Ecosystem-Based Adaptation and Mitigation in Botswana's Communal Rangelands

ANNEX 6: Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP)

Prepared by Conservation International and C4 EcoSolutions through a PPF grant from the Green Climate Fund

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1. Executive summary

As per GCF requirements an environmental and social impact assessment (ESIA) has been conducted for the proposed Project to inform its design. The Project interventions are designed to significantly increase the adaptive capacity of the Botswana people to respond to the negative impacts of climate change in the country's communal lands. The Project will exclusively service "last-mile communities" who farm on non-tenured Village Grazing Areas4 and achieve its objectives through activities holistically designed to:
1) Strengthen institutions and support systems for climate-responsive planning and management in communal rangelands;
2) Reduce emissions and negative livelihood impacts through rangeland rehabilitation and improved livestock management;
3) Sustain enhanced adaptive capacity and low-emissions development through value-chain and policy transformation.

An overview of the project's design is provided in the Theory of Change diagram below (Figure 1).

Policies relevant to the ESIA include: i) GCF's Environmental and Social Policy; ii) GCF's Indigenous People Policy; iii) CI's GEF/GCF Environmental and Social Management Framework; iv) CI's Botswana Safety and Security Plan; v) CI's Crisis Management Plan; v) CI's GCF COVID-19 guidelines; vi) The 2018 Tribal Land Act; vii) The 2015 Forest Act; viii) The 1974 Agricultural Resources Conservation Act; ix) The 1992 Wildlife Conservation and National Parks Act; x) 2009 Revised Remote Area Development Programme (RADP) Guidelines; xi) National Development Plan 11; and xii) Rural Development Policy. The scale and type of potential biophysical, social and, where appropriate, transboundary risks and impacts will be assessed so as to ensure mitigation and monitoring strategies may be designed to manage these risks and impacts.

The approach used to develop the ESIA was the conducting of stakeholder consultations identifying the issues, risks, needs and vulnerabilities of representative communities in the project areas. The purpose of these consultations was, *inter alia*, to capture the views of pastoralist communities relating to their specific needs, socioeconomic conditions, decision making structures, culturally-appropriate communication systems and ecological knowledge. Subsequently, the identification of potential project impacts was informed by the data collected from stakeholder consultations and from environmental assessments of the project areas, following both national and international guidelines — such as the National Environmental Impact Assessment of 2011 and ISO[1] standards. Methods used to predict the potential project impacts were weighed, ranked using interaction matrices and local traditional knowledge and practices and community expectations. Details of the results of the stakeholder consultations are provided in Annex 7 of the Funding Proposal.

The major vulnerabilities identified as a result were the: i) occurrence of frequent droughts and rising temperatures and an associated decrease in the availability of water and rangeland resources; ii) negative impacts upon health, nutrition and food security as a result of frequent and prolonged droughts; iii) decreasing rangelands resources negatively affecting pastoralism and therefore income and livelihood security; iv) floods and heavy rain events; v) pest infestations; and vi) increasing human- and livestock-wildlife conflicts. These vulnerabilities are unlikely to be alleviated, and may even be exacerbated, by inadequate existing social policies and programmes. This is because they tend to be focussed on specific target beneficiaries, are fragmented in approach, and are not sufficiently articulated with economic and environmental issues to develop synergies for dynamic, mutually reinforcing growth. Their

[1] International Organization for Standardization

sustainability is thus compromised and highly vulnerable to the shocks of climate induced economic production downturn and environmental degradation.

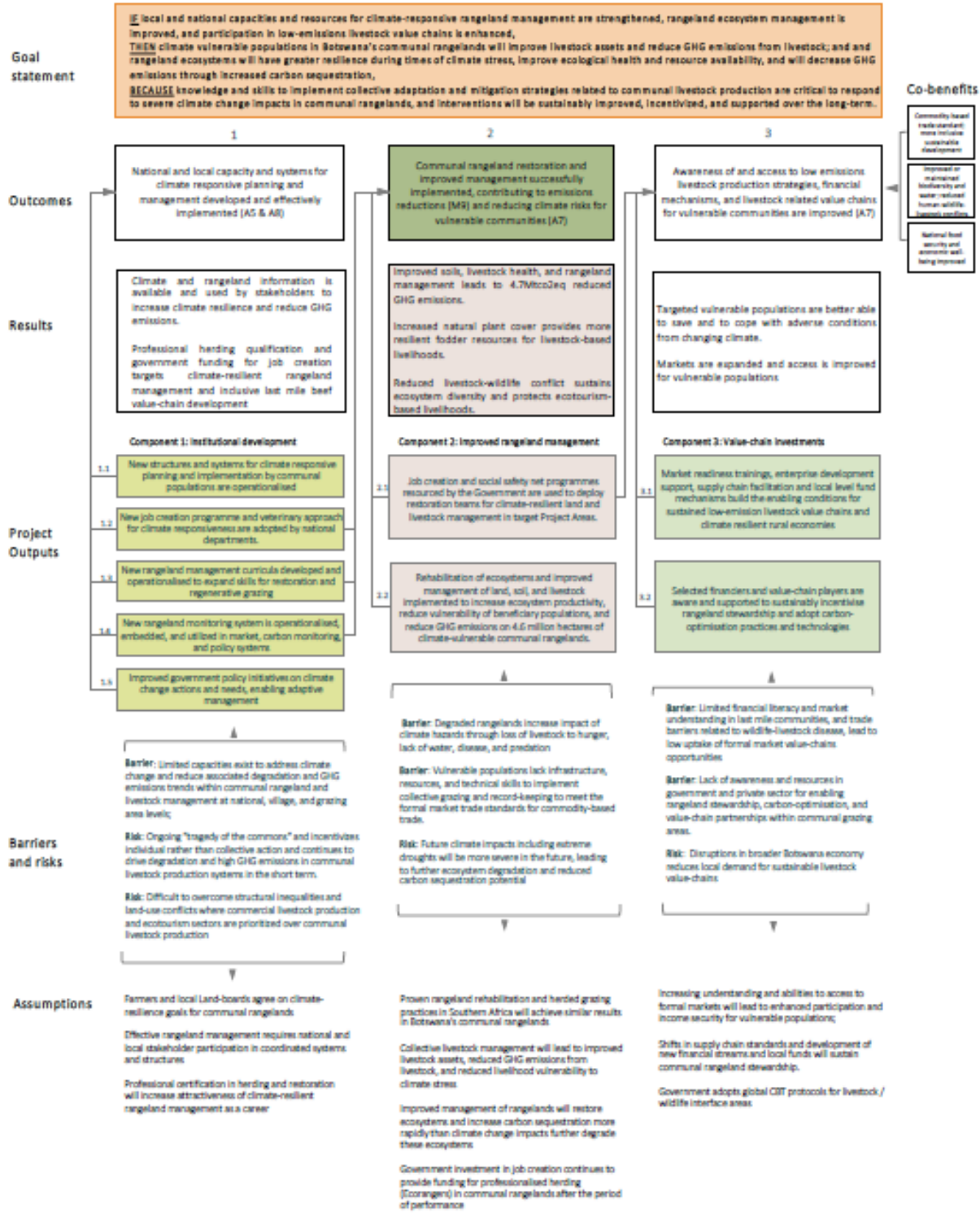


Figure 1. Theory of Change for the proposed project.

In relation to the protection of natural habitats, the major threat identified was a lack of buy-in from pastoralists of project interventions which may consequently disrupt project delivery and lead to a perpetuation of unsustainable practices. Additionally, as the project will bring large numbers of livestock under collective management, it will require shared commitment from pastoralists to comply with national legislation and international standards regarding issues

such as waste and pollution management. Mitigation measures to address this risk include participatory stakeholder mapping, developing guidelines in a participatory manner to reflect the principle of inclusive participation, ensuring that Village Development Committees are representative of beneficiary communities and facilitating inter-VDC collaboration. Additionally, a risk analysis undertaken using a stakeholder participatory approach will identify what health practitioners, labour representatives, herders, livestock owners, and various land users and managers already know about possible risks and who the people most vulnerable to increased risk of harm are likely to be.

Another risk is that of involuntary settlement, the level of which is yet to be determined. The project's requirement for participation of land users in target locations may trigger restrictions of access, where cattle owners outside their locality have already migrated onto other people's grazing areas. Previously, local communities have attempted to restrict such uncoordinated migration of cattle posts because of scarce rangeland resources made even scarcer by prolonged drought and disease control fences. To mitigate this challenge, the project has been designed to include training and support to enhance the capacity of land authorities to ensure sustainable land and livestock management. Community training has been designed similarly to facilitate change in attitude and behaviour towards sustainable resource use and management.

The environmental and social safeguard seeking to protect indigenous peoples has been triggered by the project design, as interventions target Basarwa communities. As there are some members of this indigenous community who live as herders at cattle posts owned by more populous ethnic groups, Basarwa communities are particularly vulnerable to exclusion and marginalisation. An Indigenous Peoples Plan been developed to capture their stated concerns and indicate measures likely to reduce risks of exclusion and marginalisation.

Regarding labour and working conditions, there are risks related to the commitment of gender parity in employment creation as a result of the project. As pastoralism is currently a male-dominated livelihood in Botswana, there is the risk of sexual harassment at work, the threat of which is compounded by the fact that it is not expressly prohibited by law. Additionally, there is the risk of women and children being exploited as free labour. To mitigate these risks, data will be collected on the spatial patterns of land-use by women and men, as well as by cattle and small stock, to enable informed planning and decision making. This and other mitigation strategies relevant to labour-related risks are reflected in the Labour and Working Conditions Risk Management, Indigenous Peoples (separate appendix), Gender Action (presented in Funding Proposal Annex 8), Involuntary Resettlement and Restriction of Access to Natural Resources, Indicative Community Health, Safety and Security (including an Emergency Response and Preparedness Plan) plans. The implementation of such plans will be overseen by the Executing Agency (EA), Conservation International (CI), along with project partners and relevant stakeholder as depicted in Figure 2 below.

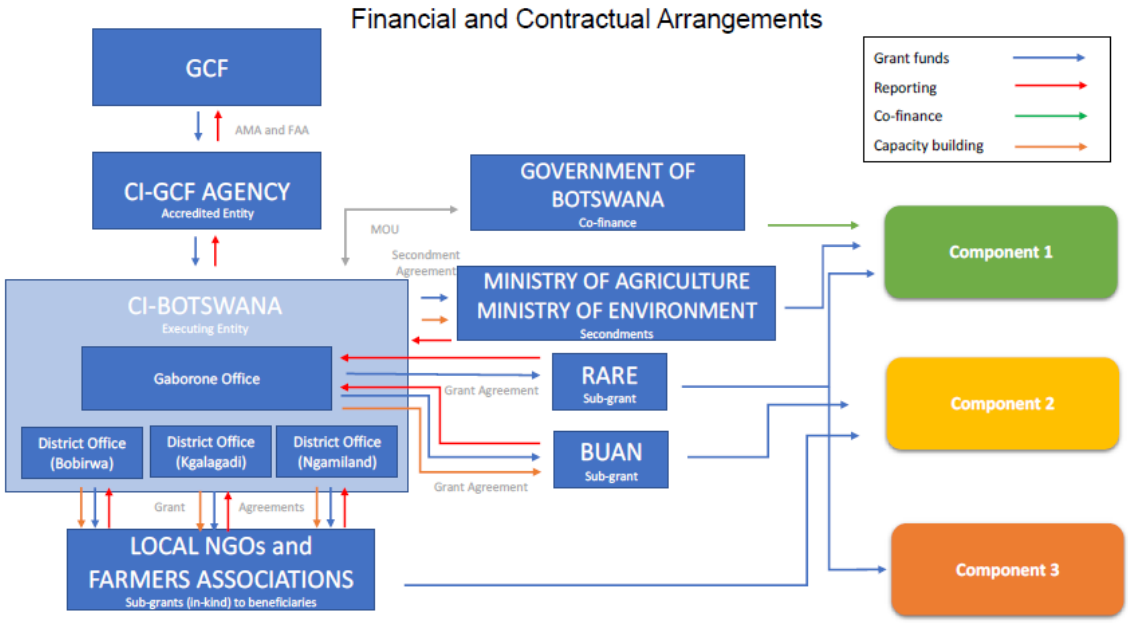


Figure 2. Project implementation and institutional arrangements.

Environmental and social risks and impacts, as well as mitigation measures are summarised in the table below. In addition to the mitigation measures presented, the following plans and frameworks have been developed for the project: I) Environmental Management Plan; i) Labour and Working Conditions Risk Management Plan; iii) Involuntary Resettlement and Restriction to Natural Resources Plan; iv) Indigenous Peoples Plan; and v) Indicative Community Health, Safety, and Security Management Plan (including an Emergency Response and Preparedness Plan).

Project Outputs	**Social and Environmental Impacts**	**Mitigation measures included in project design**
Output 1.1.: New structures and systems for climate responsive planning and implementation by communal populations are operationalised	• Strengthening of local institutions might perpetuate exclusion of Basarwa peoples from institutions overrepresented by dominant ethnic groups • Risk of current legal and policy frameworks undermining the capacity to execute rangeland stewardship agreements	Activity 1.1.1: train 30 farmer facilitator teams Activity 1.1.2: Build collective understanding Activity 1.1.3: Replicate and amplify Herding for Health (H4H) approach
Output 1.2: New job creation programme and veterinary approach for climate responsiveness are adopted by national departments.	• The current legal, institutional and policy framework might undermine efforts to coordinate collaborative initiatives for climate-smart rangeland management and economic stimulation	Activity 1.2.1: Support establishment of inter-institutional coordination mechanisms; Activity 1.2.2. Support the development of a rangeland stewardship job creation programme;

	• The current sectoral silos, duplication of efforts and overlapping institutional mandates might continue perpetuating inefficient use of scarce financial resources and undermine collaborative efforts and improvement in service delivery	Activity 1.2.3: Expand capacity of Department of Veterinary Services (DVS) to respond and enable.
Output 1.3. New rangeland management curricula developed and operationalised to expand skills for restoration and regenerative grazing	• The risk of unequal access (minorities and women) might still continue and be facilitated by technology due to historical inequality and power relations	Activity 1.3.1: Create and monitor deployment of a new national curriculum for rangeland restoration and climate-resilient livestock herding
Output 1.4. New rangeland monitoring system is operationalised, embedded, and utilized in market, carbon monitoring, and policy systems	• Top officials who might be challenged by the empowerment of lower tiers of governance and want to assert their authority by putting brakes on process	Activity 1.4.1: Establish a Rangeland Stewardship Information Portal Activity 1.4.2: Equip, train, and staff village hubs and relevant officials
Output 2.1. Job creation and social safety net programmes resourced by the Government are used to deploy restoration teams for climate-resilient land and livestock management in target Project Areas.	• The professionalisation of the job might marginalise the existing herders • The opportunities for access to this job market might continue to elude women	Act 2.1.1: Create and monitor deployment of a new national job creation programme for 5,500 Eco-rangers and Restoration Workers Activity 2.1.2: Create and deploy 500 graduate monitors
Output 2.2. Rehabilitation of ecosystems and improved management of land, soil, and livestock implemented and monitored to increase ecosystem productivity, reduce vulnerability of beneficiary populations, and reduce GHG emissions on 4.6 million hectares of climate-vulnerable communal rangelands.	• Laws that provide for open access to communal grazing areas might still pose a problem of enforcement of conservation agreements	Activity 2.2.1: Design and establish 104 Village Development Committees Activity 2.2.2: Implement community-based climate-smart planned grazing Activity 2.2.3 Monitor and analyse changes in ecosystem health and livestock emissions
Output 3.2.: Selected financiers and value-chain players are aware and supported to incentivise rangeland stewardship and adopt carbon-optimisation practices and technologies	• The opportunities extended to the historically marginalised might only serve to marginalise them in the context of market competition with more experienced and better resource players	Activity 3.2.1 Design, implement, and measure impact in the broader red-meat value chain Activity 3.2.2: Engage Botswana Meat Commission, CEDA, and other key market players

A project-level Grievance Redress Mechanism (GRM) has been designed to facilitate the resolution of grievances promptly through an accessible, fair, transparent and constructive process. It is culturally appropriate and will be readily accessible, at no cost to the affected communities, and without retribution to the individuals, groups, or communities that raised issues or concerns. The GRM utilises existing mechanisms at the local level, supplemented by project-specific arrangements. In addition to the project-level GRM, the GCF independent Redress Mechanism and the CI Grievance Mechanism (Director of Compliance or Ethics Hotline)[2] will also be made available to stakeholders. In addition to the project-level GRM, a GRM specific to labourers has also be prepared to ensure that the grievances of workers can be addressed appropriately and efficiently.

The CI-GCF Agency will monitor the implementation of the mitigation measures on a quarterly and annual basis via quarterly progress reports and annual performance reports prepared and submitted by the project to the Agency. Where safeguard targets and activity schedules fall behind, the Agency will stipulate adaptive measures and timeframes for the project to bring the project targets and activities back on track. The review of reports will be complemented with annual site visits to verify information contained in the reports. In addition to monitoring activities, the Agency will conduct mid-term and end of project evaluations to assess the progress towards and achievement of the project goals and objectives.

2. Introduction

This paper reports on the environmental and social safeguards needed for the proposed project entitled "Ecosystem and Livelihoods Resiliency: climate change risk reduction through Ecosystem-based Adaptation in Botswana's communal grazing lands" which is likely to be co-funded by the Botswanan Government and the Green Climate Fund (GCF). In compliance with GCF policy, an environmental and social impact assessment is a requirement necessitated by growing global awareness that development projects often have negative impacts on people and the land: a concern that has been given urgency by climate change.
The GCF Environment and Social Policy[3] defines an environmental and social impact assessment (ESIA) as "a process or tool based on an integrated assessment where the scale and type of potential biophysical and social, including, where appropriate transboundary risks and impacts of projects, programs and/or policy initiatives, are predicted, acknowledged and evaluated. It also involves evaluating alternatives and designing appropriate mitigation, management and monitoring measures to manage the predicted potential impacts." Consequently, the evaluative process reported here will comprise five substantive areas:

- a concise description of the project that will be subjected to evaluation and impact assessment;
- a discussion of the policy, legal and administrative framework within which the project will be implemented and impact assessment carried out;
- a summary of the baselines on environmental and social conditions in the landscapes where the project will be implemented;
- a prediction of the environmental and/or social impacts and risks of the proposed project; and
- a discussion of the environmental and social management plans required to reduce potential risks and negative impacts.

The proposed project is intended to be implemented in three administrative regions of Botswana representing differing ecosystems but with a commonality of being among the most affected by climate change. The target landscapes are Ngamiland, the Scwhelle region of the Kgalagadi North subdistrict and Bobirwa, which is a subdistrict (Central, Bobonong) of the Central District. The Ngamiland landscape is located in the northwest of Botswana within the

[2] https://www.conservation.org/about/our-policies/reporting-illegal-or-unethical-conduct-statement
[3] Green Climate fund policy (2018 page 28)

following geographical coordinates, decimal degrees: latitude of -20.500 and longitude of 22.500. It shares transboundary landscapes with Namibia in relation to its south-western, western, north-western and northern fronts. Kgalagadi, in the south-western side of Botswana is between 23.7283° South and 21.4753° East and shares borders with Namibia and South Africa. Bobirwa, which is in the north-eastern sand *veld* of the country is between 21°58′14″ South and 28°25′24″ East. The sub-district has an elevation of 590-886 m above sea level, making it the lowest part of the country[4].

3. Project Description

Botswana has drawn on lessons learned, from past of efforts of implementing projects aimed at improving rangelands, to draft this proposal. It has taken note of earlier reviews of funding proposals: particularly the reactions to the Botswana/UNDP funding application for Sustainable Land Management, where the Global Environment Facility (GEF) scientific committee (STAP) noted:

"Botswana, and southern Africa more generally, has a long history back to colonial times of attempts to improve rangeland. These efforts, using aspects of some of the measures now being proposed in this project, largely failed for a variety of complex reasons, including failure to understand herders' strategies and the inappropriateness both technically and socially of the methods promoted to manage the range. It is, therefore, important that this project is cognisant of the lessons from previous attempts. The further guidance below is aimed at ensuring a strengthened proposal as it progresses towards a full project document. Because STAP has concerns that the proposal does not appear to be well rooted in both rangeland science (biophysical and social) and the monitoring of global environmental benefits, the STAP advisory response is minor revision required"[5].

The GEF STAP advised that the project draw certain lessons from previous official attempts to improve the rangelands in Botswana which will be essential to its success. In particular STAP drew attention to the following:

- Herders sceptical of official rangeland policy will create a fundamental barrier that the current project will need to surmount explicitly.
- The complex linkages between herders' largely-opportunistic strategies, the condition of the vegetation, soil and plant communities and the productivity of the range demand careful consideration because while it is clear that people and livestock do have an appreciable impact on the vegetation, it is not at all clear that productivity has declined.
- The wide-scale noncompliance with government land policy is largely a result of the imposition of technical solutions that local people find unacceptable.
- Difficult aspects such as local community involvement and devolution of governance must not be sidelined.

For the current GCF project, the Botswana government has adopted the now widely accepted ecosystem approach to development and adaptation which recognises the strengths of local knowledge and practices and seeks therefore to integrate them in inclusive systems of adaptation and co-beneficial environmental, social and economic strategies of development. The project is based on the successful model of the Herding for Health programme, a joint initiative of Conservation International and Peace Parks Foundation, which uses herding and livestock management to regenerate Africa's rangeland ecosystems and enhance climate change resilience of the communities dependent on them. The Herding for Health Model is

[4] Site locations references
[5] The Scientific and Technical Advisory Panel, administered by UNEP, Jan 2012, STAP Scientific and Technical Screening of the Project Identification Form (PIF). Project:- Mainstreaming SLM in Rangeland Areas of Ngamiland District Productive Landscapes for Improved livelihoods

based on executing rangeland stewardship agreements[6] with affected communities that agree to site-specific good practice defined by scientific and traditional knowledge. In most cases, much of the conservation agreement involves collective grazing and/or corralling that is implemented by communities and professional herders called "Ecorangers". Restoration and wildlife protection elements of the agreement can be further incentivised by additional livestock production and training support and sustained through access to markets for their livestock products. Key market readiness interventions (legal requirements and market systems) are a critical component that ensures income flow to participating farmers that leads to self-sustaining impact and replication.

To determine the possibility and potential impacts for implementing a localised Herding for Health approach in Botswana's communal rangelands, stakeholder consultations were conducted to exchange information and solicit the views of local communities directly dependent on the range ecosystem, on the efficacy of the proposed project and their involvement. Their views are therefore incorporated into this project assessment report and associated management plan.

Through the development of tools and enhancement of existing government programmes, the project will[7] directly or indirectly increase the climate change resilience of 176,500 people (equal number of men and women) living in livestock farming communities (~7% of the national population and 80% of the population in the target regions that depend on communal livestock farming) and improve the condition of 4.6 million ha of natural ecosystems by:

- transforming national institutions, improving governance and aligning/reforming policy to enable Ecosystem-based Adaptation (EbA) for long-term sustainability of Botswana's communal lands;
- improving the governance of Botswana's communal rangelands to protect, restore and sustainably manage communal rangelands supported by new innovations in the government job creation programme;
- building resilience to climate change in three targets: i) gender-equitable livelihood security among the most vulnerable people and communities; ii) income and well-being of herders, farmers, and restoration workers and their families; iii) maintenance of biodiversity, ecosystems and ecosystem services;
- re-directing a government job creation programme to restore prioritised rangelands and support improved rangeland management activities at scale; and,
- sustaining improved practices through market and financing access.

The project seeks to increase climate change resilience by achieving a paradigm shift in the management of communal lands to better address the impacts of climate change. In addition to adaptation benefits, the project seeks to have a significant mitigation impact by transforming the feed system and improving nutrition and health of communal livestock in the short term, whilst also encouraging regeneration of vegetation and soil carbon. It will be anchored on the following components or pathways.

3.1. Strengthening community institutions and gender equitable capacity for collective action

[6] Also called "conservation agreements" in the case where the goal is about decreasing pressure on natural resources, particularly reducing human wildlife conflict related to predators and livestock.
[7] Project concept document

Governance arrangements of the Herding for Health[8] system will be created, and support provided, to enable land and livestock engagement between and among traditional institutions, herders and other relevant community groups identified by stakeholders. The governance mechanisms will include Village Development Committees, farmers associations, youth associations, community-based organisations (CBOs), Community-Based Natural Resources Management (CBNRM) and community trusts. At the beginning of each Village Development Committee regional engagement, an assessment of baseline institutional capacities will be undertaken to identify strengths and gaps that hinder or facilitate the community to undertake collective and inclusive action to mitigate and adapt to climate change through rangeland management. The revival, strengthening and formalisation of traditional/local institutions will be key in facilitating sustainable rangeland management through planned cooperative grazing, enabled by conservation agreements[9] with various non-governmental organisations (NGOs) and community-based organisations who are already engaged and have the trust of livestock farming communities. The project will draw on and build the capacity of existing networks of extension agents and traditional institutions to design and implement the communal rangeland management plans, embedded in formal rangeland stewardship agreements, that are the core of the project. The format and process for these agreements will be the Conservation Stewards Programme[10] model of conservation agreements and will therefore be spatially explicit and negotiated annually.

This pathway is informed by inputs from community stakeholder consultations in the target project areas — where the stakeholders identified the erosion of the authority of traditional institutions as a source of problems associated with uncontrolled land management, including where people are allowed free movement of livestock and use of rangelands without any commensurate obligation to conserve the resources. It was noted that local communities are helpless to intervene as land boards are now the ones holding legal authority and power, but the land boards are not on the ground all the time to monitor use and provide regulation. People who move their stock into new areas are not obligated to consult local communities who are better positioned to assess the state of the range resources than the distant land boards. Communities have expressed the need to be directly involved in the management of local communal range resources and to have authority to exercise oversight and compliance with agreed conservation strategies. They have argued that Village Development Committees — in which their traditional chiefs are *ex officio* members — are their local parliament and can represent their interests better than politicians who are often driven by partisan politics to the detriment of community development.

3.2. Building individual capacity in herders and the community

A national Ecoranger curriculum will be developed and registered with Botswana University of Agriculture and Natural Resources (BUAN-CICE) to enable the training of individual herders, livestock owners, and agricultural extension staff to broaden their skill and knowledge base

[8] Herding for Health follows a community-driven approach to address challenges faced by farmers living in and adjacent to protected areas. The concept is based on the premise that with proper livestock management, land degradation can be reversed and the desired impacts, including the recharge of water resources and an increase in biodiversity resources, will be a reality. The model has been developed over 20 years, with a pilot project in South Africa taking place in 2017.

[9] Conservation Agreements (CA) are a tool used globally to build and enforce sustainable management of communally held natural resources. They are particularly effective for responding to uncertain climates in that they are evaluated and re-negotiated periodically and therefore can adjust management requirements more quickly than a legislated approach. They are also negotiated directly with the land users of a site and therefore can integrate indigenous knowledge systems into management strategies. The Herding for Health Initiative is based on the application of the CA approach to negotiate Rangeland Stewardship Agreements to establish site specific plans for a given communal grazing area. Training and a tool-set as well as case-studies are available for use of the approach for rangeland rehabilitation and collective grazing in the context of climate resilience.

[10] Conservation International. No date. Conservation Stewards Program. Available at: https://www.conservation.org/about/conservation-stewards-program

for integrated landscape management and impacts of climate change on rangelands and livelihoods. This will professionalise herding and enhance the capacity of such herders and farmers to execute improved livestock management that is integrated with other ecosystem management activities such as land management, monitoring of weather and ecological conditions, monitoring of diseases and infestations, as well as reducing the impact of predators and poachers. Additionally, special rangeland restoration teams will be trained and deployed to undertake bush clearing, erosion management and bush fodder production. An equal number of men and women in the target communities will be trained to undertake improved land and livestock management as well as project impact monitoring. A portion of the Ipelegeng[11] budget will be repurposed to develop and pay these professionally trained Ecorangers[12].

Capacity building will also be extended to the community to support the development of grazing plans that will enhance efficient land and livestock management and as a foundation for collective action and improved governance. Officers in extension services will be included so that they also play their facilitative part more effectively and in collaboration with the community they serve.

Communities have expressed the need to learn from elsewhere because they recognise that their traditional knowledge systems are now challenged by changing climatic conditions, which have upended their coping strategies for drought[13]. They have noted that the frequency and prolonged nature of drought, coupled with considerable increases in livestock numbers, spread of diseases and the physical reduction of range ecosystems through animal disease, fencing and privatisation of communal rangelands have left them bereft of solutions and therefore vulnerable. They want to learn from those who have found effective coping strategies including visiting other areas of Botswana, as well as other countries, to see how others are coping and using herding as part of the adaptation approach.

3.3. Supporting climate smart land and livestock management

At the core of the new and improved land and livestock management system will be the introduction of planned rotational grazing and corralling of livestock, that used to characterise traditional livestock management systems before the advent of the 1975 Tribal Grazing Land Policy and the 1991 Agricultural Policy[14]. This will be an improved version supported by the use of information technology for data capture and impact monitoring and a better understanding of the ecological characteristics of the savannah ecosystem and how it is impacted by climate change. Ecorangers will be provided with mobile phones and application systems that will in turn be supported by the installation of solar powered Wi-Fi hubs and GPS technology. Please see the Gender Action Plan (Annex 8) for detail on how these activities will be implemented to ensure the participation and empowerment of women. Project sponsored water bowsers[15], aligned with government investments in new water access, will enable herders to access to specific groundwater resources identified as sustainable by experts.

[11] The Ipelegeng Programme is "a Government Initiative or programme whose main objective is to provide short term employment support and relief whist at the same time carrying out essential development projects that have been identified through the normal development planning process.". Available at: http://www.gov.bw/en/Ministries--Authorities/Ministries/Ministry-of-Local-Government-MLG1/Tools-and-Services/Services1/Ipelegeng-Project1/

[12] Local shepherds employed to protect livestock, maintain areas that have been cleared of invasive species and gather biological data for monitoring conditions in the rangelands.

[13] See Annex report on stakeholder consultations for detail.

[14] Abel, N.O.J, 1993. Carrying Capacity, Rangeland Degradation and Livestock Development for the Communal Rangelands of Botswana Pastoral Development network Paper 35c, Overseas Development Institute, London; Basupi, Lenyeletse Vincent , Claire Helen Quinn and Andrew John Dougill, 2017: Historical perspectives on pastoralism and land tenure transformation in Ngamiland, Botswana: What are the policy and institutional lessons? Pastoralism: Research, Policy and Practice (2017) 7:24

[15] Bowsers are moble water tankers that may be deployed to distribute freshwater.

Communities recognised rotational grazing as similar to both their traditional systems of winter grazing and summer grazing that were monitored by overseers, who reported non-compliance to the chiefs for punitive action. They noted that their summer grazing took advantage of rainfall-fed water pools while allowing areas around permanent water sources to recover by moving cattle back to such permanent water sources when pools dried and grazing resources were reduced. In areas where permanent surface water was limited, communities identified grazing areas where drought-resistant grazing resources could be found and moved their cattle there, returning to better grazing after the rains. They recognised that this management system was most effective when there was fulltime herding which has now declined. Currently, herders have reduced their responsibilities to ensuring that the cattle are watered in the mornings and when they are involved with vaccination. They welcomed the new rotational and collective grazing strategy as an improvement on the old, but which would have to overcome some cultural beliefs and traditional 'doctoring' of livestock to protect them. It was also welcomed as a solution to current practices where individual livestock owners move their cattle haphazardly around with no common objective and no negotiated use and management of resources. The planning aspect was also recognised as a possible solution to the tensions caused by individualistic resource use.

Also noted and emphasised by the communities was that since livestock management practices have deteriorated to a point where herding was now reduced to just watering animals at boreholes and then letting them loose to find pasture as best as they could, the reintroduction of full-time herding and corralling would greatly reduce livestock loss from straying and predators, as well as disease. Farmers and herders also recognized that in past and current livestock management practices, not much attention had been given to actively enhancing the quality and well-being of the actual land resources except by moving away to allow natural regeneration. The new strategy of land management that will conserve and enhance regeneration was a welcome intervention that could improve survival capacities and reduce vulnerabilities faced by individual livestock owners.

Another important area of support emphasised by communities is in improvement of an enabling environment such as:

- communications channels in terms of: i) capacity of communities, through their Village Development Communities, to communicate directly with the office of the district council officer for development; and ii) continuous communication between the community and relevant government departments responsible for, *inter alia*, livestock production and land management.
- A more integrated approach to development by government departments so they approach the community and its development needs in a holistic and concerted manner. Current approaches are seen as rather insular and fragmented by departmental and project silos.

3.4. Strengthening mitigation & adaptive capacity across the value-chain for long-term sustainability

Private sector operators, as well as men and women in community clusters, will be inclusively trained to develop mitigation and adaptive capacity in various value chain activities. These will range from livestock production enterprises to complementary fodder production, fire management, methane reduction practices and adoption of climate-smart technologies. To incentivise these agents and ensure the long-term sustainability of activities implemented, a mobile abattoir and market will be brought to the sites of planned and rotational grazing areas.

The Ecorangers will provide data into new monitoring systems in a Rangeland Stewardship Information Portal that will track changes in ecosystem health, including the availability of

fodder, stocks of carbon in soil and vegetation and fire vulnerability. The monitoring will allow for rapid response when climate impacts are detected, such as changes in rainfall intensity, distribution and frequency. Systems will be designed to use the monitoring for adaptive management of Botswana's rangelands management programme across three tiers, namely, at community, local government, and national government levels.

This pathway is an answer to the expressed needs of communities for greater capacity, including capacity to negotiate prices in the context where they feel they have been subjected to exploitation by better resourced 'millers' — local cattle buyers who come to their villages with fixed prices that exclude important parts of animal carcasses such as heads, innards and hooves. They recognise that they actually do not have any meaningful value chain systems as their production practices are not linked to functioning markets that would feed back into both animal production practices and supplementary feed. Rather they have been caught up in several vicious cycles. One example is drought has led to farmers being unable to maintain boreholes they need to water their stock. Alongside poor meat quality from diminished grazing, it means they cannot sell for meaningful prices as well as having to trek long distances looking for water and fodder, often unable to return to base potentially causing loss and/or death. Another vicious circle is the restriction of sales from their areas to the Botswana Meat Commission due to the prevalence of Foot and Mouth Disease outbreaks and the areas being declared unqualified to supply animals to the European Commission beef market. Inability to sell to the Meat Commission means there are no incentives to farmers to undertake livestock management practices that involve costs that cannot be covered by sale prices often associated with the BMC market[16]. They welcome the possible introduction of value chains that will:

- bring the livestock market to the community farm gate (or corral gate);
- improve access to inclusive veterinary services that cover all animal diseases besides ones prioritised by the government;
- encourage the use of arable lands rendered idle by drought, elephant invasions and lack of incentives to produce crops, including fodder and supplementary feed;
- reduce production and marketing costs;
- enhance access to information, improved skills and productive knowledge;
- improve the efficacy of current water use and management where farmers often rely on those who have boreholes to sell them watering services, a system which has led to erosion of the land around watering points as cattle are not rotated. They recognise the important role that can be played by both private boreholes in communal areas and government owned boreholes; and
- restore the capacity of rangelands to provide fodder and limit death of livestock/expense of feeding livestock during climate stress and drought.

3.5. Knowledge sharing and mechanisms for continual improvement and replication

National and regional capacity will be built to enable and incentivise the transformation of livestock production. This will be supported by the creation/hosting of gender equitable farmer exchanges, climate-smart livestock production forums and other knowledge sharing platforms

[16] Stakeholder consultations indicating acceptance of project and identifying problems currently faced in markets, elephant menaces, and under-utilized arable lands. Consultative meetings took place in the following villages and cattleposts: Maun village workshop, 5th August 2019;:Kang village workshop, 8th August, 2019; Hukuntsi Village workshop, 9th August, 2019; Nxaraga village Kgotla Meeting 7th Oct 2019; Thololamoro Cattlepost (Lake Ngami) Meeting 8th October 2019; Etsha 13 Village Meeting at: 9th October 2019; Sehithwa Kgotla Meeting 10th Oct 2019; Kgabaganyane cattlepost, Ngamiland 11TH Oct 2019; Spanplek cattlepost, NgamilandE 11TH October 2019;Lepokole village kgotla, 9th Nov 2019; Tshokwe village kgotla, 8th Nov, 2019; Hunhukwe village kgotla, 12th Nov 2019; Zutshwa village Kgotla, 13th Nov 2019;

and policy dialogues informed by the tried and tested Herding for Health approach, as indicated in the FP annexes.

Here communities have asked for educational visits to other farmer groups, particularly those that have adopted mobile abattoirs and on-farm livestock stock auctions. They have also expressed a willingness to borrow new ideas that they may adopt to improve their production and value chain practices. However, they also noted that special attention should be paid to herders as they are tied to cattle posts most of the time and therefore tend to be socially cut off from larger settlements where most opportunities are located.

4. Policy, legal and administrative framework

Since 1965, when Botswana began to prepare for transition from colonial administration to sovereignty, it has depended on carefully identifying and developing policies to guide its development path which started from a position of extreme poverty and inclusion in the United Nations list of Least Developed Countries in 1971. The adoption of a development path based on careful strategic planning and programming was meant to allow an extremely poor country to manage its resources prudently to achieve optimum results. In the context of a harsh, drought prone physical environment, planning with an eye on the possibility of adverse natural shocks was basically inevitable. In the early decades development largely focussed on policy that gave pride of place to economic development as the driver of transformation but closely tied up with social development policy that would also be transformative while also meeting social protection goals[17]. Environmental policies followed much later, facilitated by the country's rapid and sustained economic growth[18].

