors of suitable habitats that ensure connections between patches of protected landscapes allows wildlife to thrive outside protected territories. Wildlife corridors may need management intervention such as Nature restoration activities in densely populated continents as Europe is. Nevertheless, policies need to provide for elements that discourage the permanent presence of wildlife in the corridors, as they might include areas of overlap with human activities, where the survival of animals increasingly depends on local communities' tolerance and cooperation. The expansion of wolves in countries such as the **Netherlands**, **Luxembourg** and **Denmark**, using landscape corridors, has posed new challenges in those countries, which were not used to the presence of large predators for centuries.

Community resilience policies play a key role in improving coexistence. These strategies support sustainable resource use, enhance understanding of wildlife behaviour, and implement conflict prevention measures. Education and outreach can foster awareness, empathy, and collaborative solutions, turning potential conflicts into opportunities for peaceful coexistence.

In summary, critical human–wildlife interactions arise from multiple, interconnected factors. Therefore, it's through interdisciplinary and integrated strategies, supported by sector-specific yet interconnected ad hoc policies, and enhanced by effective partnerships and collaboration among stakeholders within a holistic framework that human wildlife co-existence can be achieved. In addition, strengthening community-focused policies, allows the development of solutions that benefit both people and wildlife, supporting biodiversity conservation and safeguarding local livelihoods over the long term.

Policy should support a broad shift toward transformative change, moving beyond reactive, divisive measures to fostering genuine coexistence. This includes consideration of diverse forms of justice, plural forms of knowledge, and intersectoral exchange of experience across governance levels.

In conclusion, this chapter underscores that human–wildlife conflict is driven by interconnected environmental, social, and developmental factors that require coordinated policy responses. For Members of Parliament, understanding these drivers is essential to shaping legislation and oversight that address root causes rather than symptoms. Strengthening land-use planning, climate resilience, and community-based approaches can significantly reduce conflict. Informed parliamentary leadership is therefore central to fostering sustainable coexistence and safeguarding both livelihoods and biodiversity.

Discussion points:
What are the main drivers that impede human-wildlife coexistence that can be addressed with already available tools?

Plate 2: Wildlife Corridors in the USA

Source: (The WWF KAZA Dreamfund Corridors Project, 2023)

Plate 3: Wildlife Corridors and Electric Fence at Pandamatenga Farms (Botswana)
Photo: Prof JE Mbaiwa.

CHAPTER 4: Human-Wildlife Coexistence: Impact on Local Communities

This chapter focuses on the tangible impacts of human–wildlife coexistence on local communities, highlighting the human, social, and economic risks they face. It brings forward grassroots perspectives to illustrate how policy decisions translate into lived realities on the ground. By examining success stories, lessons learned, and persistent challenges, the chapter provides Members of Parliament with community-informed insights to guide responsive legislation, targeted support, and effective oversight.

Although economic systems are often viewed as globally constrained by factors such as international trade, market dynamics, climate change, and energy prices, wildlife can still exert a substantial influence on local economies. This is particularly evident in rural areas, where livelihoods frequently depend on natural resources. Wildlife can also play a central role in shaping local identity, as many cultures maintain long-standing historical and symbolic connections to particular species that represent heritage and pride. However, increasing wildlife-related impacts can strain this relationship, creating tensions between conservation objectives and community needs. When these challenges are not properly managed, they may foster social dissatisfaction and escalate into conflicts within communities, ultimately eroding trust in authorities.

4.1 Wildlife impacts and practical solutions

Overly bureaucratic compensation programmes, for example, can lead to poor buy-in by farmers, resulting in a general lack of success and increasing discontent. The long procedures for compensating losses due to wolf attacks in the Tuscany Region, **Italy**, discouraged farmers from reporting attacks, thus not allowing the accurate estimation of wolf impact on livestock husbandry. Improvements in the procedures, activation of pilot projects involving farmers, and provision of technical support have allowed some farmers to reach zero-loss levels for many years. At the same time, particularly complicated technological instruments that require profound modifications of the farm management system, proposed without adequate technical support, are very likely disregarded by those who should benefit from their use.

Some charismatic species that attract international attention might be particularly challenging to live with. Some examples are large mammals across many continents, as their spatial needs often clash with the needs of ever-expanding human settlements. Bengal tigers are a globally threatened species, but the reduction of mangrove habitats in Sundarbans (**Bangladesh**) due to climate change has forced their main prey into areas closer to human settlements, where human-tiger encounters are more likely, and sometimes result in fatalities. Understanding complex dynamics is key to effective HWC.

Human-wildlife interactions in **Botswana** are associated with significant economic losses for local communities. The increasing frequency and severity of crop damage, together with the emotional toll of incidents involving injury or death of humans or livestock, are progressively eroding community tolerance towards wildlife in the country. As a result, the main concern is the escalating social and economic costs incurred by communities and the high expenditure associated with the payment of compensation and dealing with impacts. Although the benefits of utilizing wildlife may be directed to communities through CBNRM programmes (Jibajiba, 2018), wildlife threats to human life and property impair these benefits and engender negative attitudes towards wildlife. In 2022, a total of 11,938 cases of wildlife impacts were reported in Botswana (DWNP 2024).

4.2 Community engagement

Engaging communities affected by wildlife is essential for building trust, improving relationships among different interest groups, and ensuring that local voices are heard in conservation decision-making. Facilitated dialogues, supported or recognized by relevant authorities, allow communities to share their challenges and propose solutions, making them feel included rather than neglected.

Top-down policies and regulations have proved to be less effective in addressing human wildlife co-existence since they often do not include, as an integral part, the needs and interests of the local communities, often represented by other types of knowledge in addition to the scientific one. No matter how robust scientific outcomes are, if they are applied without considering local needs and adaptations, they are very likely to be inadequate. Local communities often feel marginalized in top-down decision-making processes, leading to resistance or non-compliance with conservation measures. By adopting a bottom-up approach that integrates the knowledge and needs of communities directly interacting with wildlife, conservation efforts are strengthened while sustainable practices that benefit both people and wildlife are promoted.

Community engagement can take different forms depending on the level of involvement. Communities can be informed, consulted or involved in shared decision-making processes. The level of involvement depends on political willingness and technical capacity to manage group work. Several notable success stories demonstrate how community-centred approaches can achieve human-wildlife co-existence while strengthening local resilience. In **Namibia**, the establishment of community conservancies empowered residents to manage wildlife and benefit from tourism revenues. This approach not only reduced poaching and dangerous encounters but also improved livelihoods, turning wildlife from a liability into a shared asset. Similarly, in **Kenya**, the Mara Conservancy model and the use of community-managed grazing plans have helped mitigate conflict with large herbivores and predators while ensuring that pastoralist communities retain access to critical grazing areas. These successes highlight how inclusive governance, financial incentives, and local stewardship can transform conflict into coexistence.

