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SECTOR ENVIRONMENTAL GUIDELINES: BIODIVERSITY CONSERVATION

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ABOUT THIS DOCUMENT AND THE SECTOR ENVIRONMENTAL GUIDELINES

This document presents one of the Sector Environmental Guidelines (SEGs) prepared for the United States Agency for International Development (USAID) under the Agency's Environmental Compliance Support (ECOS) contract. All sector guidelines are accessible at USAID's Sector Environmental Guidelines & Resources webpage.

Purpose. This document will support environmentally and socially sustainable design and management of common USAID sectoral development activities by providing clear, straightforward information regarding the following:

- The typical, potential adverse impacts of activities in these sectors;
- How to prevent or otherwise mitigate these impacts, both in the form of general activity design guidance and specific design, construction, and operating measures;
- How to minimize the vulnerability of activities to climate change, as well as emissions resulting from activities that can contribute to climate change; and
- More details for further exploration of these issues**.**

Environmental Procedures. USAID's mandatory environmental procedures, as described in Automated Directives System (ADS) 204, require that the potential adverse impacts of USAID-funded and managed activities be assessed prior to implementation via the Environmental Impact Assessment process defined by Title 22 Code of Federal Regulations Part 216 (22 CFR 216) (USAID 1976). They also require that the environmental mitigation and monitoring measures identified by this process be written into award documents, implemented over the life of the activities and monitored for compliance and sufficiency.

USAID's environmental procedures serve as the main process to ensure environmentally conscious design and implementation of USAID-funded activities, thereby conserving environmental resources, biodiversity, and ecosystem services, as well as securing the health and livelihoods of program participants and other affected groups. These procedures strengthen and sustain development outcomes and help safeguard USAID's reputation.

In addition to USAID's Environmental Procedures, USAID requires the identification of climate-related risks for all programs and activity design. USAID provides mandatory reference ADS 201mal to guide activity planners through the Climate Risk Management (CRM) process. CRM offers a method through which activity designers and implementers can screen activities for climate risks and develop responses to address those risks and build resilience. By evaluating the probability and severity of adverse climate events on the activity, planners rate each climate risk as either low, moderate, or high. For climate risks rated moderate or high, activity planners must then incorporate CRM measures into activity design and implementation. Mitigation measures are optional for low-rated risks.

CRM options exist to help reduce the impact that climate change can have on biodiversity conservation activities. For example, going through the CRM process can provide a structured process for identifying the ways in which all proposed biodiversity conservation activities can mitigate the risks posed by the

increased frequency and intensity of storms and extreme weather, flood and drought, and extreme heat, as well as shifting disease vectors and rising sea levels. Biodiversity conservation activities can include studies to better understand the relationship between climate change and ecosystem health, sensitive species, and pests and diseases in specific locations. Engaging local communities is critical to ensuring that climate adaptation is aligned with efforts to improve biodiversity conservation outcomes and associated activities.

The SEGs directly support environmental compliance by providing information that is essential to assessing the potential impacts of activities and helping identify and design appropriate mitigation and monitoring measures, as appropriate, based on capabilities. While not specific to USAID's environmental procedures, SEGs are generally written and intended to support the Environmental Impact Assessment of activities by all parties, regardless of the specific environmental requirements, regulations, or processes that may apply.

This Biodiversity Conservation SEG helps USAID managers and Implementing Partners plan, design, implement, and monitor integrated biodiversity programs in accordance with the USAID environmental procedures. It is also a tool to assess the potential adverse impacts of biodiversity conservation activities and provide guidance on how to avoid, minimize, and mitigate them. A project promoting biodiversity conservation is intended to benefit biodiversity and the environment; however, some aspects of implementation might have direct or indirect negative environmental and social impacts and climate risks. The Biodiversity Conservation SEG applies to all biodiversity conservation programming.

This document is not intended to act as a complete list of all potential impacts because context is important to determining those impacts. Furthermore, SEGs should not replace detailed sources of technical information or design manuals. The Biodiversity Conservation SEG is not intended to provide advice on how to develop biodiversity programming for USAID. That advice can be obtained from USAID's biodiversity advisors and also found on USAID's Biodiversity Links. Users are also expected to refer to the accompanying list of resources and references for additional information, as well as other resources not included in this document. Related cross-cutting guidelines and resources may also be found in the following SEGs: Forestry, Wild-Caught Fisheries and Aquaculture, Construction, and Rural Roads.

USAID Guidelines Superseded. This Biodiversity Conservation SEG (2024) replaces the Community-Based Natural Resource Management (CBNRM) SEG (2009) and Ecotourism SEG (2009).

Comments and Corrections. Each SEG is a work in progress. Comments, corrections, and suggested additions are welcome. Email: environmentalcompliancesupport@usaid.gov.

Advisory. The SEGs are advisory only. They are not official USAID regulatory guidance or policy. Following the practices and approaches outlined in the SEGs does not necessarily ensure compliance with USAID environmental or climate procedures or host country environmental requirements.

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LIST OF ACRONYMS

ADS	Automated Directives System
CBNRM	Community-Based Natural Resource Management
CDR	Compulsory Displacement and Resettlement
CFR	Code of Federal Regulations (e.g., 22 CFR 216)
CRM	Climate Risk Management
ECOS	Environmental Compliance Support Contract
GBV	Gender-Based Violence
GHG	Greenhouse Gas
IFC	International Finance Corporation
IPLCs	Indigenous Peoples and Local Communities
IUCN	International Union for the Conservation of Nature
LGBTQI+	Lesbian, Gay, Bisexual, Transgender, Queer/Questioning, and Others
SEG	Sector Environmental Guideline
SEP	Stakeholder Engagement Plan
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development

1 HOW TO USE THIS DOCUMENT

The primary intended audiences for these Sector Environmental Guidelines (SEG) are United States Agency for International Development (USAID) Activity Design Teams, Agreement Officer's Representatives/ Contracting Officer's Representatives, and Implementing Partners. The second intended audience is USAID staff with design, monitoring and evaluation, environmental compliance, and Climate Risk Management (CRM) responsibilities, and other personnel involved in the design, implementation, and monitoring of biodiversity conservation activities. Brief recommendations on the use of the guidelines for these user groups are provided below.

Section 2: Overview of Biodiversity Conservation Programming will be useful for Activity Design Teams, Agreement Officer's Representatives/Contracting Officer's Representatives, and Activity Managers as a way to quickly establish a common understanding of USAID's biodiversity conservation programming. Implementing Partners may benefit from this section depending on the needs of the program or activity for design, implementation, monitoring, reporting, or evaluation.

Section 3: Adverse Environmental and Social Impacts and Climate Risks of Typical Biodiversity Activities, Section 4: Designing Activities to Avoid Adverse Environmental and Social Impacts, and Section 5: Mitigation and Monitoring of Adverse Environmental and Social Impacts and Climate Risks constitute the core of the Biodiversity Conservation SEG, including describing typical programs and activities, potential negative environmental and social impacts, and climate change considerations. These sections will be useful for Agency Technical and Program Office staff in designing or providing technical expertise to colleagues and Missions on biodiversity conservation programs and activities; for Activity Design Teams, Agreement Officer's Representatives/ Contracting Officer's Representatives, and Activity Managers in developing biodiversity conservation programming that avoids, minimizes, and mitigates environmental and social impacts and climate risks; and for in-country and regional Mission staff in designing programs and activities, including key elements to address in Initial Environmental Examinations. For in-country and regional Mission staff, Section 5 will be most useful for the oversight of Implementing Partners in planning, monitoring, and reporting on environmental mitigation measures during activity implementation. Implementing Partners may benefit from these sections, depending on the needs of the program or activity for design, implementation, monitoring, reporting, or evaluation.

Section 6: References and Annexes will be useful for Implementing Partners seeking an even deeper understanding of environmental and social impacts and climate risks of biodiversity conservation, as well as the underlying policies and frameworks that govern biodiversity around the world. Agency Technical and Program Office staff may also benefit from using the annexes when supporting or evaluating biodiversity conservation programming.

2 OVERVIEW OF BIODIVERSITY CONSERVATION PROGRAMMING

Biodiversity—the enormous variety of all life on Earth—is the foundation for human development and survival. USAID's biodiversity conservation programming targets include the following:

- Protecting and managing land and seascapes;
- Investing in priority places to support people and nature;
- Combating wildlife trafficking, illegal fishing, and illegal logging;
- Improving governance of biodiversity and natural resources;
- Promoting security, health, and prosperity of local communities; and
- Championing the rights of women, Indigenous People, and other groups who are often marginalized.

AGENTS OF POSITIVE CHANGE (excerpt from the USAID Biodiversity Policy)

Indigenous Peoples, women, and youth are key partners in biodiversity conservation. Indigenous Peoples own and manage about a quarter of the Earth's lands. They are unique partners given their stewardship of natural systems and collective attachment to, and rights over, territories, many of which have high levels of biodiversity. Notably, environmental stewardship by Indigenous Peoples is also more often associated with positive outcomes for human well-being and nature. Similarly, community forestry management groups that include women have better governance and conservation outcomes. Young people often promote policies that consider the interests of future generations and can be "change agents" for sustainability.

2.1 TERMINOLOGY

The terminology used throughout this SEG is defined as follows:

Biodiversity: "The variability among living organisms (including people) from all sources, including, inter alia, terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species, and of ecosystems" (USAID 2024a).

Biodiversity conservation: "The management of human interactions with genes, species, and ecosystems so as to provide the maximum benefit to the present generation while maintaining their potential to meet the needs and aspirations of future generations; encompasses elements of saving, studying, and using biodiversity" (USAID 2024a).

Ecosystem: "A dynamic complex of plant, animal, fungi, and microorganism communities and their nonliving environment interacting as a functional unit" (USAID 2024a).

Ecosystem services: The short- and long-term benefits people obtain from ecosystems. They include (1) provisioning goods and services or the production of basic goods, such as food, water, fish, fuels, timber, and fiber; (2) regulating services, such as flood protection, purification of air and water, waste absorption, disease control, and climate regulation; (3) cultural services that provide spiritual, aesthetic, and recreational benefits; and (4) supporting services, such as soil formation, production of oxygen, crop pollination, carbon sequestration, photosynthesis, and nutrient cycling, which are fundamental to the provision and functioning of all ecosystem services (Millenium Ecosystem Assessment 2005).

Natural resource governance: The process by which a group of individuals manages and makes decisions regarding the utilization, conservation, and allocation of natural resources with the goal of sustainable and equitable outcomes (USAID 2015).

Nature-based solutions: "Actions to protect, sustainably use, manage, and restore ecosystems (including managed systems such as agricultural lands), which address societal challenges, effectively and adaptively, providing human well-being and biodiversity benefits. Nature-based solutions specifically for climate mitigation are also referred to as "natural climate solutions"" (USAID 2024a),

Resilience: "The ability of people, households, communities, countries, and systems (including ecosystems) to mitigate, adapt to, and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth" (USAID 2024a).

2.2 THE INTERSECTION BETWEEN BIODIVERSITY CONSERVATION AND DEVELOPMENT AT USAID

Biodiversity is the foundation for human development and survival (USAID 2024a). Biodiversity provides food, water, clean air, a stable climate, and livelihoods. Good governance of biodiversity and natural resources supports peace and security for billions of people. Biodiversity also has cultural and spiritual values for people around the world and intrinsic value that exists independently from human needs.

However, biodiversity is in crisis. As of 2019, human activities have significantly degraded 75% of the land area and 40% of the ocean area on Earth (IPBES 2019). About 40% of urban watersheds that provide drinking water show moderate to high levels of degradation (Abell et al. 2017). Additionally, the rapid decline in biodiversity is causing the loss of species at a rate of 100 to 1,000 times faster than natural extinction (IPBES 2019). These biodiversity losses have cascading implications for humanity.

The result of this biodiversity loss is the destabilization of natural systems that provide high-quality soil, water, and air, threatening the ability of ecosystems to provide the services upon which people depend. This destabilization poses risks to human health, peace, food and water security, climate resilience, cultural heritage, economic growth, and community livelihoods (USAID 2024a). More than half of the global domestic product (i.e., about US$44 trillion) depends on the production of natural capital and ecosystem services (Herweijer et al. 2020). Furthermore, losses of biodiversity exacerbate inequalities among people by primarily affecting the most marginalized and vulnerable human populations (Pörtner et al. 2021).

These interconnected impacts underscore the need for integrated approaches to biodiversity conservation and development. The conservation of biodiversity, including all living organisms and the ecological complexes of which they are part, is essential to human development and survival (USAID 2024a).

USAID implements a comprehensive approach to biodiversity conservation and envisions a future in which biodiversity is conserved so that people and nature can thrive, as described in the Biodiversity Policy (USAID 2024a). To reach that vision, USAID is working toward two mutually reinforcing goals: (1) conserve biodiversity in priority places, and (2) catalyze nature-positive, equitable development.

To conserve biodiversity in priority places, USAID will support the conservation of priority sites and species, contribute to sustainable development goals, and conserve biodiversity for the public good. USAID will support efforts to expand conservation of terrestrial, freshwater, and marine areas under effective conservation and support the maintenance, enhancement, and restoration of ecological connectivity and ecological networks. All of this support should recognize and respect legitimate land-tenure and access rights through governance, while minimizing costs and negative impacts on communities by including participatory and inclusive conservation planning.

To catalyze nature-positive, equitable development, USAID will undertake a whole-of-agency approach, building on years of integrated programming to emphasize transformative change and biodiversity mainstreaming through broad ownership across sectors. "USAID will go beyond threat reduction and do-no-harm to identify and pursue opportunities to shift governance, financial, food, public health and veterinary, and infrastructure (e.g., energy, transport, and urban) systems, among others—in support of biodiversity conservation" (USAID 2024a).

USAID provides seven guiding principles that outline a process to achieve the Policy's vision and goals through: (1) locally led development, (2) equity and inclusion, (3) cross-sectoral approaches, (4) climate resilience and nature-based solutions for climate, (5) private-sector engagement, (6) policy engagement, and (7) evidence and learning.

USAID has worked to conserve biodiversity in more than 60 countries around the world and has leveraged more than US$375 million in private sector funding for biodiversity conservation, working with more than 100 public-private partnerships since the launch of its first Biodiversity Policy in 2014.

USAID seeks to address persistent conservation and development challenges, including the following:

- Expansion of the development of agricultural commodities (i.e., oil palm, rubber, and pulpwood);
- Expansion of artisanal and industrial scale mining;
- Reconciling new physical infrastructure development with the need to retain functioning natural infrastructure; and
- Combating international wildlife and timber trafficking.

Because biodiversity loss can be driven by unsustainable development, biodiversity conservation cannot be separate from the core concerns of society—tackling extreme poverty, increasing food security, improving public health, the impacts of climate change, and building resilience to recurrent crises (USAID 2024a). Thus, USAID's biodiversity conservation efforts help to protect, maintain, and improve natural processes that create the environmental goods and services that enable sustainable development. Environmental goods include food, fiber, fodder, pollination, clean water, fertile soils, and wood. USAID's efforts also seek to strengthen diversity, equity, inclusion, and accessibility among all stakeholders.

USAID's biodiversity conservation programs support partner countries by meeting congressional requirements and the Biodiversity Policy's goals to conserve biodiversity in priority places and integrate biodiversity as an essential component of human development. USAID's biodiversity programming relies on close partnerships with host country governments; regional, national, and local legal entities; coordination with relevant bilateral and multilateral cooperation agencies; and the engagement of the private sector. USAID's cross-sectoral approach is to "Working cross-sectorally, USAID will strengthen internal capacity to mainstream biodiversity in both policy and programming. This includes expanding the use of nature-based solutions and managing nature-related risks in programming across sectors." (USAID 2024a).

2.3 INTERNATIONAL BIODIVERSITY POLICIES AND FRAMEWORKS

The United States Government and many countries around the world are signatories to several legally binding international treaties, agreements, conventions, and protocols pertaining to biodiversity protection, climate change, and natural resources management (Annex 1). Biodiversity conservation, like all other USAID programs, must abide by and comply with the relevant laws, policies, rules, and regulations of the host countries. Therefore, before beginning a biodiversity conservation activity, it is important to understand the legal national and international frameworks under which the activity will take place. It is also important to know whether the proposed activity affects a protected or conserved area; a Ramsar, World Heritage, or other site recognized for its ecological value; or endangered, threatened, or protected species recognized nationally by the International Union for the Conservation of Nature (IUCN) Red List, or by the Convention on International Trade in Endangered Species of Wild Fauna and Flora, as well as areas with land or resource rights ascribed to a particular community, Indigenous People, or other stakeholders.

2.4 BIODIVERSITY FUNDING AND THE BIODIVERSITY CODE

All biodiversity directive funds have specific requirements, which now include the identification of opportunities that can contribute to transformative change and equitable, nature-based solution development. In the fiscal year 2024 Appropriations Act, Congress directed $366.75 million for biodiversity programming. In fiscal year 2022, USAID provided $383 million to international biodiversity programs in more than 60 countries (USAID 2023c).

The spending of USAID's congressionally-earmarked biodiversity funds must meet the Biodiversity Code (see the text box, USAID 2024a). A principle of the Biodiversity Policy is the incorporation of biodiversity conservation into other development objectives and practices, as well as to oversee nature-

BIODIVERSITY CODE

1. Activities must have an explicit biodiversity objective; it is not enough to have biodiversity conservation result as a positive externality from another activity;
2. Site-based activities must have the intent to positively impact biodiversity in biologically significant areas;
3. Activities must be identified based on an analysis of threats to biodiversity, drivers of these threats, opportunities for conservation, and an evidence-informed theory of change; and
4. Activities must monitor indicators associated with the stated theory of change for biodiversity conservation results.

related risks in various sectors. USAID promotes cross-sectoral program planning. In cases where activities are funded by multiple sources (e.g., climate change, food security, democratic governance, public health, hygiene and water resources, ecosystem conservation, women's economic advancement), only the biodiversity funds are required to comply with the Biodiversity Code.