The role of policy as a tool for framing priorities and a guide to strategic interventions has continued to play an important role in Botswana's development. Consistently policy frameworks have also been guided by legal and institutional development to ensure governance based on the rule of law and institutional responsibilities for execution of projects and programmes. In this section the relevant policy frameworks and supportive legislation instruments will be described and reviewed to assess whether they are fit for purpose with regards to the proposed Ecosystem and Livelihoods Resiliency GCF project.

4.1. Governance, decentralisation and resource management instruments

A starting point is to look at the state of the enabling governance and institutional framework and the key role it will play in facilitating the project's objective of enhancing protection, restoration and sustainable management of communal rangelands. Here it should be noted that there has been a long-standing commitment to decentralised governance as a framework for realising national development goals. This has been reflected in successive national vision and mission statements, national development plans, evaluative, specific policy instruments, commission reports and the eventual development of a national decentralisation policy in 1993[19]. This policy sought to devolve power to local authorities so that they could assume

[17] See Transitional Development Plan, up to the latest NDP 11

[18] See Selolwane, Onalenna, Innocent Magole and Francis Nyathi 2015, Draft National Framework for Sustainable development. Commissioned by the UNDP for the Department of Environmental Affairs, Botswana Government, Gaborone;

[19] NDP 8 established the processes for planning for decentralisation and commissioned studies to that effect. NDP 9 moved the process further by actioning a Decentralisation Plan which, among other things, recognised that with rural districts dependent for 95% of their development budgets on central government, they would not have the autonomy envisaged. It noted (NDP 9 pg400) that effective decentralisation, however, requires that the transfer of responsibilities to Local Authorities be accompanied by a commensurate transfer of resources and authority, as well as the creation of the necessary revenue generating capacity. It also requires the development of appropriate enabling legal frameworks for the generation and management of these resources. NDPs 10 and 11 sought to operationalise the decentralisation by restructuring ministries and devolving some administration to districts.

responsibility and accountability for developing planning, budgetary processes and coordination of central government projects through their councils. The policy also envisaged greater involvement of communities in development planning through community-based organisations. It is still a work in progress because it takes time and resources to effect change and reform. The government started on that path with a restructuring and realignment of ministries and departments to make them more coherent in their mandates.

To facilitate capacity building to that end, the government initiated comprehensive local authority reforms during the life of the 2003/2009 National Development Plan that were meant to enable districts to take on responsibilities that used to be the purview of the central government. By 2014, more reform initiatives saw further devolution of responsibility and power from district to subdistrict levels. The principle of decentralisation has therefore been supported by policy and related legal reforms and has been reflected in various other policy fora such as the National Development Plans. However, while initiated in 1993, the National Policy on Decentralisation awaits finalisation to ensure that budgetary and other resources are managed by districts to give them effective autonomy. It has been an iterative process marked by stakeholder consultations, research, benchmarking, and careful deliberations to ensure smooth, gradual transition. This consultative process means that the development of an overarching, complete and comprehensive decentralisation policy to guide the decentralisation process is itself a work in progress, given that the actual decentralisation is evolving and the devolution of power, resources and responsibilities has been done in a rather piecemeal manner (Botswana Country Report to the Forests, Rangelands and Climate Change Adaptation in Southern Africa Forum, Johannesburg, 17–19 June 2013).

The following are some of the key legal instruments governing land and range resources and their management:

- The 2018 Tribal Land Act which superseded the 1968 Act and its amendments in 1991 (to support the then new Agricultural Policy) and 1993. The initial Act in 1968 transferred the land management and administration from chiefs to the Land Boards. Subsequent revisions maintained the Land Boards' mandate of governing the use of communal land while accommodating new policies in agriculture and decentralisation and the creation of subordinate land boards.
- The 2015 Forests Act, which was initially promulgated in 1968, to confer power to the Forestry Department of the Ministry of Agriculture (now relocated to the Ministry of Environment Natural Resources Conservation and Tourism) as the sole manager of forest reserves. Its objective is to regulate and protect forests and forest products in Botswana by establishing forest reserves. The 2015 Forests Act has broadened the mandate to provide for implementation of international conventions to which Botswana is a signatory: particularly the United Nations Framework Convention on Climate Change, Convention on International Trade in Endangered Species of Wild Flora and Fauna, the Convention on Wetlands of International Importance, especially as Water Fowl Habitat, the Convention on Biological Diversity, and the Convention to Combat Desertification. It has also diversified management to provide for the participation of local communities, local authorities, traditional institutions, non-governmental organisations and other stakeholders in sustainable forest management. It further allows for the establishment of the Forest Development Fund.
- The 1974 Agricultural Resources Conservation Act, which provides for the formation of a board, which is a corporate body, and conservation committees for decentralisation. It has had its subsidiary legislation revised in 2006, 2007 and 2011.
- 2016 Agricultural Resources Veld Products Regulations.
- The 1978 Herbage Preservation Act provides for herbage preservation committees across scale.
- The 1992 Wildlife Conservation and National Parks Act, which established Wildlife Management Areas and local advisory committees. It provides for the conservation and

management of the wildlife of Botswana including control and management of national parks and game reserves.

The above acts provide a legal framework for policies[20] related to land and resource management which include:

- the 1975 Tribal Grazing Land Policy;
- the 1986 Wildlife Conservation Policy (under review):
- the 1990 Conservation Strategy;
- the 1990 Tourism Policy (under review); Current Line Ministry: Ministry of Environment, Wildlife and Tourism;
- the 1991 National Policy on Agricultural Management Development;
- the 2002 National Ecotourism Strategy; Current Line Ministry: Ministry of Environment, Wildlife and Tourism;
- the 2002 Game Ranching Policy (GRP);
- the 2007 Community Based Natural Resource Management Policy;
- the 2011 Forest Policy; and
- the 2019 Revised Botswana Land Policy.

Since the 2016 restructuring[21] and realignment of ministerial portfolios, the new Ministry of Land Management, Water and Sanitation Services is the line ministry for the administration and management of land resources, water and sanitation. With regards to land, the Ministry discharges its duties through land boards and sub-land boards (based in the districts and subdistricts) as well as some key departments such as Town and Country Planning, Surveys and Mapping, Deeds Registry, Land Tribunal and the Department of Lands. The Ministry is responsible for national physical planning and determining land utilisation, management and development. It also provides services and information on cadastral surveying, mapping and remote sensing that inform physical planning. Its Department of Lands is responsible for allocating land in urban areas while the Land Boards are responsible for tribal land. An important guideline that the Ministry provides in relation to communal grazing lands is that fenced farming is not allowed. This is meant to protect these grazing areas to maintain the integrity of communal grazing ecosystems. But the guidelines also provide that for integrated farming even in communal areas the farms must be fenced and that "areas to be fenced are those deemed feasible for Commercial Livestock Production, following detailed Fencing Feasibility Studies"[22].

Restructuring also brought the management of water affairs and policy development to the Ministry of Land Management Water and Sanitation (formerly the Ministry of Lands and Housing). With regards to water affairs which are critical to rural and communal areas, the Ministry, through its Department of Water Affairs, is responsible for the provision of water to all sectors of the economy and for human consumption in rural and urban areas. It is also responsible for water infrastructure development as well as managing transboundary water resources and negotiations with other countries. The relocation of Water Affairs to the Ministry also extended the department's mandate to include integration of water management with land use planning and development: a mandate it was not used to covering in its old home.

[20] All the National Development Plans reflect the evolution of the national policies and the timing of their formulation.

[21] Strategies, implementation and reviews are of the restructuring measures and reflected in: i) Botswana Government (1997), National Development Plan 8: 1997/98-2002-03*. Ministry of Finance and Development Planning.* Government Printer, Gaborone; ii) Botswana Government,(2003), National Development Plan 9: 2003-04 – 2008/09 Ministry of finance and Development Planning, Government Printer, Gaborone; iii) Botswana Government (2009) National Development Plan 10: 2009/10 – 2016/17 Ministry of finance and Development Planning, Government Printer, Gaborone; and iv) Botswana Government (2017),. National Development Plan 11: 2017/18 – 2022/23, Ministry of finance and Development Planning, Government Printer, Gaborone.

[22] Guidelines for Integrated farming are reflected on the Ministry of Agriculture page of the Government of Botswana website. See also the following reviews of the integrated farming and agriculture sector: i) BIDPA 2012, A Study of the Contribution of Sustainable Natural Resource Management to Economic Growth, Poverty Eradication and Achievement of NDP 10 Goals *Sector Assessments: Tourism & Agriculture. Commissioned by the Ministry of Finance and Development Planning; ii)* Botswana College of Agriculture 2012, Consultancy for the Poverty and Social Impact Analysis of the Integrated Support Programme for Arable Agriculture Development (ISPAAD); UNDP, Gaborone.

Water management responsibilities, however, are also shared with the ministries of Agriculture (which is responsible for overseeing water for livestock and irrigation) and Wildlife and National Parks (with responsibilities for providing boreholes for watering wildlife). The parastatal Water Utilities Corporation was originally mandated to manage surface water and reservoirs, but now has the extended mandate to manage borehole water (boreholes used to be the responsibility of the Department of Water Affairs) as well where the institution lacks technical and resource capacity to deliver on its new mandate. In its Integrated Water Resources Management and Water Efficiency Plan volume II, the Department of Water Affairs[23] (2013: p.16) noted that: "Our policies are old, fragmented and often overlap. In many cases, Batswana do not have adequate understanding of these policies and the relevant officers who are responsible for their implementation, often lack their basic knowledge as well. There is therefore need to raise awareness and educate the public and civil servants on policies and how they link with policies from other sectors such as land".

This character of sectorial fragmentation and overlaps is very much a problem of most policies in Botswana. Despite having a National Strategic Office located in the Office of the President as well as a high powered Rural Extension Coordinating Committee, programme and policy coordination and synergy persists because the guiding laws and related policies remain in departmental silos and locked up in extremely slow processes of review. It therefore raises challenges for governance efficiency and effectiveness. The problem is further exacerbated by the lack of inter-policy coherence and cohesion necessary to support an integrated approach to adaptation and sustainable land use: particularly at local level where it matters most[24]. Climate change induced vulnerabilities make[25] it imperative to support a transformational agenda that will include policy reform, integration and alignment to enable long-term sustainability of communal rangelands. The piecemeal nature of attempts to decentralise resource management suggests that while this is a challenge it is also an opportunity that should be harnessed to improve governance for sustainable management and create a conducive enabling environment for the protection, restoration and long-term sustainability of rangeland ecosystems in the project target areas. Government has not only shown a willingness to reform, but is doing so by also accepting the need to change how consultations are done, particularly with affected communities and in line with an integrated, cross-sectoral approach.

Some key points to highlight about the enabling environment for governance and land management can be summarised as follows:

- There is a willingness on the part of government to develop the governance and management capacities of local level stakeholders by devolving power and resources as well as building the requisite capacities that have been concentrated at central government level.
- There is an appreciation that governance and management of resources, including land, must embrace and be guided by the principles of sustainable integrated planning — that takes into account the interests of multiple resource users and facilitates stakeholders — to ensure that all agents play their role to the collective benefit of people, ecosystems and

[23] Department of Water Affairs (2013: p16) Integrated Water Resources Management and Water Efficiency Plan vol II,(Government Printer, Gaborone).

[24] Stakeholder Consultations in Gaborone (27th June 2019), Kgalagadi District (Kang village: 8th; August 2019; Hukuntsi village: 9th August, 2019; Hunhukwe village: 12th November 2019; Zutshwa village 13th November, 2019); Bobirwa subdistrict (Selibe Phikwe, 3rd September, 2019; Bobonong, 4th September 2019 and (with Chiefs),7th Nov 2019; Tshokwe village, 7th Nov 2019; Lepokole village: 8th November, 2019); and Ngamiland (Maun village, 5th, 6th and 7th Aug and 7th October 2019; Gumare, 7th August; Nxaraga village, 7th Oct 2019; Thololamoro Cattlepost (Lake Ngami) 8th October 2019; Etsha 13 Village Meeting at: 9th October 2019; Sehithwa 10th Oct 2019; Kgabaganyane cattlepost, 11TH October 2019; Spanplek cattlepost, 11TH October 2019). For the GEF project workshops and meeting were held Kasane an villages in the Chobe enclave, Tutume and Francistown to cover the North East District officers in mid October and November, 2019.

[25] Stakeholder consultations in Kasane (14th and 15th October, 2019, Chobe Marina Lodge). One land board officer indicated that in the past, they took holding kgotla meetings as fulfillment of the requirement to consult even when the meetings were only attended by government extension officers and chiefs. She noted that now their superiors insist on attendance by villagers as an indication of consultation.

the economy, thus enhancing collective ownership and responsibility for process and outcomes.

- There are still no institutional structures to coordinate sustainable, integrated land and forest use at the local level. Line ministries still have control of their local level departments and units. It is imperative that the three levels of district, subdistrict and community have coordinating institutional frameworks to ensure vertical and cross-sectorial harmonisation.
- There is a need to highlight practical solutions to bring community stakeholders more effectively on board and to facilitate their effective participation. So far communities have been soundboards for consultations with little capacity building for the communities.
- Most of the policies and laws are rather dated and need an overhaul to meet the demands of the changing environmental, social and economic conditions made particularly urgent by climate change.
- There are institutional structures in place at national and district level that are mandated to play coordinating roles despite resource limitations. These include, at national level, the National Strategic Office, the Rural Extension Coordinating Committee and the Thematic Areas; and at district level, the DLUPU.
- Lastly, while land boards have played a very significant role in land management, there is no legal or policy barrier to enable communities to manage the communal rangelands they depend on without building fences that fragment and undermine the integrity of the ecosystem.

4.2. Environmental Policy and Legal Framework

While the existing policies are somewhat dated and fragmented, they nonetheless provide entry points for reform and restructuring in the drive towards integrated sustainable development and climate change adaptation. Since the 1980s, Botswana has come to recognise the importance of biophysical environmental health to the overall national development strategy. But for some decades, the responsibility for the management of environmental affairs and policy was rather isolated from other line ministries and economic sectors — except as a service in environmental impact assessments and oversight over policies built earlier and housed in different ministries. For example, the Department of Environmental Affairs adopted the principle of sustainable development more than two decades before it became a global principle driven by the United Nations; however, it was regarded as an environmental issue not quite related to the responsibilities of other ministries and departments. The principle was first adopted during the seventh National Development Plan[26] which noted, among other things, the importance of:

- current production methods not endangering the environment or limiting options for future generations;
- enhancing the human and physical capital by which future production can be increased;
- improving income distribution and taking into account the needs of the poor and the vulnerable; and
- carrying out current production efficiently.

With the 2016 public sector restructuring, the Department of Environmental Affairs is now housed alongside the Department of Wildlife and Tourism in the new Ministry of Environment, Wildlife and Tourism, where it has spearheaded the development of the National Sustainable Development Framework and other policy efforts to integrate sustainable development and climate change adaptation across economic and social sectors. Before and since 2016, a number of policies have been developed both to tackle environmental issues discussed above and to find new avenues for diversifying the economy. These were also meant to enhance national technical understanding of, and planning capacity for, environmental protection and

[26] Botswana Government, National Development Plan VII 1991/2 – 1996/97, Ministry of Finance and Development Planning, Government Printer, Gaborone: p24.

climate change resilience. Besides the policies and laws listed in the preceding section, other policies and laws specifically addressing environmental issues include[27]:

- the Botswana National Water Master Plan (1992);
- the Botswana Integrated Water Resources Management and Water Efficiency Plan (2013);
- the National Policy on Disaster Management (1996);
- the Botswana Waste Management Strategy (1998);
- the Botswana Energy Master Plan (2008);
- the Environmental Impact Assessment Act (2005, revised 2011);
- the Monuments and Relics Act (2001); and
- the Biodiversity Strategy and Action Plan (2004, revised 2007).

The draft Climate Change Response Policy[28] provides Botswana with a national vision that guides strategic interventions to build resilience to climate shocks and towards minimising national contributions to global warming. It is inclusive in its coverage of environmental, social and economic concerns, covering the following adaptation priority areas:

- agriculture and food security;
- water;
- human health;
- human settlement;
- forest management;
- land use/allocation;
- disaster risk management;
- biodiversity and ecosystems;
- infrastructure development; and
- gender differentiated vulnerabilities.

It includes mitigation measures such as:

- mitigation plans;
- use of carbon budgets and markets;
- sustainable energy;
- low-carbon transport systems;
- waste management; and
- sustainable procurement.

Botswana has also signed and ratified a number of significant international conventions and protocols that have influenced its environmental policies and practices. These include:

- the Johannesburg Plan of Implementation (2002);
- Rio+20 Outcomes (2012);
- Sustainable Energy for All (SE4ALL);
- the United Nations Framework Convention on Climate Change (UNFCCC) (1994);
- the Paris Agreement (2016);
- the Kyoto Protocol (2003);

[27] for detail see: i) Selolwane, Onalenna, Innocent Magole and Francis Nyathi 2015, *op.cit*; ii) the National Development Plan 11 (pages 133, 135, 143, 144 and 149; iii) Botswana Country Report, Forests, Rangelands and Climate Change Adaptation in Southern Africa, Johannesburg, 17-19 June, 2013.; iv) BIDPA 2012 A Study of the Contribution of Sustainable Natural Resource Management to Economic Growth, Poverty Eradication and Achievement of NDP 10 Goals *Sector Assessments: Tourism & Agriculture. Commissioned by the Ministry of Finance and Development Planning;* v) Arntzen, Jaap, 1998. Economic Valuation of Communal Rangelands in Botswana: a case study CREED Working Paper Series No.17, International Institute for Environment and Development, London, and Vrije Universiteit, Amsterdam; and vi) Bolaane, M. (2004) 'Wildlife conservation and local management: The establishment of the Moremi Park, Okavango, Botswana in the 1950s–1960s', Phd Thesis, University of Oxford.

[28] The draft Climate Change Response Policy seems to have disappeared off radar, according to one of the drafters, Lapologang Magole. NDP 11 now refers to a National Climate Change Policy and Strategy and Action Plan, whose preparation started in 2015 with the support of the United Nations Development Programme (UNDP), and is due to be finalised during this current Plan (NDP 11 pg 135.).

- the Convention on Biodiversity (1992);
- the UN Convention to Combat Desertification (1995); and
- the Ramsar Convention (1992).

At the continental level, Botswana has championed the Gaborone Declaration for Sustainability in Africa (GDSA) agreed by 10 Africa Heads of State in May 2012 (now with 14 signatories). Botswana provides a Secretariat for this purpose. It is also one of the few developing countries participating in a global initiative on natural capital accounting, a tool for sustainable development, through the Wealth Accounting and Valuation of Ecosystem Services (WAVES) initiative[29].

In the context of the proposed project and the need for policy coherence, Botswana's environmental policies are horizontally and vertically fragmented. They are implemented by various sectoral departments and their line ministries. They need consolidation and an overarching framework to bring them together for internal cohesion as well as integration to other policies relating to sustainable social and economic development anchored on sustainable resource governance. Currently there is no comprehensive overarching environmental law[30] that compels compliance. But there are a few key developments that need highlighting for purposes of the proposed project. These are:

- There is a strong commitment in terms of policy and strategy review to broaden the scope of environmental policies to impact on all key economic sectors. While this is also a learning process, it creates a conducive environment for projects that seek to strike a judicious balance among environmental, social and economic policies to break down historic sectoral silos.
- Recent environmental policy initiatives are using the integrated, sustainable resource management approach to create new ways of using and managing natural resources and ecosystems.
- Environmental policies cover most aspects of Botswana's flora and fauna, with an emphasis on conserving their biodiversity while sustaining the consumption needs of multiple and often conflicting ecosystem stakeholders.
- The need for interventions to arrest, reverse and sustainably maintain ecosystems cuts across all environmental policies.
- Policies also recognise the importance of market incentives as a component of sustainable resource use and environmental protection.

4.3. Social Policy Framework

Social justice has been a guiding principle of Botswana's development path from the very first national development plan made to help transition the country from colonial rule to independence. The policy framework sought to link the need to uplift the material conditions of the citizenry with the need to build a cohesive nation out of the many traditional policies that had been brought together and held together by an externally-based foreign power. To that end, social policy has evolved to serve both its core roles of distribution, protection and reproduction, as well as the developmental role of supporting investment in productive activities and human capabilities. Linking social and developmental roles was in clear recognition of the impact of their dynamic relationship on the outcomes of development. This was reflected, for instance, in how, even in the early years of independence when Botswana was emerging from a severe drought requiring the protection of its people from this disaster,

[29] WAVES (2016) Botswana Country Report , Global Partnership for Wealth Accounting and Valuation of Ecosystem Services, World Bank Group. According to Tsalano Kedikilwe of the department of Environmental Affairs, Botswana is not included in the current round of support for Wealth Accounting (telephonic conversation with Ms Kedikilwe on 3rd February 2020).

[30] The missing environmental law was flagged by contributions from stakeholder consultations for the Tutume sub district Global Environment Facility project proposal: "Integrated Sustainable and Adaptive management of natural resources to support land degradation neutrality and livelihoods in the Miombo-Mopane landscapes of north eastern Botswana" 16th- 17th October, 2019.

food aid transfers were immediately linked to labour-based projects so that communities could provide necessary infrastructure developments for which funding could not be secured[31].

In the context of the outcomes of past policies for both the population and economy, the impact of climate change and global warming demand new thinking and new evaluation of the policy framework to enhance adaptation to climate change. Policies have been developed to deal with the challenges of uplifting the economy as well as reducing poverty, which are based on the understanding of established historical patterns of rainfall and drought cycles that had not changed dramatically in living memory. The principle of social justice embedded in policy making recognises the human rights of people and the core roles they play as producers of the means of their welfare and survival, as beneficiaries and custodians of the natural capital from which they derive their livelihoods, and as beneficiaries and consumers of the outputs of human productive labour. Botswana has translated this core principle into policies and programmes that have included:

- Formal social insurance programs guided by the promulgation of law, labour market regulations and policy reform, including: minimum wages, protection against occupational risks, pensions and provident fund schemes, and gratuity and severance pay.
- State sponsored measures specifically aimed at providing social protection and income support for the poor. These fall into three broad categories:
    1. Measures against food deficits, hunger and malnutrition: targeting the destitute, vulnerable children, remote area dwellers, institutional feeding schemes, etc. There are a number of these for the various target groups. The following are indicative:
        i. 2002 Revised National Policy on Destitute Persons and guidelines; and
        ii. 1975 Remote Area Development Policy and Programme. It started in 1975 as the Basarwa Development Project and later changed into a Remote Area Dweller Programme in 1978 and then reoriented in the 1990s to its current form and content.
    2. Labour-based programmes to protect against unemployment and income vulnerability. This currently includes:
        i. Ipelegeng[32]: started in 1965 as a famine relief, labour-based project providing food packages and was upgraded to a rotational and short-term employment programme in 2008 to offer cash for public works. During the 2010/11 financial year, BWP 278 million (~US$ 25 million) was spent on this programme. Subsequent years saw it taking up 28% of the budgetary allocation of the Ministry of Local Government and Rural Development which translated to BWP 581 million (~US$ 52 million) in both 2013/14 and 2014/15 and BWP 636 million (~US$ 57 million) in 2015/16 to 2019/20.
        ii. 2009 Revised Remote Area Development Programme (RADP) Guidelines[33]: This programme targets people living in remote areas that

[31] Selolwane, O. (2012) "Welfare, Social Protection and Poverty Reduction"in Onalenna Selolwane (ed) *Poverty Reduction, and Changing Policy Regimes in Botswana* [Palgrave-Macmillan]; BIDPA and World Bank, 2013, Botswana Social Protection Assessment, World Bank.

[32] Project evaluations of Ipelegeng suggest that although it has made some contribution to poverty reduction, its successes are far outweighed by its failures due to poor programme designs and flawed implementation. And that it has actually failed to deliver on set objectives. See Nthomang, Keitseope, 2018 Botswana's *Ipelegeng* Programme Design and Implementation: Reduction or Perpetuation/Entrenchment of Poverty? Asian Journal of Social Science Studies; Vol. 3, No. 3; Online publication URL: https://doi.org/10.20849/ajsss.v3i3.445; Maundeni, Tapologo and Rodreck Mupedziswa (2017) Social assistance programmes in Botswana: Efficiency and effectiveness *International Journal of Development and Sustainability Volume 6 Number 7 (2017): Pages 426-442;* BIDPA, (2012) Final Report for the Review of Ipelegeng Programme. UNICEF- Botswana and Botswana Government, Gaborone; Botswana Government, 2010, A Social Development Policy Framework for Botswana Phase I: Situation Analysis UNICEF and Regional Hunger and Vulnerability Program; BIDPA and World Bank, 2013, Botswana Social Protection Assessment, World Bank.

[33] The Remote Area Development Programme has been reviewed several times. See Botswana Government, 2010, A Social Development Policy Framework for Botswana Phase I: Situation Analysis UNICEF and Regional Hunger and Vulnerability Program; Saugestad, S. (2005) '"Improving their lives": State policies and San resistance in Botswana', Before Farming, vol 4, pp1–11 ; Saugestad, S. (1998) The Inconvenient Indigenous: Remote Area Development in Botswana, Donor Assistance and the First People of the Kalahari, University of Tromso, Norway ; Saugestad, S. (2006a)'San development and challenges in development cooperation', in R. Hitchcock, K. Ikeya, M. Biesele and R.B. Lee (eds) Updating the San: Image and Reality of an African People in the 21st Century, Senri Ethnological Studies vol 70, pp171–180;.

are far from amenities and opportunities usually associated with larger settlements. Most of the beneficiaries are people of Khoesan descent (Basarwa). It has a mechanism called the Economic Development Fund, which uses the RADP to support income generation and employment projects by providing investment funds and infrastructure for projects ranging from tanneries to livestock, handicrafts and poultry, as well as, skills upgrade and assistance to access other enterprise development funds (such as the Citizen Entrepreneurial Development Agency (CEDA), 2001).

3. Input subsidies for small farmers and small, micro- and medium-enterprises and various other programmes[34]:
    i. 1999 Small Micro and Medium Enterprises Policy
    ii. 2001 Citizen Entrepreneurial Development Agency (CEDA)
    iii. 2010 Community Development Project which translated the 2010 Poverty Alleviation Roadmap into projects. BWP 570 million (~US$ 51 million) is allocated annually to these projects and account for 25% of the line ministry's development budget (Ministry of Local Government and Rural Development).
    iv. 2010 Poverty Alleviation Roadmap + Guidelines
    v. 2010 Revised National Food Strategy

- Basic social services: education, energy, health, housing, sanitation, water, and transport and communication:
    i. 2003 Botswana Energy Master Plan
    ii. 2008 Tertiary Education Policy: Towards a Knowledge Based Society
    iii. 2009 National Energy Policy Implementation Strategy
    iv. 2010 Botswana Housing Policy
    v. 2011 Revised National Health Policy
    vi. 2015 Botswana Education and Training Sector Strategic Plan 2015–2020
    vii. 2015 Botswana Energy Policy
    viii. Botswana ICT Policy
- Macroeconomic policies that create a general environment for enhancing employment creation and income generation and reduce the likelihood of high rates of inflation.

Collectively these polices have served to uplift people from a general state of poverty to higher quality of life as evidenced by Botswana's ranking on the Human Development Index[35]; however, there has been a persistent gap between the human development index and the GDP per capita ranking that is indicative of failures to uplift social conditions to levels commensurate with the status of national wealth. One of the fundamental flaws of existing social policies and programmes is that they tend to be focussed on specific target beneficiaries, are rather fragmented in approach, and are not sufficiently articulated with economic and environmental issues to develop synergies for dynamic, mutually reinforcing growth. Their sustainability is thus compromised and highly vulnerable to the shocks of climate induced economic production downturn and environmental degradation. Further, typical of Botswana's general policy environment, they are overly dependent on state financial resources, which in turn are derived from a narrow base of economic activities dominated by the mining sector.

The proposed project on livelihood resilience and ecosystem-based adaptation will need to disrupt the status quo to engender adaptation and resilience in social development policies and programmes. Botswana's labour-based programs[36], for instance, can be transformed in

[34] See Selolwane, Onalenna, Innocent Magole and Francis Nyathi 2015, op cit; UNDP-UNEP, 2013 Policy Brief Support to smallholder arable farmers in Botswana: agricultural development or social protection? Results and policy implications from a Poverty and Social Impact Analysis; BIDPA and World Bank, (2013), Botswana Social Protection Assessment, World Bank.
[35] Human Development Report 2019 Inequalities in Human Development in the 21st Century : *Briefing note for countries on the 2019 Human Development Report :* Botswana, UNDP
[36] Selolwane, Magole and Nyathi 2015, op cit.

environmentally friendly ways of clearing the commons and road maintenance, that are further linked to eco-friendly waste management strategies such as preparing fodder or making compost from plant material. The value chains in such work are underdeveloped and undervalued. They can be linked to economic activities that enhance job creation while protecting and nurturing the environment and reducing waste. These opportunities for creating linkages and synergising programmes have not been sufficiently pursued because of a lack of horizontal connections between economic and environmental concerns. This results in overlaps and unsustainable use of social protection resources such as Ipelegeng and the poverty eradication initiatives under the Community Development Projects, which between them take up more than BWP 1.2 billion (~US$ 108 million) per annum.

Policies pertaining to gender are well discussed in the gender assessment (Annex 8).

4.4. Economic Development Policy Framework

Botswana has relied on macroeconomic instruments as one of the core drivers of economic transformation, which has supported the country's move from one of the poorest in the world to upper-middle income status in the five decades since independence. In that framework, the key instruments have included monetary, exchange rate, fiscal, and foreign direct investment policies. Monetary policy is largely used to promote growth and maintain stable consumer incomes by controlling inflation. Exchange rate policy contributes to growth through maintaining and enhancing the international competitiveness of domestic producers by ensuring that the real exchange rate is not misaligned. Fiscal policy strives to avoid overspending in order to maintain constant yearly growth rates in real expenditure irrespective of fluctuations in domestic revenues. Foreign direct investment policy is meant to attract foreign investment into Botswana and has been ineffective with levels remaining low.

The below macroeconomic policies are sectoral policies directed at engendering growth in specific sectors identified as having the potential to drive the economy or contribute to employment creation and income distribution. Primary sector policies cover agriculture and minerals, while secondary sector policies comprise manufacturing, water, electricity, and construction. These are followed by policies for growing the tertiary sector: trade, tourism, hotels and restaurants, transport and communications, banking, insurance and business services, general government, social and personal services. With regards to the proposed project the key economic policies are those related to rural and agricultural development. These have included both implicit policies contained in various National Development Plans (NDP2: 1973–78; NDP3: 1976–81; NDP5: 1979–85; NDP6: 1985–91; NDP7: 1991–1997; NDP8: 1997–02; NDP9:2003–08; NDP 10: 2009–2016; and NDP 11: 2017–2023) and explicit policies and legal frameworks such as:

- Agricultural Development Policy, 1991;
- Arable Lands Development Programme (ALDEP), 1981;
- Accelerated Rainfed Programme (ARAP);
- Agricultural Management Associations Act, 1978;
- Gazettement of Agricultural Land;
- Agricultural Resources Conservation;
- National Early Warning System;
- National Food Strategy;
- National Forest Policy;
- National Master Plan for Arable Agriculture and Dairy development (NAMPAAD);
- Rural Afforestation Program;
- Services to Small Livestock owners in Communal Areas (SLOCA);
- Sustainable Economic Diversification;
- Tribal Grazing Land Policy (TGLP), 1975; and

- Rural Development Policy.

Economic development policies and programmes have enjoyed pride of place in Botswana's development strategies. And they have generally delivered considerably in key aspects like engendering rapid and sustained growth, giving Botswana financial resources to manage its sovereign affairs and challenges of overdependence on a single commodity, and transforming Botswana into an upper-middle-income economy. But they have been less successful in terms of delivering diversification of the economic base, broadening sustainable employment creation, creating sustainable jobs and income distribution, and generally reducing poverty and income inequality sustainably[37]. Many of the policies have not only failed to deliver growth (particularly in the agricultural and rural sectors), but may have actually exacerbated and perpetuated poverty and social injustice. The case in point being the 1975 Tribal Grazing Land Policy and the 1991 Agricultural Policy. When the Tribal Grazing Land Policy was being implemented in the 1970s it was already clear to policymakers and implementers that: i) there was opposition to the policy on grounds of the stocking limits it intended to set; ii) the adverse effect that privatisation of grazing land would have on the interests of poor, stockless residents[38]; and iii) it was also discovered that there simply wasn't enough land to set aside for future use and that the poor, stockless population that would be adversely affected were substantial in number. The policy was nonetheless implemented because, in the words of the then president, Sir Seretse Khama (1975): "The time has come to tackle a subject about which there has been a lot of talk but no action - the better use and development of our land. As our human population and the numbers of our cattle and other livestock increase there is a growing danger that grazing will be destroyed by uncontrolled use of communal grazing areas by ever growing numbers of animals. Once grazing has been destroyed it is extremely difficult to get grass re-established. And under our communal grazing system it is in no one individual's interest to limit the number of his animals".

This was a serious misconception about communal grazing lands which would continue to inform successive policy initiatives such as the 1991 Agricultural Policy. Contrary to such misconceptions about the management of communal grazing lands, it has increasingly been proven that customary practices in fact used land overseers who assisted tribal authorities to manage controlled grazing and facilitate collective movements of livestock between winter grazing and summer grazing areas, which enabled the ecosystem to rest and recover[39]. It has been argued that Botswana's agricultural policies have been part of the problem rather than the solution to the challenges of agricultural development. Multiple studies[40] have argued that

[37] This has been acknowledged in successive National Development Plans: including NDP11 (2017). See also Selolwane, 2012, O "From National Poverty to Peoples' Poverty in Changing Policy Regimes" in Onalenna Selolwane (ed) *Poverty Reduction, and Changing Policy Regimes in Botswana* **[**Palgrave-Macmillan and UNRISD, Basingstoke]; Simphambe, Happy Kufigwa, 2012, Development Strategies and Poverty Reduction in Botswana" in Onalenna Selolwane (ed) *Poverty Reduction, and Changing Policy Regimes in Botswana* **[**Palgrave-Macmillan and UNRISD, Basingstoke]; Moepeng, P. (2010). Rural Poverty in Botswana Saarbrücken, Germany, Lambert Academic Publishing; Ellis, Frank, Nicholas Freeland, Dolly Ntseane , Tebogo Seleka, Stephen Turner, and Philip White (2010) A Social Development Policy Framework for Botswana: Phase I: Situation Analysis, Department of Social Services, Ministry of Local Governmen, Botswana Government.

[38] Botswana Government, NDP 1985-91: Ministry of Finance and Development Planning, Government Printer, Gaborone. p183); Wily, Elizabeth A. (1980) *Land Allocation and Hunter-Gatherer Land Rights in Botswana: The Impact of the Tribal Grazing Land Policy*. Human Rights and Development Working Papers No. 4. London: Anti-Slavery Society.; Wily, Elizabeth A (1981) *TGLP and Hunter-Gatherers: A Case Study in Land Politics*. Gaborone: National Institute of Development and Cultural Research.

[39] Scholarly evidence is provided by Basupi, Lenyeletse Vincent , Claire Helen Quinn and Andrew John Doughill, 2017: Historical perspectives on pastoralism and land tenure transformation in Ngamiland, Botswana: What are the policy and institutional lessons? **Pastoralism: Research, Policy and Practice (2017) 7:24**; Behnke, R.H., I. Scoones. & C. Kerven (eds.) (1993) Range Ecology at Disequilibrium: New Models of Natural Variability and Pastoral Adaptation in African Savannas. Overseas Development Institute, London . Stakeholder consultations for this proposal in the villages of Etsha 13, Sehithwa, Hukuntsi and Nxaraga has documented inputs from communal rangeland farmers indicating traditional strategies for winter and summer grazing..

[40] Abel, N.O.J., and P.M. Blaikie, 1990. Land degradation, stocking rates and conservation policies in the communal rangelands of Botswana and Zimbabwe. Pastoral Development Network Paper 29a (May 1990), Overseas Development, Institute, London; Perkins, Jeremy (1996), Botswana: Fencing Out the Equity Issues: Cattleposts and Cattle Ranching in the Kalahari Desert (Journal of Arid Environments, 33: 503 - 517); Cullis and Watson (2005)), Winners and losers: privatising the commons in Botswana, IIED, Hertfordshire; Doughill, Andrew J, Lawrence Akanyang, Jeremy S. Perkins, Frank D. Eckardt, Lindsay C.

the privatisation of the commons and the animal disease control fences set up to protect the beef industry, have in fact: i) fragmented the ecosystem; ii) reduced grazing areas; iii) undermined the integrity of communal farmers' coping strategies for drought conditions; and iv) cut the migratory routes of wildlife with a heavy toll on biodiversity. Additionally, it has been noted that when biological carrying capacity is exceeded, the outcome is that animals would either naturally die from lack of water and pasture or must be reduced by their managers.

The adoption of sustainable development principles has set a new policy/strategy agenda that demands re-examining past failures and recasting programs to include the interests of those who have been, and continue to be, marginalised. This new policy environment is therefore conducive to innovative strategies that seek restoration of degraded and degrading ecosystems and inclusion of indigenous knowledge systems woven judiciously with new scientific knowledge and technology.

4.5. Relevant GCF and CI policies

Numerous GCF and CI policies and guidelines have been consulted during the development of the proposed project. Relevant policies and guidelines are presented below.