Involving communities in wildlife monitoring efforts may lead to more complex data analysis approaches, but results are positively received by those who have participated in their collection, as they feel part of a complex process. Hunters in **Croatia** and **Slovenia** are usually involved in wildlife monitoring campaigns. They are also involved in selective hunting for managing wild ungulate populations in most European countries (e.g., **Romania**, **Italy**, **Sweden**, **Spain**). The same happens with testing new technologies: involving the interested parties in experimentation increases credibility from their side and reduces the gap between the affected ones and the rest of the society.

Establishing spaces for dialogue and facilitating co-creation initiatives for improving coexistence with large carnivores is increasingly successful in Europe, as participatory development of management plans has shown in **Croatia**, La Rioja (**Spain**) and **Finland**, or implementation of pilot actions in **Tuscany** (**Italy**), PR Vercors (**France**), **Avila** (**Spain**) and **Harghita** county (**Romania**). Shared wildlife conservation efforts also include patrolling for **control of illegal practices** such as the Snow Leopard Conservation Programme in **Central Asia**.

In **India,** the community-led compensation and rapid-response programs in states like Maharashtra and Karnataka have significantly reduced retaliatory killings of tigers and leopards. In **Nepal**, the buffer zone community forestry program around Chitwan National Park has

empowered villages to manage forests, reduce crop-raiding by wildlife, and benefit from tourism revenue-sharing mechanisms. Together, these grassroots successes demonstrate that when communities are active partners—rather than passive victims—conflict mitigation becomes more effective, sustainable, and socially equitable.

4.3 Women and Youth Perspectives in Human–Wildlife Coexistence

Plate 4: Women and Youth in Wildlife Hotspots
Courtesy: Exo-Exist Botswana

Women and youth are among the most vulnerable groups affected by human–wildlife interactions, yet their experiences and perspectives are often underrepresented in policy and decision-making. When human–wildlife conflict leads to injury or death – particularly of the household breadwinner, who in many contexts is the husband – women often experience sudden economic insecurity, greater caregiving responsibilities, and increased exposure to risk as they assume new livelihood activities such as farming, fuelwood collection, or water fetching in wildlife-prone areas. These pressures can intensify poverty, disrupt children's education, and undermine household resilience over the long term.

Youth are similarly affected, both directly and indirectly. Young people may be exposed to physical danger when guarding crops, herding livestock, or traveling long distances to school through wildlife corridors. At the same time, loss of parental income due to wildlife-related injury or death can force youth to leave school and assume income-generating or caregiving roles prematurely. Despite these vulnerabilities, youth also represent a critical resource for coexistence, as they are well positioned to support community-based monitoring, early-warning systems, conservation education, and the adoption of innovative technologies.

Recognizing these gender- and age-specific impacts is essential for effective human–wildlife coexistence strategies. Policies and interventions should therefore ensure that women and youth are meaningfully included in consultations, benefit from targeted compensation and livelihood support mechanisms, and have access to education, skills development, and leadership opportunities. By focusing on women's and youth perspectives, coexistence strategies can better address social vulnerability, strengthen community resilience, and promote more equitable and sustainable outcomes for people living alongside wildlife.

In conclusion, this chapter demonstrates that the success of human–wildlife coexistence ultimately depends on the wellbeing and resilience of local communities. The experiences shared highlight both the costs borne by communities and the potential gains when inclusive and well-supported approaches are applied. For Members of Parliament, these insights reinforce the need for people-centred policies, adequate compensation mechanisms, and sustained community engagement. Grounding parliamentary decisions in grassroots realities is essential for achieving equitable and sustainable coexistence.

Discussion points:
Are there other relevant impacts on local communities and engagement initiatives that were not mentioned?
What level of community engagement is currently feasible in your country?

PART III: INTEGRATED APPROACHES & MITIGATION MECHANISMS TO MANAGING HUMAN-WILDLIFE COEXISTENCE

Part III, which comprises Chapters 5, 6, 7 and 8, highlights the policy, legislative, and institutional frameworks – at national, regional, and international levels – that shape coexistence outcomes, while emphasizing the central role of communities as partners in conservation. The Key messages for Members of Parliament and decision-making stakeholders is that human-wildlife co-existence may require the following:

- A strong, coherent policy and legislative frameworks – aligned with regional and international instruments – are essential for effective, accountable, and sustainable human–wildlife coexistence.

- Community-based natural resource management and equitable benefit-sharing models are critical tools for empowering communities as co-stewards of biodiversity and ensuring that conservation delivers tangible livelihood benefits.

- Practical mitigation measures, including compensation and insurance schemes, technology-driven solutions, and integrated enforcement, can significantly reduce human–wildlife conflict when supported by adequate resources and political commitment.

CHAPTER 5: Legislative and Policy Approaches to Managing Human–Wildlife Impacts

This chapter examines the legislative and policy frameworks that govern wildlife conservation and aim to mitigate human–wildlife conflict. It highlights key international and regional instruments, as well as national strategies and policy interventions, illustrating their practical impact on communities and ecosystems. By drawing lessons from the Southern African and EU regions, the chapter equips Members of Parliament with insights to strengthen laws, enhance policy implementation, and support evidence-based decision-making for sustainable coexistence.

This chapter seeks to explicitly foreground the central role of Parliaments in translating international and regional commitments on wildlife conservation and human–wildlife coexistence into effective national action. The revised section will highlight how Parliaments ratify international and regional agreements, oversee governments' compliance with related obligations, and ensure that agreed principles – such as ecosystem-based management, community participation, and conflict mitigation – are transposed or domesticated into national legislation and policy frameworks. This chapter will emphasize parliamentary responsibilities in scrutinizing executive action, aligning national laws and budgets with international commitments, and adapting regional frameworks to national contexts. By showcasing lessons from different regions, the chapter will demonstrate how Parliaments can drive coherence, accountability, and practical policy change to reduce human–wildlife impacts and support sustainable coexistence.

International agreements and regional strategies, particularly in Africa and the EU, provide important guidance for wildlife conservation and human–wildlife coexistence. When effectively implemented, these frameworks can support practical, sustainable solutions that help people and wildlife share landscapes more safely and harmoniously. The role of Members of Parliament therefore should include but not limited to the following: ratification of international and regional agreements, overseeing governments' implementation of obligations; transposition/domestication of international/regional principles/commitments into national legislation with particular focus to human wildlife co-existence.

5.1 Intercontinental Agreements

5.1.1 The Convention on Biological Diversity

The United Nations Convention on Biological Diversity (CBD) is an important international agreement for wildlife conservation and community benefits Worldwide. The CBD says that laws and policies should involve local communities and ensure they benefit from conserving and using natural resources in a sustainable way. It also states that ecosystems and species should be used in ways that don't harm them in the long run. Article 11 of the CBD specifically encourages countries to adopt incentives that promote the conservation and sustainable use of biodiversity.