2.5 INTEGRATED BIODIVERSITY CONSERVATION PROGRAMMING

"Maintaining the resilience of biodiversity and ecosystem services on a global scale depends on effective and equitable conservation of approximately 30–50 percent of land, freshwater, and ocean areas, including currently near-natural ecosystems" (IPCC 2022).

Opportunities for integrating biodiversity with other development sectors can be found throughout the USAID portfolio and realized through coordinating new and existing programming between sectors. Integrating biodiversity conservation with water, health, governance, and food security sectors across USAID programs offers enhanced outcomes such as clean water, economic benefits, better health, resilience against extreme weather, and sufficient food production, while protecting biodiversity.

For example, USAID may integrate biodiversity conservation with sustainable landscape objectives to increase program sustainability, amplify the results, and save costs, or jointly address threats and drivers of biodiversity, forest loss, and land degradation (USAID and BRIDGE 2019). An integrated biodiversity-sustainable landscape activity, for example, could be designed to restore degraded environments, combat climate change, and protect biodiversity hotspots. Such integrated activities promote climate change adaptation, health and water co-benefits, and human livelihoods. As another example, USAID may integrate health programming with biodiversity conservation through One Health approaches (see the text box). Protecting intact blocks of natural habitat decreases wildlife movement, which, in turn, decreases the likelihood of human-wildlife interactions that spread zoonotic diseases.

ONE HEALTH

Recognizing the increasing number and growing complexity of global threats and the need to work across disciplines, USAID endorses cross-sectoral approaches to advance the One Health including:

- Acknowledging that a One Health approach to development recognizes that the health of ecosystems, people, and animals is interlinked;
- Integrating biodiversity conservation and other development goals and approaches, and manage nature-related risks across sectors;
- Recognizing that collaboration and coordination across sectors are key to realizing the scale of change necessary to address the biodiversity crisis;
- Promoting nature-based solutions to deliver multiple benefits across a range of development goals, including biodiversity conservation, food security, water security, and health;
- Managing nature-related risks in development programming, which pose potential threats to economic growth and human well-being; and
- Valuing ecosystem services in cost-benefit and cost-effectiveness analyses, to identify programming dependencies on ecosystems (USAID 2024a).

Integrated programs come in two forms: (1) activities that use multiple sources of funding and have clear, specific objectives, and (2) activities that have one source of funding but have co-benefits for other sectors and may or may not have explicit objectives for those sectors (USAID and BRIDGE 2019). While each sector has its own programmatic goals and objectives, some programs may naturally have co-benefits, such as biodiversity and sustainable landscapes, and program integration should be pursued.

Opportunities for integrating biodiversity with other development sectors can be realized by the coordination of existing programming, the co-location of new activities, or planned co-funding. For example, most Malawian people use charcoal for cooking, which has negative health impacts, and the production of charcoal drives deforestation, leading to erosion and sedimentation that degrade Lake Malawi's water quality and negatively affect the lake's biodiversity. A program that provides clean cookstoves and alternative fuels can lead to improved health, reduced deforestation, and improved water quality in Lake Malawi. If this program is combined with a biodiversity conservation program in Lake Malawi, not only would the threats to the lake be reduced but the biodiversity would be better protected.

2.6 BIODIVERSITY CONSERVATION IN A CHANGING CLIMATE

Global climate change will continue to pose a threat to ecosystems and biodiversity and can exacerbate many of the other threats to biodiversity. In the Biodiversity Policy, one of USAID's principles is to "strengthen the resilience of biodiversity to climate change and elevate nature-based solutions for climate mitigation and adaptation" (USAID 2024a). Biodiversity is a key indicator of the status and health of an ecosystem. Greater biodiversity often indicates greater stability and provisioning of ecosystem services that are crucial to climate resilience for both wildlife and plant species and human communities. The increase in temperatures, unpredictable precipitation patterns, loss of sea ice, changing oceanic chemistry, and the rise in extreme weather events, such as floods and drought, can weaken natural habitats, increase disease and pest outbreaks, and modify habitats in a way that harms biodiversity. Communities that depend on this biodiversity and these resources may suffer, leading to indirect damage to habitats as the need for increased resource use or illegal activities, such as poaching, could become a matter of survival. In addition, climate change may lead to funding, resources, and community efforts being redirected toward more immediate priorities, such as disaster response, food security, and infrastructure repair, which can potentially reduce the efforts and success of biodiversity conservation programming. Conversely, the failure to protect biodiversity in the form of trees and other vegetation is directly linked to our capacity to absorb carbon and to a lesser extent greenhouse gas (GHG) emissions that contribute to global climate change.

NATURE-BASED SOLUTIONS

Research suggests that nature-based solutions could provide around 30% of the cost-effective mitigation needed by 2030 to stabilize warming to below 2°C. Nature-based solutions can also provide a powerful defense against the impacts and long-term hazards of climate change, which pose a significant threat to biodiversity. Finding ways to work with ecosystems, rather than relying solely on conventional engineered solutions, can help communities adapt to climate change impacts. Using nature to make cities greener can also result in significant energy savings and health benefits (IUCN 2020).

Biodiversity conservation efforts can have co-benefits that include ecosystem resilience and GHG emissions reduction, with positive outcomes potentially reinforcing each other. For example, trees planted for sequestering carbon can also act as a buffer to limit the erosion and flood damage resulting from heavy precipitation and provide habitat in order to promote biodiversity. Ecosystem and human health are interconnected with climate change outcomes, and therefore biodiversity conservation planning should maximize co-benefits within activities that seek to reduce GHG emissions, climate risks, and negative effects on people and the environment.

3 ADVERSE ENVIRONMENTAL AND SOCIAL IMPACTS AND CLIMATE RISKS TO BIODIVERSITY CONSERVATION ACTIVITIES

Biodiversity conservation programs are designed and implemented to protect target ecosystems and species. However, despite the best intentions, biodiversity conservation programming can have adverse impacts on the very ecosystems and species targeted for improvement and protection.

Adverse environmental impacts are the negative changes to existing environmental conditions, affecting air, soil, water, wildlife, and plants, leading to habitat destruction, species endangerment, and changes to ecosystem functions. Environmental impacts from programming can be direct, indirect, cumulative, permanent, or temporary.

- **Direct impacts** are the immediate and observable consequences of a conservation action and occur at the same time and location as the action.
- **Indirect impacts** occur at a different time or place, or both.
- **Cumulative impacts** result from the combination of adverse impacts over time and space, whose individual impacts would be insignificant; however, when combined, they would create a noticeable adverse impact.
- **Permanent impacts** are the irreversible lasting loss of species, habitats, or ecosystems.
- **Temporary impacts** are short-term effects from which species populations and ecosystems can recover over time.

Adverse social impacts are the results of negative changes to people's access to basic needs, such as food security, water, shelter, and cultural resources, as well as economic prospects, livelihoods, jobs, health, and human rights. This may include the unintentional loss of livelihood, displacement and resettlement, reduced health, well-being and safety, and harm to cultural heritage resources and traditional ways of life. Biodiversity conservation efforts may lead to unintended consequences that may negatively affect a community's or individual's ability to maintain their livelihoods; economic pursuits; traditional jobs; rights to land or property; access and use of natural resources; cultural practices; and overall health, well-being, and safety if not properly planned and implemented.

In addition, climate change can pose a risk to biodiversity conservation programming in the form of **climate risks.** These climate risks can jeopardize USAID's investment and threaten the positive biodiversity and development outcomes intended.

This section provides an overview of common types of integrated biodiversity conservation programming and describes the primary adverse environmental and social impacts that can come from them, as well as the climate risks to them. The information in this section is meant to provide a review of typical impacts and risks to consider when developing biodiversity conservation activities. It is not a complete, exhaustive list of all potential impacts and risks. Biodiversity conservation planners should draw on additional resources to consider specific potential impacts from activities based on local conditions.

Tables 1 and 2 include an overview of the potential adverse environmental and social impacts, respectively, from each general type of biodiversity conservation programming. Annex 2 provides additional details about the mandatory Social Impact Risk Initial Screening Tool and social considerations based on the Social Impact Principles Framework, as well as other social considerations, which may be examined more closely when planning, designing, and implementing biodiversity conservation programming (USAID 2024c; USAID 2024d). Table 3 is an overview of the climate risks of each type of biodiversity conservation programming. Sections 3.1 through 3.8 provide details on each type of integrated biodiversity conservation programming and its associated impacts and risks.

TABLE 1. ADVERSE ENVIRONMENTAL IMPACTS FROM BIODIVERSITY CONSERVATION PROGRAMMING

TYPES OF BIODIVERSITY CONSERVATION PROGRAMMING	POTENTIAL ENVIRONMENTAL IMPACTS					
	HABITAT LOSS AND FRAGMENTATION	INTRODUCTION AND SPREAD OF INVASIVE SPECIES/DISEASES	CHANGE IN THE QUALITY OF NATURAL RESOURCES	ADVERSE SPECIES EFFECTS	CHANGE IN THE ABUNDANCE OR DISTRIBUTION OF NATURAL RESOURCES	GHG EMISSIONS
Infrastructure Related to Biodiversity Programming[1]	X	X	X	X	X	X
Ecotourism		X		X	X	X
Strengthening Natural Resource Governance				X		
Community-Based Natural Resource Management	X	X	X	X	X	X
Gazetting New Conservation Areas				X		
Management and Operations of Established Conservation Areas		X	X	X		X
Deter, Detect, and Prosecute Nature Crimes	X			X	X	X
Habitat Restoration			X			X

[1] Infrastructure related to biodiversity programming includes the construction of facilities for ecotourism and community-based natural resource management, including accessing and using water, as well as operations and maintenance of existing infrastructure.

TABLE 2. ADVERSE SOCIAL IMPACTS FROM BIODIVERSITY CONSERVATION PROGRAMMING

TYPES OF BIODIVERSITY CONSERVATION PROGRAMMING	POTENTIAL SOCIAL IMPACTS					
	LAND USE/ACCESS CHANGES	DISPLACEMENT AND RESETTLEMENT	IMPACTS ON CULTURAL HERITAGE	INCREASED INSECURITIES AND GENDER-BASED VIOLENCE	CONFLICTS OVER LIMITED RESOURCES	IMPACTS ON HEALTH AND WELL-BEING
Infrastructure Related to Biodiversity Programming	X	X	X	X	X	
Ecotourism		X	X	X	X	
Strengthening Natural Resource Governance	X	X	X	X	X	
Community-Based Natural Resource Management	X	X	X	X	X	
Gazetting New Conservation Areas	X	X	X	X	X	
Management and Operations of Established Conservation Areas	X	X	X	X		X
Deter, Detect, and Prosecute Nature Crimes	X			X	X	X
Habitat Restoration			X			X

TABLE 3. CLIMATE RISKS TO BIODIVERSITY CONSERVATION PROGRAMMING

TYPES OF BIODIVERSITY CONSERVATION PROGRAMMING	POTENTIAL CLIMATE RISKS				
	DIRECT CLIMATE IMPACTS	DAMAGE TO OR LOSS OF NATURAL RESOURCES	DISRUPTION OF TRANSPORTATION NETWORKS	HUMAN HEALTH AND SAFETY RISKS	DAMAGE TO OR LOSS OF BIODIVERSITY
Infrastructure Related to Biodiversity Programming	X	X	X	X	
Ecotourism	X	X	X	X	X
Strengthening Natural Resource Governance		X	X	X	X
Community-Based Natural Resource Management	X	X	X	X	X
Gazetting New Conservation Areas				X	X
Management and Operations of Established Conservation	X	X	X	X	
Deter, Detect, and Prosecute Nature Crimes		X		X	
Habitat Restoration		X	X	X	X

3.1 INFRASTRUCTURE RELATED TO BIODIVERSITY PROGRAMMING

OVERVIEW

Certain types of biodiversity programming may require infrastructure development and construction activities to improve access to remote areas. These activities may include the construction of roads, trails, and airstrips; the provision of water, power, sewage, and solid waste infrastructure and management facilities; and the construction of visitors' facilities, administrative offices, and staff housing. These infrastructure-related activities may generate many types of impacts. Considering environmental and social impacts throughout the entire life cycle of the activity is crucial for activities that involve infrastructure development.

Additionally, while construction activities generally share common potential adverse environmental and social impacts, each activity must consider its unique environmental and social context during design, implementation, and when determining mitigation strategies. For more details on the potential adverse impacts and mitigation approaches from construction activities, refer to the Construction SEG.

ENVIRONMENTAL IMPACTS

Biodiversity conservation activities that involve infrastructure development can have adverse impacts on the environment. For example, the construction of facilities or roads may damage or fragment habitats and affect animal behavior, and equipment and vehicles may contribute to soil compaction, erosion, and increase pollution and GHG emissions. Changes to hydrology in construction sites and new infrastructure can create new sources of runoff, which can be detrimental to riparian and aquatic species and ecosystems. Construction plans for lodges, roads, airstrips, trails, and so forth, as well as plans for accessing and using water, need to be carefully designed and assessed for unintended adverse impacts on the environment. Table 4 describes the potential adverse environmental impacts from this type of biodiversity programming.

TABLE 4. ADVERSE ENVIRONMENTAL IMPACTS FROM INFRASTRUCTURE RELATED TO BIODIVERSITY PROGRAMMING

Habitat Loss and Fragmentation	• Loss of forest and/or other natural land cover associated with the construction of infrastructure will reduce habitat for species and potentially disrupt ecosystem processes. • Habitat fragmentation from the construction of roads, trails, airstrips, fences, water diversion structures, and dams isolates populations, restricts gene flow, and reduces available habitat, increasing the risk of local extinction and loss of genetic diversity. • Destruction or degradation of water resources can impair water quality, degrade aquatic species habitat, reduce water sources for drinking, and disrupt food chains.
Introduction and Spread of Invasive Species/Diseases	• Contaminated equipment and workers may introduce and spread invasive species/diseases.
Change in the Quality of Natural Resources	• Removal of vegetation for infrastructure development can degrade the quality of habitat and natural resources. • Increased soil erosion and precipitation runoff due to the construction and management of roads, trails, and buildings can decrease habitat quality and decrease water quality through sedimentation and pollution.

TABLE 4. ADVERSE ENVIRONMENTAL IMPACTS FROM INFRASTRUCTURE RELATED TO BIODIVERSITY PROGRAMMING	
	• Insufficient waste management and disposal can decrease habitat and water quality.
Adverse Species Effects	• Land conversion for infrastructure adversely affects species by reducing available sources of food and shelter and/or directly killing or harming animals and plants. • The presence of infrastructure may act as a barrier that reduces connectivity and limits species movement, resulting in changes in animal behavior, including changes to species' migration, breeding patterns, and distribution, which may lead to species mortality, decreased health, and reduced genetic exchange. • Improper siting can result in an increase in human-wildlife conflict by encroaching on natural territories, disrupting migration, and reducing access to critical resources, which force wildlife to venture into human settlements. • Improved roads increased opportunities for hunting and the trade of wild animals for bushmeat. Additionally, improved and expanded roads may increase vehicle collisions with wildlife, increasing the harm to wildlife.
Change in the Abundance or Distribution of Natural Resources	• Disruption in the availability of water resources and water quality from infrastructure may change flow, increase erosion, or reduce water supply.
GHG Emissions	• GHG emissions result from the use of vehicles and equipment for construction, and from the production and shipment of equipment and construction materials. • Road improvements may result in increased traffic and therefore increase GHG emissions. • Loss of forests and other vegetation associated with the construction of facilities and other amenities emits carbon and reduces carbon sequestration. • The operation of infrastructure using non-renewable electricity or fuel for power also results in GHG emissions.

SOCIAL IMPACTS

Activities under this type of programming, such as constructing and renovating ranger stations and building and improving access roads, can adversely affect the local community, especially if stakeholders are not involved in the decision-making and implementation of the projects. The construction of new buildings and access roads may cause members of the local community to lose access to land or natural resources that they use to sustain their everyday lives or may unintentionally cause involuntary resettlement. Additionally, land use change caused by construction may force women to travel farther to gain access to natural resources, increasing their risk of gender-based violence. Table 5 describes the potential adverse social impacts from this type of biodiversity programming. For more information about social impacts from infrastructure, see the Construction SEG.

TABLE 5. ADVERSE SOCIAL IMPACTS FROM INFRASTRUCTURE RELATED TO BIODIVERSITY PROGRAMMING	
Land Use/Access Changes	• Construction may restrict access to natural resources, such as water, timber, medicinal plants, fruits, nuts, and resins. • Construction of roads and other infrastructure may lead to the influx of new and better-resourced settlers, affecting land use and access.
Displacement and Resettlement	• Land use and access changes from construction may cause the displacement and resettlement of Indigenous Peoples and local communities (IPLCs).

TABLE 5. ADVERSE SOCIAL IMPACTS FROM INFRASTRUCTURE RELATED TO BIODIVERSITY PROGRAMMING	
Impacts on Cultural Heritage	• Land use and access changes from infrastructure development may affect the cultural heritage resources and spiritual sites of IPLCs through the physical destruction of sites, the potential loss of artifacts, disruption of cultural practices, alterations of landscapes, fragmentation of communities, and through access restrictions.
Increased Insecurities and Gender-Based Violence	• Changed access to natural resources or the distribution of benefits from construction activities can increase the risk of gender-based violence. • Job opportunities created by construction and new infrastructure may bring settlers and migrants with expendable incomes that may be used to pay for sex from local women.
Conflicts Over Limited Resources	• Changed access to natural resources can increase competition for limited resources and result in conflicts over limited resources. • Construction and new infrastructure may bring settlers and/or migrants that compete with the local people for the resources or encroach on their rights. IPLCs are especially vulnerable to these impacts because they are often marginalized from the broader community.
Impacts on Health, Well-Being, and Safety	• Construction activities can have adverse impacts on human health by increasing air pollution or contaminating water resources. Additionally, improved and expanded roads may increase vehicle collisions with wildlife, increasing the risks to human health, well-being, and safety. Encroachment into remote natural areas may increase animal-to-human disease transmission.