GCF Policies and Guidelines

- Environmental and Social Policy
- Indigenous People Policy
- Gender Policy and Action Plan
- Policy on Prohibited Practices
- Policy on the prevention and protection from sexual exploitation, sexual abuse, and sexual harassment
- Procedures and guidelines of the Independent Redress Mechanism

CI Policies and Guidelines

- GEF/GCF Environmental and Social Management Framework
- Botswana Safety and Security Plan
- Crisis Management Plan
- CI's GCF COVID-19 guidelinesCode of Ethics
- Accountability and Grievance Mechanism
- Prohibited Practices

5. Baselines: Environmental and Social Conditions

The project will be launched from a background of antecedent social, livestock management, and environmental conditions that affect the choices to be made and have set a background of issues to be tackled. From a sustainable development perspective, it is not how each of the environmental, social and economic components appears but how they link and dynamically impact one another. In this section, the paper describes and assesses some of the key conditions that will have a bearing on project implementation. It will start with people in terms of numbers, population structure and other demographic dynamics. Then to be discussed are other social conditions concerning incomes, quality of life, access to basic social services and livelihoods, and key economic and environmental concerns. Each site will have an ecological and social baseline within 6 months before implementation of the project at the site begins in order to work off an actual realistic baseline (see Project Activity 2.2.1) Data for the last mile

Stringer, Nicola Favretto, Julius Atlhopheng and Kutlwano Mulale (2016), *Land use, rangeland degradation and ecological changes in the southern Kalahari, Botswana.* African Journal of Ecology 54, 59–67; Basupi et al (2017), ibid.; Darkoh, BK. and Joseph E Mbaiwa (2010), Land-use and Resource Conflicts in the Okavango Delta, Botswana. Harry Oppenheimer Okavango Research Centre, Maun.

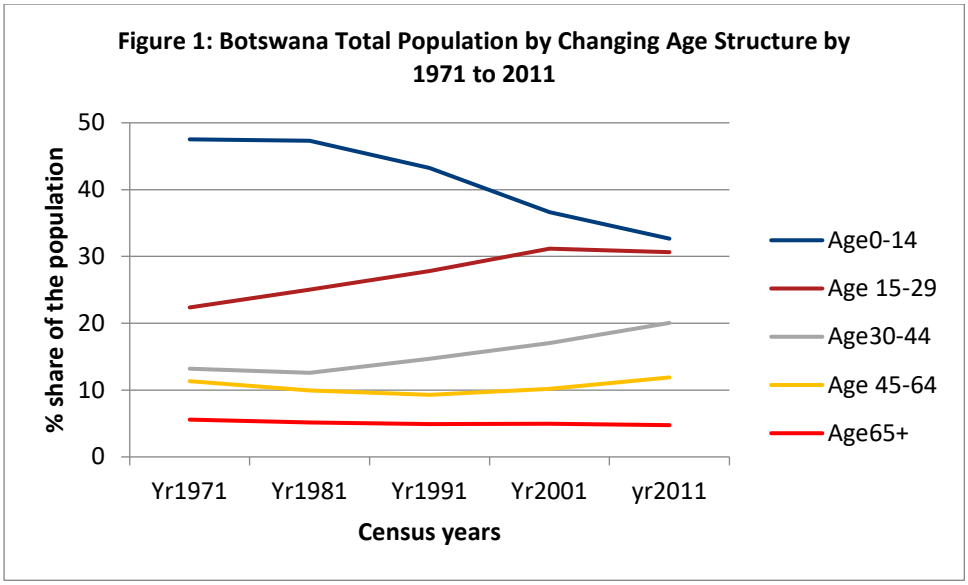
communities is extremely limited and the project aims to systematically secure and database baseline data for each of the 104 villages and their grazing areas using the Rangeland Stewardship Information Portal system (Output 1.4).

5.1. The Demographic Component

Population composition, distribution and structure provide baseline information about the people the project intends to help. The number of human beings in any one locality has a bearing on the demand they put on resources around them and also indicates their requirements and the potential they have to drive production and manage environmental resources*.* Their movement and settlement patterns reflect on availability of resources as well as opportunities perceived by the people and how they motivate land use and migration. Because of limited availability of comparable data at district level, it is useful to use aggregate national patterns in order to draw inferences from the more limited local level quantities and qualities of data.

Population size and age/sex composition are the most basic of the demographic indicators. On that basis, we can highlight useful critical patterns and trends. At both national and local level of districts, the number of people has increased substantially since 1971 when the first comparable census was taken. In quality of life terms, the earlier decades show populations with high dependency ratios at household and aggregate level. For instance, children below the age of 15 accounted for 48% of the population in 1971, but gradually reduced their share to just one-third by 2011 (Figure 1). This has therefore seen the proportion of people of productive age increasing their share to become the majority. In an economy that can productively engage its working age population, this shift in age structure provides the capacity to use human resources productively to grow the economy and increase household incomes. In rural areas, where subsistence activities and the reliance on ecosystem resources and services is high, the availability of productive labour resources is very important to survival and coping strategies. Table 1 shows what the population size was in 2011 in the three target districts and what it is projected to be by the end of the project's life.

The 2011 enumerated population data indicated that children under 15 years accounted for 41% of the population in Ngamiland West while the elderly (over 64 years) made up 6%. Ngamiland West is lagging behind national trends where children below 15 years have dropped their share of the population while those in the productive age bracket of 15 to 64 have increased in proportion, thus drastically reducing the dependency ratio. Bobirwa, Kgalagadi South and Ngamiland East also have youth percentages that are higher than the national average at 37, 36.6 and 35%, respectively. Youthful and elderly dependents put a heavy burden on family households, particularly where employment opportunities are limited, cash incomes low and poverty incidences high. This is also a serious challenge in communities where multiple sources of livelihoods are a critical part of survival and welfare. Poor communities have a tendency for persistently high dependency ratios because the older, productive age cohorts move away to bigger settlements for schooling, employment or opportunities for better income generating activities.



Source: Compiled from several census reports.

Figure 3. Botswana total population by changing age structure (1971–2011).

Table 1. Enumerated population in 2011 and population projections to 2026 in the three target Districts.

Table 1	Actual	Projected Population Growth							
District	2011	2019	2020	2021	2022	2023	2024	2025	2026
Bobirwa	71,936	75,172	75,410	75,613	75,780	75,909	75,999	76,050	76,062
Ngamiland	171,798	174,859	177,929	181,003	184,073	187,136	191,132	194,374	197,611
Kgalagadi	56,369	57,327	58,288	59,251	60,212	61,171	62,125	63,075	64,019
Total	276,714	313,408	317,684	321,919	326,109	331,189	335,472	339,705	343,890

Source: compiled from 2011 Population Census

Ngamiland accounts for the biggest population in the project target districts at 55% of the 2011 total population in the three areas. It is projected to increase its share up to 58% by the end of the project cycle. Most of the District's growth is centered around the capital, Maun, which is the gateway to its tourist industry. Maun has grown rather rapidly from 1981 when it was the 6th largest agro-village in the country after Serowe, Mahalapye, Molepolole and Kanye. It moved to second position among the urbanising villages in 1991 and has retained that position, while Serowe and Kanye dropped down to 3rd and 4th in 2001 and 4th and 5th in 2011. The only other settlement in the district that grew to qualify as an urban village was Gumare. Its status as a subdistrict has been a result of its rapid growth from under 1,800 people in 1981 to more than 8,500 in 2011. Gumare attained the status of an urban village (i.e. more than 5,000 people where 75% of households derive income from non-agricultural sources) after the 2001 Census. In the Bobiwa district, only Bobonong and Mmadinare are urban villages.

Bobonong is less than a third the population of Maun while Mmadinare is just a quarter of Maun. The Kgalagadi district has no settlements yet qualifying for the status of urban village as most of its settlements are typically less than 5,000 people. What this means is that in Kgalagadi there has been no major economic activity that would have driven villages to grow to urban village status. Outside the four villages mentioned above, the three districts are characterised by a string of small villages that still largely rely on ecosystems for their livelihoods. In the bigger villages women account for a bigger share of the population while the smaller villages have more men. Cattle post areas (small settlements where communal land farmers keep their cattle separate from crop farming areas and village homes) are

typically male-dominated areas, but now have families permanently residing there as reflected in Table 2. In Ngamiland East where there is a significant population of Ovaherero and Ovanderu, the cattlepost population indicates a large proportion of females residing at the cattleposts because of the culturally significant role women play in cattle management. Gender-specific roles for women that are unique to Ngamiland are the milking of cattle, processing milk and preparing firewood for nighttime fires. Across the project sites, women's responsibilities related to pastoralism may additionally include collecting water from boreholes and travelling to cattleposts to water and kraal livestock.

Table 2. 2011 Enumerated Population Residing in Cattleposts

2011 Cattlepost Population in Project Districts	**Total**	**Male**	**Female**	**No/Posts**	**%femPop**
Bobirwa	4117	2712	1408	178	**34**
Ngamiland East	4948	2882	2976	241	**60**
Ngamiland West	2824	1445	1379	104	**49**
Kgalagadi South	2029	1363	666	156	**33**
Kgalagadi North	785	595	200	88	**25**
Total	**14,703**	**8997**	**6629**	**767**	**45**

Table 3. 2011 Enumerated Population Residing in Villages, Size of District Villages and Gender Identity

2011 District Pop In Village Settlements	**Male**	**Female**	**Total**	**% Female**	**% distribution**
urban village pop	62,811	71,540	134,351	53	56
villages 2000-4999	19,243	21,963	41,206	53	17
Villages 1,000-1999	15,719	17,615	33,334	53	14
Villages 500 - 999	10,464	11,764	22,228	53	9
Villages less than 500	3397	3518	6915	51	3
Total	**111,634**	**126,400**	**238,034**	**53**	**100**

The fact that most of the settlements in these districts are still classified as villages rather urban villages[41] simply shows that modern sector economic activities do not yet provide the majority of residents with income and employment. Typically, the larger villages have a larger proportion of females, than the smallest ones. Cattle-posts[42] are also typically away from main village settlements and tend to be settled by male herders. often with their families if they are older. As these are rural areas, they also reflect their historical roots as ethnic domiciles. In Ngamiland, as previously mentioned, the Ovaherero and Ovanderu predominantly occupy the Lake Ngami areas — with their cattleposts spreading in a radius that captures the ecosystem contours of dry season and wet season habitats. The Wayei tend to hug the Delta on the western side from Tsau village to Gumare, while the Hambukushu spread from Etsha up the panhandle. Basarwa communities have generally been displaced from most of their ancestral localities around the Okavango Delta and the lake ecosystems. They now typically occupy peripheral cattle posts and settlements set aside for their communities (Remote Area Dweller settlements). Their legacy is in the names of villages now occupied by other ethnic groups. Batawana are found mostly around the district capital Maun, with their land areas and cattle posts also spread out in various directions from that epicenter [43].

[41] Botswana classifies its settlements as i) Urban: meaning areas whose economic activities are predominantly industrial, commercial and the incomes of people deriving principally from these cash based sources; ii) Urban villages: are settlements with a historical base in farming, but which have grown to population size above 5,000 and where 75% of the population relies on non-agricultural income sources; iii) villages: are settlements of less than 5,000 people where agriculture is the main income source for the majority of the residents; iv) small settlements: are located in areas designated for arable farming, cattle posts or camps. Cattleposts are the principal areas for communal land grazing where people raise their cattle. Lands areas are communal lands for arable farming.

[42] Cattle posts are communal rangeland areas used predominantly for keeping cattle. The traditional settlement patterns among agro-pastoralist communities involved three localities: i) a village home close to political administration; ii) an agricultural land area some distance away from the village (families moved there during the ploughing and harvesting seasons); and iii) a cattle post even further off where people kept their cattle and herders were permanent residents.

[43] see Tlou, Thomas. (1976) 'The peopling of the Okavango Delta 1750–1906', Symposium on the Okavango Delta, Botswana Society, Gaborone, Botswana

In the Kgalagadi district the main ethnic group is Bakgalagadi. They too have minority Basarwa communities living in smaller peripheral settlements and often provide herding services to the dominant group. In Bobibrwa, the ethnic groups are rather mixed, though Basarwa also occupy the peripheral settlements (remote area dweller settlements) and cattle posts. These settlement patterns suggest that the proposed project will directly affect the Basarwa communities residing at the cattle posts as herders. These are also the most adversely affected locations due to the impact of climate change and the concentration of cattle.

Gender-specific roles vary considerably in Botswana, both in terms of household- and livestock-related labour. Division of labour in households is skewed towards women. This may be compounded by customary law being applied in marriages, meaning that some women in rural areas may be subordinate to men. Discussions with women and men in the project areas — as presented in Annex 8 Gender Assessment and Action Plan — indicate that both women and men sleep at approximately the same time. However, depending upon the area, the amount of work that they do during the day and evening can differ largely (for example, men are responsible for dealing with livestock and conflicts with wildlife in Bobirwa and Ngamiland. Women are generally responsible for taking care of the family, which includes preparing the children for school while the men travel to the cattle posts and take care of livestock. Additional chores of women include water and fuelwood collection, whilst some women are employed in Ipelegeng and therefore have to be at work from 6am to 1pm. Women that are not married or do not have male partners, often travel to the cattle-post after Ipelegeng to water their livestock, and later kraal. Additionally, milking may also be done in the evenings and girls are taught as early as 9 years old to perform this task. Men, however, often have leisure time in the evenings while women perform unpaid work.

5.2. The Socio Economic Component

5.2.1. Social Conditions

As noted in the policy assessment briefing, social justice has been an integral part of Botswana's development strategies since independence. It is also an area that has proved rather difficult to achieve to a level that is on par with national wealth creation — as evidenced by persistent rates of poverty, inequality, unemployment and general policy failure in the production sectors most capable of employment and wealth creation. In fact, some of the past development policies have had negative impacts on people's welfare in rural areas. As already noted earlier, the fencing component of Botswana's policy for rangeland development has had adverse effects on communities that were either rendered landless, as in the case of Basarwa in the 1975 Tribal Land Grazing Policy, or whose rangeland was drastically reduced and fragmented, as has been the case with the pastoralist communities around Lakes Ngami, Nxaraga and the Okavango Delta. The creation of national parks and game reserves has similarly been accompanied by relocations of some communities and their resettlement in new locations. The social impact of these on the affected communities has been well documented and can be summarised as: i) lost land rights and restrictions in access to critical ecosystem resources; ii) increased pressure on limited land resources that induce degradation and compound drought related challenges; and iii) increased conflicts among different land users, between wildlife and livestock and between different land uses. These impacts have also been compounded by rising populations of humans and livestock, drilling of boreholes to make areas more habitable, and a host of other human activities.

Perkins (1996; p509) observed that disease control fencing, for instance has reduced the opportunity for hunting and gathering due to dramatic reductions of ungulates and loss of wild food plants, forcing herders and their families to rely heavily on milk and drought relief. The TGLP farms have had the added impact of transforming Basarwa ancestral lands into private farms and Basarwa into a community of squatters (Perkins, 1996; Campbell, Main and

Hitchcock; 2006; Saugestaad)[44]. In relation to fragmented ecosystems[45] Basupi, Quinn and Doughil (2017) and Magole (2009) have argued that this has left the pastoralist farmers in a worsening situation of vulnerability, eroded customary collectively held grazing lands and natural resources and led to a loss of ecosystem-service diversity. The negative impact of past policies on the capacity of communal rangeland producers to engage in improved livestock production and arrest continued fragmentation of ecosystems has now become an urgent problem that the proposed project seeks to address to reduce vulnerability and enhance adaptation in the context of climate change.

Botswana has performed more laudably in terms of providing some of the key basic social services that enhance quality of life and prepare people for productive engagement. Generally these services include education, health, housing, transportation, communication, water and sanitation, energy, and the provision of education, health and water. In terms of education, most citizens in rural and urban areas have now had access to education up to secondary school. By 2010, Botswana had reduced the proportion of working population with no education from 73% in 1960s to just 16% for those aged above 24. In the same period, it had shifted educational attainment up to secondary school in this age group from a mere 2% in the 1960s to 71%. Lower down the age groups more than 95% of youth below the age of 25 have attained at least secondary education. Limited employment opportunities in the smaller villages tends to pull the more educated population out of their rural villages into larger, more urbanised settlements where employment and income opportunities are better.

Further, despite the good performance on basic education in terms of access and attainment, there is persistent concern in the industry sector that the state of skill levels in Botswana is mismatched with the requirements of the labour market. This concern was captured in a 2013 technical report for the Draft National Sustainable Development Framework and a 2014 study sponsored by the World Bank (Fasih et al 2014)[46] and summed up the problems as follows:

- Mismatch between what employers wish their workers had minimally attained educationally, and the actual educational attainment of those they have employed, three quarters of whom are mostly secondary school graduates.
- Mismatch between high unemployment rates and the considerable time it takes firms to find suitable candidates to employ.
- Mismatch between the high value that firms place on behavioural skills such as job attitudes, communication, team work, and problem solving and the outputs of educational institutions which only emphasise academic and/or practical skills that can be learned on the job with targeted training.
- Mismatch between poor educational outcomes and high wages expected by job seekers — this leads to decreasing returns which started with secondary educational attainment and has now shifted to tertiary.

[44] Perkins (1996) op. cit.; Saugestad, S. (2005) '"Improving their lives": State policies and San resistance in Botswana', Before Farming, vol 4, pp1–11 ; Saugestad, S. (1998) The Inconvenient Indigenous: Remote Area Development in Botswana, Donor Assistance and the First People of the Kalahari, University of Tromso, Norway ; Saugestad, S. (2006)'San development and challenges in development cooperation', in R. Hitchcock, K. Ikeya, M. Biesele and R.B. Lee (eds) Updating the San: Image and Reality of an African People in the 21st Century, Senri Ethnological Studies vol 70, pp171–180; Campbell, Alec, Michael Main and Robert K. Hitchcock (2006) Land, Livestock, and Labor in Rural Botswana: The Western Sandveld Region of Central District as a Case Study**. In** Hitchcock, Ikeya, Biesele & Lee eds.Ibid:183-228

[45] Basupi et al 2017 op cit; Magole, Lapologang (2009), Transboundary Diagnostic Analysis of the Botswana Portion of the Okavango River Basin Land Use Planning. OKACOM

[46] Nyathi, Francis, Onalenna Selolwane and Innocent Magole (2013) Outlook and Options for Botswana's Sustainable Development: A paper researched and compiled as part of the Technical Assistance for the Development of Botswana's National Strategy for Sustainable Development; Fasih, Tazeen, Margo Hoftijzer, Happy Siphambe and Nathan Okurut (2014) Labour Market Signals on the Demand for Skills. Policy note 2. The world Bank Group, Washing DC; Fasih, Tazeen, Sonali Ballal, Kevin Macdonald, Letsema Mbaya, Christopher Mupimpila, Nathan Okurut and Happy Siphambe (2014) , Skills Needs of the Private Sector in Botswana. Policy note 3; The world Bank Group, Washing DC

- Mismatch, particularly for bigger firms, between the demand for the higher-order skills associated with mid-level management positions, as well as engineering, science, and technology skills on the one hand and the high supply of labour with low levels of job specific skills.

The country has not gained value for money in education spending. Botswana's educational budgets have been consistently high, but the skills development has not been commensurate with the resources invested therein. In budgetary terms education accounted for 73% of the social services budget in NDP 1976/81, 67% in NDP 1979/85, 52% in NDP 1985/91 and 51% in NDP 1997/2002[47].

The agricultural sector and its value chains, for instance, have not been sufficiently supported to transform production and distribution as reflected by the high import bill on vegetables, milk, fodder, supplementary feed, the shortage of seeds and even the fact that productivity in this sector has remained rather stagnant and low paying[48], failing therefore to attract young people as opportunities for professionalising jobs in the sector have been non-existent. In more recent decades, there has been an increase in retired people who then migrate back to their rural areas to engage in businesses, livestock production and other opportunities where their experience becomes useful in exploiting opportunities. They also tend to volunteer in local committees where they have raised the educational standards of committee representation. They are therefore an underutilised human resource for upscaling rural development.

Besides providing individuals with opportunities for formal employment, education and the way it has been distributed across ethnic domiciles has had the additional impact of building social cohesion across ethnic groups. This has lessened historical forms of exclusion where certain minority groups like Basarwa, Bakgalagadi, Bayei, etc., had often served as serfs for dominant tribes and thus not enjoyed equal rights and voice. Together with constitutional conferment of equal rights on individuals, education has played an important role in reorganising power relations among social groups, upturning old systems through employment of the educated. The strategy of providing equal access to education has over time helped to build a nation where disparate groups used to exist. Rural areas, however, still reflect the state of rural/urban inequality that is persistent. Cash incomes have not permeated sufficiently enough to give majority buying power for a number of services that make for modern life.

In terms of water and energy services, as Table 4 below illustrates in relation to the target districts, most rural villagers still rely on fuelwood for cooking and heating despite the strides made by Botswana's rural electrification strategy. Ngamiland West has the highest rate of use of fuelwood for cooking and heating. While Ngamiland East, possibly due to the high urban population of Maun, has increased access to electricity, the majority of villagers (and none of the cattleposts and lands areas) can only afford it for limited use such as lighting. Solar panels are now being relied on to power cellular phones and provide some lighting, particularly at the cattle posts. Access to potable water has also increased significantly in rural areas, as reflected in Table *2*, but this was before the current spell of prolonged drought. So current realities are reflected in the comments from stakeholders about the water situation in their villages and cattleposts.

Table 4. Households reliant on fuelwood, candles/parafin and with access to potable water.

4	Principal sources of energy Fuel wood (% households)			Lighting Energy	Access to
District	Cooking	Heating		candles/parafin	Potable Water

[47] Nthomang, Keitseope "Basic Social Services and Poverty in Botswana". (2012) in Onalenna Selolwane (ed) *Poverty Reduction, and Changing Policy Regimes in Botswana* [Palgrave-Macmillan and UNRISD] p148

[48] Sigwele, Howard. K (2007) The Effects of International Trade Liberalization on Food Security and Competitiveness in the Agricultural Sector of Botswana. PhD thesis, University of Pretoria, South Africa. Selolwane, 2012 op cit pg104).

Kgalagadi North	59%	68%		46%	93%
Kgalagadi South	62%	71%		54%	80%
Ngamiland East	53%	83%		42%	83%
Ngamiland West	82%	95%		67%	84%
Bobirwa	69%	88%		54%	90%

Source: 2011 Census

Rural people, particularly in small settlements, still rely considerably on ecosystem goods and services to meet basic needs. In Ngamiland, most villagers still use reeds for walls and thatch for roofs. Poles and wood are still used to build fencing, tools, canoes, and some utensils like wooden stools/benches and ladles. Rural men and women also collect veld products, medicinal plants, fish from lakes and rivers etc. which form a very important part of their food stocks. Some products like mophane worms, morula, monkey orange, etc. are even marketable in season. These grassland foods are particularly important for herders as they contribute to their diets. In a survey to determine the economic value of marketable vegetative products that villagers used for subsistence, Mmopelwa and Bignant (2009)[49] estimated that given the amounts actually harvested and the prices available in the market, the following ecosystem goods represented a sizeable proportion of household income: fuelwood, river reed, thatching grass, palm leaves, wild fruits and edible plant parts. They estimated their total cash value at US$ 1,434 (~BWP 14,340) per household per annum. Although relying only on a limited range of goods, this compared quite favourably with the average annual disposable income of the study area in Ngamiland, which was US$ 1,614 (~BWP 16,140) per household per annum, clearly demonstrating that resource extraction contributes significantly to household livelihoods.

With increasing population and increasing commercialisation, the continued harvesting of grassland resources has implications for environmental sustainability as some of the products are overharvested while prolonged droughts limit their capacity to regenerate. The Community Based Natural Resource Management programme has been noted as an initiative that has created rural employment relating to wildlife resources while simultaneously facilitating community conservation of resources. But it has been noted that returns to the poor are far too low to encourage sustained participation in the efforts and that its benefits are mostly enjoyed by committee members, not the whole community[50].

5.2.2. Economic Conditions

Botswana's economy has been dominated and driven by the minerals industry and beef exports. The revenues from these two sources have largely accrued to the government, which has then redistributed these to stimulate and drive other sectors. This has been achieved through a few key strategies, such as infrastructural development, extension of government services to various corners of the country, provision of input support and credit resources into the agricultural and other economic services, and lately, the stimulation of the financial and pensions industries by privatising the pensions of public servants. Infrastructural developments like road construction, building of schools, hospitals, post offices, water infrastructure, communications infrastructure, government offices and public sector housing have made significant impacts in capital formation and employment creation wherever they

[49] Mmopelwa, G and JN Bignant (2009), Direct use values of selected vegetation resources in the Okavango Delta Wetland **SAJEMS NS 12 (2009) No 2**

[50] McCulloch, G., (2010), Centre for Applied Research and Department of Environmental Affairs, Makgadikgadi Framework Management Plan, Chapter 4, Volume 2, technical reports, Gaborone; Mbaiwa, J. (2011) CBNRM in Botswana: Status Report of 2010, Maun, Okavango Research Institute; Center for Applied Research (2013) **Forest management and use in Botswana: brief situation analysis and options for the Forest Conservation Strategy.** *Prepared for Forestry Association Botswana.*

have been carried out. In rural areas in particular, they have been the vehicles through which other services have reached the most remote areas.

Extension services and the services for health, education, sanitation, water, etc. have brought jobs to the countryside and created opportunities for other service sectors like commerce, hospitality and tourism by providing a market in areas with limited opportunity for production sectors. They create conditions for the circulation of money within local areas. But it is the agricultural sector that is the key production sector for the local economy. Despite its relatively poor performance and limited growth, agriculture still provides basic food and income for most rural populations, where off farm employment has not made any significant presence. In Ngamiland alone, the cattle population stands at over 400,000 animals mostly found around the water sources of the Okavango Delta and its peripheral lakes. The Ngamiland livestock sector has been hit hardest by two major events: the 1980s drought which decimated the cattle population, but led to an increase in the goat population as goats are less vulnerable; and the 1995 eradication of cattle due to the outbreak of cattle lung disease[51]. The eradication of cattle for cattle lung was followed by a major shift in ownership distribution where it dropped from more than 70% of households owning cattle to just 39% households by 1999[52]. The shift is likely due to the fact that many opted for cash compensation out of fear that the government would not have enough cattle to restock. But prolonged drought has also driven farmers to shift to goats.

Small livestock such as goats, sheep, chickens and donkeys are increasingly becoming important in rural areas as drought, heat and disease and the associated costs in feed and medicine render cattle too costly for many farmers. Small livestock used to be the preserve of women and ethnic minorities like Basarwa before climate events became too frequent and too devastating on cattle. Now small livestock are increasingly becoming the adaptive option against climate change even for men. The arable sector in all three target districts is also widely practiced and is more important to households that do not own large cattle herds. In Ngamiland, arable production comes in the form of molapo or flood recession farming and dryland cropping. Major crops produced include maize, millet, sorghum, melons and pulses. Crop yields in this district are generally lower than the national averages, except for millet. Those for maize can be higher depending on rainfall patterns. Low rainfall causes low maize yields, but high millet yields. Molapo farming generally posts higher yields than those under rain-fed cultivation. In Bobirwa, arable production is also a key economic activity which produces beans, maize, sorghum, lablab, melons, sweet reed, nuts and other crops. Because of greater availability of water and the hard veld soils of Bobirwa, fodder like lablab is much easier to produce, although greatly underdeveloped except on commercial farms. In the sandy soils of the Kgalagadi districts the crops grown are similar to those grown in the sand veld of the Okavango. Crop yields in both Bobirwa and Ngamiland have been devasted by both drought and elephant populations.

Drought consistently impacts negatively on rural incomes and the ecosystem from which they are derived. The prolonged drought spells of 1982 to 1988 and 1991 to 1996, profoundly affected agricultural and other ecosystem sources of income, leaving rural households dependent largely on government social protection programmes for drought relief[53]. As indicated in Annex 8: Gender Assessment and Action Plan, drought may affect women and men differently. For men, drought causes considerable disruption to their cattle related economic and livelihood activities, often leading to a loss of livelihoods for their immediate and extended families. Women, as they more commonly own small stock and take care of home gardens often find their livelihood activities disrupted by the use of available water during

[51] Arntsen, Jaap (2005). Livelihoods and biodiversity in the Okavango Delta, Botswana Report prepared for the PDF-B stage of the GEF project 'Building local capacity for conservation and sustainable use of biodiversity in the Okavango Delta . Final Report

[52] (Arntzen, 2005;ibid page 17)

[53] (Selolwane, 2012 op cit. p111)

drought periods being redirected to cattle. As well as a potential source of conflict, rather than disrupt women's livelihoods, this can completely eliminate them, meaning that some women may be forced into sex work to provide for their families. Sigwele (2007: p27)[54] has argued that Botswana's agricultural policies have failed to improve household food security owing to income and asset poverty among rural households. Economic development and social spending have been more successful in expanding public services to a wide number of people without making significant impact in enhancing employment or productivity in key productive activities like agriculture[55]. Ngamiland, with its plethora of animal diseases, diminishing communal rangelands and inability to attract and retain productive labour resources remains one of the poorest districts of Botswana despite its wealth of ecosystem biodiversity and opportunities for tourism and associated value chains. It has also suffered greatly from lack of beef markets due to persistent outbreaks of Foot and Mouth Disease.

Yet recent research suggests that even here the beef industry and its value chains have unexploited potential which can be harnessed through the production of the FMD-free cattle for beef commodity-based trade. The proposed project intends to exploit this niche by using scientifically sound and effective approaches that focus on the safety of the beef production process and the beef itself, rather than on the animal disease situation in the locality of production (Atkinson et ell; 2019: pi). These are production processes that are compatible with modern animal production and trade standards, as set by the World Organisation for Animal Health (OIE)[56]. For good measure the approach, which uses no fences for disease control offer potential to effectively integrate livestock and wildlife-based enterprises, by improved husbandry (herding and kraaling) and rangeland management practices that help mitigate conflict between wildlife and livestock while making cattle production more sustainable and environmentally friendly.

The Kgalagadi district has also been identified as vulnerable to persistent poverty because it occupies a harsh ecosystem with limited fresh water. As the first district to host the Tribal Grazing Land Policy implementation, it too has suffered from the consequences of fragmentation of its rangelands and curbing the movement of wildlife, thus reducing resources for hunting. The opening up of this fragile ecosystem to large heads of cattle through borehole drilling has increased pressure on limited range resources. The outcome of that in social terms has been impoverishment of ethnic minorities like Basarwa and increased vulnerability of all communities.

Persistent poverty and income inequality have thus come to be associated with rural areas and therefore are a characteristic of the three districts this project is targeting. The problem of persistent poverty continues despite many projects and programmes financed under the Rural Development Policy. A 1997 study on poverty concluded that there is no empirical evidence that poor farming households can support themselves through arable farming even though most practice it[57]. The failure of the Rural Development Policy, which includes programmes that provide input support to rural producers (e.g. ALDEP which started in 1980, ARAP, and others), has been associated with ineffective and inefficient implementation due to weak institutional structures and processes. Women and the poorest households consistently benefited least from these programmes as evidenced by the fact that between 1980, when the ALDEP program started, up to 1996, only 22% of the project beneficiaries were females and only 21% were the poorest farmers the project was meant to assist[58]. Technical change has tended to fuel growth in farms whose focus is livestock, while arable farms generally experience limited or stagnant growth due to lack of technological change. This has resulted

[54] Sigwele, 2007) op cit
[55] (Selolwane, 2012: op cit p110); UNDP-UNEP, (2013), op. cit; BIDPA and World Bank, (2013),op. cit.
[56] Atkinson, Shirley J., Mary-Louise Penrith and Nidhi Ramsden (eds) (2019) Gap Analysis on the Implementation of Commodity-Based Trade of Beef in Ngamiland, Botswana Final Report For a detailed report of the study, which was conducted in 2017 see: (http://www.wcsahead.org/kaza/171003_rpt_final_marketopportunitiesforcbtbeef_ngamiland.pdf).
[57] (BIDPA, 1997: p. 175)
[58] (Selolwane 2012 op. cit: p. 109)

in a widening income gap between technologically adaptive livestock farms and mainly arable farming households. The 2008 Integrated Support Programme for Arable Agricultural Development (ISPAAD), has similarly failed to make significant impact on production and poverty reduction[59].

Remittances from urban-based family members provide a cushion against destitution and hunger for those with relatives earning regular salaries and wages. This contribution has been given impetus by the growth of the pensions industry which was precipitated by the privatisation of public officers' pension funds in the late 1990s[60]. Today the pensions industry is estimated as the third richest industry after government and the central bank, Bank of Botswana. It has grown in tandem with insurance services which now provide a wide portfolio of products that even low-income earners can access such as funeral, health coverage and savings products, etc., which enable income earners to cover their poor relatives. The universal old age pension scheme also gives the elderly and their relatives spending money which most, especially those who have lived off rural incomes had not previously had. As already noted earlier, pensioners from formal sector jobs are now retiring to the countryside with their annuities, making it possible for them to invest in improved rural housing and income generating activities.

5.2.3. Environmental Component

The biophysical environment provides the base from which people derive resources to support their economic and social activities as well as recreational and cultural expressions. As a lot of these resources and services are not monetised, they are often undervalued and insufficiently protected. In this section the paper briefly summarises important environmental aspects as they relate to the economic and social concerns relevant to the proposed project. Most of these resources have not been documented in an inventory to allow for monitoring and impact assessment.

Habitat destruction and habitat degradation can be caused by a variety of factors ranging from direct destruction through construction of houses**,** roads and other infrastructure**,** to damage caused by pollution**,** unsustainable land and resource use**,** including unsustainable rangeland management (localised overgrazing and bush encroachment)**,** over harvesting and excessive water abstraction.

Of all the threats, climatic change poses the greatest challenge as its effects are not always certain. Rangeland degradation and hydrological change provide more direct and tangible threats to biodiversity**,** although also affected by climate change. We have the means and technologies to reduce the effects of these threats and the main challenge is to find solutions, which are biologically, politically and economically acceptable.

The Ngamiland Delta ecosystem

The Ngamiland district is dominated by the Okavango Delta which is home to a diverse range of flora and fauna. The woody plant species found here comprise the northern mophane woodlands, Chobe deciduous forests, riparian fringe forests, acacia woodlands and savanna woodlands. It is estimated that there are 195 woody species in this Delta. There are also swamp grasslands and other grasses which, together with herbs are estimated to include 675 species. It is habitat for 444 confirmed terrestrial and water bird species and a large number of mammal species including elephants. Many of the species are globally endangered and so are legally protected. The area is a UNESCO World Heritage Site. There has been rising concern over the decline of ungulates such as eland, gemsbok, giraffe, hartebeest, lechwe,

[59] Mugari, Epheus, Hillary Masundire , Maitseo Bolaane, and M. New 2018. Perceptions of ecosystem services provision performance in the face of climate change among communities in Bobirwa sub-district, Botswana. International Journal of Climate Change Strategies and Management. DOI: 10.1108/IJCCSM-09-2017-0178. Link to presentation.
[60] Selolwane 2012 op. cit, Selolwane et al,2015 op. cit.

sable spring and wildebeest, as well as crocodiles. The causes of decline in biodiversity include habitat destruction, habitat conversion and disturbance, barriers to wildlife movement, high populations of elephant concentrated in an ecologically sensitive area, increases in poaching, disruption of natural fire regimes, unsustainable use of wild plant species, alien invasive species, climate change and changes to hydrology and water quality of inflowing rivers.

The Kgalagadi Sandveld

The Kgalagadi District is dominated by the Kgalagadi sands which have low nutritional value to support robust plant life, but are able to retain moisture at a depth below the threshold for rapid evapotranspiration[61]. The soils can therefore support plant species that are drought resistant and tap into the water table below. Acacia species are the most prevalent tree and shrub, particularly *mellifera* and *eriolaba*, which thrive best in arid zones according to Ringrose et. Al. (2003 page 313). A number of arid zone plants such as the grapple plant, edible tubers, wild melon, truffle, devils claw, hoodia (protected species), *Grewia flava* and *Graeia retinervis* grow abundantly in this arid land and are used for medicinal and food resources when they are in season.

The topography is generally flat with some rocky hills, the Nossop and Molopo fossil valleys, salt pans, sand dunes and water pans[62]. Surface water is seasonal and can be found in shallow pans and the Nossop and Molopo fossil valleys. Underground water can be found in shallow aquifers. The southern parts of the district have three soil types namely calcisols, regosols and luvisols. The northern areas have mostly sandy soils (Moswete, 2009). The vegetation supports species of wild animals such as eland, gemsbok, blue wildebeest, kudu, duiker, steenbok, hartebeest, springbok, and warthog. It also supports predators such as lions, leopards, cheetah, spotted hyenas, brown hyena, clack backed jackal, etc. The region also supports a number of bird species, including ostritch, blackbreasted snake eagle, tanner falcon, kori bustard and fork tailed drongo.

There has been mounting concern over the decline in biodiversity. Frequent fires, for instance, are particularly harmful as they reduce biodiversity in this fragile environment. The opening up of the Kgalagadi to cattle through boreholes and animal disease control fences has dramatically reduced the movement of migratory animals, depriving Kgalagadi communities of traditional supplies of game meat. Climate change has added to these factors to undermine the adaptive capacity of plants in terms of migration of plant species. Ringrose *et al.* (2003) have argued that previous ecosystem adaptation likely took place over 500 million years in response to local soil conditions, and that it is unlikely, therefore, to respond to relatively rapid climatic change. This makes it imperative for climate change adaptation to focus on facilitating the conservation of the remaining species of plant life in the area to support humans, wildlife and livestock.