5.1.2 Convention on International Trade in Endangered Species of Wild Fauna & Flora

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is an international agreement that helps countries protect their wildlife by controlling trade in endangered species. Botswana joined CITES in 1977 and included its rules in the Wildlife Conservation and National Parks Act of 1992. The main goal of CITES is to make sure that trading wild animals and plants does not threaten their survival. It sets consistent rules for international trade to help conserve biodiversity and prevent over-exploitation. CITES rules can affect how species like elephants, leopards, and red lechwe are traded or used for tourism and hunting. Trade in these species is only allowed with proper permits. For example, African elephants are listed in CITES Appendix I and II, which can ban or limit the ivory trade to help fight poaching. While CITES allows some controlled trade, such as ivory from safari hunting under strict quotas, its protective approach can sometimes lead to local overpopulation of certain animals or reduce income for communities.

5.1.3 The Bern Convention

The Bern Convention, officially known as the Convention on the Conservation of European Wildlife and Natural Habitats, is a binding international agreement adopted in 1979 in Bern, Switzerland, and entered into force in 1982. Its main goal is to conserve wild plant and animal species and their natural habitats across Europe and some African countries, ensuring the protection of biodiversity. The Convention requires its member countries (known as Contracting Parties) to adopt national conservation policies, protect endangered and vulnerable species, and manage habitats important for wildlife. It prohibits the deliberate capture, killing, and trade of protected species and calls for cooperation between countries to address issues like habitat fragmentation and the spread of invasive species. The Bern Convention played a key role in shaping European nature conservation, including the development of the European Union's Habitats and Birds Directives and the Natura 2000 network of protected areas. It remains a cornerstone for international cooperation in wildlife and habitat protection across the continent.

5.1.4 Red list assessment of the International Union for Nature Conservation

The International Union for Conservation of Nature (IUCN) Red List of Threatened Species is the world's most comprehensive source of information on the global conservation status of animal, plant, and fungi species. Managed by the International Union for Conservation of Nature (IUCN), the Red List assesses the risk of extinction faced by thousands of species worldwide. Each IUCN Red List Assessment follows a standardized process that uses scientific data to evaluate a species' population size, trends, geographic range, and threats. Based on this information, species are categorized into groups such as Least Concern, Near Threatened, Vulnerable, Endangered, Critically Endangered, Extinct in the Wild, or Extinct. These categories help governments, conservation organizations, and researchers prioritize conservation actions and track changes in biodiversity over time. The IUCN Red List is a critical tool for guiding conservation planning, raising awareness, and informing policy decisions aimed at protecting the world's biodiversity. Wildlife species that are listed as Threatened with Extinction risk may attract more support from the public, even though they locally cause impacts on people living nearby.

5.2 Regional Instruments

5.2.1 European Union (EU) Directives

In the European Union, the return of large carnivores like wolves, bears, and lynx and the increasing populations of other large mammal species such are wild boar, deer and other ungulates, as well as birds of prey has taught valuable lessons about coexistence in crowded, heavily changed landscapes. The EU protects these species through the **Habitats Directive** and the **Birds Directive** and has developed several funding programmes for piloting the implementation of preventive measures, such as livestock guarding dogs, stronger fences, and systematic implementation of compensation for losses. In 2025, as part of the Green Deal, the **Nature Restoration Law** has been ratified by Member States, which requests countries to ensure that by 2050 restoration efforts should improve the conditions of all degraded habitats listed in the Law. Restored habitats also include functionality of ecosystems, thus sustainable presence of wildlife species, including those which may impact human activities.

5.2.2. Regional Strategy of Southern Africa

Southern Africa provides rich and practical lessons on human–wildlife coexistence, grounded in community participation, regional cooperation, and strong policy frameworks. Notably, the **Kavango–Zambezi Transfrontier Conservation Area (KAZA)** has developed a dedicated **Human-Wildlife Conflict (HWC) Strategy**, which harmonizes cross-border approaches to conflict prevention, monitoring, and response among its five member states. This strategy promotes shared early-warning systems, coordinated wildlife movement planning, and community-centered mitigation tools that reduce pressure on rural households living within wildlife corridors. Complementing this, the **SADC Protocol on Wildlife Conservation and Law Enforcement** provides a regional legal framework that supports joint management of shared species, strengthens anti-poaching efforts, and encourages member states to integrate coexistence principles into national legislation. Together with long-standing CBNRM and conservancy models in Botswana, Namibia, and Zimbabwe, these regional instruments show that coexistence is most effective when countries collaborate on ecological connectivity, empower communities, and align policies for long-term resilience.

5.3 National policies

5.3.1 Botswana's Wildlife Policies and Legal Instruments

Botswana's policy and legal framework places strong emphasis on promoting **human–wildlife co-existence** by ensuring that communities living alongside wildlife gain tangible social and economic benefits from conservation. The **Wildlife Conservation Policy of 2013** recognizes that rural communities are central to successful conservation because they live closest to wildlife and often face the highest risks and costs, including crop losses, livestock predation, and safety threats. the policy enables communities to derive income from both photographic tourism and regulated hunting. This approach aims to turn wildlife from a source of conflict into a source of local development and incentives for co-existence. The **Tourism Policy of 2021** reinforces this by promoting inclusive tourism development that directly benefits rural households. It positions tourism as a tool to create jobs, diversify incomes, and reduce pressure on natural resources. Through greater community participation in tourism enterprises, the policy seeks to enhance livelihoods and encourage communities to tolerate and protect wildlife, particularly in areas where human–wildlife conflict is high. The older but foundational **CBNRM Policy of 2007** explicitly acknowledges that communities bear the costs of conservation and must therefore receive meaningful benefits to support long-term co-existence. It provides guidelines for devolving natural resource user rights, improving community governance, building local capacity, and ensuring transparent benefit-sharing. By strengthening community ownership and participation, the policy creates a platform where communities have both the authority and the motivation to manage wildlife sustainably.

The **National Tourism Master Plan (2022–2032)** further strengthens this model by supporting both photographic and hunting tourism as viable pathways for communities to earn revenue from wildlife. By enabling communities to choose tourism models suited to their ecological and cultural context, the plan aims to reduce resentment and conflict, promote stewardship, and ensure that wildlife contributes to rural development rather than undermining it. Botswana's broader environmental policy framework also contributes to co-existence. The **National Policy on Natural Resources Conservation & Development (1990)** promotes integrated natural resource management and civil society participation, although weak legislative backing has limited its effectiveness. Nonetheless, it laid foundational principles for balancing development with conservation—an essential element in co-existence.

Botswana has several Acts that provide legal support for these policy intentions. The **Wildlife Conservation and National Parks Act (1992)** regulate safari hunting, wildlife use, and management plans to ensure sustainable resource use. This helps manage wildlife populations in ways that reduce conflicts and protect livelihoods. The **Environmental Impact Assessment Act (2005)** ensures that tourism and development projects include measures to avoid or mitigate negative impacts on communities and ecosystems, supporting safer interactions between people and wildlife. A major advancement is the **CBNRM Act of 2025**, which legally empowers communities through rights to access and benefit from natural resources. By formalizing benefit-sharing, conflict resolution mechanisms, and compliance systems, the Act strengthens local stewardship and enhances community willingness to coexist with wildlife. The **Tourism Act of 2009** supports co-existence by regulating tourism enterprises—many of which operate in wildlife areas—ensuring safety standards, local participation, and orderly development.