CLIMATE RISKS

When planning and implementing infrastructure activities, it is important to consider climate risks. As climate conditions change or become more variable, it is increasingly important to build resilience to potential near- and long-term climate impacts, such as damage to infrastructure as a result of extreme weather events, fluctuating staff capacity and availability, shifting financial priorities, and increasing operational costs. By considering climate risks during the planning stage and monitoring them throughout activities, decision-makers can enhance the resilience of activities and have a greater likelihood of success. Table 6 describes the potential climate risks to this type of biodiversity programming. For more information about climate risks affecting infrastructure, see the Construction SEG.

TABLE 6. CLIMATE RISKS TO INFRASTRUCTURE RELATED TO BIODIVERSITY PROGRAMMING	
Direct Climate Impacts	• All forms of infrastructure face varying levels of vulnerability to climate risks as a result of, for example, extreme weather events, high winds, flooding, extreme heat, and wildfires. Risks range from long-term stress on specific infrastructure to damage and destruction resulting from severe events.
Damage to or Loss of Natural Resources	• Climate change may disrupt supply chains and increase the demand for natural resources extracted for construction, operations, and maintenance of facilities, such as ranger stations.
Disruption of Transportation Networks	• Extreme weather events, such as severe storms, high winds, floods, and wildfires, can impede the transportation of goods needed for construction projects and the ability of workers to access construction sites. These disruptions may reduce the success and viability of these activities.
Human Health and Safety Risks	• Extreme weather events, temperature changes (including extreme heat), and a resulting increase in the prevalence of diseases may lead to worker health risks.

3.2 ECOTOURISM

OVERVIEW

The global ecotourism market is significant (more than $172 billion in 2022) and growing (Statista Research Department 2023).

> "Ecotourism is now defined as 'responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education.' Education is meant to be inclusive of both staff and guests." (The International Ecotourism Society 2019).

USAID programming supports ecotourism activities in the fulfillment of development and conservation outcomes. Examples of ecotourism-related activities include community-based ecotourism and experiences for tourists related to cultural heritage, as well as construction, operations, and maintenance of infrastructure for visitors. Ecotourism infrastructure activities that require improving access to remote areas (e.g., roads, trails, airstrips; provision of water, power, sewage, and solid waste infrastructure and management; construction of visitors' facilities, administrative offices, and staff housing) are addressed separately in Section 3.1. Oftentimes, ecotourism activities are combined with other types of biodiversity conservation programming, such as habitat restoration and community-based natural resource management (CBNRM). These topics are addressed separately within this document.

Ecotourism activities should contribute part of the revenue to conservation efforts, as well as create jobs for Indigenous Peoples and local communities (IPLCs) and fund organizations dedicated to protecting natural resources. Ecotourism can support alternative livelihood development, contribute to local economic growth, and build incentives for the protection of biodiversity.

ENVIRONMENTAL IMPACTS

Ecotourism activities can benefit biodiversity by providing a sustainable source of income to local communities, creating incentives for the protection of natural environments and wildlife, and fostering an appreciation for nature. However, ecotourism can negatively affect biodiversity when it is improperly managed, leading to habitat disturbance, overuse of resources, and impacts on wildlife populations. Increases in tourism can result in impacts on surrounding landscapes, which may undermine the very resources that make these destinations attractive to tourists. Overuse of natural resources, increased human presence, and facilitated access can all lead to adverse effects from ecotourism as described in Table 7.

TABLE 7. ADVERSE ENVIRONMENTAL IMPACTS FROM ECOTOURISM

Introduction and Spread of Invasive Species/Diseases	• Tourists may intentionally or unintentionally introduce or spread invasive species or diseases to ecosystems and species, causing a loss of biodiversity.

TABLE 7. ADVERSE ENVIRONMENTAL IMPACTS FROM ECOTOURISM	
Adverse Species Effects	• Increased human presence may lead to changes in animal behavior, including changes to species' migration and breeding patterns and distribution. • Insufficient land use planning and increased human presence can result in an increase in human-wildlife conflict and changes in animal behavior, such as animal attacks, species becoming a nuisance when seeking food, and species becoming too comfortable around people and subsequently more vulnerable to poaching. Increased human-wildlife conflict may increase the exposure of wild animals to harmful diseases and pests. • Improved access and human foot traffic increase opportunities for hunting and the trade of wild animals for bushmeat and illegal trafficking. Wild animals may be hit and killed due to increased vehicular traffic.
Change in the Abundance or Distribution of Natural Resources	• An increased number of people in protected areas (for tourism), as well as surrounding areas (due to the increase in economic opportunities), can lead to the overuse of natural resources and habitat degradation. • Soil compaction, trampling of vegetation, and the collection of species by visitors can occur due to the heavy use of trails and roads within ecotourism sites. • Vegetation management along trails and roads can reduce available habitat, alter plant composition, and displace or kill species.
GHG Emissions	• GHG emissions result from the use of vehicles and equipment for maintenance, worker transportation, and electricity generation, as well as from tourist travel, including air travel and travel by land and on water.

SOCIAL IMPACTS

Ecotourism can contribute to the economic development of the local, national, and regional areas. It provides economic benefits and employment opportunities for local communities, fostering their engagement in conservation efforts and providing employment opportunities and livelihood improvements. When local communities directly benefit from the protection of their land, water, forests, and other biodiversity, they can be expected to support and participate in efforts to conserve and sustain them, which improves biodiversity conservation outcomes. However, this only works when ecotourism activities are intentionally developed with the active participation of local communities and managed to share the benefits with them. Then well-designed and well-managed ecotourism can provide long-lasting social and environmental benefits. Yet inadequately sited, designed, or managed ecotourism activities may lead to adverse social impacts, such as changes to Indigenous and local community cultures and traditions, social conflicts, and displacement and encroachment on the customary rights of local people. Ecotourism initiatives have led to the creation of high expectations in local communities that are not always fulfilled. Social impacts may also include increased control of resources by outsiders. Social impacts associated with facility construction for ecotourism are addressed in Section 3.1 above. Table 8 describes the potential adverse social impacts from this type of biodiversity programming.

TABLE 8. ADVERSE SOCIAL IMPACTS FROM ECOTOURISM	
Displacement and Resettlement	• Tourists may prefer not to see or be near populations of IPLCs, which may encourage the displacement of IPLCs by ecotourism proprietors to create a more comfortable experience for tourists.
Impacts on Cultural Heritage	• Ecotourism activities can infringe on the cultural heritage resources used by IPLCs. • Visitor interactions with IPLCs can alter local heritage resources and undermine the cultural and economic integrity of traditional ways of life.
Increased Insecurities and Gender-Based Violence (GBV)	• In-migration and population growth for new job opportunities can increase insecurities and GBV. • Uneven distribution of benefits from ecotourism activities can increase gender insecurities and GBV. • Changes in roles for income generation in families can result in an increase in familial violence.
Conflicts Over Limited Resources	• In-migration and population growth in local communities can put a strain on available resources, such as water and food sources. • Limited resources can lead to inequitable sharing of benefits with IPLCs by favoring external interests or governments, marginalizing local voices, and neglecting the traditional rights of these communities, resulting in an unfair distribution of resources.
Impacts on Health and Well-Being	• Increased human activities and proximity to wild animals may increase the risks of disease transmission and the development/spreading of zoonoses. • Inequitable distribution of benefits from ecotourism activities can create or exacerbate social imbalance and economic insecurity, which can affect the well-being of individuals.

CLIMATE RISKS

Climate risks are an important consideration in the planning and implementation of ecotourism activities. Climate hazards, including increasing temperatures, changing precipitation patterns, and greater severity and frequency of extreme weather events, can threaten the long-term viability of ecotourism services. As decision-makers and practitioners design biodiversity and conservation-focused ecotourism activities, they must consider the climate risks to which their activities may be subject. Table 9 summarizes some of the key climate risks that warrant evaluation during the designing and implementation stages of ecotourism activities. Awareness of these risks is an important first step toward reducing climate impacts, thereby better equipping ecotourism activities for success in a changing climate. Table 9 describes the potential climate risks to this type of biodiversity programming.

TABLE 9. CLIMATE RISKS TO ECOTOURISM	
Direct Climate Impacts	• All forms of infrastructure face varying levels of vulnerability to climate risks as a result of, for example, extreme weather events, flooding, extreme heat, and wildfires. Risks range from long-term stress on specific infrastructure to damage and destruction resulting from severe events.
Damage to or Loss of Natural Resources	• Climate change can affect the presence and distribution of natural resources, including some that may be attractions for visitors, potentially reducing the appeal of ecotourism destinations. • Climate change may reduce the availability of resources within ecotourism sites, leading to potential conflicts between conservation goals and the needs of IPLCs.
Disruption of Transportation Networks	• Extreme weather and other climate-related events, such as floods, drought, storms, high winds, landslides, or wildfires, can disrupt travel transportation networks, making it difficult for tourists to access ecotourism destinations. These disruptions can lead to reduced numbers of visitor and revenue, posing challenges for the continuity and success of ecotourism projects.
Human Health and Safety Risks	• Increased temperatures and extreme climate-related events, such as heat waves and floods, may increase the prevalence of heat-related or waterborne and vector-borne diseases, thereby negatively affecting the number of visitors and their health, as well as the health and well-being of the staff and local communities. • Increased frequency and severity of precipitation, floods, and landslides may block access routes and damage other physical facilities, resulting in safety risks for visitors, staff, and local communities.
Damage to or Loss of Biodiversity	• Climate hazards may contribute to the degradation of natural attractions (including the reduced abundance of key species) that support ecotourism activities. For example, increasing water temperatures resulting from climate change, combined with ocean acidification, can contribute to coral reef bleaching, which may reduce the desirability of some ecotourism locations where snorkeling and diving are popular activities.

3.3 STRENGTHENING NATURAL RESOURCE GOVERNANCE

OVERVIEW

Natural resource governance is the process by which a group of individuals manages and makes decisions regarding the utilization, conservation, and allocation of natural resources with the goal of sustainable and equitable outcomes (USAID 2015). Depending on who is in the governing group, the interests they consider in their decision-making and the methods they use to ensure acceptable behavior are all important factors in the strength of natural resource governance to protect important natural resources (USAID 2013b). Strengthening natural resource governance involves activities such as promoting the voices of people who are marginalized in policymaking, developing stronger laws for the protection of biodiversity, and increasing the transparency and capacity of enforcement. Strengthening natural resource governance also aims to improve inclusive decision-making that provides for increased and active stakeholder engagement in conservation efforts to create positive environmental outcomes. USAID's Targeting Natural Resource Corruption is a good example of an activity aimed at strengthening natural resource governance (WWF 2023).

ENVIRONMENTAL IMPACTS

Biodiversity conservation activities aiming to strengthen natural resource governance can have unintended adverse impacts on the environment. Environmental impacts from this type of programming are mainly indirect but can result in temporary or permanent effects. Changes in natural resource policy or legal enforcement can result in changes to biodiversity resources, including an increased risk to imperiled species and degradation of habitats and ecosystems. Table 10 describes the potential adverse environmental impacts from this type of biodiversity programming.

TABLE 10. ADVERSE ENVIRONMENTAL IMPACTS FROM STRENGTHENING NATURAL RESOURCE GOVERNANCE

Adverse Species Effects	• Over-prioritization of charismatic species or of ecosystem services considered to be more "useful" may result in actions that harm other species and habitats. • Changes in natural resource management and enforcement may shift local use of ecosystem services and harvesting of plants and animals.

SOCIAL IMPACTS

Biodiversity conservation activities aiming to strengthen natural resource governance can adversely affect the local community, especially if all local stakeholders are not involved in the decision-making process to define what is and what is not acceptable behavior in terms of natural resource use. Conflicts may arise due to contradiction or interference among the needs, requirements, and interests of the different actors. If access to natural resources is restricted by natural resource governance activities, select groups may lose access to those resources. Groups who are vulnerable, marginalized, and/or underrepresented, such as Indigenous Peoples and local communities (IPLCs), are especially susceptible to these adverse impacts. Table 11 describes the potential adverse social impacts from this type of biodiversity programming.

TABLE 11. ADVERSE SOCIAL IMPACTS FROM STRENGTHENING NATURAL RESOURCE GOVERNANCE

Land Use/Access Changes	• Restricted use and access to land can limit IPLCs' access to the natural resources that support their livelihoods. Changes in land use or access may reduce IPLCs' interest and engagement in sustainable practices and resources stewardship.
Displacement and Resettlement	• Restricting access to natural resources can result in displacement of IPLCs. Loss of or restriction in community customary rights may cause social disruption.
Impacts on Cultural Heritage	• Activities that strengthen natural resource governance can restrict IPLCs' access to important cultural heritage resources and sites. Local communities may lose or have reduced access to traditional food, fiber, or medicinal sources.
Increased Insecurities and Gender-Based Violence	• Unequal access to natural resource ownership and differentiated uses between men and women can create gender inequalities and exacerbate economic disparities, making marginalized and underrepresented groups and/or people in vulnerable situations, including women, more vulnerable to exploitation and conflicts over limited resources. • Disproportional participation in natural resource governance processes and decision-making between men and women can perpetuate inequitable gender roles and create an unequal distribution of labor and benefits.

TABLE 11. ADVERSE SOCIAL IMPACTS FROM STRENGTHENING NATURAL RESOURCE GOVERNANCE	
Conflicts Over Limited Resources	• Unintentionally restricting access or the use of natural resources can further limit the availability of certain resources and result in an increase in resource conflicts and disputes. Conflict may arise over limited resources if a participatory planning process is not established due to existing structural and/or institutional barriers, which may exclude people or groups who are in vulnerable, marginalized, and/or underrepresented conditions. Conflict may arise over limited resources as a result of different priorities between the local community and the regional or national government.

CLIMATE RISKS

In the context of biodiversity and conservation activities, assessing climate risks to natural resource governance is useful to create effective and resilient management strategies. Climate hazards, such as shifting precipitation patterns, rising temperatures, and an increase in the frequency and variability of extreme weather and climate-related events, such as storms, floods, drought, heat waves, landslides, and wildfires, can have wide-ranging effects on resource availability, distribution, and governance capacity, thereby affecting an entity's ability to strengthen its governance of natural resources. Taking these climate risks into account can help decision-makers be better prepared to adapt their governance strategies and have more successful governance in the face of a changing climate. Table 12 describes the potential climate risks to this type of biodiversity programming.

TABLE 12. CLIMATE RISKS TO STRENGTHENING NATURAL RESOURCE GOVERNANCE	
Damage to or Loss of Natural Resources	• Climate hazards may reduce the abundance of natural resources, potentially reducing the effectiveness of management strategies and regulations. The distribution of resources may also shift across national or regional borders, leading to potential challenges in coordinating governance efforts. As a result, more intense competition for resources may lead to situations where governance efforts are less likely to be successful.
Disruption of Transportation Networks	• Extreme weather, drought, and other climate hazards may disrupt stakeholder engagement activities by physically restricting the ability of local people to attend workshops. This could interfere with efforts to inclusively and transparently strengthen governance measures.
Human Health and Safety Risks	• Increased heat stress, variable rainfall, and flash flooding affect people's health and mobility and may affect their ability to engage in governance and management activities. • Duration, levels, and frequencies of extreme climate-related events, such as heat, storms, floods, drought, high winds, and/or landslides, may damage or otherwise negatively affect the locations and/or damage access routes to locations targeted for consultations, meetings, and focus group discussions, creating unsafe environments.
Damage to or Loss of Biodiversity	• Altered precipitation patterns, temperature changes, extreme weather events, and other climate hazards can cause the habitats and species that natural resource governance efforts aim to conserve to shift location, potentially shifting across national or regional borders, leading to challenges in coordinating governance efforts.

3.4 COMMUNITY-BASED NATURAL RESOURCE MANAGEMENT (CBNRM)

OVERVIEW

CBNRM simultaneously addresses the problems of poverty and environmental degradation by creating incentives and conditions for an identified group of resource users within defined areas to use natural resources sustainably. Typical CBNRM activities include supporting local communities in sustainable agriculture, forestry, fisheries, and wildlife conservation, as well as capacity building for effective governance, management, and benefit-sharing mechanisms. This means enabling the resource users to benefit (economically) from resource management and providing strong rights and tenure over land and the resources. CBNRM also supports the development of accountable decision-making bodies that can represent community members and act in their interests (USAID n.d.). CBNRM facilitates the ownership of natural resource management by interested local communities under the premise that the community will sustainably manage the resources if they are assured of their ownership, are allowed to use and benefit from the resources, and are given sufficient control over the management of the resources. Security of land tenure is key to CBNRM. After secure tenure, CBNRM activities vary but can include establishing a community-based organization to assess, manage, and monitor the natural resources, community enforcement of rules and regulations for natural resource use, and a benefit-sharing mechanism to equitably distribute benefits among community members. CBNRM is a powerful tool for conserving natural resources and promoting sustainable development. For more details on the potential adverse impacts and mitigation approaches from forestry, livestock, and fisheries/aquaculture activities refer to the respective SEGs.