The Bobirwa Mophane Hardveld

Bobirwa District is located on the eastern part of Botswana in the Central District, adjoining Zimbabwe to the northeast and South Africa to the southeast at the confluence of Shashe and Limpopo rivers. The area has five main river systems, the most significant of which are the Shashe, Limpopo, Motloutse and Thune. These have fed three large dams: Dikgathong, Letsibogo and Thune. The District is characterised by several distinct ecosystems that are comprised of mophane bushland, acacia species, woodlands, riverside marshland, towering sandstones that form outstanding cliffs and basalt hills of immense stonework blocks often

[61] Ringrose, Matheson, Wolski and Huntsman-Mapile (2003), Vegetation Cover Trends Along the Botswana Kalahari Transact. In Journal of Arid Environments. 54: 297-317.
[62] Nomsa Moswete, 2009, Stakeholder Perspectives on the Potential for Community Based Ecotourism Development…

piled one on top of the other. These habitats are home to elephants, lions, antelopes, zebras, giraffes and an abundance of birdlife. The district is also rich in cultural sites that include the Majande ruins, Lepokole rock paintings at Mapanda Conservation Trust, Tobane ruins, Semolale ruins, Mmatau ruins, Mziligomo rainmaking sites, the great Solomon's wall, Mmamagwa site, Fort Motloutse site and many others. The area is also part of the proposed Greater Mapungubwe Transfrontier Conservation Area. Challenges to rangeland management here extend to transboundary issues related to the poor economic situation of Zimbabwe which has led to many farmers allowing animals to cross through the Tuli Reserve in the region, leading to conflict with communities and Botswanan officials worried about disease risk.

6. Stakeholder Consultations: Issues, Needs, Risks and Vulnerabilities

This section summarises the views of communities as expressed during stakeholder consultations (attendance lists appended) whose purpose was to:

- Capture the views of indigenous communities, their stated specific needs, socioeconomic conditions, decision making structures, culturally appropriate communication systems and ecological knowledge.
- Assess the specific needs of project stakeholders and affected communities.
- Provide and report on a culturally appropriate and accessible project-level grievance mechanism.
- Improve the understanding of the local context and affected communities.

6.1. Method and Approach

The first round of these consultations in July 2019 took the form of six workshops, twelve small (breakaway) group discussions and three focus group discussions. Priority was given to: i) assessing the ecological knowledge community members had, their experience with climate events and changes, as well as the adaptation measures they have used thus far; ii) extracting some baseline information of climate change impacts on people, livelihoods, livestock, and the ecosystem; iii) prioritising adaptation measures identified by the community as critical for interventions going forward; and iv) soliciting information on whether, and the extent to which the key components of the proposed project might be implementable and acceptable. The plenary session of the workshops followed the following format:

i. Ceremonial opening and welcome remarks

ii. Climate Change: Awareness and Impact

- Inviting each participant to note a climatic event they could recall that had a major impact on them personally. They were to note the year of that event and explain how they were personally affected.
- Inviting participants to present their recorded climatic event by first stepping on a marked tape that indicated years from the 1960s to the meeting date.
- Presentation of scientific data on climate change trends and their impacts.
- Discussions and comparative reviews.

iii. Climate Events and Adaptation

- Group discussions on traditional strategies for coping with climate events.
- Plenary sessions for presentations of group work.
- Individual prioritisation of adaptation measures that need to be continued.
- Selection of most popular measures.

iv. Herding for Health Models of Adaptation

- Presentations of case studies from South Africa, Botswana and Namibia.
- Discussions and reviews: could these models work?

v. Managing Expectations

- Sharing information on normal timeframe for proposal development, submission and response and determining possible dates of commencements of project implementation in the event of successful funding.

For the second round of stakeholder consultations, a vulnerability assessment was first undertaken to determine site selection. This formed the basis for classifying sites into three categories: the most vulnerable, medium vulnerable, and least vulnerable (for details see the climate change vulnerability assessment annex). The geographical distribution of the three categories suggested it was possible to create clusters of settlements and their rangeland areas comprising the three levels of vulnerability. Stakeholder consultations were therefore targeted at the clusters, with the focal point being the most vulnerable areas. Further consultations with government stakeholders at the landscape level also allowed for validation of the selected areas, as well as inclusion of others that they recommended for consultation and ground truthing. This round of consultations followed the protocol that the first round had shared about cultural appropriateness in consulting with rural communities. Kgotla[63] assemblies were called so that members of the community could come and listen and thus contribute to discussions and to express their views. The public assembly was followed by focus group discussions with target groups as well as key informant interviews. There was also special effort made to consult with cattle herders at two cattleposts in Ngamiland. The participants (35 altogether, with only 11 women) were predominantly Basarwa herders and herder/farmers) and were consulted on the 11th October. In Kgalagadi and Bobirwa consultations were conducted in villages where Basarwa were the dominant population.

6.2. Community experiences with ecological changes and climate events

The following environmental changes and their impacts were identified during stakeholder consultations:

- ***Frequent droughts and rising temperatures*** which have led to major reductions in borehole water resources as well as rivers, lakes, dams and the Okavango Delta. In Ngamiland, where people have relied on the Okavango Delta system for water supplies, the drought has led to hundreds of livestock and wildlife dying in the residual muds of the Nxaraga, Lake Ngami and several other areas related to the delta system. Elephants, hippos and other large animals often roam villages and break water pipes in a desperate search for water. Stakeholders took us to the dry and drying rivers and lakes to see dead and dying animals. They also indicated that they were able to harvest fish whose nurseries now lay exposed and vulnerable. It was noted that the village of Tubu used to be an island requiring canoes to reach from Gumare, but is now no longer separated from other settlements.
- ***Floods and unprecedented heavy rains*** were noted in all the areas visited. In Kgalagadi it was further noted that when the heavy floods receded in the 1960s, large deposits of salt were found in the drying pans. Initially the salt was as soft as the regular table variety, but then crystalised as the drying intensified with drought and high temperatures. In Ngamiland, it was noted that when Cyclone Dineo hit Botswana (February 2007) lakes and rivers that had run dry from prolonged drought periods were suddenly flooded. Lake Ngami for instance was dry for years until the deluge from Cyclone Dineo.
- ***Decreasing availability of water, associated with frequent and prolonged droughts,*** was identified as a worrying major trend needing urgent measures and public investment in technological innovations to mitigate and prevent deaths of people, livestock and crops. In Kgalagadi where the sandy ecosystem does not support surface water, boreholes with sweet water resources were drying up due to the combined pressure of prolonged drought and rising demand.
- **Pest infestations.** In Ngamiland, for example, stakeholders identified a rising infestation of four major pests which have hit the area following floods or drought events since the early 1970s. These pests include:

[63] Public meetings or traditional court of villages in Botswana.

- the **stable fly** which manifested in 1974, 1998 and 2017 after severe drought. It decimated livestock already hard hit by severe drought.
- **Tick infestations,** which hit Ngamiland for the first time in 2015. The ticks migrated from the hard veldt areas in the Central District. Since then ticks have been a regular occurrence following floods. As an emerging infestation, its devastation was compounded by limited knowledge and lack of timely preventative measures. Additionally, ticks are a vector of diseases such as heart water and senkobo (bovine dermatophilosis).
- **Corn crickets and army worms:** since 2017 there has been an increase in the manifestations of army worms and corn crickets.

- **Decreasing food and rangeland resources.** In Kgalagadi, residents noted that after three years of no rainfall, grasses have been dramatically reduced and the range degraded. Crop failure and reduction in palatable grasses have resulted in insufficient food and feed supplies. This has led to increasing demand for welfare assistance programs. The Basarwa herders of Ngamiland also noted that they rely on milk for food, but that due to diminished grazing, milk production has dropped dramatically.
- **Increasing wildlife populations and conflict with people/livestock.** Elephants were identified as an increasing problem in Ngamiland and Bobirwa. Residents linked movement of increasing numbers of elephants into human settlements with declining water resources in their historical habits. They now destroy water pipes in search of water and have made crop production untenable by adding pressure to the challenges of drought driven crop failure. Additionally, stakeholders indicated that elephants have killed people.

Discussions on climate events were always preceded by an exercise where individual participants initially had to recall a climate event they most vividly remembered and indicate the year it occurred as well as how it impacted their lives. Then they all stood up to recount their personal climate impact story standing by the year of the recalled event. This visually demonstrated that the frequency of events had increased in recent years. A presentation of scientific evidence was made which was tallied with the experience and timing of the events the participants had experienced. The discussion also highlighted socio-economic impacts as well as possible drivers of climate change as indicated in the sections below.

6.3. Identified socio-economic impacts of changing climatic conditions

Participants identified the major impacts of increasing frequency of drought and other climate events on people and their livelihoods. The following five areas were mentioned (others are reported in the Gender Report, Annex 3):

i. ***Water resources*** are diminishing even in areas like Bobirwa where water is still relatively plentiful. Some boreholes have diminished supplies and are not being recharged. In Ngamiland, where the delta system has been a major source of water, people are now looking for alternative supplies from boreholes in the sand veldt and away from the delta itself. In Kgalagadi, they note that long and frequent droughts have reduced the availability of potable water, leaving only large supplies of saline water resources whose desalination costs are prohibitively high. The reduced water availability has also led to borehole owners restricting access to their boreholes to use by non-borehole owners willing to pay for their livestock.
ii. Notable declines in ***grazing resources*** were identified in all three ecosystems where communities were consulted. Although drought driven, these reductions have been linked to manmade causes, particularly overstocking and the tendency to concentrate stock around a limited number of watering points. In Bobirwa, the major driver is seen as drought and the pressure of mine closure, which has increased the number of people turning to livestock keeping after the loss of jobs in the Selibe Phikwe mine. Reduced grazing

resources are associated with livestock mortality and reduced rates of reproduction and have been linked to rising costs in alternative and supplementary feed. For herders whose meagre resources have always been a challenge, the reduction in milk supply from cattle is causing food insecurity and therefore reliance on government social protection.

iii. The loss of ***livestock resources*** has been singled out as directly impacting both stores of wealth (in the animals) and capacity to generate cash income and food. The cost of feeding the livestock was also highlighted as a burden on households, which was made onerous by the fact that the animals were not contributing commensurately to household income. The cost of feed and watering combined reduce the economic value of large stock in particular. The infestation of pests has added to livestock loss and costs. Herders have also pointed out the vicious cycle between animal health and water resources in that poor-quality cattle cannot be sold to generate cash resources needed to maintain boreholes to water the livestock. Lack of water leads to loss through either death or animals going astray in search of distant water sources.

iv. **Income and food resources** (costs, nutrition, etc.) were also highlighted by community stakeholders as being directly related to crop failure, livestock losses and the absence of meaningful marketing channels to help reduce both stocking rates and their loss to high mortality. One participant noted that drought affects farming communities directly and non-farming communities indirectly. For instance, those deriving income from formal employment find themselves bearing a heavy burden of feeding their farming relatives when their crops fail, and livestock mortality and declining fertility diminishes farm incomes. Herders are particularly hard hit because they rely on milk which becomes scarce when cattle have no grass and are reduced in numbers through death or going astray.

v. ***Health, nutrition and rising poverty*** caused by the cumulative impact of changing drought, heat, and other climate events linked to crop failure. Residents indicate that there are increasing numbers of people registering for famine relief and other social welfare programmes. They have also noted that this has led to complaints from social welfare officers who have limited resources under increasing demand.

The growing dependency on government relief programs is illustrated by the comparative growth trends between the number of people who have increasingly turned to the Ipelegemg scheme and the rate of employment creation in the formal sector. For instance, at national level, Ipelegeng, which started its life in the 1960s as a drought and famine relief programme, has increased much faster than formal sector job creation since 2009 when the formal sector. Using 2009 as a base year and the last year when the formal sector created most jobs, Ipelegeng has increased its labour absorption rate from 233,172 people to 741,783 by 2016. By contrast, the formal sector (excluding the Botswana Defence Force) has grown from 317,827 workers in 2009 to 344,487 by 2016, and to only 347,357 by 2018. More and more people, mostly women, have increasingly turned to government social support to seek relief from both declining agricultural and food production and sluggish rates of employment growth in the formal sector. The Gender Report (annex 3) provides more details on climate impact and coping strategies*.*

Table 5. Comparative employment trends between the formal sector and the Ipelegeng Social safety Scheme (2009–2016).

Formal /Ipelegeng employment	**2009**	**2010**	**2011**	**2012**	**2015**	**2016**
formal sector Employment	317827	328,310	388,000	337,075	341,115	344,487
Ipelegeng Employment	233,172	418376	530754	620151	748,756	741,783
Total	550999	746686	918754	957226	1089871	1086270
%formal	57.68196	43.96895	42.23111	35.21373	31.29866	31.71283
Formal sector increase from 2009 base	100	103.2983	122.079	106.0561	107.3273	108.3882
Ipelegeng increase from 2009 base	100	179.4281	227.6234	265.9629	321.1175	318.127

Source: Bank of Botswana Annual Reports, 2009, to 2018.; Botswana Government, NDP 11, page 21

6.4. Human behaviour as a contributing factor to ecosystem degradation

Community stakeholders acknowledge behaviour patterns that contribute to deteriorating conditions of rangeland resources. These included:

- Overstocking in relation to drought induced grazing and water resources shortages.
- Borehole drilling, which attracts large numbers of cattle due to the tendency to allow fee paying farmers access to borehole water.
- Limited herding and livestock management, which allows cattle to move in search of pasture and water and selective grazing leading to vegetation shifts to less palatable/nutritious species, and concurrent increases in methane emissions (see Carbon and Water Baseline Assessment in the Annex)
- Lack of farmer governance associations and controlled grazing.
- The assumption that large numbers of cattle equate to a high total value. This leads to poor management practices that are not based on assessing the relationship between the value of the animal and the monetary/environmental costs of keeping that animal alive.
- Policy prioritisation of livestock diseases — diseases such as tick infestations are not on the priority list of diseases that the government responds to on an emergency basis. Foot and Mouth Disease, on the other hand, gets top priority in terms of resources and regular vaccinations. With climate change, diseases have spread to new areas where the communities are unfamiliar with them. For instance, when the tick infestation took a heavy toll on Ngamiland livestock and continued to do so, one of the contributary factors to high animal deaths included slow detection and reaction rates among communities who were not used to the new challenge. They only reacted after it had spread associated diseases that decimated livestock that had survived floods. Secondly, the lack of market facilities disincentivises good livestock management and early warning disease detection.

6.5. Current adaptation measures and preferred future strategies

Stakeholders were asked to indicate what adaptation measures they are currently taking in relation to changing climate events. May indicated that their knowledge and experience does not prepare them sufficiently to deal with the frequency of climate-related hazards, particularly drought conditions, and scarcity of water and grazing resources. Presented below are some of the coping strategies that stakeholders have been using.

Current drought adaptation measures:

- Reduce stocking density. The animals die naturally from drought and drowning in muddy swamps. But some farmers are deliberately reducing the numbers they have so they can manage with supplementary feeding.
- Relocation of livestock to areas perceived to have better range. For example in the Bobirwa district, farmers from Mmadinare have moved their cattle to Shashe River while those from Bobonong move theirs to Mmadinare. This strategy of migration results in community friction since those who didn't move their livestock have to contend with newcomers. In Ngamiland for instance, farmers in Nxaraga village and the cattleposts around Kareng also complain that farmers from Sehithwa are moving into their grazing areas and overcrowding them.
- Increased production of feed (supplementary) and reduce reliance on imports. This option is used by farmers with capacity to produce their own feed. In some areas even this option is undermined by elephant invasions while drought makes it a non option to produce feed.
- Increased purchase of feed. This is another option that some farmers can afford from alternative sources of cash income. There simply doesn't seem to be enough supplementary feed production available to meet demand.
- Switch from cattle to small stock. Large stock keepers indicate that the cost of maintaining cattle has risen due to diminished feed, grazing and water: so they find keeping small stock, less risky.

Other adaptation options flagged for consideration:

- Reduce deforestation — there is too much cutting of trees to make fences for kraals.

- Control bush encroachment.
- Change of land use system from open communal rangeland use to controlled grazing with fencing.
- More timely feeding instead of introducing supplementary feed when it is too late.
- Lack of markets — need to improve market access.
- Insurance is required.
- Formation of strong associations that can facilitate collective action.
- Grants — farmers need these to cope with rising costs and reduced profits from poor quality cattle.
- Water harvesting technologies. In Kgalagadi in particular, farmers have identified the introduction of water harvesting technologoies and an enabling environment for adopting them as critical to enhance their ability to cope with drought. The importance of desalinating saline water was emphasised and in Ngamiland the adoption of water harvesting technologies were emphasised.

6.6. Reactions to the Herding for Health model of collective rotational grazing

In this section, we focus on the reactions of stakeholders to the presentation on the Herding for Health model of livestock and rangeland management. In Ngamiland, reactions centered around five key areas of concern:

1) The impact of fences (the Setata Buffalo Fence and the Buffer Fence Protecting Haina Veld ranchers from communal area livestock) which communities in Ngamiland felt had reduced available rangeland too greatly to allow rotational grazing. They felt that without pushing back the buffalo fence, rotational grazing would not be feasible. The community felt that if more land was made available by pushing fences back, rotational and collective herding might be workable, particularly when other incentives like herding by Ecorangers, a mobile abattoir and the opening of additional markets are taken into account. But the problem of available land for rotational grazing needs urgent attention if the project is to succeed. At the cattleposts around Kareng, however, the herders did not bring up the fences as an impediment. They indicated that there were unexploited areas of rangelands currently made inaccessible by wild dogs and other predators that kill livestock. Similarly, in Etsha 13 the community believed they had room for rotational grazing away from the Okavango Delta into areas they have historically used for winter grazing.
2) Resource management and governance undermined effective use of land and led to land degradation, according to the communities. They noted that communal grazing areas are inadequately managed as there is no controlled grazing and people from distant villages are allowed to freely move their cattle to other village rangelands without consultation or negotiation. This causes overstocking and degradation as the newcomers do not consider the needs of resident farmers and often just cut down trees indiscriminately to build corrals and cattleposts. There is a need to curb this free-for-all approach with better management and control to make communal grazing effective. However, the power of local institutions like bogosi, the kgotla, land overseers and the Village Development Committees is subordinated to government institutions that lack the capacity to manage local land resources effectively and efficiently as they are not present in the localities. Thus the tragedy of the commons is present here with limited accountability, monitoring, evaluation and impact assessment.

   It was recommended that local institutions need to be strengthened and given direct access to the district development offices so they can best represent the community without political interference and mediation by politicians in the form of councillors and members of parliament. It was noted that the concept of rotational grazing is similar to the traditional method of moving cattle between winter and summer grazing ecosystems, with land overseers monitoring compliance and reporting to chiefs. An example was given in Nxaraga where the community wanted to create bye laws on range use and limiting cattle numbers, but were informed that the power is vested with the Land Boards. It was

acknowledged that there is need for livestock farmers to limit their herd size since there was little grazing left.

3) Another area of discourse related to herding and knowledge of animals and the environment. The community felt that on matters relating to cattle and the impact of climate change, herders are the most knowledgeable people about the animals and the environment in which herders and animals live. They are therefore the most relevant people to comment on the efficacy of the proposed project. But they do not attend kgotla meetings because they live out in the rangelands and cattleposts with the animals. It was recommended that these herders should be consulted at their places of work, not kgotla forums – the Stakeholder Engagement Plan addresses these concerns. It was also noted that among the Hereros and Banderu pastoralists, women are good herders and tend to take most of the responsibilities of herding in this community. Additionally, women in these communities have added gender roles — which are not applicable to project sites excluding Ngamiland — such as milking cattle, processing the milk and preparing wood for nighttime fires. Their roles should be recognised and supported.

   Discussions also arose around the devastating impact of elephants and other wildlife. It was stated that fodder production would not be possible in the area because elephants would break fences and eat the fodder, making crop production unviable. However, fodder production was indicated as being possible away from the elephants' range. It was further noted that the integrity of disease control fences is frequently compromised by poor maintenance and destruction by elephants, resulting in buffalos and livestock mixing freely and thus potentially compromising livestock health.

4) Water issues also came up with communities noting that they used to rely on water pools in summer when rains and grass became plentiful. In winter months when the pools dried up and the grass diminished, cattle were brought back to the lakes to graze and water. It was also noted that borehole water in this district is mostly saline therefore not suitable for human or animal consumption. Stakeholders acknowledged that their cattle numbers have increased with the increase in boreholes, a situation which has led to congestion around boreholes with sweet water and that this has led to excessive overgrazing and land degradation. They highlighted the need to find solutions that decongest watering points to reduce land degradation around the lake and boreholes and that the solution should center on dispersing water to a wider radius so that cattle are spatially dispersed to reduce pressure on the land. Another observation was that government boreholes were often dysfunctional due to poor installation and poor maintenance. But the community also acknowledged that water tables had dropped due to prolonged drought and that while most borehole water was saline, there were some boreholes with potable water.

   It was noted that it would be difficult for those who drilled private boreholes to willingly let go of these for collective use and rotational herding. One option to explore is that negotiations can be entered into with these private holders, so they may be part of the solution. The community noted that there is need for a proper assessment of the water quantities and qualities as a basis for planned land management, negotiations of water use and rotational grazing. A caution was made that the government must refrain from rushing to solve problems of drought and the drying of Lake Ngami with boreholes, rather the government must focus on making policies that facilitate community-led solutions.

5) Concern was raised about consultations. The community requested that as much as possible, the project should avoid doing things in a hurry without allowing for adequate consultation of, and reflection by, the community. The GAP (Annex 8) provides measures to address gender differences for consultations. Also, it was requested that regular and sustained consultations should be maintained as they are critical to the success of the project and to keep the community engaged. An observation was made that a number of

projects fail because of weak consultations by government officials who assume that a once off meeting at the kgotla at short notice was adequate consultation and engagement. People want to see government cooperating with the community on a sustained basis from project concept to implementation and impact assessment.

6.7. Decision making and culturally appropriate communication systems

Focus group discussions were facilitated around issues of acceptable channels of communication in rural communities**.** The response from the bigger village settlements was that for information coming to the community, communication must always be relayed through the kgotla assembly and with the following due processes:

1) The village chief must be informed of the issues to be addressed to the whole community and possible dates of address. This can be done through Tribal Administration offices.
2) The chief will then inform sub chiefs and ask them to invite communities (*morafe*) to assemble at the kgotla on a given date and time so that everybody gets a chance to get the information directly and to ask questions for clarity.
3) Then a kgotla meeting is held and open to all. The chief will be the one to receive visitors coming to address the community. And all assembled people get to have their say.
4) Those directly or indirectly affected by the issue are allowed time to go back and reflect in private, consult amongst themselves, and then inform the chief about the outcomes of their consultations.
5) Finally a second round of kgotla meetings or assembly is convened to review presentations of affected community members and to arrive at a consensus. A decision might also be taken to identify and task someone to drive any process that requires follow-up action or implementation. And it is usually people with specific authority and mandates.

When reached for input, herders at the cattle posts indicated that they do not actually have a platform to voice collective thoughts and ideas as they live in isolated cattle posts. They would therefore welcome assistance with creating a platform where those in neighbouring cattle posts could mobilise representation. Most of those who participated in the consultations had mobile phones which they said they were happy to use as a means of contact[64].
Regarding grievance management it was noted that while decision making is by majority, there are people who habitually want to derail any group consensus and who are so very persuasive and determined that they silence the majority, making it look like the majority now agree with these detractors. Separately, it is very important to watch out for such and to create space for those who are silenced to be given voice to express an honest opinion. For those with genuine concerns, once consensus has been built based on majority thinking, then minority voices can be entertained on merit and the issues they raise reconsidered. But that will not be to turn over what the majority agreed on, only to include additional aspects or to accommodate something overlooked.

Observations on participation and attendance of the kgotla assembly and workshops also reflected the fact that the forums did not provide for equal representation. First, women tended to be few in number and less vocal in the first round of meetings which were in workshop format and people had been invited on the basis of their position in farers association, Village Development Committees, and chieftainship. In the second round of meetings, Ipelegeng workers who are mostly female, attended the kgotla in larger numbers. The Kgotla locations were convenient for women who were dominant in Ipelegeng which met in close proximity with the kgotla. Generally most contributions in kgotla meetings came from male participants. Secondly, some participants who attended observed that these platforms did not represent the voice of people in small settlements and cattleposts where herders and ethnic minorities

[64] When we consulted the herders on the 11th October 2019, we requested assistance of the veterinary officers they were familiar with, to contact them on our behalf and take us to the meeting for formal introductions so they would know were are legitimate in our inquiries. They were quick to regroup and we found many already congregated at a single cattle crush whose owner had given us the go ahead to use it as a venue. Groups of 11 and 23 herders/farmers convened at at the Kgabaganyane and Spanplek cattlepost respectively, on 11th October 2019. See also the Indigenous People management Plan in Annex 2.

like the indigenous Basarwa communities were most likely to be found. It was advised that inclusive consultations should be taken to include those peripheral settlements whose people would not otherwise be heard in the main kgotla. Participants also noted that consultations that take place in conference venues were by nature exclusive since ordinary community members would not be able to attend due to transport problems. Additionally, often representatives hardly ever report back from such meetings.

7. Environmental and social impacts/risks of the proposed project

7.1. Scope of work

For this project, a limited environmental and social impact assessment of activities related to the direct and indirect areas of influence of the project was required. This entails clearly identifying and addressing direct and indirect, as well as cumulative and potential residual impacts and ensuring adequate consultation and disclosure. In particular, the limited ESIA had to ensure that the following safeguards are in place to avoid adverse environmental and social risks and/or negative impacts from project activities (from ESIA/ESMP Terms of Reference):

- **Accountability and Grievance Mechanisms**
  - Assess the specific needs of project stakeholders and affected communities to provide and report on a culturally appropriate and accessible project-level grievance mechanism.
- **Protection of Natural Habitats**
  - Assess direct and indirect project-related impacts on biodiversity and ecosystems services and identify any significant cumulative and/or residual impacts. Consider relevant threats to biodiversity and ecosystem services, especially focusing on habitat loss, degradation and fragmentation, alien invasive species, overexploitation, hydrological changes, nutrient loading, and pollution. Evaluate the impact of the proposed activities in the buffer zones of protected areas, including the Okavango Delta.
- **Involuntary Resettlement**
  - Analyse any proposed restrictions to the access, use, and control of natural resources which people depend on the livelihoods. Include documentation of the consultation process with affected communities. Obtain documented consent as needed through an appropriate process framework to voluntarily restrict access to and use of natural resources from the affected communities.
- **Indigenous Peoples**
  - Confirm that indigenous peoples are included within the proposed project areas. If so, consult on their effective participation in the project through the environmental and social impact assessments of the risks and opportunities as well as improve the understanding of the local context and affected communities. Provide capacity building to Indigenous groups as needed to ensure their effective participation. Implement effective consultation processes with the affected Indigenous Peoples' communities to fully identify their views and to obtain their free, prior and informed consent (FPIC) for project activities affecting them. Ensure that decisions at the community level are representative of all community members, especially those who have historically been left out of decision-making, such as indigenous women.
- **Pest Management**
  - Evaluate whether the project requires the procurement of eligible pesticides and assess the nature and degree of associated risks taking into account the proposed use and intended users.
- **Physical Cultural Resources**
  - Identify if any cultural resources are present in project areas, analyse feasible project alternatives including site selection and project design, recommend measures that

should be put in place to ensure cultural resources are identified and that adverse effects on them are avoided.

- **Labour and Working Conditions**
  - Analyse the potential impacts of the employment of community members by the project. Include information on the standards for employment in Botswana as well as any risks of safety issues.
- **Community Health, Safety, and Security**
  - Analyse potential risks of exposure of the community to health and safety risks and impacts as a results of proposed project activities.

The nature of the project is such that involuntary resettlement, pest management, physical cultural resources and community health, safety and security are unlikely to be directly affected. But they might be indirectly affected through value chain linkages and interactions with cooperating government departments and their activities.

7.2. Assessment Criteria and Methods Used

The identification of potential project impacts was informed by the issues and data collected from stakeholder consultations and from the natural environment of the proposed project. The method followed both national and international guidelines. The national environmental impact Assessment of 2011 and the Environmental Impact Assessment regulations were used for impact identification. It was extensive in identifying both the potential positive and negative impacts which can harm, degrade or impair the ecosystem's health and the health of the people living within the proposed project boundaries.

In identifying these potential impacts, the study interrogated the extent and magnitude of the potential impact using International Organisation for Standardisation (ISO) standards. ISO standards were used to best identify mitigation measures for negative impacts and enhance and support positive impacts like employment. Following the EIA Act of 2011 and the EIA Regulations of 2012 methods used to predict the potential project impacts were weighed, ranked using interaction matrices and local traditional knowledge and practices and community expectations.

The proposed project takes into account and weighs positive and negative impacts which may harm or enhance life. In addition, impacts are classified into direct or indirect impacts, long term or short term and according to their occurrence using ISO ratings.

8. Impacts and risks identified

This section is in two parts. The first part provides the predictive assessment of impacts in descriptive narrative while the second part captures them in matrices that reflect ranking, magnitude and consequences. The guidelines used here are those from CI and the GCF.

8.1. Predictive Assessment of Impacts

This section makes a predictive assessment of possible impacts of the individual and collective activities of the proposed project. It draws from the project description, baseline environmental and social information and trends, as well as policy and the experience of similar models to predict the likely outcomes of the intervention measures proposed. This assessment is structured around three key areas of intervention, namely:

- Strengthening institutions and support systems for climate-responsive planning and management;
- Reducing GHG emissions and negative livelihood impacts through rangeland rehabilitation and improved livestock management; and
- Sustaining enhanced adaptive capacity through value-chain transformation.

The impact assessment will be anchored on the activities proposed under each of the above key areas of intervention: highlighting both possible positives and negatives. Strategies for reducing negatives will be outlined in the Environmental and Social Management Plan reported in Annex 3 of the main proposal.

Component 1: *Strengthening institutions and support systems for climate-responsive planning and management*				
Output 1.1: Communal farmers in target regions understand and are empowered in equitable Village Development Committees to plan and govern collective land and livestock management				
Activity	**Sub-activities**	**Potential Positive Impacts**	**Potential Negative Impacts**	**Relevant Impact Pathway and Impact (See Section 8.2)**
Activity 1.1.1. Train a network of at least 30 Farmer Facilitator Teams (project staff, gov't extension workers, NGO partner field staff, and unemployed graduates) to understand climate-smart grazing practices and to be able to mobilise collective regenerative grazing agreements	1.1.1a. Develop a Train-the-Trainers change/community mobilisation to work with H4H on demonstration site development 1.1.1b Bi-annual training workshops for Farmer Facilitator Teams and Demonstration Site Implementors on conservation agreement and community mobilisation for behaviour change best practices 1.1.1c Community mobilisation tool design charrette and follow-up development[65] 1.1.2a Legal review and guidance based on	• The Capacity of Village Development Committees, local NGOs, Government Extension staff is strengthened through training and support and thus equips land users to drive climate response land management and planning • Strengthening local institutions and additionally operationalise the national policy on decentralisation • The use of farmer facilitation teams that include non-government actors will bridge current human resource capacities and enhance implementation of grazing agreements and resource management. • Enhancing knowledge for conservation and collective activity empowers communities to take collective responsibility for conservation	• Due to historical power relations that subordinated some ethnic groups, the strengthening of local institutions might perpetuate exclusion and marginalisation of Basarwa from institutions overrepresented by dominant ethnic groups (ESS: Indigenous Peoples) • Risk of current legal and policy frameworks undermining the capacity to execute rangeland stewardship agreements (ESS: Accountability and	• 1.1-1.4 • 3.9-3.12

[65] A charrette is a gathering of stakeholders, project designers/planners and implementation teams that empowers local communities as clients for thematic specialists that work with artisans to develop the best interpretation of community needs. The process is most often utilized in architecture but CI has used the approach to design ecotourism strategies, brochures, and infrastructure in the past.

Activity 1.1.2. Build collective understanding and equally empower male and female participation in Rangeland Stewardship Agreements within Botswana's legal and governance framework Activity 1.1.3. Replicate and amplify Herding for Health (H4H) approach to develop locally appropriate EbA Rangeland Stewardship agreements and grazing plan designs across Village	legislation at project start on nature and structure of Rangeland Stewardship Agreement 1.1.2b Design and implement a training roadshow (6 workshops--2 workshops per Project Area) to umbrella VDCs, Land Boards, and District Development Committees (DDCs) on Rangeland Stewardship Approach in year 1 1.1.2.c Design and implement a training programme on gender awareness, climate change, and livestock management for VDCs and target communities (biannual workshops per project area and participation in the 9-demonstration sites and Priority Site VDC meetings in alternate months) 1.1.2d Support legal enforcement of	• Reviews of legal frameworks that enable rangeland stewardship further enhance local institutional capacity and facilitates decentralisation of land management • Training builds local governance capacity to adapt to climate change and embrace new skills • Developing stewardship agreements enables communities to cope with climate change impacts while also building social cohesion and collective responsibility	Grievance Mechanisms)	

Development Committees	Rangeland Stewardship Agreement 1.1.2.e Empower community governance through leadership training, public signing ceremonies and local governance exchanges to project demonstration sites 1.1.3.a. Facilitate the development of a network of 9 demonstration sites (3 per region) as learning sites 1.1.3.b Train and enable locally-facilitated, gender equitable farmer exchanges in the region 1.1.3.c Design and test nursery school partnership to ensure women are equally enabled to participate 1.1.3.d Design and implement strategy to integrate target demonstration community activities into			

	Rangeland Stewardship Agreement model for all priority and amplification sites			
Output 1.2: Enhanced capacity of government departments, particularly Ipelegeng Job Creation and Department of Veterinary Services, to enable/incentivise a climate-smart communal livestock sector.				
Activity	**Sub-activities**	**Potential Positive Impacts**	**Potential Negative Impacts**	**Relevant impact pathway and impact**
Activity 1.2.1. Support establishment of inter-institutional coordination mechanisms for climate-smart rangeland management across gov't, NGOs, community-based organisations, and farmers' associations Activity 1.2.2. Support the development of a rangeland stewardship	1.2.1a Develop/or participate in Rangeland Stewardship Forum (or other appropriate network structure in Botswana) that aligns past and present climate smart communal land and livestock management 1.2.1b Support NDA and Rural Extension Coordination Committee (RECC) structure with information relevant to national rural development throughout the project 1.2.1c Facilitate complementary training collaborations between VDCs and broader	• Multisectoral and multiagency cooperation is likely to be strengthened for an integrated approach to land and livestock management; thus enhancing capacity to cope under climate change related stress. • The coordinated institutional management of range resources and economic activities will enhance capacity to spur the decentralisation strategy on and act as a catalyst for deepening local authority accountability and management of communal resources. • The use of Ipelegeng funds to create sustainable employment and enhancement of rural incomes can set a precedent on how other rural development budgets can be more productively used for job creation.	• The current legal, institutional and policy framework might undermine efforts to coordinate collaborative initiatives for climate-smart rangeland management and economic stimulation (ESS: Accountability and Grievance Mechanisms) • The current sectoral silos, duplication of efforts and overlapping institutional mandates might continue perpetuating inefficient use of scarce financial	• 1.2-1.3 • 3.7 • 3.10-3.12

job creation initiative under the Ipelegeng Programme within Ministry of Local Government Activity 1.2.3. Expand capacity of Ministry of Agriculture Department of Veterinary Services (DVS) to respond to climate-induced diseases and infections and enable Commodity based Trade in the Project Areas	agricultural land, water, and health strategies 1.2.2a Work with Department of Local Government Development Planning (DLGDP) to prepare detailed workplan, budgets, and Standard Operating Procedures for Ecorangers/Restoration Team deployment by the end of year 1. 1.2.2.b Work with DLGDP to implement agreed preparation and capacity development in year 2. 1.2.2.c Work with DPLG to generate reports as necessary to the Local Gov't RECC Natural Resource Coordinator on impacts of the investment in rangeland stewardship job creation 1.2.3.a Design a capacity building	• Capacity building in both local government institutions and among staff will meet a major capacity gap for service delivery in rural areas. • Capacitated local institutions will be able to drive the conservation and job creation much more efficiently. • The expansion of the capacity to deliver veterinary services timeously and adequately will support and enable commodity based trade and animal disease control. • It will increase and protect rural incomes.	resources and undermine collaborative efforts and improvement in service delivery (ESS: Accountability and Grievance Mechanisms)	

	strategy for climate-informed veterinary staff 1.2.3.b Integrate climate condition status into regulations and protocols for CBT veterinary checks. 1.2.3.c Train and expand veterinary service capacity in target regions in climate-proof CBT protocols 1.2.3.d Activate Ecoranger deployment in support of quarantine management for unlocking export markets from target communities 1.2.3.e Pilot drone-based delivery of vaccines/veterinary medicines			
Output 1.3 Rangeland Stewardship Information Portal that is used in village, regional, and national processes to build understanding of the links between climate and grazing management and future resilience interventions.				
Activity	**Sub-activities**	**Likely Positive Impacts**	**Likely Negative Impacts**	**Relevant impact pathway and impact**

Activity 1.3.1: Establish a Rangeland Stewardship Information Portal Activity 1.3.2 Equip, train, and staff village hubs and relevant officials to enable access to the Rangeland Stewardship Information Portal for improved decision-making and EbA planning	1.3.1.a Set up a Task Team to develop desired system map for information sharing (who needs what information when, what is available already, what will be gathered, how frequently, verification methods, etc.) 1.3.1.b Construct a database and associated web-based app systems linked via app 1.3.1.c Local and national user workshops on Rangeland Stewardship Information Portal to capture recommendations for improvement 1.3.1.d Integrate modifications based on user feedback annually and in final system improvement in year 5 1.3.2.a Establish local hubs for accessible integrated information	• The information hub will provide information to stakeholders and keep people timeously informed and engaged in the process of managing their common resources and learning by doing. • The portal also provides officials, particularly those at local level with constant feedback and enhanced management and monitoring capacity. It will serve to motivate and share experiences. • It adds another layer of building the capacity of local authorities to manage and support farmers to cope better with the challenges of climate change. • It will improve planning processes as well as stakeholder monitoring of activities, thus making all feel engaged in driving the change.	• The risk of unequal access might still continue and be facilitated by technology due to historical inequality and power relations, particularly in relation to ethnic minorities and women. (ESS: Accountability and Grievance Mechanisms, Indigenous Peoples)	• 1.1-1.3 • 3.10-3.12

	sharing system infrastructure (database and phone-based app system) in year 1 1.3.2.b Train 460 local officials and 40 national officials on use of the Rangeland Stewardship Information Portal systems. 1.3.2.c Ensure staff capacity is in place at the local level: three regional coordinators (hosted by the District Agric Coord offices in year 2) who facilitate ongoing training of incoming Ecorangers and VDC representative staff 1.3.2.d Develop and implement a user-specific annual report system for distribution to each VDC grazing area and relevant authorities 1.3.2.e Lessons learned workshop and updating the system in years 3, 5 and 7			

Output 1.4: National policy and international partners are aware of project lessons for improved communal rangeland management for climate resilience				
Activity	**Sub-activities**	**Likely Positive Impacts**	**Likely Negative Impacts**	**Relevant impact pathway and impact**
Activity 1.4.1: Promote the project EbA approach and lessons learned to key decision-making forums	1.4.1.a Develop and implement a project communications strategy which targets key decision-makers 1.4.1.b Support Ministry of Agricultural on ROI Analysis of communal livestock contribution to agriculture-related GDP 1.4.1.c Support Ministry of Agriculture and Ministry of Environment on GHG Inventory to include emissions calculations 1.4.1.d Catalyse GDSA and SADC climate-smart livestock production forums to share Botswana experience, including policy dialogue for integration of project lessons into policy and legislation	• Lessons learnt and shared will act as a catalyst to spur timely policy and legal reforms that are better fit for purpose. • This process will also turn the historical tendency for top down policy making when local experience informs policy making and responsive national decision making. • The project approach also has potential to demonstrate how an integrated resource management and development intervention can save costs, reduce duplication of effort and enhance local level accountable governance. • Sensitising policymakers will also cover the Ministry of Investment, Trade and Industry and the National Strategy Office which have not always been adequately co-opted adequately to harness their role and input: particularly their contribution to expanding the search for markets.	• Top officials who might be challenged by the empowerment of lower tiers of governance and want to assert their authority by putting brakes on process (ESS: Accountability and Grievance Mechanisms)	• 1.1-1.4 • 3.7-3.12 • 4.5-4.6

Component 2: ***Reducing GHG emissions and negative livelihood impacts through rangeland rehabilitation and improved livestock management.***

Output 2.1: At least 6000 Ipelegeng Ecorangers and Rangeland Restoration Workers[66] and graduate monitors have professional skills in climate-resilient land and livestock management that they can deploy in project target areas and other rangelands after the life of the project.