Together, these policies and laws form a comprehensive framework aimed at transforming human–wildlife relations from conflict-based to benefit-driven. By ensuring that communities share in the economic value of wildlife, Botswana continues to build a foundation for sustainable human–wildlife co-existence rooted in equity, participation, and long-term conservation.

5.3.2 European National legislations

European countries that are members of the European Union have the obligation to transpose the EU Directives and Laws into National Laws. Countries in the EU use flexible management strategies that combine scientific monitoring with input from local stakeholders, bringing together conservationists, farmers, and rural communities. Virtually all EU countries have management plans or National laws that include compensation for losses due to wildlife. In many cases, these are associated with conditions related to the use of damage prevention measures. In **Sweden**, the northern area used by Sàmi for semi-domestic reindeer herding enjoys a system of compensating for the risks associated with the presence of large carnivores, and local people have the responsibility to prove that predators are present, thus contributing to monitoring programmes.

In **Germany**, **Spain** and **Italy**, Landers, Autonomous Regions and regional/provincial governments, respectively, are made responsible to implement their own regulations which must be coherent with national strategies laid down by central governments. The diversity of measures at the local level could result in unequal treatment, allowing shepherds from one region to receive significantly different amounts for compensating losses to wildlife. Furthermore, although, in principle, the flexibility allows for local adaptations, it makes it sometimes difficult to have a centralised system for data collection aimed at a large-scale analysis of predator impacts on human activities, suggesting that there is room for improvement in the links between International, national and regional/local policies. In some countries a centralised system of data collection exists, which makes impact monitoring very straightforward (e.g., **Sweden**, **Norway**, **Germany**, **France**, **Slovenia**). Also, the use of practices for controlling large carnivores varies across European countries: while in **Sweden** and **Slovenia** control of wolf under derogation from strict protection has been practiced for many years, in **Portugal** and **Italy** no permit for killing under derogation from strict protection have ever been applied for until 2025.

While there are ongoing debates about cultural acceptance and habitat challenges, the increasing populations of many wildlife species in the EU show that with strong legal protection, good funding, and open communication, pathways to coexistence are somehow feasible, although European countries are now faced with new challenging increase in many wildlife species that come into frequent contacts with human settlements.

In conclusion, this chapter emphasizes that effective management of human–wildlife interactions rely on robust legislative and policy frameworks, both nationally and internationally. For Members of Parliament, understanding these instruments is critical to guiding law-making, oversight, and policy refinement. Lessons from the African and EU contexts demonstrate the value of adaptive, well-enforced frameworks that balance conservation goals with community needs. Considering that coexistence is a dynamic process, we expect that new challenges will continue to arise, and policies will have to tackle ever changing situations. Strengthened parliamentary engagement ensures that policies translate into practical, sustainable solutions on the ground.

Discussion points:
How can legislation in your country be improved to ensure sustainable HWC?

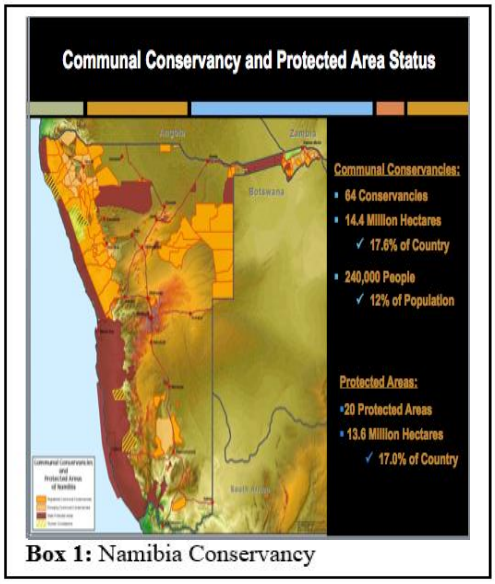
CHAPTER 6: Managing Wildlife Impacts through CBNRM and Community Benefit-Sharing

This chapter explores the role of Community-Based Natural Resource Management (CBNRM) and benefit-sharing models in promoting human–wildlife co-existence. It highlights how inclusive community engagement, equitable resource governance, and sustainable use of wildlife, particularly through ecotourism and green economy initiatives can strengthen conservation and local resilience. For Members of Parliament, understanding these approaches provides a foundation to institutionalize community rights, design effective benefit-sharing mechanisms, and support policies that foster long-term human–wildlife coexistence.

Active community involvement, fair management of resources, and creating jobs—especially through tourism and sustainable wildlife use—can help ease challenges posed by wildlife. Local experiences show that parliaments play an important role in creating laws and policies that ensure communities share in the benefits, encouraging both conservation and peaceful coexistence.

6.1 The Community-Based Natural Resource Management (CBNRM) Approach

Managing wildlife impacts on people works best when communities are at the heart of decision-making. Community-Based Natural Resource Management (CBNRM) gives local people more control over how resources are used, turning areas of conflict into opportunities. When communities help plan, monitor, and manage wildlife, animals become valuable assets that support jobs and incomes, instead of being seen only as threats. Fair systems—like those linked to ecotourism and sustainable wildlife use—help people earn money in new ways, making them less vulnerable to economic risks. For example, community-run conservancies that benefit from tourism or hunting can use that income to protect crops, pay for insurance, or support local monitoring teams. This not only reduces conflict but also builds stronger communities for the future.



Box 1: Namibia Conservancy

Experiences from Africa, Asia, and Latin America show that sharing benefits fairly is key for successful coexistence. When communities get a reliable share of money from tourism, carbon credits, or compensation funds, they are more willing to protect wildlife and invest in solutions like early-warning systems, rapid response teams, and crop-protection methods (such as chili fences or beehive barriers). These local initiatives often build on traditional knowledge and grow stronger over time. The World Bank's 2018 review shows that community-led conservation brings big ecological, social, and economic gains. For example, in **Botswana's** Okavango Delta, ecotourism created hundreds of jobs and generated over $600,000 in revenue. Other success stories include **India's** Periyar Tiger Reserve, **South Africa's** iSimangaliso Wetland Park, **Malawi's** Majete Wildlife Reserve, **Kenya's** Ol Lentille Sanctuary, **Namibia's** communal conservancies, and **Uganda's** Bwindi Impenetrable National Park. These examples prove that when communities manage and benefit from wildlife, conservation can drive rural development and peaceful coexistence.