ENVIRONMENTAL IMPACTS

CBNRM programs bring positive conservation and socioeconomic outcomes but can have adverse environmental impacts if they lack proper governance. For example, CBNRM may change the way land is used and managed, thus directly or indirectly affecting the environment, including by overusing natural resources, increasing the risks to endangered species, degrading ecosystems, or increasing GHG emissions. Infrastructure impacts from CBNRM are addressed in Section 3.1. Table 13 describes the potential adverse environmental impacts from this type of biodiversity programming.

TABLE 13. ADVERSE ENVIRONMENTAL IMPACTS FROM COMMUNITY-BASED NATURAL RESOURCE MANAGEMENT

Habitat Loss and Fragmentation	• Changes in land tenure can result in the expansion of agriculture and development into ecologically sensitive areas. • Habitat may be lost or fragmented by land conversion for agriculture, fisheries, timber, or livestock raising.
Introduction and Spread of Invasive Species/Diseases	• Changes in land use practices that disturb natural ecosystems may create opportunities for invasive species to establish and thrive. • The movement of people and goods associated with CBNRM activities can introduce invasive species to new areas and unknowingly transport seeds, pathogens, or pests from one location to another. • Invasive and/or nonnative species and disease vectors from aquaculture, farming, or livestock raising may be introduced by the activity itself. • Contaminated equipment may introduce and spread invasive species/diseases.

TABLE 13. ADVERSE ENVIRONMENTAL IMPACTS FROM COMMUNITY-BASED NATURAL RESOURCE MANAGEMENT	
Change in the Quality of Natural Resources	• Decrease in water quality from pollution associated with agriculture, livestock, fisheries, forestry, and from changes in hydrology. • Decreased soil and vegetation quality due to soil erosion and compaction from agriculture, including livestock grazing, crop farming, and forestry. • Pesticides and herbicides used in the production of agricultural goods, including crops, fish, and livestock, may reduce natural ecosystem quality. • Inadequate waste management may degrade habitat quality and contaminate and pollute water sources.
Adverse Species Effects	• Increased human presence in remote areas may change animal behavior, including changes in species' migration patterns and distribution, which can result in adverse impacts on the species that threaten reproduction or survival. • Insufficient land use planning can result in increased human-wildlife conflict and changes in animal behavior, such as animal attacks, species becoming a nuisance when seeking food, and species becoming more comfortable around people and subsequently more vulnerable to poaching. • Increased human-wildlife conflict may increase the exposure of wild animals to harmful diseases and pests. • Increased environmental contaminants (e.g., pesticides) may heighten wild animals' ingestion of and exposure to harmful elements.
Change in the Abundance or Distribution of Natural Resources	• Disruption in the availability of water resources and water quality due to changes in flow (including seasonal availability), increase in erosion, changes in permeability, or insufficient water supply. • Impacts on the abundance and distribution of natural resources from land use changes, including water, timber, grass, and so forth, resulting in a limited supply for both human populations and wildlife. • Agriculture can negatively affect native seed banks by promoting the cultivation of high-yield, non-native crop varieties, leading to the neglect and genetic erosion of traditional native cultivars. • Changes to traditional practices, including fallow periods or the introduction of new practices, such as pastureland burning or harvesting of forest plantations, may reduce the abundance and distribution of natural resources.
GHG Emissions	• Direct GHG emissions from the use of vehicles and equipment. • Potential for reduced carbon sequestration or carbon emissions as a result of land use change. • GHG emissions from increased fire frequency, resulting from agricultural activities, such as burning of agricultural waste.

SOCIAL IMPACTS

CBNRM is based on the idea that local communities will sustainably manage their natural resources if they are assured of ownership, are allowed to use and benefit from the natural resources and are given control over the management. However, CBNRM activities are not easy to implement and must be carefully designed, planned, and implemented to safeguard against adverse social impacts.

Secure community tenure rights are essential to the establishment of CBNRM programs. CBNRM efforts involve processes that often help strengthen natural resource governance, increase the community's standard of living, improve gender balance in resource management, and help provide people who are often marginalized with greater income and independence. Ideally, CBNRM objectives are pursued through a participatory planning process that includes representatives from the local community, national resource protection agencies, local and district governments, sponsoring donors, and non-governmental organizations through early and sustained stakeholder engagement and consultation.

Land tenure security refers to people's ability to control and manage a parcel of land, use it and dispose of its produce, and engage in transactions, including transfers (IFAD 2008).

There are three main characteristics of land tenure security:

- Duration: How long will the land rights last?
- Protection: Will the land rights be protected if they are challenged or threatened?
- Robustness: Are the holders of the land rights able to use and dispose of these rights, free from the interference of others?

CBNRM contributes to poverty reduction, food security, and rural development. However, without careful planning that heavily relies on early and sustained stakeholder engagement throughout the entire project life cycle, CBNRM may cause adverse social impacts on local communities, such as changing their access to natural resources, affecting their health and well-being, and changing traditional practices. Table 14 describes the potential adverse social impacts from this type of biodiversity programming.

TABLE 14. ADVERSE SOCIAL IMPACTS FROM COMMUNITY-BASED NATURAL RESOURCE MANAGEMENT	
Land Use/Access Changes	• Changes in land tenure can restrict access to land. Land tenure rights in some parts of the world may be complicated by historical disputes, informal land rights, overlapping claims, and inconsistent documentation, and can exacerbate social tensions and create social impacts for people who are marginalized, underrepresented, and/or in vulnerable situations. • Changes in land tenure may affect Indigenous Peoples and local communities' (IPLCs) commitment to, and interest in, participation and investment in sustainable resources management.
Displacement and Resettlement	• Displacement of IPLCs for CBNRM activities, including activities that change land access or tenure, may undermine community stability or lead to disenchantment and bitterness, resulting in poor resource management. • Displacement or the involuntary resettlement of affected communities can occur as an unintended consequence of agricultural, fishery, or forestry activities when land or water is acquired or repurposed for these uses.
Impacts on Cultural Heritage	• CBNRM activities can impair the cultural and spiritual values and uses of IPLCs for the area, including restricting access to important cultural sites. CBNRM can affect cultural heritage by displacing or altering sites used for traditional practices, sacred sites, and cultural landscapes.
Increased Insecurities and Gender-Based Violence	• Uneven distribution of benefits from CBNRM activities can exacerbate gender-based insecurities if they do not address gender inequalities in access to resources, decision-making, and participation, perpetuating disparities and the vulnerabilities faced by women. • Changes in roles for income generation in families can result in an increase in intimate partner violence.
Conflicts Over Limited Resources	• CBNRM can lead to conflicts over limited resources when there is inadequate governance, insufficient benefit-sharing mechanisms, or disagreements among community members regarding resource allocation, potentially resulting in disputes and tensions within the community. • Encroachment and in-migration of more people in surrounding areas due to the increase in economic opportunities can increase competition for natural resources.
Impacts on Health and Well-Being	• The application of pesticides or other chemicals required for certain CBNRM activities can negatively affect human health. • Increased human proximity to wild animals, livestock, and pests may increase the transmission of zoonotic diseases. • Inequitable distribution of benefits from CBNRM activities can create social issues, such as economic insecurity, which can affect the well-being of individuals. • Human health risks may occur from inadequate waste management that contaminates and pollutes water sources.

CLIMATE RISKS

Climate change poses a multitude of threats to the communities themselves and thereby poses risks to CBNRM-specific activities. Climate hazards, including altered precipitation patterns, temperature increases, and heightened extreme weather events, can significantly affect CBNRM activities by affecting resource availability, community dynamics, and equitable distribution of benefits. Incorporating these climate risks into decision-making processes enables communities to better adapt their management strategies, fostering successful and resilient community-based natural resource efforts in a changing climate. Table 15 describes the potential climate risks to this type of biodiversity programming.

TABLE 15. CLIMATE RISKS TO COMMUNITY-BASED NATURAL RESOURCE MANAGEMENT

Direct Climate Impacts	• All forms of infrastructure face varying levels of vulnerability to climate risks as a result of, for example, extreme weather events, flooding, extreme heat, and wildfires. Risks range from long-term stress on specific infrastructure to damage and destruction resulting from severe events.
Damage to or Loss of Natural Resources	• Climate change-induced resource scarcity can contribute to existing social tensions and inequalities, potentially undermining the community's ability to effectively collaborate and engage in successful CBNRM activities. • Climate change can also influence the availability and distribution of benefits from natural resources, potentially affecting the effectiveness of benefit-sharing mechanisms designed to equitably distribute benefits among community members in CBNRM activities, which could affect community participation and support for conservation efforts.
Disruption of Transportation Networks	• Extreme weather events, such as floods, storms, or wildfires, can disrupt travel networks, making it difficult for workers and involved community members to access sites. This can disrupt natural resource monitoring efforts and reduce community engagement, which can hinder the development of effective CBNRM activities and the transparent, inclusive decision-making processes necessary for successful CBNRM implementation.
Human Health and Safety Risks	• Extreme weather events, temperature changes, and a resulting increase in the prevalence or spread of heat-related, waterborne, or vector-borne diseases may lead to human health risks, thereby affecting the capacity for community engagement and affecting the ability to hire staff to carry out natural resource management activities.
Damage to or Loss of Biodiversity	• Climate-induced extreme weather may negatively affect the biodiversity on which CBNRM activities depend, such as agricultural farming and livestock raising. This can jeopardize these income streams for local communities, resulting in increased demand for natural resources.

3.5 GAZETTING NEW CONSERVATION AREAS

OVERVIEW

Gazetting (legally establishing) conservation areas is one way to conserve and protect valuable ecosystems and the species that inhabit them. Gazetted conservation areas have legal restrictions on the kinds of activities and use that can occur within their boundaries in order to protect natural resources. Gazetting of conservation areas can be done by governmental institutions, non-governmental organizations, or local communities. Typical activities involved in gazetting conservation areas include legally developing use regulations and policies for the area.

In this context, conservation areas include protected areas, such as national parks, marine preserves, and other effective area-based conservation measures. A protected area is "a clearly defined

geographical space, recognized, dedicated, and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values" (IUCN 2013). Other effective area-based conservation measures are different from protected areas in that they may not always have the same level of legal protection and can encompass a wider range of conservation places, including areas where sustainable resource use and conservation coexist. Other effective area-based conservation measures can include community forestry and community conservation areas, which may occupy large landholdings.

NEW LANDS DEVELOPMENT

Activities that gazette a new protected conservation area change the use rights and claims of that land. Doing so has a significant effect on the environment and will likely trigger the "New Lands Development" clause, 22 CFR 216.2(d)(1)(vi). Gazetting a new protected area may reduce or prohibit access to tangible and intangible natural and cultural heritage resources. If the New Lands Development clause is triggered, an Environmental Assessment or Environmental Impact Statement, as appropriate, will be required.

Conservation areas are a cornerstone of biodiversity protection, designed to achieve long-term objectives of conservation. They also contribute to broader development objectives, such as livelihood improvement, food security, economic growth, and good governance. Well-managed conservation areas provide various benefits: protection of valuable and healthy ecosystems and their associated services, support for the recovery of imperiled species, control of invasive species, and the maintenance of traditional ecological knowledge among Indigenous communities.

ENVIRONMENTAL IMPACTS

Gazetting conservation areas is a biodiversity conservation activity intended to protect species, habitats, and ecosystems. However, if not properly planned and managed, adverse impacts on species can occur, such as shifts in species abundance and altered fire regimes. Alternatively, the conservation area may not necessarily achieve its intended biodiversity conservation objectives due to insufficient representation of target habitats or species, lack of connectivity between protected areas, or inadequate management.

Gazetting conservation areas includes the development of use regulations and policies. See also Section 3.2 on Strengthening Natural Resource Governance for impacts and risks from natural resource governance activities. Table 16 describes the potential adverse environmental impacts from this type of biodiversity programming.

TABLE 16. ADVERSE ENVIRONMENTAL IMPACTS FROM GAZETTING NEW CONSERVATION AREAS

Adverse Species Effects	• Changes to natural resource uses within conservation areas through new regulations and policies may have unintended changes to species and their habitats. For example, restricting hunting and harvesting may shift predator and prey interactions and change local species abundance. Limiting tree cutting in conservation areas can change natural fire behavior and cause species and habitat loss from severe wildfires.

SOCIAL IMPACTS

Without employing social safeguards and engaging with Indigenous Peoples and local communities (IPLCs) and other stakeholders during the gazetting of conservation areas, new conservation areas may increase the risks to the livelihoods, health, cultural heritage, and well-being of the surrounding communities. This type of biodiversity conservation activity may limit IPLCs' access to land and resources. These limitations may result in adverse social impacts on the local community in relation to their traditional livelihoods or food security if they rely on natural resources for sustenance. For example, a protected area established on land traditionally used for livestock grazing or on waters traditionally used as fishing grounds will adversely affect the livelihoods of herders and fishers, respectively. Additionally, protected areas may increase predator populations, which may jeopardize human and livestock safety. Table 17 describes the potential adverse social impacts from this type of biodiversity programming.

SAFEGUARDS FOR ACTIVITIES SUPPORTING PARKS AND PROTECTED AREAS

USAID activities that establish or manage protected areas for a conservation purpose must implement special safeguards. These safeguards include consulting with local communities about potential impacts from a protected area, considering the impacts of a protected area on affected communities, training and monitoring law enforcement on human rights and avoiding excessive force, and providing a grievance redress mechanisms to report human rights abuses (USAID 2024b).

TABLE 17. ADVERSE SOCIAL IMPACTS FROM GAZETTING NEW CONSERVATION AREAS

Land Use/Access Changes	• Gazetting a new park and protected area may change the land use rights and claims of land, or affect competing land and resource claims, which may adversely affect IPLCs. • Failure to recognize the use rights of IPLCs can affect or reduce the viability and sustainability of new conservation areas. The establishment of parks and protected areas may limit access to natural resources, such as water sources and forests, and jeopardize food security.
Displacement and Resettlement	• People and communities may be displaced when a conservation area is gazetted. Limiting access to natural resources to establish a conservation area may force IPLCs to resettle in order to ensure their continued access to essential resources. IPLCs and others who are marginalized and underrepresented groups and/or people in vulnerable situations are especially at risk for displacement. Displacement and resettlement may lead to food insecurity due to reduced or prohibited access to traditional hunting grounds, fishing areas, and other resources.
Impacts on Cultural Heritage	• Establishing a conservation area may restrict access to important cultural sites and impair the cultural and spiritual values and uses of IPLCs for the area.
Increased Insecurities and Gender-Based Violence (GBV)	• Women may be required to travel longer distances to collect water and other natural resources, increasing their risk of GBV.
Conflicts Over Limited Resources	• Restricted access to natural resources may increase disputes within the local community over resources.
Impacts on Health, Well-Being, and Safety	• Decreased access to natural resources can affect the food security and well-being of individuals.

TABLE 17. ADVERSE SOCIAL IMPACTS FROM GAZETTING NEW CONSERVATION AREAS	
	• An increase in predator populations may jeopardize human and livestock safety.

CLIMATE RISKS

Consideration of climate risks when establishing conservation areas will help ensure the long-term success of these projects and enhance their overall success. Climate risk consideration is particularly important when siting a potential conservation area. If climate change hazards, such as changes in temperature and rainfall variability or the risks of climate-related events (e.g., floods, drought, high winds landslides), are not considered, conservation areas under future conditions may no longer support the resources that they were intended to support when established. Table 18 describes the potential climate risks for this type to biodiversity programming.

TABLE 18. CLIMATE RISKS TO GAZETTING NEW CONSERVATION AREAS	
Human Health and Safety Risks	• Limiting the access and availability of natural resources in conservation areas, in combination with extreme weather events, temperature changes, and a resulting increase in the prevalence of diseases, can affect the food security and well-being of IPLCs.
Damage to or Loss of Biodiversity	• Altered precipitation patterns, temperature changes, extreme weather events, and other climate hazards can cause the habitats and species that the conservation area aims to conserve to shift location, making the original boundaries less effective in achieving conservation goals.

3.6 MANAGEMENT AND OPERATIONS OF ESTABLISHED CONSERVATION AREAS

OVERVIEW

After a new conservation area has been established (see Section 3.5: Gazetting New Conservation Areas), many conditions must be in place for the conservation area to serve its purpose and benefit biodiversity and local communities. Conservation areas require sound management and adequate long-term sustainable funding to lead to better biodiversity outcomes.

The approach to management and operations depends on the purpose for which the conservation area was established. This can include managing habitats and species, sustainable utilization of resources, improving the livelihoods of local people, providing for visitors, and securing financial sustainability. These activities can improve the abilities of conservation staff in conserving species and habitats through upgraded living conditions, operational infrastructure, and management abilities.

ENVIRONMENTAL IMPACTS

Developing and enhancing the management and operations of conservation areas includes the acquisition of necessary resources, such as staff, equipment, infrastructure, and any resources provided to benefit or manage target species (e.g., artificial watering holes, fencing, monitoring equipment). In some cases, physical boundaries in the form of fencing around the conservation area are needed, which can directly harm wildlife and change patterns of behavior. Oftentimes, water infrastructure is developed to support staff and local wildlife populations, which can result in adverse environmental impacts on water quantity

and quality if the hydrology of the area is not first carefully analyzed to determine whether there is a sufficient local supply to accommodate increased demand. In addition, staff who are not adequately trained may unintentionally degrade or damage the conservation area in the process of carrying out their duties. For example, inadequately trained staff could have environmental impacts in conservation areas if they fail to properly manage waste disposal, leading to pollution and habitat degradation. For impacts associated with infrastructure construction, refer to Section 3.1. Table 19 describes the potential adverse environmental impacts from this type of biodiversity programming.