Activity	Sub-activities	Likely Positive Impacts	Likely Negative Impacts	Relevant impact pathway and impact
Activity 2.1.1: Create and monitor deployment of a new national curriculum for climate-resilient livestock herding with >6,000 Ecorangers and Restoration Workers across the five target sub-districts to build adaptive capacity at the individual and community level. Activity 2.1.2: Create and deploy graduate monitors to	2.1.1a Development of the curriculum and training programme for professional herding and rangeland rehabilitation work 2.1.1b Train 6,000 Ecorangers during non-growing season with short course delivery in district training centers 2.1.1c Independent evaluation of training delivery in years 3 and 6 2.1.2a Graduate internship programme designed in year 2 and deployed in years 3-8	• The curriculum development facilitates the professionalisation of livestock herding and increases its value. • Training expands the capacity of direct livestock managers from relying on opportunistic availability of ecosystem provision of fodder to managing the resource the livestock depends on. • Rangeland rehabilitation improves the capacity of the range to provide for livestock and thus mitigates against climate induced losses. • The capacity of ecorangers and restoration workers is vastly increased at individual and community level. • The project will help improve working conditions for herders.	• The professionalisation of the job might marginalise the existing herders, especially the indigenous people who provide a large part of herding services. (ESS: Labour and Working Conditions; Accountability and Grievance Mechanisms; Indigenous Peoples) • The opportunities for access to this job market might continue to elude women as herding has historically been a male domain. (ESS: Accountability and Grievance Mechanisms)	• 1.3 • 1.4 • 2.1-2.5 • 2.7-2.10 • 3.1-3.3 • 3.7 • 4.4-4.6

[66] See Feasibility Study for more details.

measure compliance and impacts and support Rangeland Stewardship Information Portal and BAITs data management and use for enhancing local adaptive management capacity.		• Land and livestock management practices will be considerably improved for climate change adaptation • Negative impact from gas emissions from livestock will reduced		
Output 2.2: Climate-resilient land and lower emissions livestock management being implemented and monitored on 4.6 million hectares of climate-vulnerable communal rangelands				
Activity	**Sub-activities**	**Likely Positive Impacts**	**Likely Negative Impacts**	**Relevant impact pathway and impact**
Activity 2.2.1: Design and establish 104 Village Development Committees to be able to implement and	2.2.1.a Grazing area and community vulnerability baseline assessments are included as annexures to Rangeland	• Rural farming communities will be enabled to practice low emission livestock management • Climate smart grazing will become a way of life for	• Existing laws that provide for open access to communal grazing areas might still pose a problem of enforcement of conservation agreements. (ESS: Protection of Natural Habitats)	• 2.8-2.12 • 3.1-3.3 • 3.7-3.12 • 4.1-4.2 • 4.4-4.6

adaptively manage Rangeland Stewardship Agreements Activity 2.2.2: Implement community-based climate-smart planned grazing, restoration, water and soil, and fire management in 104 VDC grazing land target sites Activity 2.2.3 Monitor and analyse changes in ecosystem health and livestock emissions for adaptive management and emissions	Stewardship Agreements 2.2.1.b Ecoranger recruitment, farmer endorsement, and inception meetings at demonstration sites in years 1 and 2; expand to priority sites in years 3-5; amplify to all sites in clusters years 6-8 2.2.1.c Procurement and provision of "climate-smart grazing support packages" and gender equitable training and beneficiation at nine Project Demonstrations in years 1 & 2, within 104 VDCs in years 3-8 2.2.2.a Implementation of community-based	livestock owners and managers • The practice will be scaled up to all communal grazing lands areas : spreading the benefit of community participation in rangeland resources management and conservation. • Thousands of hectares of rangelands will be rehabilitated. • Rural communities will acquire a range of new skills including designing and implementing communal grazing plans, rangeland stewardship agreements, climate smart farming as well as facilitating job creation and improving sustainable incomes. • This approach offers communities greater engagement in locally driven land management and use than previous policies driven by		

reduction reporting.	climate-smart grazing, rangeland restoration, water and soil, and fire management in all VDC lands in project areas 2.2.2b Facilitate farmer/community "how is it going?" monthly meetings at demonstration sites in years 1 and 2; expand to quarterly meetings at priority sites 3-5; amplify to all sites in clusters years 6-8 2.2.3.a Implementation of monitoring systems for land and livestock impacts on project and control sites across the project areas that feeds into the Rangeland Stewardship Information Portal	technocrats from headquarters. • Communal farmers will have greater capacity to reduce losses of their wealth. • There will be greater incentive for communal land farmers to practice better employment standards and reduce the exploitation of poor relatives, and vulnerable women, children and ethnic minorities		

	2.2.3.b Analysis reports on ecosystem resilience and emissions reduction annually from years 4-8			

Component 3: ***Sustaining enhanced adaptive capacity through value-chain transformation***				
Output 3.1: At least 32,000 households (160,000 people) in the target communities benefiting from additional income from livelihood strategies that contribute to and sustain and climate-smart livestock sector				
Activity	**Sub-activities**	**Likely Positive Impacts**	**Likely Negative Impacts**	**Relevant impact pathway and impact**
Activity 3.1.1: Facilitate new income generation opportunities, especially innovative CBT for livestock purchase from communal farmers active in Rangeland Stewardship Agreements as long-term sustainability and amplification strategy. Activity 3.1.2: Train interested men and women in target communities to participate in business	3.1.1a Market readiness and financial literacy training for 15,000 farming households 3.1.1b Cluster-level business plans that result in long-term climate-smart livestock production 3.1.1c Facilitate access to markets/other incentives via H4H Enterprise Partners, such as Meat Naturally Botswana, and/or other relevant climate conscious enterprises, as part of the project sustainability strategy for long-term rangeland management 3.1.2.a Identify site-specific complementary sustainable initiatives and enterprises based on viability criteria presented in Annex 3 Financial and Economic Analysis 3.1.2.b Train and build the capacity of 17,000 households in target communities on complementary initiatives identified with Local Economic Agency (LEA and Citizen Enterprise Development Agency (CEDA)	• The creation of value chain opportunities for all sizes of cattle holdings offers unprecedented incentives for conservation of communal rangelands. • Small farmers will have an opportunity to plug into the sustainable red meat value chains that offer them capacity to negotiate prices and increase the value of their livestock • Value chain bottlenecks will be opened up by facilitating animal identification systems to ensure traceability to support disease control & comply with requirements for some markets. Other facilitating support include equipment (mobile abbatoirs and power/internet towers), improvement in the quality and accuracy of information, increased bandwidth & access to computers and internet which will greatly facilitate the implementation of BAITS.	• Supporting value chain initiatives and increasing access to markets is not expected to create negative impacts	• 2.9-2.12 • 3.4-3.7 • 4.1-4.6

initiatives which enable, complement or are based on climate-smart livestock production	3.1.2.c Provision of core business/market readiness skills in all regions with LEA and facilitate linkages with CEDA and other funder investments	• The introduction of mobile abattoirs and on-site auctions will accelerate transitional arrangements and reduce distances between production and trade centers: thus also reducing the costs of moving livestock long distances to market. • Transforming value chains opens up the bottlenecks that have held back disease prone regions of Botswana and killed incentives for good livestock management practices. • The whole project approach will transform how environmental management has been practiced in the countryside and spur the formulation of better fit-for-policies policies and legal frameworks that add value • In particular, practices such as record keeping, herding and kraaling to reduce contact with buffalo, basic health care & grazing management will enhance farmer compliance with		

		producer protocols for CBT implementation and overall livestock productivity: including human-wildlife conflict). • An increased rate of animal traceability will greatly reduce livestock theft		
Output 3.2: Private sector players in the formal red meat and tourism industries are supporting gender-equitable communal farmer participation and climate-proofing in the value chain				
Activity	**Sub-activities**	**Likely Positive Impacts**	**Likely Negative Impacts**	**Relevant impact pathway and impact**
Activity 3.2.1 Design, implement, and measure impact of a behaviour change campaign with key segments of the broader red-meat value chain Activity 3.2.2: Engage Botswana Meat Commission, CEDA, and	3.2.1.a Identify, procure, and train local communications/marketing partners to work with RARE in year 2 3.2.1.b Implement targeted awareness campaign through multi-media channels in a way that allows for tracking impact 3.2.1.c Design and implement baseline, mid-term, and final assessment for key segments of the broader red-meat value chain 3.2.2.a Conduct a study regarding "climate-proofing" the Botswana red-meat value chain	• Strengthening of business networks between current value chain agents and small communal land producers to create a nurturing, symbiotic relationship: increasing the quality and reliability of supplies and improving the satisfaction of unmet demand • Enabling established business the opportunity to contribute to the global agenda for leaving no one behind. • Facilitating the upscaling and sustainability of women's share in the market as well	• The opportunities extended to the historically marginalised might only serve to marginalise them in the context of market competition with more experienced and better resource players. (ESS: Indigenous Peoples; Accountability and Grievance Mechanisms)	• 3.9 • 3.10 • 4.1-4.6

other key market players on climate-resilient livestock production protocol development	3.2.2.b Policy-Implementation dialogues hosted by DVS and AHEAD on development of community climate smart livestock, wildlife-friendly production that enables and complies with CBT standards 3.2.2.c In collaboration with BMC, CEDA, and other key market players, host a series of workshops to develop and promote climate-resilient livestock production for Botswana (including certification of “climate-friendly meat”)	as enhancing women’s business skills		

8.2. Impact Matrices

To appreciate the impact matrices, it is important to note the types of assessments done as well as the criteria and methods used in the assessment process. The impact matrices include assessments of status (i.e. is it positive or negative), significance of that impact, the consequence of the impact as well as its probability rate, and, finally, the overall significance. Table 6 lays out the system for considering impact status and confidence (in assessment) while Table 7 sets out the criteria used to determine impact consequence — where the significance of an impact is defined as a combination of the consequence of the impact occurring and the probability that the impact will occur. The combined score of these three criteria corresponds to a Consequence Rating as illustrated in Table 8. The overall significance is determined by considering consequence and probability using the rating system prescribed in Table 9.

Table 6. Impact status and confidence classification.

Status of impact	
Indication whether the impact is adverse (negative) or beneficial (positive).	+ ve (positive – a 'benefit')
	– ve (negative – a 'cost')
Confidence of assessment	
The degree of confidence in predictions based on available information, consultant's judgment and/or specialist knowledge.	Low
	Medium
	High

Table 7. Criteria used to determine the consequence of the impact.

Rating	**Definition of Rating**	**Score**
A. Extent – the area over which the impact will be experienced		
None		0
Local	Confined to project or study area or part thereof (e.g. site)	1
Regional	The region, which may be defined in various ways, e.g. cadastral, catchment, topographic	2
Inter(national)	Nationally or beyond	3
B. Intensity – the magnitude of the impact in relation to the sensitivity of the receiving environment		
None		0
Low	Site-specific and wider natural and/or social functions and processes are negligibly altered	1
Medium	Site-specific and wider natural and/or social functions and processes continue albeit in a modified way	2
High	Site-specific and wider natural and/or social functions or processes are severely altered	3
C. Duration – the time frame for which the impact will be experienced		
None		0
Short-term	Up to 2 years	1
Medium-term	2 to 15 years	2
Long-term	More than 15 years	3

Table 8. Method used to determine the Consequence Score.

Combined Score (A+B+C)	0 – 2	3 – 4	5	6	7	8 – 9
Consequence Rating	Not significant	Very low	low	medium	High	Very high

The impact significance rating should be considered by authorities in their decision-making process based on the implications of ratings ascribed below:

- **Insignificant:** the potential impact is negligible and will not have an influence on the decision regarding the proposed activity/development.
- **Very Low:** the potential impact is very small and should not have any meaningful influence on the decision regarding the proposed activity/development.

- **Low:** the potential impact may not have any meaningful influence on the decision regarding the proposed activity/development.
- **Medium:** the potential impact should influence the decision regarding the proposed activity/development.
- **High:** the potential impact will affect the decision regarding the proposed activity/development.
- **Very High:** The proposed activity should only be approved under special circumstances.

Table 9. Probability Classification.

Probability – the likelihood of the impact occurring	
Improbable	< 40% chance of occurring
Possible	40% - 70% chance of occurring
Probable	> 70% - 90% chance of occurring
Definite	> 90% chance of occurring

Impact Matrices

Pathway 1 Impact Matrix: *Strengthening community institutions and gender equitable capacity for collective action*

Identified impact	Direction		Consequence			Total consequence	Probability	Significance	
	+ve	-ve	Magnitude (severity)	Duration	Extent (spatial scale)			score	class
1.1 Promotion of enabling environment for community-based leadership	+ve		High	Long-term	Local	High	probable	7	significant
1.2 Capacity building and insufficient technical skills for implementation	+ve		High	Long-term	Local	High	probable	7	significant
1.3 Inclusion of women and marginalised persons	+ve		High	Long-term	Local	High	Probable	7	significant
1.4 Resource use rights conflicts and security threats		-ve	High	Short-term	Local	High	Probable	7	significant

Pathway 2 Impact Matrix: *Building individual capacity in herders and the community*

Identified impact	Direction		Consequence			Total consequence	Probability	Significance	
	+ve	-ve	Magnitude (severity)	Duration	Extent (spatial scale)			score	class
2.1 Crafted curriculum	+ve		Very High	Long-term	Local	High	probable	7	significant
2.2 Sustainable land and livestock management	+ve		Very High	Long-term	Local	High	probable	7	Definite
2.3 Recognised graduation certificate	+ve		High	Long-term	Local	High	Probable	7	significant
2.4 Technical skills gain	+ve		High	Short-term	Local	High	probable	7	significant
2.5 Skill transfer	+ve		High	Short-term	Local	High	probable	7	Definite

2.6 Early warning systems (weather)	+ve		High	Long-term	Local	High	Probable	7	Definite
2.7 Improved resource management responsibility reducing wildlife-human conflict	+ve		Very High	Long-term	Local	High	Probable	7	Definite
2.8 Enhanced labour productivity and adaptive strategies	+ve		Very High	Long-term	Regional	High	probable	7	Definite
2.9 Risk of exclusion of community elders		-ve	Medium	Short-term	Local	Low	Probable	7	significant
2.10 Gender exclusion		-ve	High	Short-term	Local	High	Probable	7	significant
2.11 Equality for ethnic minorities		-ve	High	Short-term	Local	High	Probable	7	Significant
2.12 Diverted resources for personal socio-economic activities enhancement		-ve	Medium	Short-term	Local	High	Probable	7	Significant

Pathway 3 Impact Matrix: *Supporting Climate Smart Land and Livestock Management*

Identified impact	**Direction**		**Consequence**			**Total consequence**	**Probability**	**Significance**	
	+ve	**-ve**	**Magnitude (severity)**	**Duration**	**Extent (spatial scale)**			**score**	**class**
3.1 Planned rotational grazing and corralling of livestock	+ve		Very High	Long-term	Local	High	probable	7	Definite
3.2 Rotational grazing	+ve		High	Long-term	Local	High	probable	7	significant
3.3 Resolution of wildlife-human conflict	+ve		High	Long-term	Local	High	Probable	7	Definite
3.4 Supporting infrastructure and technology	+ve		High	Long-term	Local	High	Probable	7	significant
3.5 Access to improved ICT and energy	+ve		High	Long-term	Local	High	probable	7	significant
3.6 Promotion of renewable energy	+ve		High	Long-term	Local	High	probable	7	Definite

3.7 Disease control and management	+ve		High	Long-term	Local	High	Probable	7	Significant
3.8 Adoption and institutionalisation of sustainable integrated land management practices	+ve		High	Long-term	Local	High	Probable	7	Definite
3.9 Inclusive planning and negotiations	+ve		High	Long-term	Local	High	probable	7	significant
3.10 Scaling up	+ve		High	Long-term	Local	High	Probable	7	significant
3.11 Improved collaboration	+ve		High	Long-term	Local	High	Probable	7	significant
3.12 Shared responsibility	+ve			Long-term	Regional	High	Probable	7	Definite

Pathway 4 Impact Matrix *Strengthening mitigation & adaptive capacity across the value-chain*

Identified impact	**Direction**		**Consequence**			**Total consequence**	**Probability**	**Significance**	
	+ve	**-ve**	**Magnitude (severity)**	**Duration**	**Extent (spatial scale)**			**score**	**class**
4.1 Training	+ve		High	Long-term	Regional	High	probable	7	Definite
4.2 Accessibility to market	+ve		High	Long-term	Local	High	probable	7	Definite
4.3 Complementary local fodder production value chain	+ve		Very High	Long-term	Local	High	Probable	7	Definite
4.4 Grassland fire management and control	+ve		Very High	Long-term	Local	High	Probable	8	Definite
4.5 Climate-smart technologies	+ve		High	Long-term	Local	High	probable	7	significant
4.6 Control of Greenhouse Gas emissions	+ve		High	Long-term	Local	High	probable	7	Definite

9. Environmental and Social Management Plan

The GCF Environment and Social Policy (2018) defines an Environmental and Social Management Plan (ESMP) as *"referring to a document that contains a list and description of measures that have been identified for avoiding adverse environmental and social impacts, including, where appropriate, transboundary risks and impacts, or minimising them to acceptable levels, or to mitigate and compensate them and usually the main output of the ESIA process".* This management plan derives from the results of the Environmental and Social Impact assessments that predictively identified the positive and negative aspects of the proposed project:

The project has three major components and subcomponents which are then be divided into activities and sub-activities. A summary of the potential risks and mitigation measures is presented to provide an overview of the risks and how the core activities will inherently mitigate some of the risks. Other risks are reflected in a more detailed narrative in the respective management plans for the safeguards affected.

9.1. Summary of main issues and mitigation measures in the context of environmental and social safeguards.

9.1.1. Issues and state of triggered of safeguards

Table 10. Issues and state of triggered safeguards.

Environmental and Social Safeguard/ Standard	Triggered?	Main challenges (how they will be addressed and whether a stand-alone plan is required)
1. *Accountability and Grievance Mechanisms*	Yes	The project will implement a grievance mechanism to address concerns, complaints, and grievances made by any project stakeholder, beneficiary, or other interested party. This grievance mechanism is described in detail in section 13 of this document. In addition to the project level grievance mechanism, all stakeholders will be provided with information on and access to Conservation International's Ethics Point hotline to register a complaint or grievance. www.**ci**.**ethicspoint**.com
2. *Protection of Natural Habitats*	Yes	The thrust of the project is to reduce GHG emissions and the negative livelihood impacts of natural habitat degradation through rangeland rehabilitation and improved livestock management. The project activities listed in the logframe will collectively address the protection of the natural habit. However, the risk of farmers in shared rangelands not giving 100% buy-in for collective action may hamper program delivery and lead to perpetuation of unsustainable practices. Further, the project will bring unprecedented numbers of animals under collective management which will require commitment to compliance with national legislation as well as international standards regarding issues like waste and pollution management. To mitigate this risk, the project will not invest where compliance for climate-resilient grazing and restoration planning is not

		consensual or where governance for sanctioning non-compliance is lacking. Open communal land cannot be restored with only partial participation. The AE's experience has shown that communities will self-manage once examples of healthy rangelands and herding that protects livestock against predators is in place. It is therefore beneficial to participate and high risk not to. Local leadership in this regard is also critical for self-management and Output 1.1. invests significantly in ensuring this is in place before collective herding is implemented. The key interventions to enhance the project's capacity to bring all stakeholders on board as well as ensure compliance with environmental laws relating to pollution, waste management, and fire management will be articulated on a separate plan with timelines and other metrics. To mitigate the risk that invasive alien plants (IAPs) will be introduced through the importation of equipment and other products during project implementation, IAP control measure will be included as part of SoPs developed under Output 1.2 before implementation under Output 2.1. Where IAPs are already established in VGAs and causing degradation, restoration and grazing plans will be used based on Herding for Health prior experience and global best Biodiversity conservation and the protection of wildlife and natural habitats is at the core of the project's design via the restoration of already-degraded rangeland ecosystems, by both addressing the baseline drivers of degradation, livestock-wildlife conflicts, as well as the compounding impacts of climate change.
3. *Involuntary Resettlement*	To be Determined	Involuntary resettlement applies to situations involving: i) Involuntary or voluntary resettlement including physical displacement, relocation or loss of shelter; and ii) Involuntary and voluntary restrictions of access to natural resources that lead directly or indirectly to the loss of traditional/subsistence livelihoods. The project will not involve voluntary or involuntary resettlement. The focus of the project is exclusively on last-mile communities under communal land tenure systems (tribal lands). Consequently, there is no risk or means of land acquisition or resettlement from these lands. However, there might be economic displacement as the result of transitioning from unsustainable grazing practices to sustainable practices. For example, where there is overgrazing, restrictions might include limiting the use of some water points or shifting around to nearby lands to encourage recovery of grazing land. Grazing management changes may cause some disruption to livelihoods (economic

		displacement) but will be temporary and any restriction will be agreed to with all land users through a participatory approach (as per CI's Conservation Agreement methodology) and reflected in the RSA. The process will also identify alternative measures to be put in place to avoid or reduce the temporary and voluntary restrictions of affected parties. In the long-term, the grazing practices and associated unlocking of new market opportunities will improve the affected parties' livelihood and not result in lost or displaced economic interest permanently. The RSAs require consensus across all village grazing area users and benefits to the whole may reduce privilege of a few, temporarily. However, this is a critical aspect of the project's goal to improve the resilience of the most climate-vulnerable peoples in the project target areas. The core activities of the project focus on training, awareness raising, information sharing, and process facilitation for mobilizing farmers and the communities to make informed decisions about participating. The major driver of this risk is legislation and policy-making that allowed for free development of cattle posts with no requirement for sustainable use. In anticipation of this challenge, the project has been designed to include training and support to enhance the capacity of land authorities to ensure sustainable land and livestock management. Community training has been designed similarly to facilitate change in attitude and behaviour towards sustainable resource use and management. An additional measure will be to carry out baseline stakeholder mapping that will provide information for better decision making and participatory planning.
4. *Indigenous Peoples*	Yes	The criteria of vulnerability that was used to select where the project will commence, and its succeeding stages of implementation picked six Basarwa settlements as some of the beneficiaries of the second phase of project implementation**.** Therefore, all the activities related to this phase will be targeting Basarwa communities living in areas most severely affected by climate change. However, there are some members of this indigenous community who live as herders at cattle posts owned by the dominant ethnic groups. They are particularly vulnerable to exclusion and marginalization. An Indigenous Peoples Plan is the first schedule of standalone plans below and has been developed to capture their stated concerns and indicate measures likely to reduce risks of exclusion and marginalization.

5. *Pest Management*	no	The project does not include the use of pesticides. However, if pesticides are used in the value chain activities related to the project and facilitated by other partners such as government departments, the need to develop a mitigation plan might arise. As a contingency measure, planned workshop with participant stakeholders will include a monitoring of activities related to pest control and seek to support a participatory planning process with private sector partners.
6. *Physical Cultural Resources*	no	The project is designed for active participation of farmers and communities to engage in planning and land management. It is expected that communities will consider their cultural resources. Therefore, both project design and the activities for implementation are inherently mitigation measures.
7. *Labour and Working Conditions*	Yes	The project seeks to directly employ an equal number of men and women in an area of work historically and currently dominated by male workers. There are several factors that could undermine the commitment to gender parity in the jobs to be created through professionalising this male-dominated domain. One is the relative spatial location of cattle and village settlements where women dominant as well as the compatibility of this type of work with women's other social responsibilities (childcare being one). As detailed in the GAP (Annex 8) the project will develop tasks that can be carried out by women in this position as part of the Ipelegeng Programme in Output 1.2, e.g. the production of restoration mats out of bush encroachment materials that can be made at the home. Additionally, the project will develop a network of female champions across the villages through which two-way information flows will be augmented beyond formal workshop engagements. The risk of sexual harassment at work is also a reality which is not expressly prohibited by law. Training provided under the project by the BUAN curriculum for climate-resilient livestock herding (Activity 1.3.1) will include gender equity and GBV awareness, as well as sexual harassment reporting procedures to mitigate this risk. Furthermore, GBV complaints will be able to be channelled through the project's Grievance Redress Mechanism. Basarwa are often significant providers of labour as herders. Their women and children are therefore often exploited as free labour as they are most often located at the cattle posts where they risk being coerced into service despite laws prohibiting both coercion and use of child labour. The exploitation of Basarwa, women and

		children as free labour will be mitigated, through the labour model to be used by the project. GoB will be allocating paid employees as labour during project implementation via the Ipelegeng programme. Furthermore, the professionalisation of the herding and restoration roles aim to ensure that no women or children are exploited as free labour. Risks related to working conditions, terms of employment, workers organization, non-discrimination, equal opportunity, child labour, and forced labour of direct, contracted and third-party workers will be mitigated via the GoB's Ipelegeng programme through which all work will be completed. The programme has legislated processes, working conditions, and equity requirements as criteria, and wage rates, ensuring that minimum wage is respected. As part of Output 1.2, new SoPs for regional best practice for public works programmes and grievance mechanisms will be integrated into the Ipelegeng programme. Employment opportunities will also be created in the value chains where there may be risks of child labour and coercion of the vulnerable and poor: most of who are located at the cattle posts. A gender-balancing mitigation strategy requires accurate data on the spatial patterns of land-use by women and men as well as by cattle and small livestock to enable informed planning and decision making. The mitigation measures will be reflected in the Labour Plan and other relevant plans below (i.e. Indigenous People and Gender Action Plan).
8. *Community Health, Safety, and Security*	Yes	The collective rotational grazing approach proposed for this project will bring all village livestock to be kraaled and grazed together on communal rangelands. There are therefore health, safety and security issues that will be particular to this form of land and livestock management system which will require a robust and fit-for-purpose risk management plan that must be developed through a participatory stakeholder engagement bringing together key stakeholders with relevant knowledge. Specific risks will be identified at the village level and risk mitigation will be integrated in the Rangeland Stewardship Agreement terms. Communal rangelands are open areas traversed by people and wildlife. Therefore a risk analysis undertaken from a stakeholder participatory approach will identify what health practitioners, labour representatives, herders, livestock owners, and various land users and managers already know about possible risks and who the people most vulnerable to increased risk of harm are likely to be.

		A review of the legal and policy frameworks relating to community health, safety and security and an assessment of its implications for communal collective grazing activities will need to be undertaken to facilitate the development of an informed risk management plan. The issues will be further articulated in an indicative risk management plan below. Finally, new health risks to communities and workers are posed by the Covid-19 pandemic. This requires additional health and safety precautions that are based on national legislation, CI policy, and relevant protocols designed for COVID for Herding for Health activities.
9. *Resource efficiency and pollution prevention*	No	While this safeguard category is not expected to be triggered as project design promotes resource efficiency and the prevention of pollution, the project aims to raise awareness and support SMMEs and private sector entities to measure and mitigate their waste and emissions as part of Component 3. It also aims to embed these practices in the financing of parastatal entities to uncover these potentially hidden impacts and ensure these resource efficiency and pollution prevention measures become criteria for future financing decision-making of the major financiers in the country. Emissions to air: there are no emissions to air anticipated from any of the project's proposed activities. Discharges to water: under intensive livestock farming practices, water quality degradation is common. As livestock will be herded over large areas, and not concentrated in enclosed areas, under the proposed project, it is not anticipated that the associated wastes such as excreta (and drug residues, etc. therein) will go beyond the buffering capacities of ecosystems, thereby polluting service waters and groundwater. Project-related greenhouse gas (GHG) emissions: although a livestock-related project, there will not be an increase in GHGs as a result of the project. Rather, there will be a decrease, as the cattle that are already present at the project sites will be better managed, increasing the efficiency of production. Contamination of land: as with discharges to water, as the project is promoting planned extensive livestock farming, and animals will not be concentrated in enclosed areas, it is not anticipated that there will be a buildup of related wastes such as manure and urine. Rather, such

		waste is expected to contribute to the restoration of degraded ecosystems through increasing nutrient concentrations, improving soil quality and preventing soil moisture loss. Project-associated waste: the biomass-based waste anticipated is manure is critical to improving veld condition and any biomass resulting from bush clearing will be used to arrest erosion, protect exposed soils, etc. Hazardous materials: there will be no use of hazardous materials and limited use of agricultural input during project implementation. Vaccines (such as for foot and mouth disease) will be given to cattle by trained individuals who will also dispose of all waste responsibly so that there is no risk to local communities, other animals or the surrounding ecosystems. The use of pesticides during the project is not planned or anticipated.

Policy	**Activities to comply with ESMS policy and provisions**	**Implementation Responsibility**	**Schedule**
Disclosure Requirements	Activities: 1.1.1; 1.1.2, 1.2.2; 1.2.3; 3.1.1	Project Team + Village Development Committees (VDC)	Years 1, 2 and 5
Grievance Mechanism	Activities 1.1.1; 1.1.2; 1.3.1; 1.3.2; 3.1.2	Project Team + VDC	Years 1 – 8
Gender Mainstreaming	Activities 1.1.2; 1.1.3; 3.1.1; 3.1.2; 3.2.2	Project Team + VDC	Years 1 – 8
Stakeholder Engagement	Activities 1.1.1; 1.1.2; 1.2.2; 1.2.3; 1.3.1; 1.3.2; 1.4.1; 3.1.1; and 3.2.2	Project Team + VDC	Years 1 – 8

The Project Planning and Adaptive Management Director will be responsible for mitigating environmental risks through the RSAs, while the Implementation Director will be responsible for implementation of the ISS, GAP, and safeguards related to Labour, Working Conditions, Health and Safety, and Hazardous Materials. Additional details on responsibilities related to environmental and social safeguards implementation, reviews, and monitoring and evaluation presented in the table above will form the basis of a more detailed definition of roles and responsibilities related to project institutional arrangements, which will be finalised during project inception.

10. Key Social and Environmental Impacts and Feasibility Assessment of Related Mitigation Measures

Table 11. Key Social and Environmental Impacts and Feasibility Assessment of Related Mitigation Measures

Project Outputs	Social and Environmental Impacts	Mitigation measures included in project design	Feasibility, effectiveness and sustainability	Implementation Responsibility	Schedule
Output 1.1.: New structures and systems for climate responsive planning and implementation by communal populations are operationalised	• Due to historical power relations that subordinated some ethnic groups, the strengthening of local institutions might perpetuate exclusion and marginalisation of Basarwa from institutions overrepresented by dominant ethnic groups (ESS: Indigenous Peoples) • Risk of current legal and policy frameworks undermining the capacity to execute rangeland stewardship agreements (ESS: Accountability and Grievance Mechanisms)	Activity 1.1.1: train 30 farmer facilitator teams Activity 1.1.2: Build collective understanding Activity 1.1.3: Replicate and amplify Herding for Health (H4H) approach	Feasible and sustainable for communities with regular contact with VDCs. Might exclude herder-farmers mostly based in cattle posts. Need mitigation via Indigenous Peoples management Plan. All meetings need to comply with national and WHO recommendations for COVID 19 risk mitigation requirements (e.g. masks, sanitisers, social distancing).	The project team and consultants	Year 1 & 2
Output 1.2: New job creation programme and veterinary approach	• The current legal, institutional and policy framework	Activity 1.2.1: Support establishment of inter-	Feasible but will need to be anchored on integrated approach to bring	The project team	Years 1–8

for climate responsiveness are adopted by national departments.	might undermine efforts to coordinate collaborative initiatives for climate-smart rangeland management and economic stimulation (ESS: Accountability and Grievance Mechanisms) • The current sectoral silos, duplication of efforts and overlapping institutional mandates might continue perpetuating inefficient use of scarce financial resources and undermine collaborative efforts and improvement in service delivery (ESS: Accountability and Grievance Mechanisms)	institutional coordination mechanisms; Activity 1.2.2. Support the development of a rangeland stewardship job creation programme; Activity 1.2.3: Expand capacity of Department of Veterinary Services (DVS) to respond and enable.	departments from other critical sectors such as water, energy, land allocation, wildlife and forestry to avoid conflicts and duplication of effort.		
Output 1.3. New rangeland management curricula developed and operationalised to expand skills for restoration and regenerative grazing	• The risk of unequal access might still continue and be facilitated by technology due to historical inequality and power relations, particularly in	Activity 1.3.1: Create and monitor deployment of a new national curriculum for rangeland restoration and climate-resilient livestock herding	Feasible. Reference to indigenous knowledge and practice to be integrated into the curriculum.	BUAN,	Years 1-8

	relation to ethnic minorities and women. (ESS: Accountability and Grievance Mechanisms, Indigenous Peoples)				
Output 1.4. New rangeland monitoring system is operationalised, embedded, and utilized in market, carbon monitoring, and policy systems	• Top officials who might be challenged by the empowerment of lower tiers of governance and want to assert their authority by putting brakes on process (ESS: Accountability and Grievance Mechanisms)	Activity 1.4.1: Establish a Rangeland Stewardship Information Portal Activity 1.4.2: Equip, train, and staff village hubs and relevant officials	Feasible. It must be anchored in integrated resource use and management to include all relevant sectoral supporters for sustainability.	The project team	Years 2– 9
Output 1.5. Improved government policy initiatives on climate change actions and needs, enabling adaptive management	NA	Activity 1.5.1: Promote the project EbA approach	Feasible	The project team	Years 1–8
Output 2.1. Job creation and social safety net programmes resourced by the Government are used to deploy restoration teams for climate-resilient land and livestock management in target Project Areas.	• The professionalisation of the job might marginalise the existing herders, especially the indigenous people who provide a large part of herding services. (ESS: Labour and Working Conditions; Accountability and Grievance	Act 2.1.1: Create and monitor deployment of a new national job creation programme for 5,500 Eco-rangers and Restoration Workers Activity 2.1.2: Create and deploy 500 graduate monitors	Feasible. Additional risks will be mitigated through: • Gender Action Plan; • Indigenous People Management Plan; and • Labour Management Plan. • COVID 19 Response Protocols	The project team	Years 1–8

	Mechanisms; Indigenous Peoples) • The opportunities for access to this job market might continue to elude women as herding has historically been a male domain. (ESS: Accountability and Grievance Mechanisms)				
Output 2.2. Rehabilitation of ecosystems and improved management of land, soil, and livestock implemented and monitored to increase ecosystem productivity, reduce vulnerability of beneficiary populations, and reduce GHG emissions on 4.6 million hectares of climate-vulnerable communal rangelands.	• Existing laws that provide for open access to communal grazing areas might still pose a problem of enforcement of conservation agreements. (ESS: Protection of Natural Habitats)	Activity 2.2.1: Design and establish 104 Village Development Committees Activity 2.2.2: Implement community-based climate-smart planned grazing Activity 2.2.3 Monitor and analyse changes in ecosystem health and livestock emissions	Feasible. Additional risks will be mitigated via separate: • Gender Action Plan; • Indigenous People; Management Plan; and • Environmental management Plan. • COVID 19 Response Protocols	The project team	Years 1–8
Output 3.1. Market readiness trainings, enterprise development support, supply chain facilitation, and local level funds build the enabling conditions for improved low-emission livestock value chains	NA	Activity 3.1.1: Facilitate new income generation opportunities Activity 3.1.2: Train interested men and women in target communities to participate in business initiatives	Feasible and sustainable. Additional Risks will be mitigated through: • Gender Action Plan; and • Indigenous People Management Plan	The project team	Years 1–8

Output 3.2.: Selected financiers and value-chain players are aware and supported to incentivise rangeland stewardship and adopt carbon-optimisation practices and technologies	• The opportunities extended to the historically marginalised might only serve to marginalise them in the context of market competition with more experienced and better resource players. (ESS: Indigenous Peoples; Accountability and Grievance Mechanisms)	Activity 3.2.1 Design, implement, and measure impact in the broader red-meat value chain Activity 3.2.2: Engage Botswana Meat Commission, CEDA, and other key market players	Feasible and sustainable. Additional Risks will be mitigated through: • Gender Action Plan; and • Indigenous People Management Plan	The project team	Years 2– 8

11. Management Plans

11.1. Environmental Management Plan

The environmental risks in the proposed projects are not likely to stem from direct impacts of the project itself but from indirect impacts of the unresolved issues of policy, institutional and governance related to land- and ecosystem-resource management. Botswana recognizes the limitations imposed on sustainable resource management and related economic and social development efforts by inefficiencies in the policy and governance frameworks that have become outdated, characterised by silos and generally unable to efficiently deliver. There has been a widening gap between policy and program execution that is acknowledged and for which commitments have been made to make better. The current National Development Plan (NDP11) succinctly captures these and articulates measures to improve on the weaknesses.