Table 3: Community Based Projects

Name of CBO	Country	Size	Number of Tourists	Benefits from Tourism
Okavango Delta	Botswana	Entire delta is 16,000 km^2, but study focuses on northeast	Botswana received 259,000 international leisure tourists in 2015	14 ecotourism organisations employed 610 people generated over US$600,000 revenue (2012)
Periyar National Park and Tiger Reserve	India	925 km^2	800,000	US$93,000 raised through eco-charges on park entrance fees (2005)
iSimanagliso Wetland Park	South Africa	3,600 km^2	510,000 in the southern section of the park	US$1.5 million in revenue plus 1,600 direct jobs and 6,000 indirect jobs (FY 2015/2016)
Majete Wildlife Reserve	Malawi	691 km^2	8,000	US$400,000 in revenue (2016)
Sanctuary at Ol Lentille Laikipia	Kenya	40,000 acres (~160 km^2)	N/A 30% occupancy rate	US$20,000 30,000 in lodges fee
Communal Conservancies	Namibia	162,.30 km^2	N/A	Community conservation facilitated 5,147 jobs and generated nearly US$9 million (NS111 million) in returns for communities (2016)
Bwindi Impenetrable National Park	Uganda	331 km^2	N/A	US$573,000 (1998-2009)

Source: World Bank Group, 2018

The Community-Based Natural Resource Management (CBNRM) programme is one of **Botswana's** most effective approaches for improving human–wildlife coexistence. By giving local communities rights to manage and benefit from wildlife, CBNRM shifts wildlife from being viewed as a burden to becoming a source of local opportunity. Communities in wildlife areas use income from tourism to fund community projects, strengthen systems that address wildlife incidents, and support rapid-response teams for problem animals. This has strengthened community ownership, reduced retaliatory killing of wildlife, and encouraged more sustainable use of natural resources. Although Botswana's CBNRM approach has its own challenges, it conversely provides a model on how conservation and rural development can reinforce one another.

Plate 5: Signboards of CECT and OCT CBNRM Projects
Photo: Prof JE Mbaiwa

In addition to policy frameworks, simple and practical tools have proven highly effective in reducing human–wildlife conflicts across **Africa**. Non-harmful methods such as chili pepper barriers (in the form of bricks, sprays, or briquettes) help deter elephants from crops. Beehive fences take advantage of elephants' natural avoidance of bees, protecting farms while providing additional income from honey. Properly maintained electric fences can offer stronger crop protection and help direct wildlife along safer routes. These low-cost, community-led solutions improve food security, reduce losses, and build stronger cooperation between people and wildlife—supporting long-term coexistence.

There is limited experience with CBNRM projects in **Europe**, but stakeholders' involvement at the local level is increasingly considered in governance frameworks. The EU is promoting initiatives that foster dialogue among citizens and representatives of different interest groups, to mitigate conflicts over the presence and management of large carnivores. The EU Platform for Coexistence between People and Large Carnivores is an example of knowledge sharing and intersectoral support. Several local initiatives are being funded for supporting co-production of pilot projects for improving local conditions of livestock owners who suffer the most for the presence of increasing wolf and bear populations (e.g., in Romania, Italy, France, Sweden and Spain, see table 4).

Table 4: Participatory Initiatives Supported by EU

Location	**Species**	**Outcome**
Paredes de Coura, **Portugal**	wolf	Improved management of free ranging dogs
La Rioja, **Spain**	wolf	Co-production of Regional Wolf Management plan
Avila, **Spain**	wolf	Implementation of pilot damage prevention strategy in extensive farming
Regional Parc of Vercors, **France**	wolf	Improved awareness of the presence of livestock guarding dogs and their management
Grosseto Province, **Italy**	wolf	Increased support for small scale extensive sheep farming, collaborative implementation of damage prevention strategies
Natural Reserve of Roman Littoral, **Italy**	wolf	Increased awareness of wolf presence nearby human settlements and how to behave
Slovenia	Wolf, bear	Development and revision of Wolf Management plan, increased awareness of wolf presence around human settlements
Croatia	wolf	Development and revision of Wolf Management plan, increased awareness of wolf presence around human settlements
Harghita County, **Romania**	bear	Implementation of pilot damage prevention methods in honey farms, collaborative bear monitoring

Bohemia, **Czech Republic**	wolf	Increased awareness of wolf presence nearby human settlements and how to behave
Niedersachsen, **Germany**	wolf	Increased awareness of wolf presence nearby human settlements and how to behave
Finland	Wolf, bear, lynx	Development and revision of large carnivore Management plan
Varmland, **Sweden**	Wolf, bear, lynx	Improved collaboration with county board for damage prevention measures
Greece	Wolf, bear	Discussion on management at the national level
Dinaric-Pindos, the Balkan region	Wolf, bear	Improved international coordination on monitoring and damage prevention

The recovery of large carnivores such as **wolves, bears and lynx** across Europe has been recognized as a conservation success. Estimates suggest wolves now occur in most EU states with around 19,000 animals across the EU, alongside thousands of brown bears and lynx.

Table 5: Species and Human Wildlife Co-existence Case Studies

Name of Country	Human Wildlife Co-existence Status
Germany & **Sweden**	Co-existence strategies include compensation schemes for livestock losses, prevention measures like electric fencing and shepherd support, and stakeholder dialogue under EU and national programmes. Stakeholder platforms and programmes have been compiled by EU initiatives.
Denmark	Although large carnivores are less widespread than in other Member States, EU conservation frameworks influence habitat and wildlife management and pastoral dialogues on coexistence
Romania	a stronghold for megafauna with significant populations of wolves, bears and lynx existing in mixed landscapes of farmland and forestry, engaging long-standing coexistence traditions with pastoral communities in the Carpathians.
Italy	With long-established wolf and bear populations, management combines strict legal protection with local mitigation measures, including livestock guardian animals and targeted compensation frameworks.
Sri Lanka	Human–elephant coexistence is a challenge. Sri Lanka records high levels of conflict each year, with studies indicating that hundreds of elephants and dozens of people are killed annually due to conflict interactions (e.g., crop raids, retaliation and vehicle collisions).
India	India experiences a wide array of human–wildlife interaction types, including elephant and carnivore interactions. For example, in Karnataka, human–animal interactions consistently result in dozens of human fatalities annually and has prompted technical responses such as solar fencing, wildlife monitoring systems, and corridor planning

Participatory processes require accurate preparation and competent support, also from local and National authorities, which are often reluctant to share decision making power. Policies ought to increasingly support civil society democratic deliberative processes, actively involving citizens in consultation and decision making.

6.2 Parliaments institutionalise community rights and benefit-sharing schemes

The long-term success of CBNRM and benefit-sharing depends on strong laws and supportive policies, so the role of parliament is very important. Parliaments can protect community rights to land, forests, wildlife, and income by passing clear laws about ownership, access, and how benefits are shared. When these rights are part of national law, not just policy, it ensures fair and lasting systems that protect communities, regardless of political changes. Laws can also require that local communities are included in decision-making, make revenue distribution more transparent, and ensure that tourism or environmental projects bring real social benefits. Parliaments can set up systems to monitor conflicts, support local funding for solutions, and make sure national laws match international agreements. When community rights and benefit-sharing are protected by law, coexistence strategies are stronger, fairer, and more likely to succeed—helping both conservation and sustainable development.