TABLE 19. ADVERSE ENVIRONMENTAL IMPACTS FROM MANAGEMENT AND OPERATIONS OF ESTABLISHED CONSERVATION AREAS

Introduction and Spread of Invasive Species/Diseases	• An increase in invasive species and disease vectors may occur as the result of contaminated conservation staff and equipment.
Change in the Quality of Natural Resources	• Use of trails and roads by conservation staff and visitors may degrade vegetation and water quality in conservation areas. • Pollution and habitat degradation may occur from improper waste management.
Adverse Species Effects	• Changes in animal behavior from increased human presence and monitoring in remote areas, including changes in species' migration patterns and the distribution and disturbance of breeding behavior, can result in adverse impacts on species. • Creation of improved roads and trails for conservation staff and visitors may lead to an increase in access for illegal hunting and the harvesting of species. • Increased human presence may increase wild animals' exposure to harmful diseases and pests.
GHG Emissions	• GHG emissions can increase as a result of the use of vehicles and equipment for construction purposes, worker transportation, and power generation.

SOCIAL IMPACTS

This type of biodiversity conservation activity includes training and education of local people employed at the conservation area. Depending on the task at hand, the content of that training may involve working with natural resources. Some natural resources can have adverse impacts on human health and safety. If the training is not well designed, people who are vulnerable, marginalized, and/or underrepresented may not have the opportunity to share in the activities and may become unintentionally excluded. Without intentional socially inclusive programming, training opportunities may be filled by men from the majority local community or group, marginalizing women, youth, and minority populations. Table 20 describes the potential adverse social impacts from this type of biodiversity programming.

TABLE 20. ADVERSE SOCIAL IMPACTS FROM MANAGEMENT AND OPERATIONS OF ESTABLISHED CONSERVATION AREAS

Land Use/Access Changes	• Enforcement of a park and protected area's boundaries and policies may reduce access to natural resources, such as water sources and forests for Indigenous Peoples and local communities (IPLCs). • Failure to recognize the use rights of IPLCs can affect or reduce the viability and sustainability of new conservation areas.
Displacement and Resettlement	• Limiting access to natural resources may cause involuntary resettlement of IPLCs to ensure their continued access to traditional hunting and fishing grounds and other essential resources.

TABLE 20. ADVERSE SOCIAL IMPACTS FROM MANAGEMENT AND OPERATIONS OF ESTABLISHED CONSERVATION AREAS	
Impacts on Cultural Heritage	• Land use and access changes from management and operations may harm the cultural heritage resources and spiritual sites of IPLCs for the area.
Increased Insecurities and Gender-Based Violence (GBV)	• Uneven distribution of benefits from management and operational activities can increase gender inequality and the risk of GBV. • An influx of settlers and migrants, in addition to population growth to take advantage of work opportunities, can increase insecurities and GBV, especially when men are in new positions of power. • Disproportionate access to training and educational opportunities for management and operational activities of established conservation areas may exclude women from management roles. Women may be required to travel longer distances or to remote locations to collect water and other natural resources, increasing the risk of GBV.
Impacts on Health, Well-Being, and Safety	• Operation of equipment for the management of established conservation areas may pose safety risks if the equipment is not properly maintained or if the operator is not properly trained. • Accessing remote areas by conservation staff may expose them to diseases and dangerous human-wildlife interactions. • Enforcement of conservation area policies may conflict with IPLCs' needs and result in aggressive confrontations.

CLIMATE RISKS

Understanding the climate risks to the management and operation of conservation areas is essential for effective programming. Adapting to the challenges posed by climate change, such as the potential for infrastructure damage from extreme weather events, loss of natural values for which the conservation area was established, fluctuating staff availability, shifting financial priorities, and increasing operational costs, will lead to greater long-term effectiveness of these efforts. Climate hazards can affect the ability of an ecosystem to function and create challenges to managing ecosystems through natural processes alone. By considering climate risks during the planning stage and monitoring them throughout the activities, decision-makers can enhance the resilience of activities and have a greater likelihood of success in conservation area management. Table 21 describes the potential climate risks to this type of biodiversity programming.

TABLE 21. CLIMATE RISKS TO MANAGEMENT AND OPERATIONS OF ESTABLISHED CONSERVATION AREAS	
Direct Climate Impacts	• All forms of infrastructure face varying levels of vulnerability to climate risks as a result of, for example, extreme weather events, flooding, extreme heat, and wildfires. Risks range from long-term stress on specific infrastructure to damage and destruction resulting from severe events.
Damage to or Loss of Natural Resources	• Extreme weather and climate-related events, such as heat waves, storms, floods, drought, high winds, and/or landslides, may disrupt supply chains and increase the cost of the resources necessary for the management and operation of conservation areas.
Disruption of Transportation Networks	• Stakeholders may have more trouble attending stakeholder engagement events if climate hazards disrupt travel networks. • Conservation staff may have limited access to areas that need maintenance following severe weather events.

TABLE 21. CLIMATE RISKS TO MANAGEMENT AND OPERATIONS OF ESTABLISHED CONSERVATION AREAS	
Human Health and Safety Risks	• Extreme weather events and temperature changes may lead to worker health risks, thereby affecting the capacity of staff to perform their duties or for agencies to hire staff or construction contractors.

3.7 SUPPORTING THE CAPACITY TO DETER, DETECT, AND PROSECUTE NATURE CRIMES

OVERVIEW

Poaching; illegal fishing; logging; and illegal trade in fish, wildlife, and timber can jeopardize the existence of species and imperil ecosystems (see the Wild Caught Fisheries and Aquaculture SEG and the Forestry SEG for more information about addressing illegal activities related to fish and timber). Due to their illicit nature, these activities also have impacts on the livelihoods and safety of local people. In addition, climate risks increase resource scarcity, leading to greater pressure on natural resources and a greater likelihood of nature crimes. Supporting the capacity to deter, detect, and prosecute nature crimes refers to efforts to strengthen the ability of law enforcement agencies to identify, prevent, and respond to these illegal activities. Adequate responses may include community engagement and public awareness with law enforcement, routine inspections, targeted monitoring and detection, arrests and prosecutions, international cooperation, and research. Programming to support this capacity may include a range of activities, such as training law enforcement officers, providing equipment and technology, and building partnerships between law enforcement agencies and other organizations.

ENVIRONMENTAL IMPACTS

Reducing illegal nature crimes is essential to protecting biodiversity; however, it can also have inadvertent adverse impacts on the environment. Law enforcement and the associated increase in human presence and monitoring, including ground and aerial patrols and remote detection systems with cameras, enhanced lighting, and drones, could disturb wildlife. Other adverse impacts of activities that deter and detect nature crimes and enforce laws include changes in predator-prey dynamics (e.g., increased surveillance may cause predator or prey species to alter behaviors) and increases in GHG emissions from the use of cars or aircraft in enforcement. Table 22 describes the potential adverse environmental impacts from this type of biodiversity programming.

TABLE 22. ADVERSE ENVIRONMENTAL IMPACTS FROM DETERRING, DETECTING, AND PROSECUTING NATURE CRIMES	
Introduction and Spread of Invasive Species/Diseases	• Confiscated wildlife can infect wild populations with disease if reintroduced without quarantine. • Increased human presence may also increase the risk of introducing and spreading invasive species and diseases to wild populations.
Change in the Quality of Natural Resources	• Increased human presence for law enforcement purposes may increase waste generation, pollution, and change the quality of the natural resources.
Adverse Species Effects	• Confiscated species may suffer significant harm, which can result in death, while being held by authorities. Changes in animal behavior from increased human

TABLE 22. ADVERSE ENVIRONMENTAL IMPACTS FROM DETERRING, DETECTING, AND PROSECUTING NATURE CRIMES	
	presence and monitoring in remote areas, including changes in species' migration patterns and distribution and disturbance to breeding behavior can result in adverse impacts on species.
GHG Emissions	• Increased GHG emissions from the use of equipment and cars, motorcycles, helicopters, boats, and aircraft for law enforcement monitoring.

SOCIAL IMPACTS

Supporting the capacity to deter, detect, and prosecute nature crimes means supporting law enforcement, including monitoring, detection, arrest, and prosecution. Law enforcement can potentially infringe on human rights, especially people who are vulnerable, marginalized, and/or underrepresented. For more guidance on how to safeguard against human rights infringement related to law enforcement for nature crimes, refer to the Safeguards for Activities Supporting Parks and Protected Areas and Training and Monitoring Best Practices Guide. In addition, biased enforcement of legal laws, policies, rules, and regulations can deprive Indigenous Peoples and local communities (IPLCs) and other vulnerable groups, such as women and youth, in terms of their access to natural resources. Finally, law enforcement personnel may be exposed to dangerous wildlife or be at risk of contracting zoonotic diseases, thus jeopardizing human health and safety. Table 23 describes the potential adverse social impacts from this type of biodiversity programming.

TABLE 23. ADVERSE SOCIAL IMPACTS FROM DETERRING, DETECTING, AND PROSECUTING NATURE CRIMES	
Land Use/Access Changes	• Law enforcement personnel may pose an increased risk of the use of excessive force and lack good command and accountability, which may harm IPLCs when enforcing laws related to nature crimes and deterring or restricting access to land and natural resources.
Increased Insecurities and Gender-Based Violence (GBV)	• Biased enforcement of legal laws, policies, rules, and regulations can disproportionately affect women. • Women may be required to travel longer distances or to remote locations to collect water and other natural resources due to law enforcement activities, increasing the risk of GBV.
Conflicts Over Limited Resources	• Law enforcement of nature crimes may increase disputes within the local community over resources.
Impacts on Health, Well-Being, and Safety	• Increased human proximity to wild animals, livestock, and pests may increase the transmission of diseases and exposure to dangerous animals, specifically for law enforcement personnel. • Law enforcement for nature crimes can create economic instability that can affect the well-being of individuals. • Law enforcement for nature crimes can lead to local confrontations that can affect the safety and well-being of law enforcement officers and IPLCs.

CLIMATE RISKS

There are several climate risks associated with activities under this type of programming. Most notably, climate change may cause an increase in nature crimes themselves as increased resource scarcity leads

to greater pressure on natural resources. Additionally, climate hazards, such as extreme weather events, rising temperatures, and shifting precipitation patterns, can strain finances, disrupt infrastructure, and affect the health of law enforcement personnel, thereby affecting the overall success of wildlife crime prevention and response. Table 24 describes the potential climate risks of this type of biodiversity programming.

TABLE 24. CLIMATE RISKS TO DETERRING, DETECTING, AND PROSECUTING NATURE CRIMES

Damage to or Loss of Natural Resources	• Climate change increases natural resource scarcity, which increases the pressure on local people to participate in illegal activities.
Human Health and Safety Risks	• Climate hazards, such as increasing temperatures and more varied precipitation patterns, can increase the prevalence of vector-borne diseases and heat-related illnesses, potentially posing health risks to law enforcement personnel.

3.8 HABITAT RESTORATION

OVERVIEW

Habitat restoration is the process of actively working to restore or enhance the condition of degraded ecosystems. The goal of habitat restoration is to improve ecosystems to more natural and resilient conditions, restore ecosystem functions, and improve ecosystem services. Habitat restoration commonly takes place in forests, wetlands, mangroves, and streams. Habitat restoration activities may include natural or assisted vegetation regeneration, stream and wetland improvements, erosion control, promoting a natural fire regime, prescribed fire, invasive species control, vegetation treatments, providing habitat structures such as nest boxes or snags, and reducing pollutants.

ENVIRONMENTAL IMPACTS

Adverse environmental impacts can occur from habitat restoration activities, especially when the activity has a specific goal. For example, wetland restoration includes the redistribution of water resources on the landscape, which can negatively affect species that have come to rely on the current water distribution. Habitat restoration activities, including vegetation regeneration and reforestation, can also have adverse impacts. For example, promotion of a natural fire regime can be an important habitat restoration activity in grasslands and sparse woodlands; however, wildfires can quickly get out of control, destroying the habitat. Table 25 describes the potential adverse environmental impacts from this type of biodiversity programming.

TABLE 25. ADVERSE ENVIRONMENTAL IMPACTS FROM HABITAT RESTORATION

Habitat Loss and Fragmentation	• Species adapted to the existing habitat may be adversely affected by potential losses of resources and habitats. Restoration that changes existing habitat from one type to another (e.g., grassland to forest) may result in habitat loss or fragmentation for species that depend on the current habitat type.
Introduction and Spread of	• Habitat restoration activities that involve replanting an area or moving biological material can introduce plant, insect, and animal invasive species and diseases hidden in the moved material or on contaminated equipment.

TABLE 25. ADVERSE ENVIRONMENTAL IMPACTS FROM HABITAT RESTORATION	
Invasive Species/Diseases	• Restoring habitats with nonnative vegetation may introduce invasive species.
Adverse Species Effects	• Changes in animal behavior from increased human presence in remote areas. • Changes to resources and habitats from restoration activities may affect animal behavior, including their migration and distribution. • Improper herbicide and pesticide use in habitat restoration projects may poison wildlife and harm native vegetation. • Restoration activities may disrupt breeding sites, resulting in a higher risk of juvenile injury and mortality.
Change in the Abundance or Distribution of Natural Resources	• Restoration activities targeting wetlands and aquatic habitats may result in the redistribution of water resources, the degradation of downstream water quality, or may fragment or degrade existing habitats. • Habitat restoration activities that include the grading and moving of soil and rocks may cause soil erosion.
GHG Emissions	• GHG emissions may increase from the use of vehicles and equipment for restoration activities. • Land use change can reduce carbon sequestration and increase GHG emissions by disturbing soil, which can accelerate the decomposition of organic matter and release methane (CH_4), as well as stored carbon into the atmosphere. • Reduced carbon sequestration can occur by restoring habitats to ecosystems with lower carbon sequestration than the current habitats (e.g., forests to grasslands) or by introducing or encouraging different plant species that are less efficient at sequestering carbon. • Unsustainable planting methods and vegetation choices can reduce soil quality and thus reduce carbon sequestration. • Prescribed fire or the reintroduction of natural fires as part of restoration can result in GHG emissions. • If the restoration activity involves the use of fertilizers and pesticides, these can alter the soil and release nitrous oxide (N_2O), a potent GHG, into the atmosphere. • Activities that drain and/or convert peat swamps release significant amounts of carbon dioxide, methane (CH_4), and nitrous oxide (N_2O).

SOCIAL IMPACTS

Habitat restoration may adversely affect people in two ways. Because habitat restoration involves changing the physical environment, activities that are not well sited may occur in areas of cultural importance, which could devalue, damage, or destroy these areas. An additional adverse social impact from habitat restoration is the danger to human health from restoration activities. Restoration activities may require the operation of heavy or small equipment, exposure to noxious plants, potential interactions with wildlife, and prescribed fire. Any of these activities could be hazardous to human health and safety. Table 26 describes the potential adverse social impacts from this type of biodiversity programming.

TABLE 26. ADVERSE SOCIAL IMPACTS FROM HABITAT RESTORATION	
Impacts on Cultural Heritage	• Changing the physical environment for habitat restoration may damage cultural heritage resources that are of cultural or spiritual value to Indigenous Peoples and local communities (IPLCs).

TABLE 26. ADVERSE SOCIAL IMPACTS FROM HABITAT RESTORATION	
Impacts on Health, Well-Being, and Safety	• Increased human contact with toxic plants, dangerous animals, and zoonotic diseases can affect human health. • Activities that require the operation of heavy or small equipment can pose a risk to worker health and safety. • Prescribed burning (or activities that promote natural fire regimes) for habitat restoration can release harmful air pollutants, which can affect the health of local communities and workers.

CLIMATE RISKS

Worsening climate hazards, such as rising temperatures, more variable precipitation, more extreme weather events, and wildfires, have the potential to affect the success rate of restoration efforts. For example, some species may be less likely to become established under climate-stressed conditions, invasive species may increase, resources may be less likely to be allocated to restoration activities to cope with other climate-related challenges, and the health and safety of those working to restore habitats may be at greater risk. Incorporating climate risks into the planning and implementation of habitat restoration activities can enable better preparedness and resilience to cope with climate impacts. Table 27 describes the potential climate risks of this type of biodiversity programming.

TABLE 27. CLIMATE RISKS TO HABITAT RESTORATION	
Damage to or Loss of Natural Resources	• Increased resource scarcity caused by climate change may affect the success of habitat restoration efforts by increasing the scarcity of resources necessary for viable habitats.
Disruption of Transportation Networks	• Extreme weather events, such as floods, storms, or wildfires, can disrupt travel networks, making it difficult for workers and involved community members to access sites. This can hinder or disrupt habitat restoration efforts. • Climate hazards can also disrupt supply chains, impeding the transportation of goods and materials needed for habitat restoration, such as seeds. These disruptions may reduce the success and viability of habitat restoration activities.
Human Health and Safety Risks	• Climate hazards, such as increasing temperatures and more varied precipitation patterns, can increase the risk of diseases and heat-related illnesses, potentially posing health risks to workers employed to restore habitats. • Extreme weather events and wildfires can pose direct risks to habitat restoration workers and nearby communities.
Damage to or Loss of Biodiversity	• A changing climate may result in a lower success rate for habitat restoration due to a combination of factors, including increased fire, rising temperatures, drought, flooding, or the increased spread of invasive species, which damages biodiversity. • Habitat restoration programs may be unsuccessful due to climate change. For example, increased temperatures combined with ocean acidification may make coral restoration unfeasible. • Ranges for species may shift due to warming temperatures and changing precipitation patterns, so restoration sites are no longer viable for targeted efforts.