Decentralization has been partially delivered, but its full implementation is necessary to enhance accountability and efficiency at local level where the imperative of including communities has been acknowledged. A key lesson drawn from past experience is that the administrative agreements for collaboration can be hampered by slow development of legal and policy instruments to anchor integrated and systematic coordination. The current National Development Plan (NDP 11) recognizes this weakness and is preparing to make necessary legal and policy reform. This project can be a catalyst to accelerate reforms by demonstrating how local level institutional collaboration and community involvement could enhance efficiency despite some weaknesses in legal and policy frameworks.

The Environmental Plan will therefore focus on creating a conducive environment for policy reform by using a process facilitation method that brings key and primary stakeholders together to solve environmental problems collaboratively while delivering on economic and social objectives. Without that process facilitation resource fragmentation will continue to be a challenge undermining efficient execution of project components. The components of the action plan will include the elements listed in Table 2 below.

Table 12. Components of the action plan.

Project Outputs	Project Activities	Environmental Mitigation Measures		
Environmental Triggers		Mitigation Activities	Targets	Timing
Output 1.2: New job creation programme and veterinary approach for climate responsiveness are adopted by national departments.	Activity 1.2.1: Support establishment of inter-institutional coordination mechanisms;	• Support the review and revitalization of the decentralization policy and environmental policies to enable integration and harmonization that are critical and to the specific activities of this project	• Harmonised and integrated land, water, power, waste, and other environmental policies fit for local purpose.	Years 1–3
Output 1.3. New rangeland management curricula developed and operationalised to expand skills for restoration and regenerative grazing	Act 2.1.1: Create and monitor deployment of a new national curriculum for climate-resilient livestock herding with >6,000 Eco-rangers and	• Include environmental policy and legal frameworks in the curriculum	Eco-ranger training includes information on environmental policy and best practice	Years 1–5

	Restoration Workers Activity 2.1.2: Create and deploy graduate monitors			

11.2. Labour and Working Conditions Risk Management plan

The principal legislation governing labour and working conditions Botswana is currently the 2010 Employment Act which repealed and amended the 2004 Act. In particular, the 2010 Employment Act amendments incorporated international standards in the following key areas:

- Adding a prohibition of sexual orientation and health status (including HIV/AIDS) as grounds upon which an employer may terminate the employment contract.
- Introducing new sections which provide more general protection against discrimination and Prohibit discrimination on the basis of the employee's race, tribe, place of origin, social origin, marital status, gender, sexual orientation, colour, creed, health status or disability; or any other reason which does not affect the employee's ability to perform that employee's duties under the contract of employment.

The Employment Act also prohibits forced labour, the employment of children, and other practices that make for inhumane and unhealthy working conditions. It provides for employment contracts that entitle workers to severance benefits and clearly stipulated contents of their employment. It legislates on a range of other protections such as:

- limits of period of employment;
- minimum and maximum contracting age (thus prohibiting child labour and allowing for retirement);
- protection of wages;
- rest periods plus paid leave and public holidays;
- maternity leave and related provisions for female employees; and
- Minimum wages for certain industries: including agriculture;

Other legislation relevant to the proposed project include the Public Holidays Act, 2006 (allows for public holidays and compensation for such if not taken), the Workers Compensation Act (deals with compensation for injuries at work and allows for pensions), the Trade Unions and Employers' Organization Act accords workers the right to organize and to strike), and the Trade Disputes Act, 2004 (protects against punitive measures relating to trade union membership and allows for negotiated settlements). The constitution is the foundational law that enshrines the bill of rights that are guaranteed to all without discrimination. In the public service there are two codes of practice to protect against sexual harassment in the workplace.

The laws will apply to the 6,000 men and women that the proposed project will employ directly to undertake the management of both livestock and grazing land restoration and monitoring. The services of a legal expert will be sought and to provide contract terms that are consistent with the law and the principles of justice and equality. Value chain activities are also likely to add to the numbers of workers affected by the project in terms of employment in other linked sectors. The scenario most likely must proactively solicit women and apply non-discrimination principles due to the fact that in practice, livestock related work is both culturally and practically a male preserve. Most workers providing herding services are men. If the project recruits from the current crop of herders, women will continue to be side lined as job gets professionalized. If women are recruited into this job market, there is the potential risk of displacing male herders where herding has been an important source of employment for disadvantaged and vulnerable males. A balance can be struck by increasing women's participation in activities where they historically participate in significant numbers. For instancing offsetting male dominance in

cattle herding by increasing female numbers in small livestock herding, fodder, and other value chain activities that will give them higher incomes. This gender balancing mitigation strategy requires accurate data on the spatial patterns of land use by women and men as well as by cattle and small livestock to enable informed planning and decision making.

Another concern that must be accounted for is that the project activities in communal rangelands may involve cattle posts where reports[67] suggest employment practices prohibited by law take place. These practices include: i) employment of underage children from ethnic Basarwa communities and poor relatives; and ii) coercion of vulnerable adults and children into employment. Forced labour and child labour are prohibited by Botswanan law and international conventions. To ensure that these unethical labour practices do not enter directly or indirectly into the activities affected by the project the measures described in Table 3 below must be in place.

Table 13. Mitigation Measures to Enhance Ethical and Just Labour and Employment Standards.

Project Outputs and Activities	Mitigation Measures to Enhance Ethical and Just Labour and Employment Standards		
	Activities	Targets and Indicators	Timeline
• Cross Cutting	• Liaise with University of Botswana to develop a baseline assessment to determine the prevalence, nature and causes of these problems with a view to identifying the most effective ways of eliminating the practices.	• Report on Employment Practices in Communal Cattle posts	Years 1, 2, 5
	• The prohibitions must be incorporated into conservation agreements, training materials, human resources policies, and codes of ethics • Penalty clauses for non-compliance with employment standards must, with the aid of legal experts, be embedded in the conduct of business as well as training materials	• Code of ethics on employment standards	Year 1
	• Formulate human resources policy that captures key provisions in the Employment Act in simpler language. • Use the contents of policy documents for awareness raising. • Document Non-compliance • Monitor and review progress • Use data to inform output 1.2 and Activity around devising the new Ipelegeng Rangeland Stewardship Programme Strategy development in Year 1-2.	• Human Resource Policy • Code of ethics for no coercive employment practice • Record reports of incidences and conclusion of investigations	Year 2 and project duration
	• Explicitly prohibit sexual harassment and gender violence • Embed prohibition in training materials and a Code of Ethics	• Code of ethics against Sexual Harassment	Year 1
	• Value Chain stakeholders must be conscientized to the legal prohibitions		Year 2 onwards

[67] Bureau of International Labour Affairs, 2018 Findings of the Worst Forms of Child Labour, USA Department of Labor. https://www.dol.gov/agencies/ilab/resources/reports/child-labor/Botswana. UNICEF estimates that 9% population below age 18 is involved in child labour. but this was based on dated sources.

	• Project evaluations must also include assessment of prevalence of all these prohibited practices	• Project activities using international and national labour Standards	Midterm and End term

11.2.1. Grievance Redress Mechanism for Labourers

The proposed project recognises the vulnerability of the target communities, beneficiaries and the different types of workers to be involved in the project. The grievance redress mechanism for labourers offered by CI can be relied upon by any workers involved in the project who are not employed by a third party and over whom CI has no control. Ipelegeng labourers will be able to rely upon the protections available to them in accordance with the Government of Botswana's Labour Law.

The cluster level will be the first opportunity for resolution of grievances through discussion and mutual agreement between the project-affected person and CI project staff. CI project staff at the cluster-level will facilitate receiving, recording and resolution of grievances at their cluster. Should the complainant feel uncomfortable about reporting his/her grievance to a CI project staff member at the cluster level, he/she will be able to confidentially communicate directly with the Project Management Team, with anonymity guaranteed if desired. Furthermore, all complainants will be protected from any form of retaliation. The workers will be sensitised to put-forward their grievances or concerns related to labour and working conditions in the project through appropriate channels of their choice which will include:

- Face-to-face meetings with CI project staff and staff seconded from government — should the complainant choose this channel, they will have the right to be accompanied by a colleague, friend or union representative;
- Grievance boxes and desks to be set up at pay points during pay-parades;
- Written letters; and
- Phone calls, E-mail or SMS.

Upon receipt of the grievance, the CI project staff shall assess it to establish whether it could be resolved locally or be referred to a higher level. Where possible, the CI project staff shall attempt to resolve and close the matter if the worker is satisfied with the resolution. Where the matter has failed to be resolved or where it is deemed to be beyond the capacity of the CI project staff, the matter shall be referred to the project-level accountability and grievance redress mechanism (GRM; Section 12). The worker will be informed and the determination will be appropriately recorded in a grievance register. Upon receiving a written referral from the CI project staff, the Project management team shall also attempt to resolve the matter by convening concerned parties where possible. The same process will be repeated with further referral levels until the case is resolved. Feedback will be provided to the complainant throughout the entire grievance redress project.

The labourer's and Project-level GRMs are complimentary to other existing GRMs at the local and national level. As such, communities and workers shall be informed about the other existing mechanisms through trainings and be allowed to make use of them when and where ever they find it necessary. This would also assist in creating alternative space for workers who would otherwise not be able to voice out their concerns through the project's GRM structures for fear of reprisals despite repeated assurances of their protection. The project will, therefore, also identify and engage institutions (such as the Government of Botswana) that provide alternative GRM services in project target areas in order to create linkages that would provide necessary feedback to the labourer's or project-level GRMs.

Details on the relevant GRMs, as well as those on labour and working conditions, will be provided in the contracts of workers employed by CI and project staff. CI project staff will also be trained to use and promote the use of the GRMs, and a labour grievance committee will be established, being made up of project management team representatives, CI project staff, seconded government officers and workers' representatives. Representation of different genders and ethnicities will also be ensured as necessary.

11.3. Involuntary Resettlement and Restriction of Access to Natural Resources Plan

The policy on involuntary resettlement applies to situations involving: i) involuntary or voluntary resettlement including physical displacement, relocation or loss of shelter; and ii) involuntary and voluntary restrictions of access to natural resources that lead directly or indirectly to the loss of traditional/subsistence livelihoods. In the proposed project stakeholders in Ngamiland raised two issues that concern both types of restrictions. In the village of Nxaraga concern was raised that the movement of young cattle owners onto grazing areas already grossly reduced by agricultural fences was not acceptable as the local community did not have the power and authority to restrict migrant settlers establishing their cattle posts and cutting down trees for that purposes. They desire the power to restrict.

To manage decisions on restrictions of access that will be necessary for rotational grazing and land restoration in ecosystems severely fragmented and reduced by disease control fences will require some detailed baseline assessment of the extent of the specific pastures available to the communities and the number of animals grazing in the area. The project is based on participatory planning of grazing areas, but it must be supported with baseline metrics critical to these plans and their terms of negotiations among all affected livestock owners. A baseline stakeholder mapping exercise will also be imperative as it will provide on the spatial, livestock ownership, residential status and other important details of the farmers with a stake on the specific grazing lands. The core aspects of the project that involves collective mapping of grazing plans and the related negotiations process can then follow — aided by a guided facilitation process of workshops and stakeholder workshops. Additionally, a review of Botswana's legal provisions on settlements and rights to communal grazing must be conducted with a view to designing sustainable resource management and reducing conflicts. The job description of the legal expert will include a requirement for the expert to understand international and national safeguards and deploy them in the review of any conservation agreement. Further, resources available for Basarwa will increased due to the technical support of a scientific team that includes a gender expert and five scientists.

11.4. Indicative Community Health, Safety, and Security Management Plan

The Community Health, Safety, and Security Management Plan presented below is indicative and will be superseded by a robust and fit-for-purpose risk management plan that will be developed through a participatory stakeholder engagement during project implementation. This plan will be developed as part of the Rangeland Stewardship Agreement (RSA) spatial plan and standard operating procedures (SoPs) — for the implementation of relevant project activities — that will be produced under Activity 1.2.2.

The collective rotational grazing approach proposed for this project seeks to support traditional system where chiefs and land overseers coordinated when livestock would be moved from winter grazing to summer grazing lands. In some areas, however, the current numbers of animals kraaled together and grazed together on communal land has no precedence. There are therefore health, safety and security concerns that will require additional resources and robust and fit-for-purpose risk management plan must be part of the baseline for each village grazing area. Therefore, this preliminary plan is merely indicative of what is required and will provide a simple guideline for a participatory approach when the project commences and key

stakeholders whose knowledge will be required are brought together for collective workshopping and planning at a particular site.

A review of the legal and policy frameworks relating to community health, safety and security and an assessment if its implications for communal collective grazing activities will need to be undertaken at the launching and preparation for launching stage. Botswana's Public Health Act (Cap 63:01) will form the basic guide as it legislates on the introduction and spread of diseases, prevention and destruction of pests that cause diseases (such as mosquitoes), health related to water and food supplies, as well as identifying responsible authorities and their powers. The occupational health legislation is also an important source that will inform risks and required preventive and emergency practices necessary to protect workers against injury and other forms of harm. These pieces of legislation will need to be reviewed and the outcome infused into the training process and teaching materials. Recent Covid-19 risks will also need to be managed based on the best health and safety guidance as provided by the WHO and Government of Botswana at the time of implementation. An example of South Africa's Covid response protocols for ecosystem restoration work is provided as annexure xxx.

Communal rangelands are open areas traversed by people and wildlife. Therefore, a risk analysis undertaken using a stakeholder participatory approach will identify what health practitioners, labour representatives, herders, livestock owners, and various land users and managers already know about possible risks and people most vulnerable to increased risk of harm are likely to be. Sources of risk must be identified, and their risk factor assessed to provide baseline information for risk management planning, risk control and prevention. Some of the common threats to public health and safety are injury by aggressive or terrified animals, disease spread from animals to humans, livestock and plants through low hygiene standards and harmful microorganisms (e.g. E-coli 0157). And in the context of Botswana the risks of injury from wildlife (particularly under severe shortages of water), poachers and livestock thieves are quite significant though they may vary from one ecosystem to another. Another area of risk is likely to be that relating to waste and fire where there are currently management gaps. Waste disposal in rural Botswana is inadequate and poses serious hazards to the health of people, flora and fauna. This is largely due to inadequate infrastructure and inadequate resources for monitoring and enforcement of law and regulations. The risk of fire is very high. The project has been designed to address the fire hazard and wilderness survival training will be a key part of all restoration team field training events.

Health and Safety policies must be developed and shared with stakeholders such as the workers, value chain participants, officials who will need to provide services to the rangelands who will need training on their purpose and importance. Health, safety and security service institutions must be brought on board in multi-stakeholder, cross-sectoral conversations and integrated planning for sustainable resource management with high standards of health, safety and security. Institutionally, health issues are mandated to different line ministries and departments cascading to district level. The Ministry responsible for labour affairs has responsibility over occupational health and safety and related legislation and policies while the Ministry of Health has primary responsibility for all health issues as reflected in the Public Health Act. To initiate the process, the Health and Safety standards used by South Africa's Herding for Health Programme for Eco-rangers and Restoration Workers will be used as a foundation from which Ipelegeng will be supported and tailored to local conditions and laws. This includes all Personal Protective Equipment standards as issued and catered for in the budget. Over USD 1.5 million of the budget is dedicated to this purpose and a further 5% of this amount is being requested as a PPE contingency given recent lessons learned with COVID. Additionally, Eco-ranger and Restoration teams will have at least two members appointed as Health and Safety officers that receive First Aid Level 2 Training.

Infrastructure and equipment design and safety will follow international good practice. A key part of this will be the maintenance plan for all equipment which CI will manage via strict

maintenance planning and implementation (see Annex 21 for more details on O&M plan for equipment). The following will also be considered in the finalised Health, Safety and Security Management Plan in terms of infrastructure and equipment:

- Affected communities and experts will be consulted to determine the appropriate placement and design of infrastructure to minimise benefits;
- Any necessary permits and approval required by national and local regulations will be obtained prior to construction;
- As necessary, infrastructure will be designed in accordance with local traditions, architecture and good environmental practice;
- Waste and debris at infrastructure sites will be managed/disposed of appropriately;
- Incremental risks of stakeholder's potential exposure to operational accidents and/or natural hazards will be considered;
- Construction will take into account impacts on third parties and affected communities;
- The development/construction of infrastructure will be reviewed throughout implementation;
- Site access will be controlled (through the use of fencing, barriers or security for example), where safety is considered a risk to affected communities and third parties; and
- Appropriate PPE will be provided and used during all relevant infrastructure development and equipment-use activities.

Occupational health and safety training is a fundamental component of the Ecoranger curriculum (Output 1.3), and the SOPs (Output 1.2) that will be developed for the work to be carried out by labourers under the project (Output 2.1). This policy will apply to all sites where Social Support for Resilient Livelihoods Project has its activities.

The project is committed to providing a healthy and safe working environment for its beneficiaries, labourers and staff with the aim of preventing injury and illness resulting from activities to be undertaken under the project. In order to exercise this commitment, the following statement on safety and health is issued. The project will be responsible for assisting its beneficiaries, labourers and staff in prevention of injury and illness resulting from activities to be undertaken under the project. Supervisors identified under the project, will be trained and held responsible for ensuring that occupational health and safety procedures are followed. They will be accountable for ensuring that beneficiaries and volunteers are adequately and suitably informed of potential hazards to which they may be exposed to at the workplace and instructed and trained in the measures available for prevention and control and protection against such hazards. Supervisors also have a general responsibility for ensuring the safety of equipment and facilities to be used under the project. The project will ensure that where there is a requirement, beneficiaries, labourers or staff are provided with appropriate PPE and first-aid kits. In addition, the project recognises the beneficiaries', labourers' or staffs' duty to identify hazards, report and to play an active role to protect their health and safety and that of others by complying with applicable legislation, procedures, rules and instructions as prescribed by the project. Project beneficiaries, labourers and staff have a general responsibility of ensuring that anything provided in the interest of health and safety, is not intentionally or recklessly interfered with or misused.

Occupational Health and Safety will be complied with through carrying out of site-specific risk assessments and development of appropriate risk prevention and mitigation measures. Where risk prevention and mitigation requires provision of PPE, appropriate PPE will be provided to workers who are tasked to work on high-risk tasks or areas. The project will also provide first aid training to designated project staff and workers responsible for overseeing health and safety issues at project sites. The training will also include transfer of skills on how to set up First Aid Kits at project sites from locally available materials and resources. Cost for procuring PPE has been included in the budget.

Relevant stakeholders will be engaged to facilitate implementation of health and safety measures which will include conducting risk assessment in all locations involving risky work, the identification and provision of necessary personal protective equipment, as well as ongoing safety training, monitoring and sharing of information. Annexed to this document is a risk assessment tool (Annex XX) which will be used for identifying occupational health and safety hazards and potential prevention and mitigation measures in all project locations.

A code of practice for managing risk to public health, safety and security will be developed on the basis of the processes outlined above: with a clear and informed plan in place within the first six months of project implementation. This plan will also take into account the latest WHO and national recommendations and requirements for COVID risk reduction. Both the process and the outcomes must clearly reflect a gendered approach to ensure that women and men, and the risks that may be common or specific to their gender are not overlooked.

CI will be preparing a new Safety and Security Plan for Botswana which will consider the needs of the proposed project. The plan will be prepared by 1 July 2021 and will be workshopped with relevant stakeholders and submitted to GCF as part of the year 1 report prior to field activities commencing.

11.4.1. Emergency Response and Preparedness Plan

The plan detailed below is indicative and will be further developed (emergency preparedness and response activities, resources, and responsibilities) with input from and shared with relevant parties and stakeholders during project implementation, as their participation and collaboration will be necessary during responses to emergency situations. Should local government agencies have little or no capacity to respond effectively, the AE and project will ensure that all gaps in preparing for and responding to emergencies related to the project are filled. The final Emergency Response and Preparedness Plan will also provide relevant stakeholders with information on the nature and extent of environmental and human health effects that may result from routine operations and unplanned emergencies at project intervention sites. Information campaigns will describe appropriate behaviour and safety measures in the event of an incident, as well as actively seek views concerning risk management and affected community and other stakeholder preparedness. Furthermore, affected communities and other stakeholders will be provided with regular training exercises (e.g. simulations, drills, and debriefs of exercises and actual events) to familiarise them with proper procedures in the event of an emergency, such as a veld fire.

The final plan will address the following aspects of emergency response and preparedness:

- Specific emergency response procedures;
- Trained emergency response teams;
- Emergency contacts and communication systems/protocols;
- Procedures for interaction with local and regional emergency and health authorities;
- Permanently stationed emergency equipment and facilities (e.g., first aid stations, fire extinguishers, hoses, sprinkler systems);
- Protocols for fire truck, ambulance, and other emergency vehicle services;
- Evacuation routes and meeting points; and
- Drills (annual or more frequently as possible).

Several of the above aspects are covered in the indicative emergency response and preparedness plan below. These will be expanded on during the development of the final plan using *inter alia* CI's Community Health, Safety and Security Risk Assessment Tool[68] and CI's Global Crisis Management Plan. The tool will help the project to determine potential risks and

[68] Annex IX of CI-GEF/GCF Project Agency's ESMF. Available at: https://www.conservation.org/docs/default-source/gef-documents/ci-gef-environmental-and-social-management-framework-(esmf)-version-06.pdf?sfvrsn=6e521414_2

identify mitigation measures. The Risk Assessment Tool is adopted from CI's Risk Assessment Overview which follows a standard methodology for assessing risk: *Likelihood x Impact = Risk*. While the nature of this assessment will naturally be subjective, anchoring the assessment of risk in terms of how likely any given event is to affect communities will give a better understanding of what possible mitigation measures can be taken.

The project risk assessment tool follows a simple process:
1. Identify possible threats to the project-affected communities
2. Assess likelihood of those threats materializing
3. Assess impact to the project-affected communities
4. Determine risk and risk ratings for the project-affected communities
5. Identify mitigation measures

Emergency types and related response and preparedness

Medical emergency at remote project sites[69]

Stakeholder groups: project management, Eco-rangers, farmer facilitation teams, restoration teams, local communities

Likelihood of materialising: Possible – will not considered common, medical emergencies do occur infrequently in the project area.

Impact: Moderate – medical emergencies have the potential to cause harm to project affected communities.

This relates to any medical emergency that occurs to any project stakeholder or group during project implementation.

The following steps are to be taken for all medical emergencies during the project:
- Depending on the nature of the life-threatening medical emergency, as much as possible stakeholders should travel by car or the fastest available ambulance or air-ambulance to nearest most appropriate medical facility.
- To confirm the most appropriate medical facility, project representatives should contact the Director of Safety and Security, or International SOS directly who confirm the best and nearest facility.
- In some cases, the most appropriate method of transportation will be by helicopter or fixed wing aircraft, this will be the case if the location of the victim is not accessible by road possibly due to the rains and flooding on the roads, or distance from vehicle. In this case MRI Botswana will be used (see below).
- The emergency will be reported to the Regional Ops Director and the Director of Safety and Security by the project manager.
- Submit local insurance claim for covered medical expenses.

Fire

Stakeholder groups: Eco-rangers, farmer facilitation teams, restoration teams, local communities

Likelihood of materialising: Likely – veld fires are common in the project intervention areas.

Impact: Moderate – fires have the potential to cause harm to project-affected communities.

[69] As per CI's Botswana Safety and Security Plan (2017) – A revised version will be available at project kick-off in July 2021.

Relevant stakeholders will be trained on veld/bush fire management and control (including drills), and provided with the required PPE for the control of fires at project sites. This will not only reduce the chance of fires starting and spreading, but will also reduce the potential impacts of fire on surrounding communities and environment. Should a fire occur, the below fire action checklist will be followed[70]:

- Raise the alarm with surrounding stakeholders and nearby communities;
- Only attempt to fight the fire if the relevant PPE is available and the fire small enough to extinguish with the available equipment, or to rescue life – otherwise leave the area immediately;
- If close enough to a local urban centre, contact the fire service on 998;
- Identify an assembly point where all affected stakeholders can meet and determine the whereabouts of any missing individuals;
- Should any injuries have occurred, administer first aid and follow the medical emergency steps listed above; and
- Project management to lead the preparation of an after-action report with lessons learned from the event.

Snake bites

Stakeholder groups: all

Likelihood of materializing: Possible – snake bites, while not common in the project area, have occurred and are there for considered as a possible threat.

Impact: Moderate – snake bites have the potential to cause harm to project-affected communities.

Snakes and other animals in Botswana will present a significant risk to project staff and stakeholders present in the project intervention areas. It is important that stakeholders respond rapidly to any snake bites[71]. Relevant project staff and Eco-rangers will be provided with the application http://www.snakebitefirstaidapp.com/ to assist with the rapid on-site treatment of snake bites. In addition, Eco-ranger and Restoration teams will have at least two members appointed as Health and Safety officers that receive First Aid Level 2 Training, including the treatment of snake bites.

For all snake bites, the snake bite checklist[72] should be followed.

- Provide immediate first aid:
  - Apply pressure bandage and immobilize (PBI) to the limb to help reduce lymphatic spread of venom above the bite (do not remove until the victim reaches medical facility);
  - Keep the site of the bite below the heart;
  - Wash area with soap and water to help prevent associated infections;
  - Seek urgent medical attention;
  - If victim shows signs of respiratory paralysis or shock, manage airway.
- Identify the snake (use the pictures in Dangerous Snakes of Botswana document).
- Contact Medical Rescue (see below) to establish the nearest medical facility with the appropriate anti-venom. In addition, contact the African Snake Institute on +27(0)82 494-2039 for advice and assistance.

[70] Adapted from CI's Botswana's Safety and Security Plan (2017).
[71] More information on snake bites in Botswana can be found on www.Safety.Conservation.org in the document '*Dangerous Snakes of Botswana'.*
[72] Adapted from CI's Botswana's Safety and Security Plan (2017).

- Depending on the location of the nearest anti venom, accessibility and transportation options you must use the fastest method of travel to the most appropriate medical facility (see Internal Emergency Support below).

The aim of treatment will be the following;
- attempt to retard systemic absorption of venom;
- preserve life and prevent complications before the patient can receive medical care (see above);
- control and treatment of dangerous early symptoms of venom, such as respiratory paralysis and shock; and
- arrange the transport of the patient to a place where they can receive medical care (see Medical Emergencies above and Internal Emergency support below).

Hostility from poachers in isolated intervention areas

Stakeholder groups: Eco-rangers

Likelihood of materialising: Possible – while such encounters are not common, they have occurred previously in the project's intervention areas.

Impact: Major – such an incident could result in severe injury or death.

Eco-rangers will be trained on what steps to take should they encounter poachers in the field. These will include but not be limited to:
- do not directly engage the suspected poachers or try to apprehend them unless forced to do so under particular circumstances (such as being threatened or attacked without provocation);
- report the poachers anonymously to the relevant law enforcement agencies (DWNP, police) via contact details to be provided by the project;
- following the medical emergency steps presented above should any injuries occur;
- remaining in contact with fellow Eco-rangers (visual, voice, etc.) to ensure that individuals are not isolated;
- reporting any incidents to project management; and
- maintaining regular communications with law enforcement agencies to ensure that Eco-rangers are aware of any poaching hotspots, allowing them to avoid such areas.

Spread of disease – Covid 19 used as a relevant example

Stakeholder groups: all

Likelihood of materialising: Likely – forecasting suggest that spread of disease (e.g. Covid-19) could become common in the immediate future.

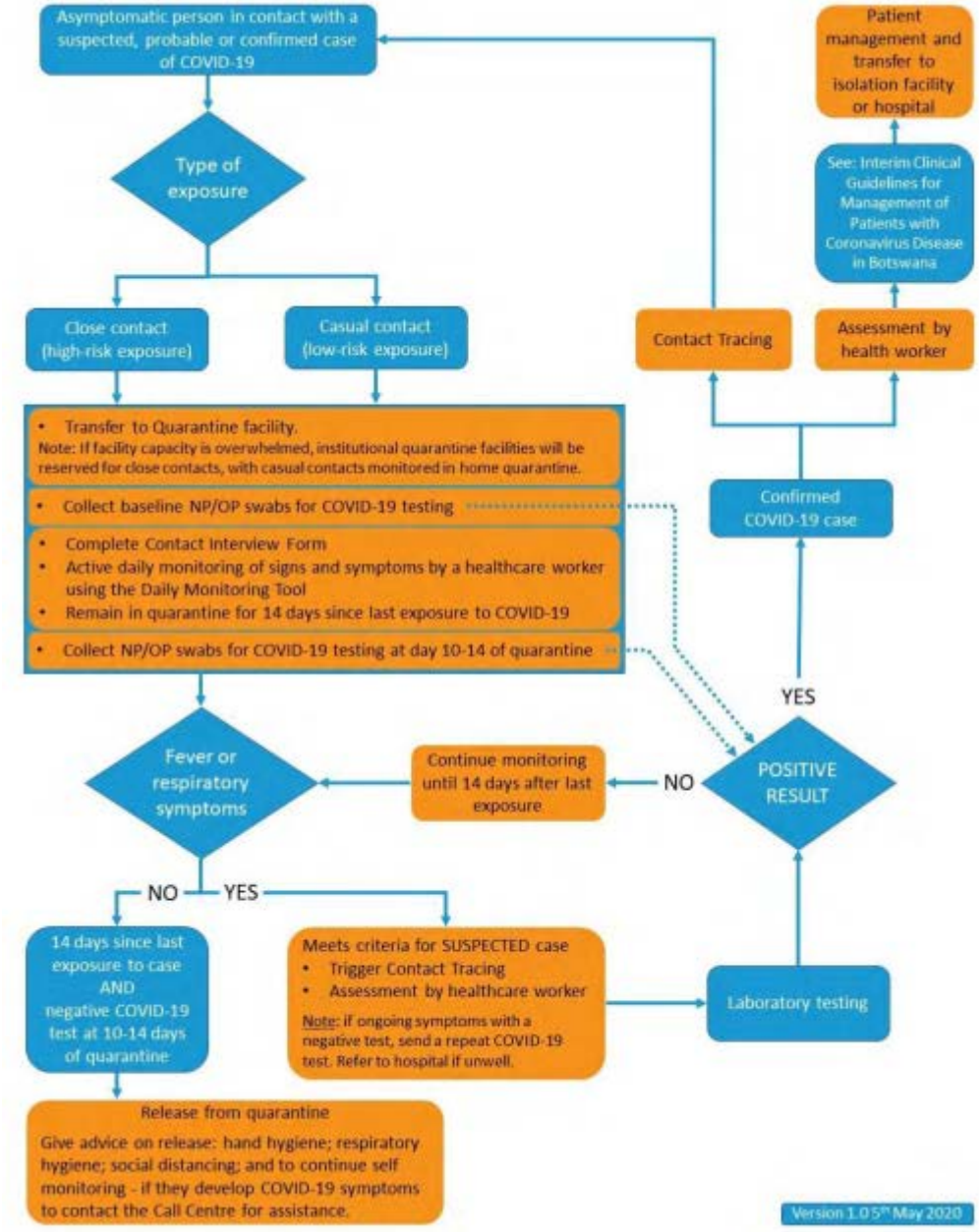
Impact: Major – the spread of disease (such as Covid-19) has the potential to cause severe sickness and death in project-affected communities.

Current international (WHO) and local regulations, guidelines and protocols for the mitigation the transfer of infectious diseases will be followed at all project sites: https://covid19portal.gov.bw/. Furthermore, Covid-19 guidance will also be provided by the CI GEF/GCF Agency during project implementation, drawing from several recent guidance documents that have been developed by CI for when and how to engage communities in the midst of a pandemic. These resources include: i) CI-GEF/GCF Agency's Guidelines for Projects during the COVID 19 Pandemic (see Appendix B of this document); ii) a COVID 19 safeguard screening checklist; iii) COVID safeguard resources; and iv) indigenous peoples

under COVID. In addition, the project has requested additional funding for PPE given recent lessons learned with Covid-19.

Should a response to a disease outbreak (such as COVID) be needed, the following will be ensured:

- Contact will be maintained for 14 days with all individuals in a relevant project area (such as a cattle kraal) following a potential COVID-related event. All project stakeholder will be briefed on symptoms to watch out for and provided with the contact details of the project management team they would need to contact should they show any of the symptoms within 14 days of a project-related activity.
- The project will follow the Government of Botswana's contact tracing guidelines (https://covid19portal.gov.bw/sites/default/files/2020-05/COVID-19-Contact-Tracing-Guideline.pdf) for COVID, by including them in the final Emergency Response and Preparedness Plan. An overview of the contact tracing steps followed in Botswana is provided below. As government guidelines require all potentially exposed individuals to quarantine in government facilities, willingness to report symptoms may be reduced.



Internal emergency support

MRI Medical Rescue (MedRescue) will be used for the provision of emergency ambulance and medical services within Botswana[73]. MedRescue offers a countrywide emergency Medical services through a network of paramedics, emergency doctors, nurses and emergency medical dispatchers with ambulance bases operating from Gaborone, Francistown, Maun, Kasane and Palapye. Medical Rescue operates both ground and air ambulance services.

The Medical Rescue air ambulance service covers the entire country and is permanently equipped and allows for the treatment and transporting of all types of patients, including the critically ill, neonates, cardiac patients, trauma patients as well as ventilator-dependent patients to a hospital. Medical rescue is accessed through a 24-hour medical desk call centre, which has a local toll free number (992) which will be provided to all relevant project stakeholders — who will also be drilled on calling the medical desk call centre should there be an emergency. The medical desk call centre is manned by nurses and paramedics, to enable medical advice and assistance over the phone.

Medical Rescue's Access Cover would be the most appropriate package for the project to consider for its local stakeholders in the finalised Emergency Response and Preparedness Plan — to be developed with stakeholder input during project implementation. The Access Cover is targeted at groups and individuals that are mostly based in remote and often inaccessible areas. This cover will entail the project paying a once off fee in order to be able to contact MRI Botswana in the event that one requires service during an emergency. Should an emergency response by Medical Rescue be required during project implementation, the costs of that response will be covered on a per incident basis. Benefits of Access Cover will include:

- Air and ground evacuation;
- Access to rapid emergency response;
- Free telephonic access to medical advice and information; coordination of evacuation; and
- Hospital transfers.

11.5. Managing Risks of Perpetuating Gender Inequalities and Women's Exclusion

Further detail on gender issues is included in the Gender Assessment and Action Plan (Annex 8), although certain issues are expounded below.

11.5.1. Transferring Gender Equality and Women's Empowerment from the Status of Addendum to the Foundation

As indicated in the Gender Report (Annex 8) the policy, programmes and institutional frameworks for enabling gender equity in Botswana are formally in place. But like all other well-intended policies and programmes they lack coherence. In addition, there is an added disadvantage that gender equity is a cross-cutting issue severely limited by institutional and technical capacity to manage development concerns across so many different sectors. The national gender strategy uses mainstreaming as a core principle to guide the effort to infuse gender across development policies, as well as all sectoral development activities and interventions. However, in an environment characterised by insufficient integration and cohesion within and across the very sectors in which gender is meant to be mainstreamed,

[73] https://www.mri.co.bw/mri-medical-rescue

the challenges of transformation are onerous[74]. Gender focal points have been spread across landscapes armed with mainstreaming guidelines that are of little practical use in complex situations where agents need both the technical skills in the sectors they are meant to infuse gender and the myriad gender-analytical skills required to deal with a cross section of attitudinal, policy, legal, budgetary, integrative issues as well as monitoring and evaluation. The water sector has taken a lead in developing its national Integrated Water Resources Management & Water Efficiency Plan (2013) that brings key water stakeholders (economic sectors, service providers and end users) and sets an example of how this could be done so that resources (including financial) are used more effectively and efficiently. Despite gender representation in the making of this Plan, however, technical capacity for adequately incorporating gender dimensions into the plan was insufficient.