In conclusion, this chapter underscores that meaningful community engagement and equitable benefit-sharing are central to successful human–wildlife coexistence. For Members of Parliament, recognizing and institutionalizing community rights not only incentivizes conservation but also strengthens local resilience and livelihoods. The lessons from real-world CBNRM experiences highlight the value of policies that align community interests with sustainable wildlife management, enabling both ecological and socio-economic benefits to thrive.

Discussion points:
What are the elements that limit the application of CBNRM?
How can they be overcome?

CHAPTER 7: Mitigation of Wildlife Impacts through Compensation and Insurance Mechanisms

This chapter focuses on compensation and insurance schemes as key tools for mitigating the impact of wildlife on human activities. It examines national and local policy frameworks, highlighting successful initiatives, challenges encountered, and lessons learned. For Members of Parliament, understanding these mechanisms is essential to crafting policies that protect communities, promote fairness, and strengthen incentives for sustainable human–wildlife coexistence.

Compensation and insurance schemes should be included in national and local policies in different ways, with various rules. While there are successful examples, these schemes also face challenges and cannot solve all problems alone. They should be used as one part of a broader, integrated approach to supporting human-wildlife coexistence.

7.1 Compensation Schemes as Strategies for Human–Wildlife Coexistence

Compensation schemes are an important tool for supporting human-wildlife coexistence, especially in rural areas where people suffer losses from crop damage, livestock attacks, or threats to safety. These programs help cover the financial losses caused by wildlife, reducing the need for people to kill animals in retaliation and encouraging acceptance of wildlife—even those that may cause problems. If done well, compensation schemes not only provide financial relief but also build trust between communities and conservation authorities. They recognize that living with wildlife comes with real costs, and these costs shouldn't fall mainly on those living closest to wildlife.

For compensation schemes to work, payments must be made quickly, verification must be fair and local, and communities should have a say in how the process works. Compensation should also be combined with measures like fencing, warning systems, and better livestock management. Insurance schemes can help too, but they work best when lots of people take part and governments provide support. Sometimes, however, the payouts are too low to be effective.

Successful compensation programs share some key features:

- Payments are timely, so people trust the system and report losses
- Verification is handled locally, often by committees or trained scouts
- Preventive measures are encouraged to avoid repeated losses
- Compensation is part of a bigger plan that includes other benefits like tourism and jobs
- Strong laws and policies keep the system stable, even if politics or the economy changes

When these elements are in place, compensation and insurance schemes are more likely to succeed as part of a broader approach to human-wildlife coexistence.

7.2 Examples and challenges in the application of compensation and insurance schemes

There are several real-world examples and challenges in the implementation of compensation and insurance schemes meant for human–wildlife co-existence that illustrate lessons learned across different countries and contexts. These examples provide insights into what works, the obstacles faced, and opportunities for improving these mechanisms. The examples include the following:

a. In In **Europe**, most countries operate compensation programmes for damage caused by wildlife. In most cases, compensation is paid directly after the damage occurs. However, there are exceptions: in **Greece**, compensation is provided through an insurance system managed by the Agricultural Insurance Organization (ELGA), and a similar insurance-based system operates in Lombardy (**Northern Italy**). In **Nordic countries** a system for compensating for the risk associated with living in predators' area is foreseen. The EU's Common Agricultural Policy supports payments for ecosystem management and damage prevention. National ministries usually handle compensation, and inspections by trained staff are required. In many countries, payments depend on the use of prevention measures being in place. Compensation is generally more effective inside protected areas than outside, where wildlife is spreading into more human-dominated landscapes. In Maiella National Park (**Italy**), an automated system allows checks and payments to be made within 28 days of the attack. In **France**, the Plan National Loup foresees a centralised system for recording damages, and the national budget spent on damage prevention for wolf attacks on livestock is tenfold that spent on compensation. In several countries, the Rural development Programmes, also include measures for supporting livestock owners protecting their animals. For example, while in Trentino (**Italy**) the only measure subsidised by the government against bear attacks is electric fences, in **France** and Piedmont (**Italy**) an integrated set of measures are available to farmers, such as shepherding, fences and livestock guarding dogs. In **Austria**, payments are foreseen for sustainable management of alpine pastures, encouraging pastoralists to manage their animals accordingly.

b. **India** has one of the largest and most developed compensation systems, covering losses from elephants, tigers, leopards, and crop-raiding animals. States like Karnataka, Maharashtra, and Assam pay for livestock loss, crop damage, and even human injury or death. India has also made the claim process faster and more transparent with mobile reporting and standard payment rates, which has built trust and reduced the killing of problem animals.

c. In **Botswana**, compensation is a key part of the country's strategy, especially in areas with frequent crop or livestock losses from elephants, lions, and other large animals. The government pays for verified losses at fair market value, which has helped reduce the killing of wildlife in retaliation. While there are still challenges—like payment delays or disputes—Botswana is now combining compensation with prevention, such as chili fences, cluster farms, and better livestock enclosures, so that communities become more resilient rather than dependent on payments.

d. **Kenya** uses compensation as a main strategy to help rural communities near parks and wildlife areas. Programs pay farmers and herders for verified losses, with local conservancies helping to check claims and speed up payments. Kenya also links compensation with prevention, like predator-proof enclosures, beehive fences, and community scouts. There are still challenges—such as delayed payments and limited funds—but Kenya is trying new insurance models and using digital tools for claims. This joined-up approach combines financial help with practical prevention and community involvement.

e. **Namibia** is a good example of a country with a strong and evolving compensation system for human-wildlife conflict. Its policy pays for losses caused by elephants, lions, crocodiles, and hyenas. Namibia has moved from just paying compensation to also

rewarding preventive measures. Community conservancies help check claims, make the process fair, and link payments to better conservation results. This community approach makes sure help reaches families quickly and fairly. Namibia also connects compensation with other programs that bring income from tourism and sustainable wildlife use, creating a complete system for coexistence.

f. **Tanzania** has tried different approaches. In some places, due to limited funds, the government now offers partial compensation for human deaths or injuries, rather than full coverage for crops or livestock. Other solutions—like local monitoring, beekeeping to deter elephants, and stronger livestock pens—are used alongside payments. This mixed approach recognizes that money alone isn't enough; reducing risk and supporting communities are both needed.

Overall, compensation is an important part of human-wildlife coexistence. When combined with community conservation efforts, it helps people tolerate wildlife, supports rural incomes, and strengthens long-term conservation. This chapter concludes that well-designed compensation and insurance schemes are essential for reducing the risks and burdens communities face as a result of wildlife interactions. For Members of Parliament, these mechanisms represent practical policy tools to safeguard livelihoods, strengthen community resilience, and foster positive attitudes toward conservation. By drawing on existing successes and lessons learned, parliamentarians can advance policies that promote fairness, accountability, and sustainable human–wildlife coexistence.

Discussion points:

Which conditions should an ideal compensation system have? How to improve support to those who suffer losses to wildlife?