4 DESIGNING ACTIVITIES TO AVOID ADVERSE ENVIRONMENTAL AND SOCIAL IMPACTS

It is important when planning biodiversity programs and activities to have a full understanding of current and local conditions and challenges. Designing activities to avoid adverse environmental and social impacts and climate risks requires the collection of information about the baseline situations. USAID and host country governments may have useful environmental, biodiversity, and climate assessments, analyses, and reports that activity designers and implementers may be able to draw baseline information from, including the following:

- Environmental and Social Impact Assessments;
- Foreign Assistance Act 118/119 Tropical Forest and Biodiversity Analysis;
- Political Economy Analysis;
- Ecosystem Valuation and Cost-Benefit Analysis;
- Climate Risk Management and Climate Risk Profiles; and
- National Biodiversity Strategies and Action Plans.

4.1 DESIGNING ACTIVITIES TO AVOID ENVIRONMENTAL IMPACTS

The first step to designing biodiversity activities is to establish a baseline of information to identify potential issues. The baseline should include the identification of species, ecosystems, and habitats in or adjacent to the proposed activity site. In addition, information on the physical, biological conditions, current resource use, and social baseline data of the local communities should be collected in relation to the proposed activity. Once baseline information is collected and understood, biodiversity planners can use the information to identify gaps in knowledge and perform impact analyses for the proposed activities.

CONSERVATION STANDARDS

USAID uses the Open Standards for the Practice of Conservation (Conservation Standards) as a tool to "combine principles and best practices from evidence-based conservation, adaptive management, and other decision-support approaches" and support the sound design of biodiversity conservation activities (Conservation Measures Partnership 2020).

As needed, activity-specific studies should be conducted to obtain data and information about the activity environment for use in the analysis and assessment of potential impacts. Baseline information should be used to consider the likelihood of adverse impacts, such as the potential for exploitation of biodiversity through illegal trade or the harvesting of bushmeat, wildlife, and timber. It can also be used to estimate the availability of natural resources. These baseline assessments, analyses, studies, and surveys help the design team quantify risks and design activities to avoid potential impacts.

Adverse environmental impacts can result from inadequate planning and coordination in biodiversity conservation activities, particularly when country or regional policies, regulations, and responsibilities are not aligned to provide collaborative support for these activities.

Adverse environmental impacts from construction activities can be avoided or reduced through good planning and design. New infrastructure, including ecolodges, ranger stations, and access roads, should be located in already disturbed areas, whenever possible, to reduce the impact on species and their

habitats. If undisturbed areas are not available, care should be taken to site the construction away from areas that are home to rare and sensitive species. Biosecurity processes should be implemented in development areas to decontaminate construction equipment to prevent the introduction and/or spread of invasive species. Construction of physical infrastructure and road building activities should be timed to avoid impacts during sensitive time periods, particularly mating and the raising of offspring. For more information about how to avoid environmental impacts from construction, refer to the Construction SEG. Any type of physical disturbance to the environment, such as construction and habitat restoration, should use the best current methods and design practices that protect the air, soil, vegetation, and water and reduce pollution and disturbance impacts from noise, vibration, and lighting. Using best practices will help avoid or reduce adverse environmental impacts.

4.2 DESIGNING ACTIVITIES TO AVOID SOCIAL IMPACTS

When planning and designing biodiversity conservation activities, stakeholder engagement is an important component for delivering successful program outcomes, avoiding or minimizing potential social impacts, and ensuring sustainability. Stakeholder engagement should be incorporated throughout the entire activity life cycle to continually integrate the diversity of stakeholder's voices, concerns, perspectives, and values early on and often during biodiversity activity design and implementation.

USAID's vision, policies, and strategies call for a participatory process that safeguards activity-affected people from negative impacts. This includes ensuring meaningful stakeholder engagement from government, local communities, and individuals to ensure that USAID's international development efforts benefit all members of society, particularly marginalized and underrepresented groups and/or people in vulnerable situations. USAID policies and resources include, but are not limited to, the following:

- Social Impact Risk Initial Screening (SIRS) Tool;
- USAID Voluntary Social Impact Principles Framework;
- Optional Social Impact Assessment Framework;
- Policy on Promoting the Rights of Indigenous Peoples (PRO-IP);
- USAID Gender Equality and Women's Empowerment Policy;
- Guidelines on Compulsory Displacement and Resettlement in USAID Programming;
- Parks and Protected Areas Social Safeguards Requirements [PASS Requirements];
- Environmental Procedures Hub;
- Factsheet on Stakeholder Engagement in the Environmental and Social Impact Assessment (ESIA) Process; and
- USAID Guide to Encountering and Working with Cultural Heritage.

Unique considerations must be made for each type of stakeholder group and type of activity. For example, Indigenous Peoples may be excluded from social, economic, and political systems in their country. The distinct challenges they face and opportunities they create as stakeholders in USAID activities must be addressed in the activity design and throughout the life cycle of the activity (USAID 2020). Further guidance on the social considerations of biodiversity activities is provided in Annex 1.

4.3 DESIGNING ACTIVITIES TO AVOID UNFORESEEN ENVIRONMENTAL AND SOCIAL IMPACTS

As described throughout this document, most biodiversity conservation activities can have environmental and social impacts. These impacts can be reduced with proper design and mitigation measures. However, biodiversity conservation activities may also have unforeseen environmental and social impacts that are difficult to predict but should also be considered in activity design. In all activities, it is important to ask the question: What will people do when they are affected by the interventions of the activity? For example:

- Biodiversity conservation activities that generate revenue for local people may bring about previously unavailable disposable income, which, if used in certain ways, may have unintended negative impacts on fragile ecosystems.
    - A design question that can help address these unintended impacts is: Will this type of income create markets for extractive practices, such as unsustainably harvested wood or charcoal?
- The limiting of traditional natural resource uses (e.g., hunting, collection of medicinal plants, timber harvest) may have good outcomes for biodiversity conservation but may also result in undermining traditional practices.
    - Activity designers should ask: Are there ways that these traditional practices can be preserved that are sustainable or replaced by similar but less damaging actions?
- Finally, although it is not a biodiversity conservation activity, another example of unforeseen consequences is the misuse of long-lasting insecticide-treated mosquito nets—distributed in fulfillment of critical human health protections against malaria and dengue—for fishing and drying fish, and thus affecting biodiversity and, potentially, human health.
    - A design question that can help is: What are some potential end uses of the goods we are supplying?

Stakeholder engagement plays a crucial role in avoiding unforeseen impacts. Engaging and consulting with stakeholders to pre-emptively ask these questions, and establishing monitoring measures for impacts, can help avoid these types of unforeseen impacts. Emphasizing the interconnectedness of biodiversity conservation activities and social outcomes can be an important part of the process in evaluating and minimizing environmental and social impacts.

5 MITIGATION AND MONITORING OF ADVERSE ENVIRONMENTAL AND SOCIAL IMPACTS AND CLIMATE RISKS

A summary of mitigation measures and monitoring measures for each type of environmental and social impact associated with biodiversity conservation programming is included in Tables 28 and 29. Table 30 below includes a summary of the climate risks to biodiversity conservation activities associated with different climate hazards and potential mitigation measures to address these risks.

TABLE 28. ENVIRONMENTAL IMPACTS, MITIGATION, AND MONITORING

IMPACTS	MITIGATION MEASURES	MONITORING MEASURES
Habitat Loss and Fragmentation	• Establish a baseline of habitat conditions, design activities to protect habitats, identify potential impacts and change the design to avoid, minimize, and mitigate impacts. • Adapt activities and/or mitigation to further reduce impacts, based on monitoring results. • Engage with stakeholders to protect additional habitat, restore habitats, and/or build habitat connectivity to mitigate habitat loss and fragmentation.	• Monitor for habitat changes against the baseline. • Monitor to measure the effectiveness of mitigation throughout the activity. • The number and extent of changes to habitat conditions from the baseline or nearby natural reference areas.
Introduction and Spread of Invasive Species/Diseases	• Implement biosecurity protocols that reduce the potential for the introduction and spread of invasive species and diseases and standard decontamination procedures in all activities disturbing natural resources or species (e.g., plants, animals, soil, water), such as inspections of materials and equipment, quarantine for confiscated animals, and education about disease transmission.	• The number of biosecurity protocols for each intervention. • The percentage of biosecurity protocols that detected a biosecurity threat. • The number of biosecurity breaches.
Change in the Quality of Natural Resources	• Establish a baseline of natural resources; identify and minimize potential sources of pollution, erosion, and sedimentation; design activities to protect natural resources; develop waste management plans that include recycling; mitigate unavoidable impacts; and monitor changes in quality of natural resources (e.g., air, soil, vegetation, water) throughout the activity. Adapt activities to further reduce impacts if detected. • Engage with stakeholders to restore polluted and degraded ecosystems to mitigate impacts from activities.	• The number and extent of changes from the baseline of natural resources. • The number and extent of degraded areas from pollution, erosion, and sedimentation from the implemented activities. • The number of cases of, or complaints about, poor or illegal waste disposal. • The number and extent of restored degraded ecosystems.
Adverse Species Effects	• Establish a baseline of species abundance and distribution, design activities to protect species and their specific habitat needs, identify potential impacts and minimize those impacts, mitigate for unavoidable impacts, and monitor species changes and the effectiveness of mitigation throughout	• Change in species abundance and distribution. • The number of human-wildlife conflict incidents. • The percentage of human-wildlife conflict deterrents that avoided or reduced a conflict.

TABLE 28. ENVIRONMENTAL IMPACTS, MITIGATION, AND MONITORING

IMPACTS	MITIGATION MEASURES	MONITORING MEASURES
	the activity. Adapt activities if impacts are detected. • Identify potential sources of human-wildlife conflict (e.g., wildlife attractants, areas of high wildlife collisions, decreased visibility) and implement appropriate human-wildlife conflict deterrents. • Promote practices and approaches that reduce the risks of human-wildlife conflict. • Engage with stakeholders to protect, enhance, or create additional habitat for species, restore wildlife habitats, and/or improve enforcement for the protection of species to mitigate adverse species impacts.	• The number of illegally hunted, harvested, or traded species documented. • The number of wildlife crimes.
Change in the Abundance or Distribution of Natural Resources	• Establish a baseline of the ecosystem, including the presence, abundance, distribution, quantity of species, habitats, resources, and ecosystem services that may be impacted by the activity; design activities to avoid potential impacts; and mitigate unavoidable impacts and monitor potentially impacted natural resources and the effectiveness of mitigation. Adapt activities if impacts are detected.	• The percent change in species, habitats, resources, and ecosystems services.
GHG Emissions	• Establish a baseline of GHG emissions, design activities to consider GHG emissions and to contribute to GHG emissions reduction, mitigate unavoidable impacts, and monitor throughout the activity. • Invest in green infrastructure and equipment for transportation and operations. • Localize supply chains to decrease unnecessary transportation and shipping. • Engage with stakeholders to create carbon sequestering areas or purchase carbon credits to mitigate GHG emissions from activities.	• The number and extent of changes from baseline emission levels. • The number and extent of restored carbon sequestering habitat.

TABLE 29. SOCIAL IMPACTS, MITIGATION, AND MONITORING

IMPACTS	MITIGATION MEASURES	MONITORING MEASURES
Land Use Changes	• Review relevant international and/or regional conventions signed by the host countries, national legislation, policies, regulations, and procedures, as well as the relevant customary and local laws or rules. • Develop a good understanding of community customary rights and governance structure, and work with the community to map resource use. • Conduct stakeholder engagement during the planning and design phase, and provide them with objective, accurate, clear, and understandable information and data on the activity to ensure local ownership. • Continue stakeholder engagement throughout the program life cycle and develop the management plan in close collaboration with the community. • Address land use changes in the Stakeholder Engagement Plan for the activity. • Consider alternatives during the design phase, which include stakeholders' concerns, perspectives, and views, to avoid impacts on people who are vulnerable, marginalized, and underrepresented. • If Indigenous Peoples have been identified, then obtain Free, Prior, and Informed Consent (FPIC) during the planning and design phase. • Consult with Indigenous Peoples and local communities (IPLCs) using USAID resources (Indigenous Peoples Engagement Plan, USAID Guidance on Indigenous Peoples [PRO-IP], and Monitoring Free, Prior, and Informed Consent) and in compliance with national laws and regulations. • Establish acceptable and agreed upon terms in the Indigenous Peoples Engagement Plan for continued community consultation throughout the activity life cycle. • Include participatory identification and mapping of areas important to Indigenous Peoples for hunting, gathering, and/or agricultural activities in the Indigenous Peoples Engagement Plan.	• Amounts of time spent in consultations, focus groups, and meetings with the stakeholders, including women and vulnerable people. • Periodically review the reports on land use changes and the stakeholders affected. • Keep a log of all potential land use changes and the stakeholders who may be affected. • Undertake ongoing stakeholder engagement. • For Indigenous Peoples, obtain copies of FPIC reports and processes.

TABLE 29. SOCIAL IMPACTS, MITIGATION, AND MONITORING

IMPACTS	MITIGATION MEASURES	MONITORING MEASURES
Compulsory Displacement and Resettlement	• Conduct stakeholder engagement during the planning and design phase to acquire feedback and continue stakeholder engagement throughout the activity life cycle. • Address potential displacement in the Stakeholder Engagement Plan for the activity. • Consider alternatives during the design phase, which include stakeholders' concerns, perspectives, and views, to avoid the displacement of people who are marginalized, underrepresented, and/or in vulnerable situations. • Implement host country regulations, USAID guidance on displacement and resettlement and the social impact principles, and international standards regarding expropriation, compensation terms, resettlement action plans, and livelihood restoration strategies if displacement is unavoidable. • Assess community impoverishment risks, using, for example, data and information on food insecurity, landlessness and restricted access to common property, joblessness and social disarticulation, homelessness, and loss of cultural space.	• Keep a log of the number and extent of displaced people. • Keep a log of the number and extent of resettlements. • Review the Resettlement Action Plan and the livelihoods restoration plan periodically.
Impacts on Cultural Heritage	• Engage with stakeholders to obtain cultural resource baseline information, concerns, perspectives, and input for the design and implementation of activities. • Work with communities to map the cultural heritage sites. • Address cultural heritage in the Stakeholder Engagement Plan (SEP) for the activity. • Establish a baseline of cultural resources, identify potential impacts on cultural heritage, and minimize those impacts; mitigate unavoidable impacts; and monitor changes to cultural resources and mitigation effectiveness throughout the activity. Adapt activities if impacts are detected. • Use non-invasive techniques, such as a desktop review and remote sensing, to ensure that the site being proposed for the project does not contain cultural heritage resources.	• Review the SEP periodically. • Conduct follow-up activities with local and/or national cultural heritage organizations that may have been in charge of relocating the cultural heritage resources to ensure that they were placed in a new and safe location (such as a museum). • Review relocation plans for cultural heritage objects. • Review the Grievance Redress Mechanism on a periodic basis. • Keep a log of review reports that may be recording stakeholders' complaints and review how the complaints are being addressed.

TABLE 29. SOCIAL IMPACTS, MITIGATION, AND MONITORING

IMPACTS	MITIGATION MEASURES	MONITORING MEASURES
	• If there is limited secondary data, then stakeholder engagement with members of the local community should be undertaken to acquire input, feedback, perspectives, and concerns from stakeholders. • Consult with IPLCs using USAID resources (Guide to Encountering and Working with Cultural Heritage, Indigenous Peoples Engagement Plan, USAID Voluntary Social Impact Principles Framework, USAID Guidance on Indigenous Peoples [PRO-IP], and Monitoring Free, Prior, and Informed Consent) and in compliance with national laws and regulations. • Engage with stakeholders to properly relocate cultural resources that cannot be avoided at activity sites. If the relocation of cultural resources is not possible, then consult with affected IPLCs to determine appropriate mitigation to address the loss of cultural heritage. • A participatory approach for acquiring information from stakeholders may be achieved by co-designing a community map to identify what sites are considered an intangible cultural heritage site (e.g., sacred forests), which may hold intrinsic value for local community members. • Avoid the relocation of tangible cultural heritage resources, such as artifacts or structures considered to be local cultural heritage (see the USAID Voluntary Social Impact Principles Framework guidance). • Consider alternate road routes for the project. If alternate road routes are not feasible, then ensure that the relocation of cultural heritage resources includes the consent of community members and solicit their input through stakeholder engagement regarding the best approach for relocation. • Set up a Grievance Redress Mechanism.	
Increased Insecurity That May Lead to an Increased Risk of Gender-Based Violence (GBV)	• Establish a baseline of insecurities and GBV. • Set up a Stakeholder Engagement Plan (SEP) with a focus on women and girls.	• Review the SEP periodically. • Keep a log of the number and extent of GBV incidents. • Keep a log of the number of grievances reported.

TABLE 29. SOCIAL IMPACTS, MITIGATION, AND MONITORING

IMPACTS	MITIGATION MEASURES	MONITORING MEASURES
	• Conduct stakeholder engagement during the planning and design phase to acquire feedback and continue stakeholder engagement throughout the activity life cycle. • Address GBV in the SEP for the activity. Establish a Grievance Redress Mechanism with a focus on women. • Consider alternatives during the design phase, which include stakeholders' concerns, perspectives, and views, to avoid risks to women. • Follow guidance from the USAID Voluntary Social Impact Principles and regional standards regarding reducing insecurities, risks to women, and compensation if GBV occurs from implementation of the activities.	
Conflict Over Limited Natural Resources	• Set up a Stakeholder Engagement Plan (SEP). • Conduct stakeholder engagement during the planning and design phase to acquire feedback and continue stakeholder engagement throughout the activity life cycle. • Address conflict risks in the SEP for the activity. • Consider alternatives during the design phase, which include stakeholders' concerns, perspectives, and views, in order to avoid impacts on people who are vulnerable, marginalized, and/or underrepresented. • Establish a baseline of conflicts and tensions by consulting with stakeholders, including community leaders, and conduct a conflict dynamic analysis for the activity. Identify potential increases in conflicts and minimize those risks, mitigate unavoidable impacts, and monitor changes to conflicts and mitigation effectiveness throughout the activity. Adapt activities if impacts are detected.	• Review the SEP periodically. • Keep a log of the number and extent of conflicts over natural resources resulting from activity implementation.