Given the current institutional challenges a Gender Action Plan that is an addendum for mainstreaming will add very little significant value if it is not transformed into a foundation on which policy reformulation, decentralization, institutional restructuring and capacity building processes as well as the management of land and livestock resources are built. Gender mainstreaming does not address the challenge of faulty foundations that assume that the policy and institutional frameworks are not themselves problematic. The building blocks of that foundation are described below.

- The ecosystem from which rural livelihoods are drawn are location specific and therefore require baseline information that clearly indicates which livelihood activities are anchored into which spatial location and linked to which people (men and women).
- Women and men have divisions of labour linked to differentiated livelihoods that are spatially differentiated in relation to the whole ecosystem. This requires a gender mapping of the livelihood activities and their spatial location to inform appropriate interventions.
- Women and men do not have equal access to all the resources as they use them differently. Therefore, interventions that seek to empower women and enhance gender equality must build on existing foundations of gendered resource use to capacitate and strengthen livelihood sources while also building synergies that facilitate value chain development and win-win situations.
- Intersections with age, ethnicity and other markers add other dimensions to *inter alia* issues of spatial, resource use, access to resources, division of labour, that also need to be considered but are generally data-poor. A stakeholder mapping exercise that highlights all these dimensions will add value to the quality of planning and target setting that is required.
- Gender budgets are invariably inadequate or overstretched, which constrains interventions for meeting the objectives of gender equality and women's empowerment because national budgets are tied to the mandates of departments and their line ministries. This results in inefficient and wasteful resources dissipated by overlapping programs in some instances and scarcity of resources in others. A case in point is the implementation of National Sustainable Development Program which allocated zero budget to the gender agenda[75]. A baseline gender audit of government budgetary allocations will be required to enable the creation of an integrated cross-sectoral gender budget that can assist in entrenching gender awareness and action across all national interventions while enhancing efficiency of resource use. Key budgetary allocations for such gender auditing include: i) the Ipelegeng budget that takes up almost 30% of the line ministry (*Local Government and Rural Development*) and has been earmarked to support the proposed program; ii) the Community Development Project budget earmarked for poverty

[74] The current national Development Plans (NDP11) succinctly captures the limitations of institutional, policy and legal frameworks and seeks to solve a lot of these through decentralization, policy reform, law reform, institutional rationalization, training, building public/private/NGO partnership as well as resource rationalization. The impulse for top down (central to district to subdistrict to village level pubic institutions) is still a stumbling block while district entities have not taken up robust initiatives to solve problems as they are hampered by the very mandates they should be working through.

[75] Ministry of Finance and Development Planning/ UNDP, 2019, National Report on the Status of Implementation of the sustainable Development Goals Agenda in Botswana.

eradication — It accounts for 23% of the same line ministry where Ipelegeng is housed; and iii) the budgets of the ministries of Agricultural Development and Food Security; Environment Natural Resources Conservation and Tourism; Land Management, Water and Sanitation Services; as well as the Energy sector in the Ministry of Mineral Resources, Green Technology and Energy Service, will need to be gender audited because of the key role they play in land-resource management. This will facilitate the extent to which these institutions support the project as a whole and the gender aspects specifically.

- Gender focal points in the districts are constrained by institutional, technical and human resources capacity, and may not be able to promote and drive gender interventions climate-smart communal livestock sector. A broad-based capacity-building programme for both gender equality and climate-smart livestock and land management will broaden the human resource base and must therefore be an integral part of the early and subsequent implementation phases.

Policy reforms and other processes of institutional processes must grow from the above building blocks as an integral part of participatory learning and planning. Botswana's policy-making has consistently been driven by a top-down approach which now needs to be inverted so that policy formulation is informed by practice and ground-level realities. A Gender Action Plan built on so many challenges must be organically developed from the roots

11.5.2. Gender, Livelihoods and Resources: Risk Mitigation and Benefits Strengthening

As indicated in greater detail in the Gender Report (Annex 3), women and men do not have equal shares and control over resources. Their mitigation strategies therefore differ. While male ownership of agricultural resources (land, water and livestock) is greater than female ownership — according to the 2017 Agricultural Statistics — women still have comparative advantage in relation to goat herding because they participate in greater numbers and control a higher share of the goat herd than they do cattle. As Table 4, Table 5 and Table 6 below illustrate, women still own fewer goats than men do, in terms of both the total numbers of animals and the average herd size of the holding, but the disparity is greater in cattle. The comparative advantage in goats serves as a mitigation against entrenching further gender inequalities because of several additional advantages. Goats are more resilient to drought and other adverse climatic conditions and are therefore an adaptation measure in and of themselves. Further, they are generally more compatible with women's livelihood strategies (i.e. in terms of spatial requirements, watering, feed and disease) and other responsibilities and are therefore easier for women to manage. Their market is relatively underserved and therefore provides opportunity for expansion and growth. Lastly, because women-owned farms are generally also smaller, they can produce supplementary feed for their small stock much more effectively.

Men generally own most agricultural resources but have greater advantage in cattle where their share is bigger relative to the share they have in goats. They control 80% of the cattle compared to 67% of the goats. Additionally, they control 73%[76] of privately owned boreholes, which also gives them de facto control over the rangeland surrounding the boreholes. Their comparative advantage in cattle has the added advantage of a high value market which is currently restricted by requirements of the European market concerning Foot and Mouth Disease but has potential to expand into unexplored local and regional markets for beef. Consequently, this still gives them an advantage over goats.

Table 14. Goat holdings and population by gender and district.

	Number of Goat Farms	Number of Goats

[76] This is a national level figure, not specific to the target districts.See. 2018 FAO National Gender Profile on Agriculture and Rural Livelihoods.

District/ Region	Male Owned	Female Owned	Total holding	%Female owned	Male Owned	Female Owned	Total goats	%Female owned
Central Bobonong	**1,137**	**708**	**1,845**	**38**	**35,395**	**21,362**	**56,757**	**38**
Ngamiland East	**1,378**	**785**	**2,163**	**36**	**36,665**	**14,380**	**51,044**	**28**
Ngamiland West	**1,708**	**1,920**	**3,627**	**53**	**10,239**	**9,305**	**19,544**	**48**
Kgalagadi South	**685**	**358**	**1,043**	**34**	**31,001**	**11,184**	**42,184**	**27**
Kgalagadi North	**177**	**118**	**295**	**40**	**2,947**	**1,297**	**4,244**	**31**
Total	**5,085**	**3,889**	**8,973**	**43**	**116,247**	**57,528**	**173,773**	**33**

Table 15. Cattle holdings and population by gender and district.

	Number of Cattle Farms				**Number of Cattle**			
District/ Region	**Male Owned**	**Female Owned**	**Total holding**	**%female Owned**	**Male Owned**	**Female Owned**	**Total Cattle**	**%female owned**
Central Bobonong	917	393	1,310	30	34,009	11,757	45,766	26
Ngamiland East	1,022	351	1,372	26	61,354	13,042	74,396	18
Ngamiland West	918	453	1,371	33	29,231	10,412	39,643	26
Kgalagadi South	480	145	625	23	56,079	9,217	65,296	14
Kgalagadi North	133	118	251	47	2,520	2,034	4,554	45
Total	3470	1460	4929	30	183,193	46,462	229,655	20

Table 16. Goat Ownership by Gender by average herd size.

	Male owned goat farms			**Female owned goat farms**		
District/ Region	**No. farms**	**No. Animals**	**Average Herd size**	**No. farms**	**No. Animals**	**Av Herd size**
Central Bobonong	1,137	35,395	31	708	21,362	30
Ngamiland East	1,378	36,665	27	785	14,380	18
Ngamiland West	1,708	10,239	6	1,920	9,305	5
Kgalagadi South	685	31,001	45	358	11,184	31
Kgalagadi North	177	2,947	17	118	1,297	11
Total	5,085	116,247	23	3,889	57,528	15

Table 17. Cattle Ownership by Gender by average herd size.

	Male owned cattle farms			**Female owned Cattle farms**		
District/ Region	**No. farms**	**No. Animals**	**Av Herdsize**	**No. farms**	**No. Animals**	**Av Herdsize**
Central Bobonong	917	34,009	37	393	11,757	30
Ngamiland East	1,022	61,354	60	351	13,042	37
Ngamiland West	918	29,231	32	453	10,412	23

Kgalagadi South	480	56,079	117	145	9,217	64
Kgalagadi North	133	2,520	19	118	2,034	17
Total	3470	183,193	53	1460	46,462	32

12. Project-level accountability and grievance redress mechanism

The project-level Grievance Redress Mechanism (GRM) has been designed to facilitate the resolution of grievances promptly through an accessible, fair, transparent and constructive process. It is culturally appropriate and will be readily accessible, at no cost to the affected communities, and without retribution to the individuals, groups, or communities that raised issues or concerns. The GRM utilises existing mechanisms at the local level, supplemented by project-specific arrangements. Information on the GRM (including GCF's Independent GRM) will be disseminated to the executing entities, affected communities and public during project implementation. An information dissemination plan will be developed in a participatory manner through Activity 1.1, with input from project staff, government agencies and local organisations based in the project's intervention areas. This will ensure that the best approach is adopted for each geographical and socio-political setting. Global best practice on this will be presented by RARE, while regional expertise will be brought in by CI's Africa Division Herding 4 Health team.

The project will offer mediation (or similar dispute resolution or problem-solving services) as an option where users are not satisfied with the proposed resolution that may be provided through the project-level GRM, the GCF independent Redress Mechanism or the CI Grievance Mechanism (Director of Compliance or Ethics Hotline)[77]. This mechanism will consider customary laws, applicable law and obligations of the state directly applicable to the activities under relevant international treaties and agreements, dispute resolution mechanisms, and justice systems of indigenous peoples as appropriate and be able to use independent indigenous experts. The mechanism will not preclude the option to use the accountability mechanisms of GCF and those CI and the executing entity, ensuring that users are provided with the necessary financial and technical support to access such mechanisms.

The GCF independent Redress Mechanism and the Secretariat's indigenous peoples focal point will be available for assistance at any stage, including before a claim has been made. In the event of complaints being filed with the GCF's independent Redress Mechanism, CI and the executing entity, relevant national competent authorities, and any other relevant parties will cooperate with the independent Redress Mechanism, including providing all required information. In addition, CI and the executing entity will promptly implement remedial measures stipulated by the GCF Board on the recommendation of the independent Redress Mechanism pursuant to its guidelines and procedures.

The draft mechanisms and procedures outlined here must be negotiated with affected communities so that they feel engaged as well as adding value that will enhance ownership and strengthen aspects of justice and fairness that may not be reflected by a one-sided draft. It is also essential that familiarity with the content of the mechanism is ensured through oral exchanges that recognize linguistic differences among the various communities. Written forms of these mechanisms and procedures must therefore be rendered in the languages of the local communities. The Kgotla traditional assembly remains the focal point of broad-based consultations with the community. Consequently, in the participatory development of a grievance mechanism, it is always best to first inform the chief so he/she can call a kgotla meeting that enables first-hand information exchange. Botswana chiefs generally do not want to be forced to be representatives of their community before the community has first been

[77] https://www.conservation.org/about/our-policies/reporting-illegal-or-unethical-conduct-statement

briefed directly in an open kgotla forum and expressed their views. It will also be important that the copy of a finalised version of the accountability and grievance mechanism is left with the Tribal Office for future reference and any subsequent amendments similarly deposited here. Kgotla meetings are usually also recorded by a secretary and the records could be useful reference points when needed.

Below are the key elements that must be captured by the project-level GRM grievance mechanism.

The scope of complaints or grievances

The Project grievance mechanism is specifically designed to address complaints and grievances relating to the activities of the project in as far as these are perceived by individuals and collectives as negatively affecting them — including indigenous peoples. Such complaints and grievances will also include project-related gender-based violence. Addressing these ensures that the project managers deals with issues before they escalate into serious conflicts or deepen negative impacts. However, communities' members often submit issues that are not directly related to the project activities because it is often not clear where to draw a line between what is or is not directly related to company activities. Therefore, it is important to acknowledge the complaint and explain why it is not connected to the project activities or personnel.

The project management team must assign a complaints committee as well as a focal person or community liaison officer to receive complaints, including in communities where indigenous peoples are present. Submitted complaints will be provided a response based on investigation that must determine whether the project or its staff are responsible for or have contributed to the issues that led to the complaint. The issues may be due to failure to comply with the standards to which it is legally obligated to comply with and/or to which it has committed. Some issues may be unintended or unforeseen impacts that have not been properly mitigated. Identifying options for resolution is critically important and may require presentation to the complainant for collective and negotiated solution finding. The project managers will work further to identify measures that could prevent the issue from recurring.

A log will be kept where grievances are registered in writing and maintained as a publicly available database. The database will include information about the complaint and the resolution of the complaint, including the remedy provided, taking into consideration that complainants' identities can be kept anonymous if requested. This database will also be shared with the GCF independent Redress Mechanism.

Registering a Complaint

Complaints will be accepted verbally or in writing. If they are in writing, it is critically important that the receiving officer go through them orally with the complaint to ensure that the written form is interpreted accurately. If submitted orally, verification is also important so that the complainant is satisfied that the words represent an accurate capture of the complaint they are raising. Should it be required, interpretation/translation will be provided to overcome language barriers/limitations. Community members will be able to register a complaint in the ways described below.

1. By contacting a designated community liaison officer at the project's designated office which will be open during normal business hours.
2. Fill out a complaint form (which will be designed and agreed to as part of the development of mechanism) and mail or hand deliver to the project's designated office.
3. Call, text or send a WhatsApp message to the Project management team office (whose

number will be provided) and speak to a project management representative during office hours or leave a message. A Community Liaison Officer must respond to all inquiries and messages within 48 hours.

4. Send an email to Project point of contact (Chief of Party).

Complainants will be encouraged to provide as much information about the concern as possible when presenting the complaint, including copies of any relevant documents or photos.

The Complaint Procedure

In some instances, such as when a complaint is closer related to a request for information, the project management may be able to resolve a complaint shortly after it is received. In this case, the complainant will be given the information necessary to address the issue, and the complaint will be documented and closed once the complainant is satisfied with the information offered.

When complaints are more complex and require some investigation, the following procedure will be used:

Step 1: Receive & Acknowledge Complaint

- Once the project management receives the complaint, it will be recorded in a digital/online register within two days of reception of the complaint.
- The project complaints committee will acknowledge receipt of the complaint by letter within two working days of receipt. If the complaint was submitted orally, the acknowledgement can be submitted orally but a digital/online record will be kept.
- The acknowledgement letter or oral response will specify a contact person within the project complaints committee and a description of what the complainant can expect next, including a timeline.

Step 2: Evaluate, Assign Owner, and Investigate

- The complaints committee will assess the complaint to determine how it should be managed and, in most instances, will assign an owner with the substantive expertise to resolve it. The complaint owner will work to understand, investigate, resolve, and follow-up with the complainant. This may involve seeking information from different sections of project management body or from partnering institutions.
- The complaints committee will work with the complainant to understand the cause of the issue and will need to contact the complainant during the investigation.

Step 3: Consult on and Implement Resolution

- Once the complaint has been investigated, in consultation with the complainant, the community liaison will discuss the results and proposed resolution with the complainant, including a timeline for implementation and the complainant's options — proceeding with a proposed resolution, further dialogue and escalation.
- The project manager will implement the resolution either directly or through a third party, which will be done in consultation with the complainant.
- The complaints committee will review complaints regularly to ensure progress is being

made towards resolution.

Step 4: Complaint Escalation

- If no progress is being made or if the complaint rejects the proposed solution, the committee may decide to escalate the complaint to project management. In such circumstances, the complainant will be updated on progress. The process of escalation will include:
  - Project management will log the disagreement with a proposed response;
  - Project management identifies and proposes alternative response(s); and
  - If alternative response(s) are also rejected, the complaint will be elevated to Step 5 below (Appeal).

Step 4: Close and Monitor

- After the complaint has been fully investigated, the resolution has been implemented and monitored, and no further action is deemed necessary to resolve the issue, the project management team will close the complaint.
- The Project management team will ask the complainant to sign a statement to acknowledge resolution. Signing the statement does not preclude the complainant from raising the issue again or seeking other avenues for redress should the resolution not result in a permanent fix or the issue recurs.
- If the complainant does not agree with the resolution offered, the Project management team / grievance committee will instruct the complainant to escalate the grievance through the Appeal mechanisms as described in Step 5 below. The complainant may choose to do so or close the complaint.
- The Project management team may re-open the complaint if the complainant provides new information.
- The Project management team may contact the complainant after closure to ensure no other problems have arisen.

Step 5: Appeal (optional if complainant is not satisfied)

- The Project management team has established an additional mechanism for community members to appeal closure of a complaint when they are not satisfied with the outcome of the investigation and/or the proposed resolution.
- The Project management team will designate a Complaints Appeals Panel (the Panel) comprised of senior managers or trusted external third parties, including technical specialists familiar with the issue. Generally, these people will not have had previous detailed knowledge of the complaint or engagement with the complainant.
- In some cases, the Panel may choose to include one or more reputable and independent third parties on the Panel.
- The Panel may decide to refuse an appeal if they feel the complaint has not been presented in good faith. The decision to refuse an appeal must be reviewed and signed off on by the project management team.
- In certain circumstances, the Project management team may decide to appoint an individual mediator or Independent Appeals Panel that is neutral and wholly independent of the Project management team. The decision to use such a wholly independent body will first be approved by the Project management team President.
- The selection of the mediator or individuals comprising the Independent Appeals Panel

will be conducted in consultation with the complainant and other key stakeholders to ensure there is trust in the process.

- If the complainant is not satisfied with the Appeal process or any other aspect of the resolution, they will be directed to escalate the complaint through Conservation International's dedicated mechanism – CI Ethics Point, which allows for complaints to be registered and investigated by CI and its General Council's Office (GCO). The website for Ethics Point is – www.ci.**ethicspoint**.com

Confidentiality, Anonymity and No Retaliation

The community grievance mechanism must encourage community members to openly exchange views and concerns about operations with the project. Confidentiality will always be observed to maintain confidence in the community grievance mechanism and ensure compliance with relevant laws. Complainants may wish to:

- ***Raise a concern in confidence***. Details will not be disclosed when a complainant asks the Project management team to protect identity and will remain secure with those Project management team staff investigating the complaint. However, the situation may arise where it will not be possible to resolve the complaint without revealing identity (for example, when evidence needs to be presented in court). In this case, the Project management team will discuss with the complainant whether and how best to proceed.
- ***Raise a concern anonymously***. Complainants raising a concern anonymously need to provide sufficient facts and data to enable the Project management team to look into the matter without assistance. The Project management team will make every effort to evaluate anonymous complaints; however, anonymity may make it more difficult to investigate, protect the position of the complainant, offer and implement resolution, and give feedback. CI's Ethics Point can be used anonymously.

13. Stakeholder Engagement Plan

This project is based on continual engagement and adaptive plans are developed with local stakeholders annually for the following year's plan confirmation. Therefore, Stakeholder Engagement Plans are critical for ensuring effective and meaningfully inclusive participation of all people and institutions in collective problem solving. Without such collective engagement the project would have limited capacity to achieve its goals of arresting and reducing environmental decline in communal rangelands and enabling people to enhance their livelihoods and adapt to the challenging conditions of climate change. For each cluster, a clear Stakeholder Engagement Plan will be developed by the Farmer Facilitation Team, Area Managers, and the H4H Implementation Directors. Each Stakeholder Engagement Plan will recognise and quantify gender and indigenous representative and include the entities below.

- All traditional leaders and officials and the village areas they represent
- All relevant District and Local Government official
- The VDC and all village areas they represent
- Any Farmers Association and the village area they are active in
- Any CBO or NGO active in the region
- Any Local Economic Development Project Manager in the Area

The first order of the stakeholder engagement plan must therefore include two elements that will facilitate the process of attitudinal and mindset change, described below.

- Develop a documentary version of the no-fence herding alternative that can be used for stakeholder engagements and a more comprehensive consultative process with a wider

circle of community members for ultimate buy-in. It must be supported by arrangements for visits (farmers, government officials, VDC representatives, and dikgosi) to places where it has succeeded in transforming the range and reversing decline (two visits in the first quarter of years one and two of project implementation).

- Engage process facilitators to assess the requirements of a legal and policy framework supportive of collective management of communal rangeland and collective livestock management. The assessment will provide a basis for participatory engagements on negotiating the process of policy and legal reform while enabling initial stewardship agreements to be drafted and negotiated on similar terms as the Community Based Natural Resource Management model. For long-term sustainability and ownership a negotiated transformation and reform process will be more impactful than imposing legal solutions in an environment where the legal and policy frameworks are outdated and in need of reform as this will only give undue power to dominant voices.

At local level annual reports to Kgotla assemblies will be important an important way of keeping people officially briefed and their collective sanction and general inputs in the process solicited. Furthermore, environmental and social information for the project will be disseminated to the affected communities and public during project implementation. An information dissemination plan will be developed in a participatory manner through Activity 1.1, with input from project staff, government agencies and local organisations based in the project's intervention areas. This will ensure that the best approach is adopted for each geographical and socio-political setting. Global best practice on this will be presented by RARE, while regional expertise will be brought in by CI's Africa Division Herding 4 Health team. The table below is a summary of the engagement plan.

Table 18. Summary of engagement plan.

Local Level Stakeholder Group: Component 1, 2, and 3	**Engagement Plan—Based on Training Received from Herding for Health and RARE**	**Responsible Implementor/ timing**
Leadership/Authorities	Leadership and Champion Training	Process facilitators and consultants
Male and Female Livestock Owners	Area Managers and Farmer Facilitator Team	Process facilitators and consultants in year 1
Eco-ranger and Restoration Workers	Director of Implementation to Design and Deploy a Mentorship and Feedback Strategy Aligned with Ipelegeng	Facilitation team and project staff
Graduate Monitors	Director of Planning and Adaptive Management to Design and Deploy a Mentorship and Feedback Strategy by	Facilitation team and project staff
Broader Community	Campaigning for Conservation Strategy (https://behavior.rare.org/c4c/) Designed and Developed by Key Stakeholders and Implemented by Communication Manager and Key Stakeholder Groups above	Facilitation team and project staff

National Stakeholders: Component 1&3	**Engagement Plan—Integrated with Herding for Health and GDSA Strategies**	**Implementer and Timing**
Inter-ministerial Project Steering Committee (PSC); Rural Extension Coordination Committee	The project will run an information and awareness campaign for national stakeholders	Project facilitation teams and officials/ Years 1 & 2
	The project will create a Rangeland Stewardship Portal	Year 1

National Strategic Office + Key Departments in the • Ministry of Environment Natural Resources Conservation and Tourism • Ministry of Local Government and Rural Development • Ministry of Investment, Trade & Industry • Ministry of Agriculture Development and Food Security • Ministry of Nationality, Immigration and Gender Affairs • *Ministry of Youth Empowerment, Sports & Culture Development* • Ministry of Finance and Economic Development National NGOS and Research Institutions	that will be used in national development processes to build understanding of the links between climate and grazing management and future resilience interventions.	
	National officials will be given special training on the Portal and how to access and analyse data from it so they are kept fully informed on the project	Year 4
Inter-ministerial Project Steering Committee (PSC); Rural Extension Coordination Committee National Strategic Office National NGOS and Research Institutions	The project will develop and distribute technical studies and policy briefs relevant to the project approach and lessons learned.	Project Team in years 2-8
	In particular the key studies will be focused on the return on investment of project funding (government own investment and GCF contributions) relative to key indicators in the National Development Plan and for use in the mid-term and final Ghg Inventory assessments as well inclusion in their NDCs, National Adaptation Plan, NAMA, and other climate change strategies.	Years 5-8
	At least three policy briefs will be developed and formally submitted to the National Climate Change bodies during the project.	Years 2, 4, 6, 8
	Additionally, the project will be profiled and support the creation of a GDSA/SADC climate-smart livestock production forums to be held in alternate years from year 2 where the policy briefs as well as other case studies and lessons learned can be shared and monitored for uptake.	

14. Stakeholder Engagement metric

Stakeholder	Areas of Interest /influence	Engagement Approach	Engagement tools	Frequency of engagement
Farmer Facilitator Teams (including representatives from state and NGO bodies, and graduate monitors)	Climate-smart grazing practices	Workshops	Trainings	Bi-annually
	Conservation agreements	Workshops	Exchanges	Annually from year 2
	Community mobilisation tool	Workshops	Charette	Year 2
	Rangeland Stewardship Information Portal	Task Team	Meetings and Consultations	Year 1
		Consultations	Local and national workshops	Year 4
		Consultations	Feedback meetings	Year 5
	Climate-resilient livestock production protocol development	Policy implementation dialogues	Dialogues	Years 2, 4 and 6
Demonstration site implementers (including Project staff, government extension workers, NGO partner field staff, and unemployed graduates)	Climate-smart grazing practices	Workshops	Trainings	Bi-annually
	Conservation agreements	Workshops	Exchanges	Annually from year 2
Local communities	Community mobilisation tool	Workshops	Charette	Year 2
	Gender awareness, climate change, indigenous peoples and livestock management	Training programme	Workshops Demonstration sites	Bi-annually from year 2
	Community governance	Community empowerment	Leadership trainings/champion-building sessions	Annually from year 2
			Rangeland Stewardship Agreement signing ceremonies	Year 2 – demonstration sites Year 3 – replication sites Year 6 – amplification sites
			Local governance exchanges	Years 3, 4, 5, 6 and 7
	Climate-induced diseases and	Ecoranger deployment	Trials	Year 2

	infections and Commodity based Trade in the Project Areas			
	Enable access to Rangeland Stewardship Information Portal	Training	Workshops and mentorship	Annually from year 2
		Presentation of lessons learned	Workshops	Years 3, 5 and 7
	Ecoranger recruitment, farmer endorsement, and inception meetings	Consultations	Meetings	At demonstration sites in years 2; expand to priority sites in years 3-5; amplify to all sites in clusters years 6-8
	Community-based climate-smart planned grazing, restoration, water and soil, and fire management	Consultations for grazing area and community vulnerability baseline assessments	Meetings	Demonstration sites – Year 1 Replication sites – Years 2 and 3 Amplification sites – Year 5
		Farmer/community "how is it going?" meetings	Farmer/community meetings	Monthly meetings at demonstration sites in year 3; expand to quarterly meetings at priority sites from years 4-5; amplify to all sites in clusters years 7-8
	Complementary business initiatives	Capacity building	Workshops	Annually from year 3
		Business/market readiness skills training	Workshops	Annually from year 3
	Tracking impacts of behaviour change	Awareness campaign	Media channels	Annually from year 4
Communications experts	Community mobilisation tool	Workshops	Charette	Year 2
	Tracking behaviour change impacts	Technical trainings	Workshops	Year 3
Village Development Committees (VDCs)	Rangeland Stewardship Approach	Training Roadshow	Workshops	Years 1 and 2
	Gender awareness,	Consultations	VDC meetings	Annually from year 2

	climate change, indigenous peoples and livestock management			
	Institutional coordination for climate-smart rangeland management	Training collaboration	Workshop	TBC
	Ecoranger recruitment, farmer endorsement, and inception meetings	Consultations	Meetings	At demonstration sites in years 2; expand to priority sites in years 3-5; amplify to all sites in clusters years 6-8
	Rangeland Stewardship Information Portal	Task Team	Meetings and Consultations	Year 1
		Consultations	Local and national workshops	Year 4
		Consultations	Feedback meetings	Year 5
	Enable access to Rangeland Stewardship Information Portal	Training	Workshops	Annually from year 2
Land Boards	Rangeland Stewardship Approach	Training Roadshow	Workshops	Years 1 and 2
District development Committees (DDCs)	Rangeland Stewardship Approach	Training Roadshow	Workshops	Years 1 and 2
Local farmers/Farmer associations	Herding for Health Approach	Capacity building	Training of demonstrators	Year 2
			Farmer exchanges	Years 3, 4, 5, 6, 7
	Institutional coordination for climate-smart rangeland management	Rangeland Stewardship Forum	Meetings	Years 2, 4, 6, 8
		Training collaboration	Workshop	TBC
	Rangeland Stewardship Information Portal	Task Team	Meetings and Consultations	Year 1
	National curriculum for climate-resilient livestock herding	Technical and life skill development training	Workshops	Years 2-8
	Ecoranger recruitment, farmer endorsement,	Consultations	Meetings	At demonstration sites in years 2; expand to priority sites in

	and inception meetings			years 3-5; amplify to all sites in clusters years 6-8
	Community-based climate-smart planned grazing, restoration, water and soil, and fire management	Farmer/community "how is it going?" meetings	Farmer/community meetings	Monthly meetings at demonstration sites in year 3; expand to quarterly meetings at priority sites from years 4-5; amplify to all sites in clusters years 7-8
	Commodity-based trade (CBT) for communal livestock farmers	Market readiness and financial literacy training	Workshops	Annually from year 3
	Climate-resilient livestock production protocol development	Policy implementation dialogues	Dialogues	Years 2, 4 and 6
Commercial farmers	Tracking impacts of behaviour change	Awareness campaign	Media channels	Annually from year 4
Relevant government ministries (including MoA, MLWS, MoH, DLGDP)	Institutional coordination for climate-smart rangeland management	Project Steering Committee	Meetings	Annually
		Engagements with national departments	Meetings	Year 1
		Rangeland Stewardship Forum	Meetings	Years 2, 4, 6, 8
		Training collaboration	Workshop	TBC
	Rangeland Stewardship job creation initiative	Consultations	Meetings	Years 1 and 2
		Consultations and workplan implementation	Meetings	Year 3 (demonstration and replication sites) Year 6 (all sites)
	Enable access to Rangeland Stewardship Information Portal	Training	Workshops	Year 2
	Project EbA Approach	ROI Analysis Support	Technical Support	Annually from year 3
		GHG Inventory Support	Technical support Training workshop	Annually from year 3

	National curriculum for climate-resilient livestock herding	Curriculum and training project development	Consultations and collaborations	Years 1 and 2
		Technical and life skill development training	Workshops	Years 2-8
	Graduate internship programme development	Consultations	Meetings	Year 2
		Training	Hosting and mentorship	Years 2 -8
	Complementary business initiatives	Capacity building	Workshops	Annually from year 3
	Develop and promote climate-resilient livestock production for Botswana	Sharing of report on technological and financial opportunities related to "climate-proofing" the red meat value chain	Meetings	Years 3 and 5
Civil Society	Institutional coordination for climate-smart rangeland management	Rangeland Stewardship Forum	Meetings	Years 2, 4, 6, 8
NDA	Institutional coordination for climate-smart rangeland management	Reporting	Presentations	As required
RECC	Institutional coordination for climate-smart rangeland management	Reporting	Presentations	As required
NGOs	Institutional coordination for climate-smart rangeland management	Training collaboration	Workshop	TBC
CBOs	Institutional coordination for climate-smart rangeland management	Training collaboration	Workshop	TBC
Local Government RECC Natural Resource Coordinator	Rangeland Stewardship job creation initiative	Consultations	Meetings	Annual
DVS	Climate-induced diseases and infections and Commodity based Trade in the Project Areas	Consultations	Meetings	Year 2
		Capacity building	Training	Annually
		Ecoranger deployment	Trials	Year 2
	Ecoranger recruitment,	Consultations	Meetings	At demonstration

	farmer endorsement, and inception meetings			sites in years 2; expand to priority sites in years 3-5; amplify to all sites in clusters years 6-8
	Climate-resilient livestock production protocol development	Policy implementation dialogues	Dialogues	Years 2, 4 and 6
Veterinarians and veterinary officers	Climate-induced diseases and infections and Commodity based Trade in the Project Areas	Consultations	Meetings	Year 2
		Capacity building	Training	Annually
		Ecoranger deployment	Trials	Year 2
District- and national-level decision makers	Rangeland Stewardship Information Portal	Consultations	Local and national workshops	Year 4
		Consultations	Feedback meetings	Year 5
	Project EbA Approach	Communications Strategy Development	Consultations	Year 2
District Agric Coord / DFRR Officers	Enable access to Rangeland Stewardship Information Portal	Training	Workshops	Annually from year 2
GDSA and SADC	Project EbA Approach	Climate-smart livestock production collaboration	Forums	Years 2, 4, 6 and 8
BUANICE	National curriculum for climate-resilient livestock herding	Curriculum and training project development	Consultations and collaborations	Years 1 and 2
		Technical and life skill development training	Workshops	Years 2-8
	Graduate internship programme development	Consultations	Meetings	Year 2
		Training	Hosting and mentorship	Years 2 -8
Academia	Graduate internship programme development	Consultations	Meetings	Year 2
		Training	Hosting and mentorship	Years 2 -8
NGOs	Graduate internship programme development	Consultations	Meetings	Year 2
		Training	Hosting and mentorship	Years 2 -8
M&E experts	Monitoring systems for land and livestock impacts	Meetings – kick off workshop	Technical Advisory Group	Year 1

H4H enterprise partners	Commodity-based trade (CBT) for communal livestock farmers	Market Access	Consultations and meetings	Annually from year 4
	Complementary business initiatives	Identification of potential initiatives	Consultations	Year 3
LEA and CEDA	Complementary business initiatives	Identification of potential initiatives	Consultations	Year 3
		Capacity building	Workshops	Annually from year 3
		Business/market readiness skills training	Workshops	Annually from year 3
	Develop and promote climate-resilient livestock production for Botswana	Sharing of report on technological and financial opportunities related to "climate-proofing" the red meat value chain	Meetings	Years 3 and 5
RARE	Tracking behaviour change impacts	Technical trainings	Workshops	Year 3
	Tracking impacts of behaviour change	Awareness campaign	Media channels	Annually from year 4
AHEAD	Climate-resilient livestock production protocol development	Policy implementation dialogues	Dialogues	Years 2, 4 and 6
Private sector (e.g. OIE and BMC)	Climate-resilient livestock production protocol development	Policy implementation dialogues	Dialogues	Years 2, 4 and 6
	Develop and promote climate-resilient livestock production for Botswana	Sharing of report on technological and financial opportunities related to "climate-proofing" the red meat value chain	Meetings	Years 3 and 5

15. Annex 1: Occupational Health and Safety Risk Assessment Tool

<table>
<tr><th>What are the hazards?</th><th>Who may be harmed and how?</th><th>What are you already doing?</th><th>What further action is necessary?</th><th colspan="3">How will you put the assessment into action?</th></tr>
<tr><td rowspan="2">Spot hazards by:
• Walking around the workplace;
• Asking workers what they think;
• Checking safety instructions;
• Contacting your supervisors
Don't forget long-term hazards</td><td rowspan="2">Identify groups of people.
Remember:
• Some workers have par-ticular needs;
• People who may not be in the workplace all the time;
• If you share your work-place think about how your work affects others;
• Members of the public
Say how the hazard could cause harm</td><td rowspan="2">List what is already in place to reduce the likeli-hood of harm or make any harm less serious</td><td rowspan="2">You need to make sure that you have reduced risks "so far as is reasonably practicable". An easy way of doing this is to compare what you are already doing with best practice. If there is a difference, list what needs to be done</td><td colspan="3">Remember to prioritise. Deal with those hazards that are high-risk and have serious consequences first.</td></tr>
<tr><td>Action by whom</td><td>Action by when</td><td>Done</td></tr>
<tr><td colspan="3">Review your assessment to make sure you are still improving, or at least not sliding back

If there is a significant change in your worksite, remember to check your risk assessment and where necessary, amend it</td><td colspan="4">Review date:</td></tr>
<tr><td colspan="3">Assessment completed by:</td><td colspan="4">Signature:</td></tr>
</table>

Ecosystem-Based Adaptation and Mitigation in Botswana's Communal Rangelands

ANNEX 6 Appendix A: Indigenous Peoples Plan

Prepared by Conservation International and C4 EcoSolutions through a PPF grant from the Green Climate Fund

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1. Introduction

During project preparation, Conservation International (CI) along with the Government of Botswana, identified indigenous groups — the Basarwa people — which would be potentially affected by the proposed project. Together with these groups, the nature and degree of the expected direct and indirect economic, social, cultural (including cultural heritage) and environmental impacts on indigenous peoples who are present in, or have a collective attachment to, the project intervention area[1]. The criteria of vulnerability that was used to select the project intervention area and its succeeding stages of implementation picked six Basarwa settlements (classified as Indigenous Peoples/Remote Area Dwellers[2]) as some of the beneficiaries of the second phase of project implementation**.** Therefore, all the activities related to the second phase will be targeting Basarwa communities living in areas most severely affected by climate change. However, there are some members of this indigenous community who live as herders at cattle posts owned by the dominant ethnic groups. They are particularly vulnerable to exclusion and marginalization. The identified indigenous peoples were engaged during the design of the proposed project to ensure that: i) their Free Prior and Informed Consent (FPIC); ii) their needs were considered; iii) any potential risks were identified; iv) their involvement in project implementation was considered and detailed; and v) they would share equitably in the benefits generated by the project. Consequently, an Indigenous Peoples Plan (IPP), proportionate to the potential risks and impacts of the project, has been developed to propose culturally appropriate measures and actions.