CHAPTER 8: Using Technology and Innovation to Mitigate Human–Wildlife Impacts

This chapter explores technological and innovative strategies for mitigating the impact of wildlife on human activities. It highlights tools ranging from drones, Artificial Intelligence (AI) monitoring, and early warning systems to climate-smart agriculture and deterrents, alongside enforcement and security measures involving rangers and law enforcement. For Members of Parliament, understanding how technology, community engagement, and security approaches can be integrated provides a pathway to more effective, sustainable, and scalable human–wildlife coexistence solutions. In this context, Members of Parliament are responsible for allocating appropriate budgets to ensure that relevant institutions and departments have access to the technology needed to support human–wildlife coexistence.

A range of new technologies and innovative strategies are now being used to reduce the impact of wildlife on people. Tools like drones, AI monitoring, and early warning systems, along with climate-smart farming and wildlife deterrents, are making a difference. These approaches are even more effective when combined with traditional knowledge and the work of management agencies. By bringing together technology, community involvement, and security efforts, we can create more effective and lasting solutions for human-wildlife coexistence.

8.1 Technology and Innovation for mitigating wildlife impacts

Many new technologies are being used to help people and wildlife live together more peacefully. Drones are used to watch wildlife from the air, helping communities and park staff see if animals are moving toward farms or villages. Special cameras with artificial intelligence and remote sensors can track animals in real-time, providing early warnings to local people. GPS collars on elephants, lions, wolves, bears, and other large animals help map their movements, making it easier to create safe corridors and plan prevention. Mobile apps and text message systems, like “virtual fences,” alert farmers when wildlife is close, so they can act quickly to protect their crops.

Climate-smart farming methods, like planting crops that animals don’t like or rotating fields, help reduce losses while keeping farms productive. High-tech tools for livestock management, such as automatic feeders or selective doors in predator-proof enclosures, also make livestock less vulnerable.

In addition to technology, simple deterrents and non-lethal methods work well. Beehive fences use elephants’ fear of bees to protect crops and give farmers honey to sell. Chili pepper sprays or fence coatings keep elephants and other animals away without harming them. Solar-powered electric fences and lights can scare off predators, while still letting wildlife move safely. These solutions are most effective when combined with community involvement, ranger patrols, and local enforcement. Using a mix of these tools as part of a larger plan helps people and wildlife share the land with fewer problems.

8.2 Enforcing legislation: a balance between control and support

Enforcement is important for protecting both wildlife and people. Working together—using rangers, police, and sometimes even the military—helps create peaceful coexistence. Law enforcement should not be seen as harsh, but to improve life for everyone. Trained community rangers are key. They monitor wildlife, respond to conflicts, and work with residents. Their presence helps prevent both wildlife problems and illegal acts like poaching.

In Europe, forestry corps or wildlife technicians from local authorities can play a key role in local communities, representing the bridge between centralised authorities and residents. It is of pivotal importance that local police officers are adequately trained in responding to the needs of residents when they are related to wildlife presence, without providing useless responses that threaten authorities with loss of trust. In risky or border areas, rangers team up with police or military to keep protected areas safe, enforce wildlife laws, and handle emergencies. Sharing information between rangers, law enforcement, and technology platforms makes anti-poaching efforts and conflict responses much more effective. Policies that support higher levels of technical capacity, updated training and information exchange should promote the support of local police for a balanced coexistence between people and wildlife.

In conclusion, this chapter emphasizes that combining technology, innovation, and strategic enforcement can significantly enhance human–wildlife coexistence. For Members of Parliament, supporting the integration of these tools with community-based and policy approaches is key to sustainable conflict mitigation. Leveraging modern innovations alongside social and security measures equips policymakers to create practical, scalable solutions that protect both livelihoods and biodiversity.

Discussion points:
Law enforcement is a balance between incentives and control. What systems are most suitable for wildlife conservation laws to be respected?

PART IV. THE ROLE OF PARLIAMENTS: PATHWAYS TO MANAGING HUMAN-WILDLIFE COEXISTENCE

Part IV underscores the central role of Parliaments in shaping effective and sustainable pathways for managing human–wildlife coexistence. It focuses on how Members of Parliament can translate evidence, lived experiences, and best practices into concrete legislative, policy, and oversight actions that balance community livelihoods with conservation priorities. The following are the key considerations**:**

- Parliamentarians play a decisive role in enacting and strengthening laws, policies, and budgets that support effective human–wildlife coexistence.
- Strong parliamentary oversight is essential to ensure that policies and mitigation measures are implemented fairly, transparently, and in ways that respond to community needs.
- Participatory and inclusive decision-making at parliaments, that integrates community voices, scientific evidence, and regional commitments, is key to achieving peaceful and sustainable coexistence.

CHAPTER 9: Parliamentary Mechanisms for Managing Human–Wildlife Impacts

This chapter examines the multifaceted role of Parliaments in mitigating human–wildlife impacts through legislative action, budgetary allocation, oversight, and citizen engagement. It highlights successful initiatives from the African region, the European Union and beyond, emphasizing the importance of foresight and long-term planning. For Members of Parliament, understanding these mechanisms is crucial for aligning national policies with regional frameworks such as the African Union's biodiversity agenda and others, ensuring sustainable coexistence and resilient communities.

In this regard, Members of Parliament have a unique role in addressing human–wildlife coexistence as a complex, cross-sectoral policy challenge. Building on the evidence and case studies presented in earlier chapters, it demonstrates how MPs can move beyond reactive responses to adopt integrated legislative, budgetary, and oversight approaches that reflect the multiple ecological, social, and economic drivers of conflict. The chapter emphasizes parliamentary foresight, long-term planning, and policy coherence, illustrating how decisions in areas such as land use, agriculture, infrastructure, and climate adaptation directly affect coexistence outcomes. By showcasing practical examples from Africa and the European Union, alongside citizen engagement mechanisms, the chapter is designed to inspire MPs to initiate informed dialogue, balance stakeholder interests, and champion policies that support sustainable and inclusive human–wildlife coexistence.

9.1 Shaping effective legislation, scrutinizing budgets and overseeing government activities

Parliaments can play a central role in managing human–wildlife impacts in determining legislation, budget allocations, oversight functions, and active citizen engagement in creating effective and sustainable solutions for coexistence. As a result, for successful human-wildlife

coexistence, it is important to combine local solutions and traditional knowledge with broader national and international goals. Policies should be easy for people to understand and put into action. P, and political leaders should focus on long-term "Think Globally – Act Locally" strategies.

Parliaments have a key role in this process. They create, review, and monitor national policies on human-wildlife coexistence, climate resilience, and natural resource management. Through their law-making, budgeting, and oversight powers, parliaments help make sure these policies are well-designed, effective, and support long-term national and regional goals.

Parliaments can create and pass strong laws to address human-wildlife conflict, encourage coexistence, and connect biodiversity conservation with climate change planning. By ensuring coherence between national laws and regional agreements, parliaments help ensure consistency and cooperation across countries and sectors. Special committees and cross-party groups can help parliaments plan and prepare for new conservation challenges.