TABLE 30. CLIMATE RISKS TO BIODIVERSITY CONSERVATION ACTIVITIES AND RISK REDUCTION MEASURES

CLIMATE HAZARDS	DIRECT RISKS	INDIRECT RISKS	POSSIBLE CLIMATE RISK REDUCTION MEASURES
Increasing Temperatures	• Loss or displacement of temperature-sensitive species. • Disrupted species habitats. • Increased prevalence and distribution of pests (e.g., invasive species) resulting in additional biodiversity stressors. • Reduced productivity of species with temperature-sensitive reproduction. • Increased occupational health hazards for outdoor workers, including protected areas/park managers.	• Changes in the quality of ecosystem services provided. • Changes in patterns of forest and natural resource use. • Food insecurity (as a result of declining agricultural yields or livestock productivity due to increasing temperatures and precipitation variability), which can lead to reliance on natural resources such as bushmeat for food. • In hot conditions, water resources may be depleted, which could lead to human-driven changes to hydrology (e.g., building a sheltered canal to prevent water loss from heat would limit wildlife's access to water). • Change in visitor preferences and shorter visitor seasons.	• Work with communities to conduct capacity building on climate-smart agriculture practices. • Community training about conservation rights and responsibilities. • Livelihood diversification to reduce stressors on the food supply from forested/ protected lands. • Develop forest and ecosystem management plans that account for high heat and extreme events. • Soil conservation and fertility restoration (e.g., through rainfall capture, agroforestry, rangeland restoration). • Heightened monitoring of endangered species and increased conservation measures as needed. • Select more heat-resistant crops (and train communities on how to select species) in order to reduce additional stress on biodiversity due to changing natural resource use.
Precipitation Variability (i.e., lack of or excess water availability)	• Changing river flow patterns. • Increased risk of floods or drought. • Changes in vegetation or biodiversity loss. • Displacement or death of animal	• Shifts in the seasonality, viability, and productivity of crops that people rely on (and crops for their animals/livestock). • Conflicts over water resources in dry conditions.	• Integrated watershed management informed by climate change projections to improve groundwater availability. • Education regarding what to do during

TABLE 30. CLIMATE RISKS TO BIODIVERSITY CONSERVATION ACTIVITIES AND RISK REDUCTION MEASURES

CLIMATE HAZARDS	DIRECT RISKS	INDIRECT RISKS	POSSIBLE CLIMATE RISK REDUCTION MEASURES
	populations due to flooding. • The combined effect of dry conditions followed by heavy precipitation, resulting in landslides and/or soil loss. • Increased prevalence of heat-related, waterborne, or vector-borne diseases.		drought or flood events. • Develop forest and ecosystem management plans that account for high heat and extreme events. • Maintain habitat connectivity in land use planning, design, and the management of protected areas. • Promote the diversification of rural livelihoods. • Select crops that are more drought- or flood-resistant (and train communities on how to select species) in order to reduce additional stress on biodiversity due to changing natural resource use. • Grow crops and livestock using more water-resilient production methods to limit water stress for existing ecosystems.
Increased Incidence and Magnitude of Extreme Events (e.g., floods, storms, landslides, fires, high winds)	• Damaged community infrastructure and population health and safety. • Damage to transportation infrastructure. • Damage to habitats and/or species mortality. • Damage to crops and livestock.	• Additional stress on the underlying socioeconomic and health status of communities (reduced food security, adaptive capacity, and resilience), resulting in increased resource use. • Population displacement and/or migration. • Changes in patterns of forest and natural resource use and unauthorized use of natural resources.	• Invest in infrastructure resilience and design parameters that are informed by climate change projections, including thresholds for flood waters and wind, fire hazard, and so forth. • Develop community-based early warning systems that can alert communities about an extreme event (including forest fire monitoring,

TABLE 30. CLIMATE RISKS TO BIODIVERSITY CONSERVATION ACTIVITIES AND RISK REDUCTION MEASURES

CLIMATE HAZARDS	DIRECT RISKS	INDIRECT RISKS	POSSIBLE CLIMATE RISK REDUCTION MEASURES
		• Inability for stakeholders to attend engagement events due to damaged transportation infrastructure or competing priorities.	prevention, and control systems). • Support education and capacity building for emergency preparedness and response. • Reduce other biodiversity stressors (e.g., pollution, habitat fragmentation). • Restore degraded ecosystems to increase resilience to fire, storms, and floods. • Improve fire management capabilities and services. • Develop prevention or management plans for each type of potential extreme event.
Sea Level Rise	• Increased risk of floods or storm surge in coastal areas, which may damage biodiversity investments in coastal ecosystems and natural resources. • Reduced fish stocks and loss of biodiversity in mangroves, reefs, and other coastal ecosystems, which may damage biodiversity investments. • Saltwater intrusion into coastal freshwater resources, especially in small island states, which may undermine or damage biodiversity investments.	• Increased likelihood of saltwater intrusion and pollution in coastal areas and damage to ecosystems due to runoff and coastal flooding, which may damage biodiversity. • Increased financing of adaptation measures in coastal areas to cope with sea level rise, which may draw funds away from biodiversity.	• Develop and/or restore coastal ecosystems for improved protection from storm surge, flooding, and/or erosion (e.g., mangroves, wetlands, oyster reefs, seagrass beds, dunes). • Diversify rural livelihoods to decrease reliance on fisheries and other climate-sensitive livelihoods. • Expand coastal communities' capacity for water management, integrated coastal zone management planning, and so forth.

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ANNEX 1. BIODIVERSITY POLICIES AND FRAMEWORKS

INTERNATIONAL POLICIES, AGREEMENTS, AND FRAMEWORKS

- **Convention on Biological Diversity:** Multilateral treaty to conserve biological diversity, sustainably use its components, and fair and equitably share benefits arising from the use of genetic resources (Secretariat of the Convention on Biological Diversity 1993).
- **Convention on International Trade in Endangered Species of Wild Fauna and Flora:** International agreement to ensure that international trade of wild animals and plants does not threaten the survival of the species (CITES 1974).
- **Ramsar Convention:** An intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources (Ramsar 1971).
- **Sustainable Development Goals 14 and 15:** United Nations' goals to conserve oceans and protect terrestrial biodiversity, respectively (UNDP 2023a, 14; UNDP 2023b, 15).
- **World Heritage Convention:** An international agreement to identify and safeguard our world's most outstanding natural and cultural heritage (UNESCO 1972).

UNITED STATES OF AMERICA POLICIES AND FRAMEWORKS

- **Eliminate, Neutralize, and Disrupt Wildlife Trafficking Act:** An act to support global anti-poaching efforts, strengthen the capacity of partner countries to counter wildlife trafficking, designate major wildlife trafficking countries, and for other purposes (U.S.C. 2016).
- **Endangered Species Act:** Provides for adding fish, wildlife, and plant species to and removing them from the list of threatened and endangered species; establishes protections for species listed as threatened or endangered and for preparing and implementing plans for their recovery; provides for interagency cooperation to avoid the taking of listed species and for issuing permits for otherwise prohibited activities; provides for cooperation with states, including authorization of financial assistance; and implements the provisions of the Convention on International Trade in Endangered Species of Wild Flora and Fauna (U.S.C. 1973).
- **Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations:** Directs each federal agency to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations (The White House 1994).
- **The Lacey Act:** Prohibits trade in wildlife, fish, and plants that have been illegally taken, possessed, transported, or sold (U.S.C. 1981).
- **National Environmental Policy Act:** Requires federal agencies to assess the environmental effects of their proposed actions prior to making decisions (U.S.C. 1970).
- **National Strategy to Combat Wildlife Trafficking:** Establishes guiding principles and three strategic priorities for U.S. efforts to stem illegal trade in wildlife: strengthening enforcement,

reducing the demand for illegally traded wildlife, and expanding international cooperation and commitment (The White House 2014).

- **Presidential Memo on Combating Illegal, Unreported, and Unregulated Fishing and Associated Labor Abuses**: Seafood fraud increases coordination among public and private, foreign, and domestic stakeholders to use the full range of existing conservation, labor, trade, economic, diplomatic, law enforcement, and national security authorities to address illegal, unreported, and unregulated fishing and associated labor abuses (The White House 2022).
- **Presidential Memo on Ecosystem Services:** Directs all federal agencies to incorporate the value of natural, or "green," infrastructure and ecosystem services into federal planning and decision making (The White House 2015).

USAID POLICIES AND FRAMEWORKS

USAID has several policies and frameworks designed to guide the successful planning and implementation of biodiversity conservation programming.

- **Biodiversity Policy:** Provides a blueprint for how USAID will create strategic, focused, results-oriented biodiversity conservation programming that applies scientific and evidence-based approaches to achieve the vision of conserving biodiversity for sustainable long-term development (USAID 2024).
- **Climate Strategy 2022–2030:** Guides our whole-of-Agency approach to reduce global GHG emissions, help partner countries build resilience to climate change, and improve our operations. The loss of biodiversity and degradation of ecosystems puts at risk the ecosystem goods and services vital for climate change mitigation and adaptation (USAID 2022b).
- **Environmental and Natural Resource Management Framework:** Provides a new business model for USAID and a vision for integration that will help us work better and smarter across sectors to improve environment and climate change adaptation and mitigation outcomes, streamline field support, and align with major strategic shifts at USAID (USAID 2019).
- **Foreign Assistance Act 118/119:** Requires USAID to provide an analysis of the actions necessary to conserve and sustainably manage tropical forests and biodiversity and the extent to which USAID's proposed activities meet the identified needs (USAID 1961).
- **Safeguard Requirements for Parks & Protected Areas Activities:** Provides safeguards for human rights for local communities, including Indigenous Peoples, during the establishment and management of parks and protected areas especially related to informed consent, land and resource claims, law enforcement, and grievance redress mechanisms (USAID 2024b).
- **USAID Policy on Promoting the Rights of Indigenous People's Policy:** Guides development practitioners to strengthen the design and management of programs that affect Indigenous Peoples (USAID 2020).

ANNEX 2. SOCIAL IMPACTS – OVERVIEW

The potential exists for adverse and unintended negative social impacts as a result of biodiversity conservation activities. USAID is committed to integrating stakeholders' voices, concerns, perspectives, and values as a form of acquiring feedback and input on a proposed activity to identify potential social impacts early on and make sound decisions during the design and planning phase. As indicated in the adjacent textbox, per ADS 201, USAID requires an initial screening of potential social impacts.

SOCIAL IMPACT INITIAL RISK SCREENING (SIRS) TOOL

Per the June 2024 update to ADS Chapter 201 Program Cycle Operational Policy, USAID design teams must conduct an initial screening of the social impact of their activities and programs using the Social Impact Risk Initial Screening and Diagnostic Tools (ADS 201mbf) (USAID 2024c). The SIRS Tool is intended to help USAID design teams plan for, mitigate, and monitor potential adverse social impacts from USAID activities and programs. The SIRS Tool consists of 10 questions designed to kickstart mandatory analytical thinking about a variety of potential adverse social impacts and help identify when additional social safeguarding is needed. Additional social safeguarding may include redesigning activity/program components or concepts, identifying social impact mitigation measures, or conducting additional analyses, such as a Social Impact Assessment. When filling out the SIRS Tool, design teams should only check "no" when they are highly certain that there is no potential for an adverse impact. The complexity of the process for completing the SIRS Tool will vary based on the severity of the social impacts posed by the activity/program.

USAID's visions, policies, and strategies call for a participatory process that safeguards against doing harm to its beneficiaries. This process includes ensuring meaningful stakeholder engagement from government, communities, and individuals to ensure that USAID's international development efforts benefit all members of society, particularly marginalized and underrepresented groups and/or people in vulnerable situations.

Stakeholder engagement is critical for ensuring that USAID maintains accountability to program participants by ensuring the active participation of local communities, developing mitigation measures that include participants' voices, as well as ensuring that affected individuals and communities can communicate their concerns through USAID's Accountability Mechanism.[2] Given the importance of stakeholder engagement for fostering a successful activity, the activity may benefit from sustaining this engagement throughout the entire life of the activity.

Just as environmental compliance measures under 22 Code of Federal Regulations (CFR) 216 seeks to avoid, minimize, and mitigate impacts, including with biodiversity conservation activities (USAID 1976), social impacts should be assessed to determine whether there has been a change from baseline conditions for individuals and communities resulting from a USAID activity. Furthermore, there may be pre-existing adverse conditions in a local community prior to a USAID-funded activity, which should be

[2] The USAID Social, Economic, and Environmental Accountability Mechanism (SEE-AM) is expected to be formally launched in summer 2024. The SEE-AM allows communities and program participants to report adverse social, economic, or environmental impacts caused by USAID-funded activities. Complaints and questions can be submitted to disclosures@usaid.gov.

taken into consideration to maximize benefit sharing so that proposed USAID-funded activities minimize unintended social consequences, such as impacts on a person's livelihood, economic activities, traditional vocations, land or property rights, access to natural resources, culture and customs, and health and well-being.

KEY SOCIAL CONSIDERATIONS RELEVANT TO USAID PROGRAMS

This section is organized according to the principles presented in USAID's Voluntary Social Impact Principles Framework (USAID 2024d). The Framework encompasses nine principles for considering and assessing potential social risks and social impacts across USAID programs and activities. Table AI summarizes the nine principles. The subsequent sections present a detailed description of potential social impacts pertaining to biodiversity conservation activities that Missions and/or Implementing Partners should consider. For additional information about the principles, see the USAID Voluntary Social Impact Principles Framework.

TABLE A1. USAID'S VOLUNTARY SOCIAL IMPACT PRINCIPLES

	PRINCIPLE	DESCRIPTION
1	Indigenous Peoples	Indigenous Peoples are a distinct cultural, linguistic, and social group with historical continuity, collective attachment to surrounding natural resources, and/or commitment to maintaining ancestral systems. Specific actions are required of USAID programs involving Indigenous Peoples.
2	Cultural Heritage	Cultural heritage is part of every culture and is found around the world. It includes archaeological sites, historic buildings, artifacts, and natural environments inherited from past generations, as well as intangible knowledge and practices. Working in areas with cultural heritage or on cultural heritage activities can have consequences beyond just the destruction of an important resource and can also offer potential means of positively engaging with communities.
3	Land Tenure, Displacement, and Resettlement	Land tenure is associated with acquiring and managing rights to land. Land use change may lead to compulsory displacement, resettlement, and/or the loss of access and/or use of land and natural resources, which should be avoided and minimized to reduce social impacts on affected landholders, tenants, community members, and pastoralists, among other groups. Failure to account for, and respect, the land and resource rights of local community members can cause costly delays, work stoppages, protests, and, in some cases, violence. USAID may face legal actions and suffer financial, brand, or reputational harm.
4	Health, Well-Being, and Safety	Health, well-being, and safety is safeguarding against potential physical, psychosocial, and health impacts among staff, program participants, and communities where USAID actions are implemented. Individual USAID actions must account for potential occupational health and safety risks, as well as potential uneven socioeconomic gains across affected communities/program participants, to avoid unintended consequences.
5	Working with Security Personnel	Cognizance of the unique challenges involved in engaging security personnel and working with security personnel prioritizes a rights-based approach to ensure respect for, and the safety of, individuals and local communities. Without transparent and accountable oversight of rule of law, the risk of potential human rights violations increases.
6	Conflict Dynamics	Attentiveness to the operational context in relation to past and present conflicts, as well as sensitivity around the role that a USAID action has in shaping the conflict landscape. Poor understanding of conflict dynamics increases the possibility of contributing to or exacerbating conflict.

TABLE A1. USAID'S VOLUNTARY SOCIAL IMPACT PRINCIPLES

	PRINCIPLE	DESCRIPTION
7	Inclusive Development	Inclusive development is an equitable development approach built on the understanding that every individual and community, of all diverse identities and experiences, is instrumental in the transformation of their own societies, which means providing them with the opportunity to be included, express their voices, and exercise their rights in activities and public decisions that affect their lives. Inclusion is key to aid effectiveness. Nondiscrimination is the basic foundation of USAID's inclusive development approach.
8	Environmental Justice	Environmental justice (EJ) is the just treatment and meaningful involvement of all people, particularly critical populations, in decision-making and activities that affect human health and the environment. EJ aims to protect communities from disproportionate and adverse human health and environmental effects, and to promote equitable access to a healthy, sustainable, and resilient environment. Critical populations include, but are not limited to, Indigenous Peoples, local communities, women, youth, LGBTQI+ persons, persons with disabilities, and other marginalized and/or underrepresented groups.
9	Labor	The Labor principle focuses on advancing worker empowerment, rights, and labor standards through programming, policies, and partnerships to ensure more sustainable development outcomes. USAID recognizes the high risk of labor abuses that may result from programming thus, it is important to establish and strengthen labor protections (including social protections) that align with internationally recognized worker rights. This principle includes the promotion of safe and healthy work environments; respecting the principles of freedom of association and collective bargaining; the elimination of forced labor and the worst forms of child labor; and the protection from discrimination at work.

Source: USAID 2024d.

INDIGENOUS PEOPLES

When an Operating Unit and Implementing Partners are identifying stakeholders of a biodiversity conservation activity, it is important to ascertain whether Indigenous Peoples are present in or near the activity footprint. If Indigenous Peoples are identified nearby, it is important to engage with them during the design and implementation of the activity. Without intentionally engaging with local Indigenous Peoples, they may be unintentionally harmed by the activity. Because of their often-significant relationship with their surrounding natural environment for their livelihoods, Indigenous Peoples are particularly vulnerable to the adverse impacts of biodiversity conservation activities. However, through meaningful and intentional engagement with Indigenous Peoples, including participatory planning processes and even co-design of the activity, Indigenous Peoples may become important partners to guarantee the long-term success and sustainability of biodiversity conservation activities.

Several Agency guidelines, such the Voluntary Social Impact Principles Framework, can aid in identifying whether an activity may affect Indigenous Peoples (USAID 2024d; USAID 2020). Prior to engaging with Indigenous Peoples, activity designers must first obtain Free, Prior, and Informed Consent (FPIC) from the Indigenous community. Subsequently, activity designers should engage with Indigenous Peoples to ensure that their rights are protected, they are safeguarded from harm, and that they will reap the benefits of the activity (USAID 2020). Missions and Implementing Partners should apply USAID's Policy on Promoting the Rights of Indigenous Peoples (PRO-IP) when Indigenous Peoples are identified. The PRO-IP should be followed to uphold protections for Indigenous Peoples.

Impacts on Indigenous Peoples should be avoided as much as possible. In cases where social impacts from biodiversity conservation activities are deemed to adversely affect the lands, rights, and/or livelihoods of Indigenous Peoples, ending the activity must be considered. If the activity is being implemented and adverse impacts are identified, the Operating Unit and Implementing Partner must stop the activity until adequate management measures have been designed and implemented to mitigate the identified impacts.

CULTURAL HERITAGE CONSIDERATIONS

Cultural heritage resources can be tangible or intangible. Tangible cultural heritage refers to monuments (e.g., architecture, sculptures), buildings, and sites (e.g., archaeological sites, burial sites, areas of natural features) that are of outstanding cultural value from an historical, artistic, scientific, aesthetic, ethnological, or anthropological point of view. Additional examples of tangible cultural heritage include moveable objects (e.g., artifacts, paintings, manuscripts) and underwater resources and sites (including shipwrecks, ruins, and submerged landscapes). Intangible cultural heritage includes oral traditions and expressions, folklore, beliefs, language, knowledge, performing arts, social practices, rituals, festive events, and traditional craftsmanship (UNESCO n.d.; UNESCO 1972).

Identifying whether cultural heritage resources exist in or near biodiversity conservation activity sites is an important first step for protecting them. Without identifying cultural heritage sites, biodiversity conservation activities may inadvertently damage or destroy those resources. Identifications can be made through stakeholder engagement with the local community and Indigenous Peoples, as well as through a desk review. If cultural heritage resources are identified in the proposed activity area, activity designers should refer to resources from the USAID Guide to Encountering and Working with Cultural Heritage, United Nations Educational, Scientific and Cultural Organization (UNESCO), the U.S. National Park Service, and the International Council on Monuments and Sites to ascertain whether the activity will affect the resources, and if so, how to avoid, minimize, and mitigate impacts (USAID 2023e; National Park Service 2019; ICOMOS 2011; UNESCO 1972).

LAND TENURE, DISPLACEMENT, AND RESETTLEMENT

Biodiversity conservation activities may require the acquisition of land, which may affect land tenure. Land tenure is the relationship that individuals and groups of people hold with respect to land and associated resources. Land tenure rules define the ways in which property rights are allocated, transferred, used, or managed in a particular society.

Land tenure issues can be difficult to navigate in areas that do not have a formal system of land ownership. For example, private landowners who hold formal land rights and land titles are easy to identify and consult with for proposed biodiversity conservation activities. However, in many rural areas in developing countries, Indigenous Peoples and local communities (IPLCs) may practice traditional rights of use of common areas for grazing animals and farming. In these cases, land rights may be allocated at the local level without a legal registration system or documentation. As a result, it is not easy to identify and consult with the landholders about a proposed biodiversity conservation activity. Stakeholder engagement with IPLCs should be used to identify and consult with relevant stakeholders of land in and around the proposed biodiversity conservation activity site. USAID-funded activities must consider all forms of land tenure and land use when assessing impacts, designing mitigation measures, and determining compensation.

In addition to ensuring good quality stakeholder engagement by considering all forms of land tenure, adequately assessing land tenure is important when activities are expected to cause compulsory displacement and resettlement (CDR). Unrecognized land tenure of a location may inadvertently lead to CDR. CDR refers to *both* physical and economic displacement. Physical displacement may occur when people have to relocate where they conduct their livelihood activities, or their homes or businesses. Economic displacement may occur when a worker must travel a greater distance to get to his or her place of employment, or an individual or business loses access to natural resources that have provided an economic benefit. USAID's policy is to avoid CDR wherever possible.

When avoiding CDR is not possible, it is crucial to manage it well by minimizing and mitigating impacts. Insufficient or poor management of CDR can lead to far-reaching adverse social impacts, including landlessness; homelessness; further impoverishment of people who are marginalized, underrepresented, and/or vulnerable; degradation of the social fabric of a community; violence; and crime. Displacement can have social implications by disrupting or dispersing communities, fracturing social networks, or reducing access to cultural heritage resources. Resettlement to alternative sites can have negative social impacts on both the resettled population and the established community at the new site, with one or both groups subject to discrimination, prejudice, social conflicts, or violence. Failure to address the issues of all stakeholders can lead to social challenges, community conflicts, or violence.

An important first step to good CDR management is to review the Agency's factsheet: Stakeholder Engagement in the Environmental and Social Impact Assessment Process (USAID 2016a). USAID's 22 CFR 216 identifies resettlement as a class of action with a "significant effect" on the environment and therefore requires either an Initial Environmental Evaluation or a more rigorous Environmental Assessment.

USAID has guidelines for managing CDR to avoid, minimize, and mitigate CDR risks (USAID 2016b), which are consistent with leading international standards on land and resource tenure, including International Finance Corporation (IFC) Performance Standard 5: Land Acquisition and Involuntary Resettlement, and Environmental and Social Standard 5 in the World Bank Environmental and Social Framework (USAID 2016b; IFC 2012b; World Bank 2017). USAID's guidelines include the following:

- Understanding the legal and institutional contexts;
- Identifying all legitimate landholders and relevant risks;
- If physical displacement is unavoidable, developing a Resettlement Action Plan (RAP);
- Promoting informed and meaningful stakeholder engagement;
- Improving livelihoods and living standards; and
- Providing additional protections to people who are marginalized, underrepresented and/or vulnerable, especially women and Indigenous Peoples.

HEALTH, WELL-BEING, AND SAFETY

Assessing and managing potential social impacts from biodiversity conservation activities related to health, well-being, and safety is multilayered and requires a careful and sustained effort (USAID 2017b). It is important to intentionally consider the potential impacts on health, well-being, and safety from biodiversity conservation activities to avoid, minimize, and mitigate unintended consequences for the local community.

For example, biodiversity conservation activities may increase the presence of predator species or species known to be aggressive toward humans, such as hippos, which may pose a risk to a nearby local community. Activity designers and implementers must think proactively about how to avoid and minimize human-wildlife conflict. A biodiversity conservation activity that changes the habitat may unintentionally increase the risk of disease by, for example, accumulating stagnant water in which mosquitoes may propagate and contribute to the spread of diseases, such as dengue and malaria. Furthermore, road construction, which may be part of the biodiversity conservation activity, may lead to changes to local road traffic patterns, causing an increase in pedestrian-related accidents, exhaust, and noise. In addition to direct impacts on health, well-being, and safety, biodiversity conservation activities should also be evaluated for indirect impacts. Indirect impacts may arise from, for example, changes to the availability of natural resources. If women from a local community are denied access to a local water source, they may have to travel to a water source in a different community, which could lead to an increase in gender-based violence.

USAID provides guidelines to ascertain the potential social impacts on health, well-being, and safety in accordance with international best practices, such as IFC Performance Standard 4: Community Health, Safety, and Security (IFC 2012a; USAID 2017b).

CONFLICT DYNAMICS

USAID programming is often implemented in fragile or conflict-affected environments. USAID's work in these types of contexts encompasses investments in conflict prevention and mitigation, stabilization, and peacebuilding in parallel with biodiversity conservation programming. It is incumbent on activity designers and implementers to be cognizant of the operational context of all biodiversity conservation activities, including recognizing that the interventions and activity personnel will become part of that operational context. The success of a biodiversity conservation program in a conflict-affected environment requires awareness and sensitivity, as well as an understanding of how the program is affecting or being affected by existing conflict dynamics. For example, local communities may have a heightened awareness of the distribution of natural resources, as well as the roles and responsibilities of the people involved in the distribution of those natural resources, and a proposed biodiversity conservation activity may exacerbate the underlying conflict dynamics. Therefore, conflict dynamics should be assessed.

ENVIRONMENTAL JUSTICE

Environmental justice is a concept which recognizes that people who are vulnerable, marginalized, and/or underrepresented may be at enhanced vulnerability from activity-related impacts. These groups may include, but are not limited to, Indigenous Peoples, LGBTQI+ individuals, persons with disabilities, children and youth, older persons, women, low-income populations, and all communities who are

disadvantaged and marginalized. USAID and other agencies of the United States Government have developed several environmental justice policies and guidelines to help uphold protections for these groups in USG-funded activities (Council on Environmental Quality 1997; EPA 1998; EPA 2016; USAID 1976; USAID 2013a; USAID 2024; USAID 2024b; USAID 2020; The White House 1994; UNDP 2014).

Biodiversity conservation activity designers and implementers should safeguard people who are vulnerable, marginalized, and/or underrepresented from adverse social impacts. Doing so requires intentionally seeking to identify and integrate voices from these groups in activity design and implementation, through early and sustained meaningful stakeholder engagement and consultation efforts.

OTHER SOCIAL CONSIDERATIONS

THE ROLE OF STAKEHOLDER ENGAGEMENT

Stakeholder engagement is the first step to addressing social impacts from USAID programming. Stakeholders may be groups or individuals from the private or public sectors, as well as individuals who may have an influence on or be affected by the activity. Stakeholders possess direct or indirect interests in or concerns about the activity or the resources it may affect but may not necessarily hold a legal or social entitlement. Stakeholders may include local fishing groups, youth groups, pastoralists, or small-scale subsistence farmers.

Engagement with stakeholders provides a systematic approach to acquire stakeholder input, information, feedback, local and traditional knowledge, perspectives, and concerns early in the design of the activity, well before the assessment of social impacts (USAID 2022a). Special attention should be paid to people who are vulnerable, marginalized, and/or underrepresented as they may be disproportionately inequitably affected by a biodiversity conservation activity, such as women and girls, youth, children, and older persons.

MEANINGFUL STAKEHOLDER ENGAGEMENT MEANS …

- People from diverse social groups are provided with an opportunity to participate in decisions about activities that may affect their environment, livelihoods, well-being, and/or health;
- The public's contribution can influence the agency's decision;
- Community views, perspectives, and concerns will be considered in the decision-making process; and
- Decision-makers will seek out and facilitate the stakeholder engagement process with potentially affected people (USAID 2024b).

Understanding who the stakeholders are, connecting with them, and asking for their input on the activity are key steps in the design process of biodiversity conservation activities and will also be crucial in identifying opportunities for the inclusion of people who are marginalized, underrepresented, and/or vulnerable as discussed in the subsequent sections (USAID 2016a). The benefit of beginning the stakeholder engagement process early on and sustaining it throughout the entire program or project cycle is that it may allow for socially informed adaptive management of the activity that can lead to

increased positive benefits. USAID stakeholder engagement guidance may be used when designing and implementing biodiversity conservation activities (USAID 2016a; IFC 2012a).

LOCAL COMMUNITY

When designing and implementing biodiversity conservation activities, the concerns, needs, and priorities of the local community must be taken into consideration. Preliminary understanding of the local community can be achieved by undertaking a desktop review of the community's characteristics, such as demographics; socioeconomic composition; political, institutional, and legal frameworks; and other characteristics of the local community. Understanding of the local community will be improved through field visits and stakeholder engagement with the community members (World Bank 2018). Although the particulars of identifying social impacts from biodiversity conservation activities on the local community will depend on the type of program being proposed, the site location, and local social context, undertaking stakeholder engagement early on is necessary to improve understanding of how the proposed activity may affect the local community. If the local community voices concerns about potential negative impacts from the proposed activity, a more in-depth assessment of the social impacts should be conducted, which may be a stand-alone Social Impact Assessment or part of the Environmental and Social Impact Assessment, and mitigation and monitoring measures should be designed.

PARKS AND PROTECTED AREAS

Protected areas, in their many forms, are critical land and seascapes to conserve ecosystems and the variety of species that inhabit them. They can also be powerful forces for development growth. Intentional engagement with Indigenous Peoples and local communities (IPLCs) may lead to improved biodiversity conservation outcomes through secure land rights, improved local governance, and the generation of new livelihood opportunities. Protected areas that engage with local communities can have a stabilizing influence on an area, help attract private investment, and create jobs.

However, without safeguards for conservation activities and effective engagement with IPLCs, there is an increased risk that some surrounding communities can be marginalized or adversely affected following such development interventions. To ensure that the best outcomes are achieved, USAID acknowledges the central role that strong safeguards, combined with local engagement, ownership, and meaningful participation, play in ensuring that biodiversity conservation activities contribute to long-term local, national, and regional development.

To fulfill USAID's commitment to the communities with which it works, USAID applies four safeguards within its support for national parks and other protected areas:

1. Local communities are consulted regarding the activity and potential impacts, rising to free, prior, and informed consent for affected Indigenous Peoples, consistent with the USAID Policy on Promoting the Rights of Indigenous Peoples.
2. Consider the impact of an activities park and protected area's support on affected communities, with a particular focus on land and resource claims.

3. In the context of the specific USAID activity and objectives, rangers and similar personnel are trained and monitored regarding safe and fair application of the law, including respect for human rights, and avoiding intimidation or unnecessary use of force.
4. An implementer-led grievance and redress mechanism exists for reporting human rights abuse, misconduct, and other grievances.

These safeguards are directed by Congress for fiscal year 2020 funds and beyond. Safeguard requirements are incorporated into new awards and reflected in the environmental compliance process for both new and existing awards. USAID takes a project- and fact-specific approach that considers the potential impacts inherent in each activity, including the type of support provided and the experience of the communities involved.

The technical support documents for implementing these safeguards are available to help USAID staff and Implementing Partners apply these requirements and avoid, minimize, and mitigate the social risks associated with conservation activities for parks and protected areas. Technical support documents are provided for each of the four safeguards (USAID 2024).

DISRUPTION TO LOCAL OR TRADITIONAL LIVELIHOODS

Land acquisition for biodiversity conservation activities may have a variety of adverse social impacts on the livelihoods of the people affected by the activity, as described in Section 3.5 above. The nature and range of social impacts may not be immediately apparent during the design phase of biodiversity conservation activities; hence, stakeholder engagement should begin early in the project life cycle and particular attention should be paid to people who are vulnerable, marginalized, and/or underrepresented in order not to put them in a position of increased socioeconomic vulnerability. The potential for adverse impacts on community members' livelihoods needs to be addressed at the local level and often on an individual basis.

A "Sustainable Livelihoods Approach" may be useful when completing an assessment of social impacts from an activity that may affect the people living in rural areas, especially those living in vulnerable socioeconomic conditions. A Livelihoods Restoration Strategy may also be necessary to avoid adversely affecting stakeholders in areas where comparable economic opportunities are not readily available (Asian Development Bank 2017).

GENDER EQUALITY

Many social impacts are gender differentiated and can affect men and women in different ways. USAID seeks to support gender equality with the following goals: (1) improve the lives of people by advancing gender equality; (2) empower women and girls to participate fully in, and equally benefit from, the development of their societies on the same basis as men; and (3) secure equal economic, social, cultural, civil, and political rights regardless of gender. USAID policy requires that a gender analysis "be integrated in strategic planning, activity design and approval, procurement processes, and measurement and evaluation" as part of ADS 205: Integrating Gender Equality and Women's Empowerment in USAID's Program Cycle, which seeks to integrate gender and equality into the program cycle (USAID 2023b).

Special attention must be paid to how biodiversity conservation activities may affect women and girls. Gender analysis "is a systematic analytical process used to identify, understand, and describe gender

differences and the relevance of gender roles and power dynamics in a specific context" (USAID 2023a). Such analysis typically involves examining the differential impact of development policies and programs on women and men and may include the collection of sex-disaggregated or gender-sensitive data (USAID 2023b). Gender analysis examines the "different roles, rights, and opportunities of men and women and relations between them. It also identifies disparities, examines why such disparities exist, determines whether they are a potential impediment to achieving results, and looks at how they can be addressed" (USAID 2023a). Furthermore, there may be gender divisions in the decision-making process that may influence how the placement of the activity may be proposed.

Disparate gender impacts on biodiversity conservation activities may involve imbalances in stakeholder input, decision-making, employment opportunities, and monetary compensation for activity impacts. A gender analysis helps to identify gender disparities in the community early on. Because USAID activities require stakeholder engagement and consultation as part of the process of identifying, avoiding, and mitigating adverse social impacts, it is increasingly important to be aware of gender-based barriers to public participation. In these cases, stakeholder engagement and consultations may need to occur in a gender-sensitive manner, for example, by having separate venues for men and women. To acquire input and feedback from women, a combination of methods may be undertaken (such as interviews and focus groups). For example, semi-structured interviews or women-only focus groups may be conducted with women in a safe space, such as an individual's home or place of worship. Providing a space in which to obtain women's perspectives may shed light on a potential gender division in decision-making and consultation, and, in turn, could affect siting and benefit sharing.