It is also important that these policies are supported with enough funding. Parliaments review and approve national budgets to make sure wildlife management, community conservation, compensation payments, and early warning systems all receive proper support.

Lawmakers can also promote environmental funds, payment for ecosystem services, and public-private partnerships to bring in more resources for conservation and climate resilience. Funds must be managed clearly and transparently. Parliaments oversee spending by questioning government officials, reviewing reports, and making site visits to check on progress. Inquiries and commissions can collect information from scientists, local communities, and civil society groups. This helps parliaments make informed decisions, adjust policies and keep the process open and transparent.

9.2 Public Awareness and Community Consultation

Public awareness and community consultation are essential foundations for effective human–wildlife coexistence, and Parliaments play a strategic enabling and oversight role in ensuring these processes are inclusive, credible, and sustained. While wildlife authorities, local governments, media, and civil society organizations are responsible for day-to-day implementation of awareness and education activities, Parliaments shape the framework within which these actions occur through legislation, budgetary decisions, and policy scrutiny.

Parliaments can mandate national and sub-national public awareness strategies that promote understanding of wildlife behaviour, risk reduction, and the value of biodiversity, particularly for communities living in high-conflict areas. Through budget approval and oversight functions, they can ensure adequate funding for education programmes, early-warning systems, emergency response mechanisms (such as wildlife helplines), and community-based reporting tools. Parliamentary committees can also hold relevant authorities accountable for working responsibly with the media, ensuring accurate, balanced, and timely information reaches the public during conflict incidents.

As representatives of communities, Parliaments have a critical role in convening and safeguarding consultative processes. Through public hearings, constituency outreach, petitions, and committee consultations, MPs can bring together diverse voices—including farmers, pastoralists, Indigenous groups, women, youth, conservation actors, and the private sector—to inform legislation, policies, and budget priorities. This representative function allows Parliaments to balance competing interests, identify local realities often overlooked in technical

planning, and strengthen social legitimacy for coexistence measures. By institutionalizing citizen engagement and ensuring that awareness and consultation are embedded across policy, legislative, and budgetary processes, Parliaments act as a vital bridge between the state and citizens. This role is essential for building trust, fostering shared responsibility, and supporting long-term, socially accepted approaches to managing human–wildlife coexistence

9.3 Strategic implementation of HWC principles

Long-term human–wildlife coexistence requires that root causes of conflict are addressed in the core policies and daily operations of key ministries, with coordination across sectors. Parliaments play a critical role in ensuring this strategic approach is implemented. Through legislative oversight, relevant parliamentary committees can monitor government commitments to HWC principles, review the integration of HWC into national development and biodiversity strategies, and hold line ministries accountable for implementation. Committees can request reports on HWC programs, examine audit findings, call ministers or department officials to hearings, and assess whether inter-sectoral coordination is effective.

Parliaments can also influence the design and application of strategic tools like Environmental Impact Assessments (EIAs) and Strategic Environmental Assessments (SEAs). By scrutinizing whether projects in wildlife areas include appropriate mitigation measures—such as preventing habitat degradation, minimizing wildlife displacement, or reducing new conflict risks—legislators can ensure that proactive measures are embedded in policy and practice. Even when EIAs are not legally required, parliamentary oversight can encourage their use and ensure accountability. The emphasis should be on prevention. Parliaments can promote investment in early warning systems, rapid response teams, and physical mitigation measures in high-risk areas. By monitoring whether field teams have the resources, training, and authority to detect risks early and warn communities, Parliaments help shift government action from reactive responses to proactive, preventive strategies. In this way, parliamentary engagement ensures that HWC strategies and action plans are not only developed but effectively implemented, fostering sustainable coexistence between humans and wildlife.

In conclusion, this chapter underscores that Parliaments are pivotal in shaping and sustaining effective human–wildlife coexistence strategies through legislation, budgeting, oversight, and citizen engagement. For Members of Parliament, proactive and informed involvement ensures policies are evidence-based, fiscally supported, and aligned with regional and continental biodiversity priorities. Strengthened parliamentary action fosters long-term planning, community resilience, and sustainable coexistence between people and wildlife.

BIBLIOGRAPHY

1. Darkoh, M.B.K. & **Mbaiwa, J.E**. (2009). Land Use and Resource Conflicts in the Okavango Delta, Botswana. African Journal of Ecology, 47: 161-165.

2. Dickman, A. J. (2010). Complexities of conflict: the importance of considering social factors for effectively resolving human–wildlife conflict. Animal conservation, 13(5), 458-466.

3. Gontse, k. (2017). Wildlife Crop Raiding and its Implications on Livelihoods of Khumaga, Boteti Sub-District, Botswana. Unpublished Master of Philosophy Thesis, Okavango Research Institute, University of Botswana.

4. Gontse, K., Mbaiwa, J. E., & Thakadu, O. T. (2018). Effects of wildlife crop raiding on the livelihoods of arable farmers in Khumaga, Boteti sub-district, Botswana. *Development Southern Africa*, *35*(6), 791-802.

5. Jibajiba, P. (2018). Crop-Raiding and Socio-Economic Mitigation Measures in the Communities of Parakarungu and Mabele in the Chobe District, Botswana. Unpublished Master of Philosophy Thesis, Okavango Research Institute, University of Botswana.

6. KAZA-TFCA (2016). Assessment of the Human Wildlife Conflict Mitigation Measures being Implemented by Kavango-Zambezi Transfrontier Conservation Area (KAZA-TFCA) partner countries, KAZA TFCA Secretariat, Kasane, Botswana

7. Lobora, A. L., Nahonyo, C. L., Munishi, L. K., Caro, T., Foley, C., & Beale, C. M. (2017). Modelling habitat conversion in miombo woodlands: insights from Tanzania. Journal of Land Use Science, 12(5), 391-403.

8. Linnell, J. D. C., Smith, A., & Eriksen, S. (2025). *Global perspectives on human–wildlife coexistence: Policy, challenges, and innovative solutions*. Conservation Science and Practice, 7(1), e811. https://doi.org/10.1111/csp2.811

9. Ministry of Natural Resources and Tourism (MNRT) (2020), National Human-Wildlife Conflict Management Strategy 2020-2024. Ministry of Natural Resources and Tourism, United Republic of Tanzania.

10. Ministry of Environment, Forest and Climate Change Government of India (2021). National Human-Wildlife Conflict Mitigation Strategy and Action Plan of India 2021-26. New Delhi, INDIA.

11. Ministry of Environment and Tourism (2018) Revised National Policy on Human Wildlife Conflict Management 2018 – 2027, Directorate of Wildlife and National Parks, Windhoek, Namibia

12. Morgan, E.-D. (2021, June 15). *Human–wildlife conflict: Lessons from around the world*. Earth.org. https://earth.org/human-wildlife-conflict-lessons/

13. Worldometer. (2025). *Population data by country*. https://www.worldometers.info/world-population/