2. Baseline Information

The three project districts have communities of people of Sarwa descent who are internationally classified as Indigenous People and officially as Remote Area Dwellers (RAD) as per government of Botswana. In Ngamiland, eleven settlements have been gazetted as RAD settlements so they could receive special development projects and have land of their own. However, other ethnic groups are not excluded from these settlements. RAD settlements accounted for 2% of the Ngamiland district. In Bobirwa there are four gazetted RAD settlements with a population that makes 5% of the subdistrict while Kgalagadi has ten such settlements accounting for 10% of the district population. Table 1 below shows the names as well as the 2011 population structure of these settlements. Some of the settlements came into being as a result of removal from privatized farms (for example, the 1975 Tribal Land Grazing Policy), or the creation of National Parks and wildlife conservation areas. Other settlements got conferred the RAD status because of the number of Basarwa communities already populating them — often because they historically herded livestock of the dominant ethnic groups and were generally more impoverished than other neighbouring communities. There are also a number of Basarwa communities living outside these gazetted places. For instance they also reside at cattle posts shared with other communities in the communal areas, and can also be found in larger villages where they often occupy peripheral locations. Generally, the communities living in these and other settlements have, over time, been beneficiaries of government development programmes that distributed livestock (e.g. cattle and goats) to encourage the communities to transition from hunting and gathering to livestock and other agricultural activities. Their conditions have been subjected to intense scholarly scrutiny. However, the RAD settlements are not the only domiciles of Basarwa communities. For purposes of this project it will be important to establish and confirm locations within the project area where the communities can be found and to establish how they might be affected

[1] As per the the GCF's Indigenous Peoples Policy. Available at: https://www.greenclimate.fund/sites/default/files/document/ip-policy.pdf

[2] Remote Area Dwellers (RAD) is the official termilogy used to describe indigenous peoples in Botswana.

in terms of risks and opportunities. And wherever they are located the FPIC process will be initiated and maintained annually if and when they become project participants.

Apart from the details presented above, additional baseline information on beneficiary communities (including indigenous peoples) will be gathered during project implementation under the following timeframe:

- 9 villages in year 2;
- 38 new villages in year 2; and
- 58 new villages in year 5.

Project design aims to ensure that baseline data and indigenous people's issues addressed are most relevant in a spatio-temporal scheme.

Table 1. Gazetted Remote Area Settlements in the three Project Areas 2011 Enumerated population[3].

RAD population 2011						**Projected RAD Population**						
District	RAD Settlement	Males	Females	Total Pop	% female	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Kgalagadi	Kokotshaa	598	626	1224	51	NA						
Kgalagadi	Khawa	381	436	817	53							
Kgalagadi	Zutshwa	217	252	469	54							
Kgalagadi	Inalegolo	267	266	533	50							
Kgalagadi	Phuduhudu	261	221	482	46							
Kgalagadi	Make	185	213	398	54							
Kgalagadi	Ncaang	106	122	228	54							
Kgalagadi	Monong	141	126	267	47							
Kgalagadi	Ukhwi	227	232	459	51							
Kgalagadi	Ngwatle	144	127	271	47							
	TOTAL	**2527**	**2621**	**5148**	**51**	**5925**	**6021**	**6117**	**6213**	**6308**	**6402**	**6496**
Ngamiland	Somelo	NA	NA	NA	NA							
Ngamiland	Mababe	120	110	230	48							
Ngamiland	Khwai	93	98	191	51							
Ngamiland	Qangwa	341	342	683	50							
Ngamiland	Phuduhudu	272	292	564	52							
Ngamiland	Xaixai	NA	NA	NA	NA							
Ngamiland	Chukumuchu	72	89	161	55							
Ngamiland	Gani	328	399	727	55							
Ngamiland	Tobere	203	245	448	55							
Ngamiland	Qhorotshaa	NA	NA	NA	NA							
Ngamiland	Gudigwa	351	374	725	52							
	TOTAL	**1780**	**1949**	**3729**	**52**	**4435**	**4510**	**4585**	**4683**	**4762**	**4841**	**4921**
Bobirwa	Robelela	425	404	829	49							
Bobirwa	Tshokwe	512	558	1,070	52							
Bobirwa	Lepokole	437	518	955	54							
Bobirwa	Damchudjenaa	429	564	993	57							
	TOTAL	**1803**	**2044**	**3847**	**53**	**3771**	**3781**	**3789**	**3795**	**3800**	**3803**	**3803**

[3] Compiled from the 2011 national Population Census. The projections for the settlements are an estimate based on 2011 % share of RADS populations in the districts. It is not an official projection.

3. Key Findings and analyses of impacts, risks and opportunities

3.1 Risks as articulated by indigenous Basarwa Communities

RAD settlements are typically small and predominantly dependent on ecosystems and services for grazing their animals and collecting raw materials (for home building, fencing, thatching, canoes, etc), hunting for game meat, fishing, collecting firewood, and gathering wild fruit and vegetables to meet their needs. This project's baseline vulnerability assessments indicated that a number of the settlements such as Phuduhudu (Ngamiland), Gudigwa, Damchudjenaa, Tshokwe, Zutshwa and Ukwi were among the most severely hit by climate change in terms of the physical environment they inhabited, rates of poverty and limited capacity to cope with the harsh and changing conditions. However, the selection criteria place them in the second phase of the project and therefore only eligible for inclusion from year two. The selection criteria were based on the location of settlement and not on where their cattle posts are. However, it must be noted that Basarwa communities are most likely to be found near or at cattle posts. Therefore, it will be critically important to verify their spatial location in relation to the cattle posts of farmers selected for the three phases of project implementation to ensure that Basarwa are neither inadvertently excluded nor their settlements affected through the selection of other farmers whose cattle posts happen to be in close proximity with the domiciles of Basarwa. Proximity to the rangelands shared with other settlements necessitates the participation of Basarwa communities in those areas. Initial stakeholder engagements with some of the communities during project proposal development highlighted the key concerns regarding risks peculiar to their communities described below.

- Perpetuation of historical marginalization and exclusion. In the village of Lepokole in the Bobirwa subdistrict they wanted reassurance that they will not be excluded from employment and other opportunities as in past experiences where government officials brought relatives into their settlements for jobs they could have benefitted from as community members. As members of this ethnic minority group are not represented in government institutions where development decisions are made by official employees, they felt their interests are not well represented and voiced. In Zutshwa they were distrustful of projects that involve working in conjunction with the dominant ethnic groups for fear they would be marginalized.
- Inadequate and ill-timed consultation. These and all other rural communities want to see more frequent consultations with other key stakeholders for joint decision making. In particular, they want regular information and knowledge on policies that affect them, as well as on the project as it unfolds. Historically, consultations often only happened initially with no follow-up nor continuous updates.
- Insufficient redress mechanism. The Baswara communities identified the need to be able to meaningfully lodge complaints if they see government officials or other powerful interests side-lining their own interests.
- Lack of collective voice. Communities that provide herding services for other groups worry that they do not have collective voice as they are based at the cattle posts where they are few and scattered. They want assistance to build collective voice as herders and herding communities.
- Lack of adequate land. In some areas where land resources have been seriously fragmented but cattle and small stock introduced to historically hunting-gathering communities, there is concern that projects requiring rotational grazing could bypass them as it is difficult for the government to entertain requests for additional land resources to small communities. A 2013 GEF project reviewing the situation in the RAD settlement of Zutshwa solicited that concern of land adequacy during a participatory rural appraisal exercise. The study observed as follows[4]:

[4] Lapologang Magole, 2013, Participatory Rural Appraisals in Khawa and Zutshwa Demonstration Project on Community-Based Rangeland Management in Botswana, Technical Report 25. UNDP GEF Orange-Senqu Strategic Action Programme

"*The transect drive confirmed and detailed out many of the features referred to in the sketch mapping exercise. It emerged further that the area to the east of the village is also not available for expansion as it is grazing for Hukuntsi village. There are two main problems for this area and the residents; shortage or lack of land to which to expand and explore for water and salinity of water in almost the entire area. This has resulted in acute shortage of water for both the people and their livestock. The underlying issue appear to be the introduction of livestock in a small WMA area with no room for expansion resulting in both social and environmental problems"*

Apart from the negative impacts/risks directly relevant to the Basarwa communities presented above, additional potential negative impacts/risks are presented in the ESIA report, Annex 6 (Section 8). Relevant potential negative impacts/risks are also presented in the table in Section 4 below.

The proposed project offers indigenous communities opportunities outlined in the ESIA report as many of the communities will be direct beneficiaries due to the location of their own rangelands, particularly where there is already some adequate land to practice rotational grazing on. But there are also particular safeguards that need to be in place to address community concerns as well as other potential negative impacts/risks that have been identified, hence the necessity of this Indigenous People's Plan.

3.2 Free, Prior and Informed Consent

Free, Prior and Informed Consent (FPIC) for project activities affecting indigenous people and local communities is a key component of the environmental and social safeguards. Communities gave preliminary consent on the understanding that continuous engagement with them will be maintained throughout the project's life and therefore set a precedent that will endure beyond. The project is designed to ensure continuous consultations that involve information sharing and skill-building, as well as enhancing capacities for communities to have hands-on land-management skills to plan for rotational and collective grazing.

The key instrument that encapsulates the nature and extent of free, prior and informed consent is the signing of Conservation Agreements (CA) to which individuals and their collective group commit themselves to abide by the principles of land conservation in their planning and livestock management activities. CAs are a tool used globally to build and enforce sustainable management of communally-held natural resources. They are particularly effective for responding to uncertain climates in that they are evaluated and re-negotiated periodically and therefore can adjust management requirements more rapidly than a legislated approach. They are also negotiated directly with the land-users of a site and therefore can integrate indigenous knowledge systems into management strategies. The Herding for Health Initiative is based on the application of the CA approach to negotiating Rangeland Stewardship Agreements to establish site-specific plans for a given communal grazing area. The conservation commitments define activities that are prohibited as well as those that are required: and parties to the agreed commitments take individual and collective responsibility to abide by these in order to advance conservation objectives as an adaptation measure in response to threats to biodiversity. The resource users who are party to these CAs must not only know and agree with them but also be capable of undertaking the required actions, as well as to assess whether those actions are sufficient to mitigate threats. Their indigenous knowledge will augment scientific and professional understanding in the development of a grazing plan. Where the community does not have 100% consensus, grazing plans cannot be implemented because rehabilitation will not be possible without collective responsibility. The requirement for 100% consensus ensures there will be no restriction on use of natural resources that are not completely understood and for which there is a sound ecological argument to restore an area for future and sustainable use.

Also included in the commitments and agreements are sanctions for non-compliance and benefits in return for conservation performance (reducing them when commitments are not met) and regular monitoring of conservation performance as a basis of determining whether to provide benefits or to sanction against non-compliance in order to drive behaviour change. The process of developing conservation agreements that are fit for purpose involves principles that embody Free, Prior and Informed Consent (FPIC) in that communities as parties to the conservation agreement, are involved in are described below.

- Assessing whether the principle and strategy of conservation might work in their area.
- Providing inputs into and negotiating the contents of the conservation agreements covering the commitments, sanctions, and monitoring framework: with an option to withdraw at any point if they are uncomfortable with the content or direction. And as a reflection of collective effort and collective responsibility, the process must be inclusive of all affected parties.
- Providing inputs into the identification of benefits which are associated with the needs and cultures of indigenous peoples, as well as ensuring that benefit sharing takes place.
- Signing the agreement so they can begin to implement.
- Implementing by executing conservation actions, delivering agreed-upon benefits, and monitoring compliance.
- Monitor both conservation and socio-economic impacts to verify that the conservation agreement is achieving its intended outcomes.
- Renewing or not renewing the agreement annually on the basis of the results from monitoring and evaluating.

In the first three years of implementation, the CAs will be signed annually to ensure that a learning curve is achieved and the sanctions incentivize behaviour change effectively towards desired goals. Thereafter, they can be signed after some interval. This allows for parties to withdraw from frequent disregard for standards and to build confidence in their role and in the process. This requirement will be integrated into the private sector protocols for market access and recommended for integration into export supplier contract requirements and loan finance requirements of the Botswana Meat Commission and CEDA, respectively. Since the project will be implemented in the grazing lands where the cattle posts are located, it is imperative that consultations are not limited to the main villages only but include those who reside more or less permanently outside village settlements as these are predominantly ethnic Basarwa herders and herder/farmers. This requirement to consult cattle post communities will be included in the job description of farmer facilitator teams.

The table in Section 4 below includes mitigation measures for negative impacts/risks presented above (Section 3.1) and in the ESIA report (Section 8) that will be in place to ensure that Basarwa communities in their own settlements as well as at cattle posts are informed and enabled to give their consent freely. Overall, farmer facilitation teams in clusters where a RAD community is present will include at least one individual from the indigenous group who will receive all project training in addition to the overarching employment representation quota.

4. Measures to avoid, minimize and mitigate negative impacts, enhance positive impacts and opportunities, and ensure benefit sharing

Project Outputs	Project Activities	Potential negative impacts/risks	Indigenous Peoples Mitigation Measures		
			Mitigation Activities	Indicators and targets	Timing
Output 1.1.: New structures and systems for climate responsive planning and implementation by communal populations are operationalised	Activity 1.1.1: Train a network of at least 9 Farmer Facilitator Teams (Project staff, gov't extension workers, NGO partner field staff, and unemployed graduates) to understand climate resilient grazing practices and to be able to mobilise collective regenerative grazing agreements Activity 1.1.2: Build Collective understanding and equally empower male and female participation in Rangeland Stewardship Agreements within Botswana's legal and governance framework Act 1.1.3: Replicate	• Due to historical power relations that subordinated some ethnic groups, the strengthening of local institutions might perpetuate exclusion and marginalisation of Basarwa from institutions overrepresented by dominant ethnic groups	• Participatory gender-sensitive stakeholder mapping of indigenous people will be carried out to provide baseline information on spatial location of people, resources, demographic profiles, economic profile, and relations to other communities and resources users. • Reserve a least 10% quota for training of Basarwa in farmer facilitator teams • Embed Free, prior and informed consent (FPIC) in all project training programmes • Infuse awareness of human rights of minorities (including those related to gender) in training materials • Reserve up to 10% quota for farmer communities in the RAD settlements in all three phases of project implementation.	• Three district stakeholder maps of indigenous people • At least 10% trained farmer facilitators will be Basarwa — of which at least 25% should be women • 75% of Basarwa in both RAD settlements and cattle posts will have been active participants	Years 1 & 2

	and amplify Herding for Health (H4H) approach to develop locally appropriate EbA Rangeland Stewardship agreements, grazing plan designs, and support partnerships across Village Grazing Sites				
Output 1.2: New job creation programme and veterinary approach for climate responsiveness are adopted by national departments.	Activity 1.2.1: Support establishment of interinstitutional coordination mechanisms for climate resilient rangeland management and emissions reduction across gov't, NGOs, community-based organizations, and farmers' associations Activity 1.2.2. Support the development of a Rangeland Stewardship job creation initiative under the Ipelegeng Programme within Ministry of Local Government Activity 1.2.3: Expand capacity of Ministry of	• The current legal, institutional and policy framework might undermine efforts to coordinate collaborative initiatives for climate-smart rangeland management and economic stimulation • The current sectoral silos, duplication of efforts and overlapping institutional mandates might continue perpetuating inefficient use of scarce financial resources and undermine collaborative efforts and improvement in service delivery	• Include sensitization to the demographic profiles of marginalized communities in inter-institutional coordination mechanisms and job creation in rangeland stewardship. • Support the conduction of budget audits of key sectoral services in the target districts to facilitate RADS assistance through inter-institutional cooperation, and improved financial efficiency and impact on Basarwa beneficiaries.	• Quantitative data available to monitor impact on Basarwa and other identity markers • Budget audit reports available to monitor efficiency • RADS funding and Ipelegeng job creation linked more effectively to benefit Basarwa	Years 1, 2 and 5

	Agriculture Department of Veterinary Services (DVS) to respond to climate-induced diseases and infections and enable Commodity based Trade in the Project Areas				
Output 1.3. New rangeland management curricula developed and operationalised to expand skills for restoration and regenerative grazing	Activity 1.3.1: Create and monitor deployment of a new national curriculum for climate-resilient livestock herding to build adaptive capacity at the individual and community level.	• The professionalisation of the job might marginalise the existing herders, especially the indigenous people who provide a large part of herding services.	• Include FPIC principles and indigenous rights policies within the curriculum • Embed exchange with learning with community elders (including women) as part of the curriculum to ensure indigenous knowledge is securely passed on to future generations.	• Indigenous rights and practices are included in the training and local exchanges are embedded in the curriculum as part of field work	Years 1-3
Output 1.4. New rangeland monitoring system is operationalised, embedded, and utilized in market, carbon monitoring, and policy systems	Activity 1.4.1: Establish a Rangeland Stewardship Information Portal Activity 1.4.2: Train and support staff, farmers, and relevant officials to enable access to the Rangeland Stewardship Information Portal for improved decision making and EbA planning and ensuring sustainable	• The risk of unequal access might still continue and be facilitated by technology due to historical inequality and power relations, particularly in relation to ethnic minorities and women.	• Reserve staffing for Village hubs in Basarwa settlements (RADS) for local communities.	• Village hubs available in 25 RAD settlements and staffed by trained personnel (including at least 30% women) from the local community	Years 2–6

	reduction in emissions				
Output 2.1. Job creation and social safety net programmes resourced by the Government are used to deploy restoration teams for climate-resilient land and livestock management in target Project Areas.	Act 2.1.1: Implement inclusive and gender-equitable recruitment, deployment, and in-service Training of Ecorangers, Restoration Worker Teams, and Graduate Monitors as part of Rangeland Stewardship. Activity 2.1.2: Create and deploy Graduate Monitors to measure compliance and impacts and support Rangeland Stewardship Information Portal and BAITs data management and use for enhancing local emissions mitigation and adaptive management capacity.	• The professionalisation of the job might marginalise the existing herders, especially the indigenous people who provide a large part of herding services.	• At least 20% eco-ranger deployed as eco-rangers and rangeland restoration will be Basarwa drawn from herders already involved in herding. • Recruitment will be targeted to RADS VDC and cattle posts to enable Basarwa participants to apply for the reserved quota. • Provide training for Basarwa herders on labour law and facilitate understanding of workers' rights and collective voice	At least 20% eco-rangers and restoration workers will be Basarwa Graduate monitors will comprise between 5% to 10% Basarwa in each district	Years 3–6
Output 2.2. Rehabilitation of ecosystems and improved management of land, soil, and livestock implemented and monitored to increase ecosystem productivity, reduce vulnerability of	Activity 2.2.1: Complete baseline ecological and social assessments according to ESMP and GAP recommendations and international best practice.	• Existing laws that provide for open access to communal grazing areas might still pose a problem of enforcement of conservation agreements and exclude IPs.	• Because grazing lands are often shared by communities from several neighbouring villages, inter-VDC collaboration and cooperation will be facilitated to ensure equitable representation of Basarwa communities.	RAD farmers will implement community-based climate smart planned grazing.	Years 1-6

beneficiary populations, and reduce GHG emissions on 4.6 million hectares of climate-vulnerable communal rangelands.	Activity 2.2.2: Implement community-based climate-resilient planned grazing, restoration, water and soil, and fire management in 104 VDC grazing land target sites Activity 2.2.3 Monitor and analyse changes in ecosystem health and livestock emissions for adaptive management and emissions reduction reporting.		• Guidelines will be developed in a participatory manner to reflect the principle of inclusive participation and equal access to opportunities. • Recognition and protection of land areas used by Basarwa peoples (RADs) in CAs to mitigate against encroachment by livestock farmers.		
Output 3.1. Market readiness trainings, enterprise development support, supply chain facilitation, local fund development build the enabling conditions for improved low-emission livestock value chains and climate resilient rural economies.	Activity 3.1.1: Facilitate new income generation, savings opportunities, and local level funds especially from innovative CBT for livestock purchase from communal farmers active in Rangeland Stewardship Agreements for long-term resilience and sustainability. Build and improve understanding of regional economic	• Lack of representation of RADs	• RADs are targeted for income-generating opportunities resulting from the proposed project's livestock and value chain activities. • Train an equal number of men and women in RADs settlements and other non-RAD settlements in value chain opportunities.	• 8,000 to 16,000 RAD community members (IPs) will benefit • 4,000 to 8,000 women in RAD communities (IPs) will benefit.	Years 1 to 6

	resilience from expanding participation in business initiatives which enable, complement or are based on climate-resilient livestock production and associated financial flows.				
Output 3.2.: Selected financiers and value-chain players are aware and supported to incentivise rangeland stewardship and adopt carbon-optimisation practices and technologies	Activity 3.2.1 Design, implement, and measure impact of an awareness campaign on climate change, low-emissions productions, and Rangeland Stewardship production with broader red-meat value chain, including consumers Activity 3.2.2: Produce and embed rangeland stewardship within climate-resilient livestock production and financing protocols development for the industry	• The opportunities extended to the historically marginalised (such as IPs) might only serve to marginalise them in the context of market competition with more experienced and better resource players.	• Embed human rights of indigenous people and women into project value chain activities to enhance participation of the marginalized. • Develop a code of ethics that embed human rights and explicitly ban practices that involve underage children and unpaid female members of male employees. The codes on conduct must be enshrined in the design and implementation of value chain agreements and instruments.	• 20% of supported communal farmers should be Basarwa. And RAD settlements • Basarwa women will constitute 53% of their community beneficiaries in the full value chain. • A code of ethics in doing business through the value chain activities will be available in the information portal	Years 2–6

5. Community-based natural resource management

The role of indigenous peoples in community-based natural resource management (CBNRM) will be provided, alongside those of other beneficiary communities, for in the project's spatially explicit Rangeland Stewardship Agreements (RSAs). These agreements Rangeland are the local name for Conservation Agreements (CA)[5], a tool used by CI and others globally to build and enforce sustainable management of communally-held natural resources. They are particularly effective for responding to uncertain climates in that they are evaluated and re-negotiated periodically and therefore can adjust management requirements more quickly than a legislated approach and are therefore more suitable for application in dynamic rangeland ecosystems. They are also negotiated directly with the land users of a site and therefore can integrate indigenous knowledge systems into management strategies. Stakeholders felt that RSA was a better term for agreements for Botswana's communal grazing lands, to differentiate them from Communal Conservancies where only wildlife activities are allowed under the country's laws. RSAs will therefore be a new legal tool under contract law, that the Project will seek to promote into new agriculture, rangeland management, and climate legislation (see Output 1.5).

The main aspect of the RSAs relevant to CBNRM is spatially explicit restoration and communal grazing plans developed by farmers with support from MoA, DFRR, and the Project scientific team. Climate change considerations will be included in the plan through identification and targeting areas most at risk to climate hazards, including extent of bare ground, erodible areas from intense rainfall events, and areas that can pose greatest fire risk with projected wind and temperature changes.

The RSA will determine the benefit package that will be provided based on the H4H engagement process. The goods and services ultimately provided to each Village Grazing Area will depend on 1) what site-specific grazing/restoration actions are required (e.g. what number of Ecorangers, what kind of restoration team and tools, what kind of veterinary support, whether a water bowser or a bush-fodder machine is required, etc.); 2) what level of commitment the community is providing to support the implementation of the grazing plan (e.g. a water bowser will only be provided with full compliance and voluntary participation in communal herding by the farmers themselves); and 3) what level of support is required to ensure equitable participation by indigenous peoples and women (e.g. is childcare already provided by other programs or is this something that is locally required to ensure equal opportunity for participation and beneficiation). More detail on the process and how commitments to land and livestock management plans and associated benefit packages are reached is provided in Annex 2 Section 4 and its appendices.

In addition to the RSAs, the project's strategies and Gender Action Plan the CBNRM-related policy goal of Botswana's Climate Change adaptation strategy. This includes Empowering communities (including indigenous peoples), especially women and youth to actively participate in the implementation of climate change response measures in both rural and urban areas, including women's voices in natural resources management through their equitable participation in CBNRM processes.

6. Results of consultations

[5] The Herding for Health Initiative is based on the application of the CA approach to negotiate and establish site specific restoration and herd management plan for a given communal grazing area. Training and a tool-set as well as case-studies are available for use of the approach for rangeland rehabilitation and collective grazing in the context of climate resilience. (see Feasibility Study, Section 4 for more details)

6.1 Stakeholder Engagement Consultations relevant to Indigenous Peoples

Notes on Stakeholder Engagement Consultations relevant to Indigenous Peoples on Land, Livestock and Water in the Ngamiland, Borbirwa and Kgalagadi Districts conducted during project preparation are presented in the Stakeholder Consultation Annex 7 Appendix B.

6.2 Future Engagement Plans

Stakeholder group including IPs	**Areas of Interest /influence**	**Engagement Approach**	**Engagement tools**	**Frequency of engagement**
Demonstration site implementers (including Project staff, government extension workers, NGO partner field staff, and unemployed graduates)	Climate-smart grazing practices	Workshops	Trainings	Bi-annually
	Conservation agreements	Workshops	Exchanges	Annually from year 2
Local communities	Community mobilisation tool	Workshops	Charette	Year 2
	Gender awareness, climate change, indigenous peoples and livestock management	Training programme	Workshops Demonstration sites	Bi-annually from year 2
	Community governance	Community empowerment	Leadership trainings/champion-building sessions	Annually from year 2
			Rangeland Stewardship Agreement signing ceremonies	Year 2 – demonstration sites Year 3 – replication sites Year 6 – amplification sites
			Local governance exchanges	Years 3, 4, 5, 6 and 7
	Climate-induced diseases and infections and Commodity based Trade in the Project Areas	Ecoranger deployment	Trials	Year 2
	Enable access to Rangeland Stewardship Information Portal	Training	Workshops and mentorship	Annually from year 2
		Presentation of lessons learned	Workshops	Years 3, 5 and 7

	Ecoranger recruitment, farmer endorsement, and inception meetings	Consultations	Meetings	At demonstration sites in years 2; expand to priority sites in years 3-5; amplify to all sites in clusters years 6-8
	Community-based climate-smart planned grazing, restoration, water and soil, and fire management	Consultations for grazing area and community vulnerability baseline assessments	Meetings	Demonstration sites – Year 1 Replication sites – Years 2 and 3 Amplification sites – Year 5
		Farmer/community "how is it going?" meetings	Farmer/community meetings	Monthly meetings at demonstration sites in year 3; expand to quarterly meetings at priority sites from years 4-5; amplify to all sites in clusters years 7-8
	Complementary business initiatives	Capacity building	Workshops	Annually from year 3
		Business/market readiness skills training	Workshops	Annually from year 3
	Tracking impacts of behaviour change	Awareness campaign	Media channels	Annually from year 4
Local farmers/Farmer associations	Herding for Health Approach	Capacity building	Training of demonstrators	Year 2
			Farmer exchanges	Years 3, 4, 5, 6, 7
	Institutional coordination for climate-smart rangeland management	Rangeland Stewardship Forum	Meetings	Years 2, 4, 6, 8
		Training collaboration	Workshop	TBC
	Rangeland Stewardship Information Portal	Task Team	Meetings and Consultations	Year 1
	National curriculum for climate-resilient livestock herding	Technical and life skill development training	Workshops	Years 2-8
	Ecoranger recruitment,	Consultations	Meetings	At demonstration

	farmer endorsement, and inception meetings			sites in years 2; expand to priority sites in years 3-5; amplify to all sites in clusters years 6-8
	Community-based climate-smart planned grazing, restoration, water and soil, and fire management	Farmer/community "how is it going?" meetings	Farmer/community meetings	Monthly meetings at demonstration sites in year 3; expand to quarterly meetings at priority sites from years 4-5; amplify to all sites in clusters years 7-8
	Commodity-based trade (CBT) for communal livestock farmers	Market readiness and financial literacy training	Workshops	Annually from year 3
	Climate-resilient livestock production protocol development	Policy implementation dialogues	Dialogues	Years 2, 4 and 6

7. Gender assessment and action plan

Annex 8 presents the gender assessment study which was undertaken to enable preparation of a gender assessment report to support the proposal development for the larger project "Ecosystem and Livelihoods Resiliency: Climate Change Risk Reduction through Ecosystem-based Adaptation in Botswana's Communal Grazing Lands" to be submitted to GCF for financial support. The report is based on a desktop literature review, stakeholder consultations (planning workshops and focus group discussions), key informant interviews and survey interviews with heads of households (single, married, widowed, and separated) as well as married women in three project sites, namely Ngamiland and Kgalagadi Districts, and Bobirwa sub-District. Consultations included Basarwa peoples (remote area dwellers or indigenous peoples) in the project target areas. The Department of Gender Affairs as well as key policy makers working in gender and agriculture in central government were also consulted, in addition to local Chiefs, social workers, extension and veterinary officers in the project target districts.

Women and men, as well as young women and men aged 15–35 in the project sites, are being impacted differently by climate change, in part, because of gender roles. They have adapted in ways that are possible for each group depending on the resources they currently have access to. At the level of individuals (including indigenous peoples), the larger project aims to create 6,000 jobs for unemployed women and men — including 500 male and female graduate monitors — to become Eco-rangers and Restoration Workers through the development of a formal qualification and training programme for livestock herding and rangeland restoration.

Furthermore, poor and vulnerable farmers will be empowered to make informed decisions on climate-resilient livestock production systems and will have improved income from market access for their livestock. The project will partner with the Department of Gender Affairs to ensure that women and youth needs are deliberately addressed, and the composition of the training workshops, technical experts and national validation workshops has equitable participation of women and youth among other vulnerable groups[6]. In year 1 of the project, starting with a core group of 225 individuals, equitably representing women, men and indigenous peoples, the purpose and process for establishing a Stewardship Agreement will be co-developed based on regional and global best practices. Stewardship Agreements are a mechanism for rangeland governance.

In order to ensure that men, women and the youth in the project sites will benefit equally from the project, a gender analysis was conducted to assess implications of changing climate, particularly with regard to frequent drought, on women and men's current roles in households, access to and control of resources as well as their ability to make decisions in the household and communities within the project sites. Key findings of the gender assessment are outlined in Annex 8.

8. Benefit sharing plans

Benefit sharing is captured in Section 4 above.

9. Tenure arrangements

Relevant details on tenure arrangements for the project, including those related to indigenous peoples will be provided in RSAs. Please see Section 5 for additional detail.

10. Project-level Grievance Redress Mechanism

The project-level Grievance Redress Mechanism (GRM) developed for the IPP mirrors that developed in the ESMP (Annex 6), as it was also developed to account for any project-related concerns of indigenous peoples in the intervention areas. The GRM has been designed to facilitate the resolution of grievances promptly through an accessible, fair, transparent and constructive process. It is culturally appropriate and will be readily accessible, at no cost to the affected communities, and without retribution to the individuals, groups, or communities that raised issues or concerns. The GRM utilises existing mechanisms at the local level, supplemented by project-specific arrangements.

The project will offer mediation (or similar dispute resolution or problem-solving services) as an option where users are not satisfied with the proposed resolution that may be provided through the project-level GRM, the GCF independent Redress Mechanism or the CI Grievance Mechanism (Director of Compliance or Ethics Hotline)[7]. This mechanism will consider customary laws, applicable law and obligations of the state directly applicable to the activities under relevant international treaties and agreements, dispute resolution mechanisms, and justice systems of indigenous peoples as appropriate and be able to use independent indigenous experts. The mechanism will not preclude the option to use the accountability mechanisms of GCF and those CI and the executing entity, ensuring that users are provided with the necessary financial and technical support to access such mechanisms.

[6] Ecosystem and Livelihood Resilience In Botswana's Communal Rangelands: Climate Change Vulnerability Assessment And Adaptation Planning In Rangelands Across Botswana Concept Note submitted to GCF
[7] https://www.conservation.org/about/our-policies/reporting-illegal-or-unethical-conduct-statement

The GCF independent Redress Mechanism and the Secretariat's indigenous peoples focal point will be available for assistance at any stage, including before a claim has been made. In the event of complaints being filed with the GCF's independent Redress Mechanism, CI and the executing entity, relevant national competent authorities, and any other relevant parties will cooperate with the independent Redress Mechanism, including providing all required information. In addition, CI and the executing entity will promptly implement remedial measures stipulated by the GCF Board on the recommendation of the independent Redress Mechanism pursuant to its guidelines and procedures.

The draft mechanisms and procedures outlined here must be negotiated with affected communities so that they feel engaged as well as adding value that will enhance ownership and strengthen aspects of justice and fairness that may not be reflected by a one-sided draft. It is also essential that familiarity with the content of the mechanism is ensured through oral exchanges that recognize linguistic differences among the various communities. Written forms of these mechanisms and procedures must therefore be rendered in the languages of the local communities. The Kgotla traditional assembly remains the focal point of broad-based consultations with the community. Consequently, in the participatory development of a grievance mechanism, it is always best to first inform the chief so he/she can call a kgotla meeting that enables first-hand information exchange. Botswana chiefs generally do not want to be forced to be representatives of their community before the community has first been briefed directly in an open kgotla forum and expressed their views. It will also be important that the copy of a finalised version of the accountability and grievance mechanism is left with the Tribal Office for future reference and any subsequent amendments similarly deposited here. Kgotla meetings are usually also recorded by a secretary and the records could be useful reference points when needed.

Below are the key elements that must be captured by the project-level GRM grievance mechanism.

The scope of complaints or grievances

The Project grievance mechanism is specifically designed to address complaints and grievances relating to the activities of the project in as far as these are perceived by individuals and collectives as negatively affecting them — including indigenous peoples. Addressing these ensures that the project managers deals with issues before they escalate into serious conflicts or deepen negative impacts. However, communities' members often submit issues that are not directly related to the project activities because it is often not clear where to draw a line between what is or is not directly related to company activities. Therefore, it is important to acknowledge the complaint and explain why it is not connected to the project activities or personnel.

The project management team must assign a complaints committee as well as a focal person or community liaison officer to receive complaints, including in communities where indigenous peoples are present. Submitted complaints will be provided a response based on investigation that must determine whether the project or its staff are responsible for or have contributed to the issues that led to the complaint. The issues may be due to failure to comply with the standards to which it is legally obligated to comply with and/or to which it has committed. Some issues may be unintended or unforeseen impacts that have not been properly mitigated. Identifying options for resolution is critically important and may require presentation to the complainant for collective and negotiated solution finding. The project managers will work further to identify measures that could prevent the issue from recurring.

A log will be kept where grievances are registered in writing and maintained as a publicly available database. The database will include information about the complaint and the resolution of the complaint, including the remedy provided, taking into consideration that

complainants' identities can be kept anonymous if requested. This database will also be shared with the GCF independent Redress Mechanism.

Registering a Complaint

Complaints will be accepted verbally or in writing. If they are in writing, it is critically important that the receiving officer go through them orally with the complaint to ensure that the written form is interpreted accurately. If submitted orally, verification is also important so that the complainant is satisfied that the words represent an accurate capture of the complaint they are raising. Should it be required, interpretation/translation will be provided to overcome language barriers/limitations. Community members will be able to register a complaint in the ways described below.

1. By contacting a designated community liaison officer at the project's designated office which will be open during normal business hours.
2. Fill out a complaint form (which will be designed and agreed to as part of the development of mechanism) and mail or hand deliver to the project's designated office.
3. Call, text or send a WhatsApp message to the Project management team office (whose number will be provided) and speak to a project management representative during office hours or leave a message. A Community Liaison Officer must respond to all inquiries and messages within 48 hours.
4. Send an email to Project point of contact (Chief of Party).

Complainants will be encouraged to provide as much information about the concern as possible when presenting the complaint, including copies of any relevant documents or photos.

The Complaint Procedure

In some instances, such as when a complaint is closer related to a request for information, the project management may be able to resolve a complaint shortly after it is received. In this case, the complainant will be given the information necessary to address the issue, and the complaint will be documented and closed once the complainant is satisfied with the information offered.

When complaints are more complex and require some investigation, the following procedure will be used:

Step 1: Receive & Acknowledge Complaint

- Once the project management receives the complaint, it will be recorded in a digital/online register within two days of reception of the complaint.
- The project complaints committee will acknowledge receipt of the complaint by letter within two working days of receipt. If the complaint was submitted orally, the acknowledgement can be submitted orally but a digital/online record will be kept.
- The acknowledgement letter or oral response will specify a contact person within the project complaints committee and a description of what the complainant can expect next, including a timeline.

Step 2: Evaluate, Assign Owner, and Investigate

- The complaints committee will assess the complaint to determine how it should be managed and, in most instances, will assign an owner with the substantive expertise to resolve it. The complaint owner will work to understand, investigate, resolve, and follow-up with the complainant. This may involve seeking information from different sections of project management body or from partnering institutions.

- The complaints committee will work with the complainant to understand the cause of the issue and will need to contact the complainant during the investigation.

Step 3: Consult on and Implement Resolution

- Once the complaint has been investigated, in consultation with the complainant, the community liaison will discuss the results and proposed resolution with the complainant, including a timeline for implementation and the complainant's options — proceeding with a proposed resolution, further dialogue and escalation.
- The project manager will implement the resolution either directly or through a third party, which will be done in consultation with the complainant.
- The complaints committee will review complaints regularly to ensure progress is being made towards resolution.

Step 4: Complaint Escalation

- If no progress is being made or if the complaint rejects the proposed solution, the committee may decide to escalate the complaint to project management. In such circumstances, the complainant will be updated on progress. The process of escalation will include:
  - Project management will log the disagreement with a proposed response;
  - Project management identifies and proposes alternative response(s); and
  - If alternative response(s) are also rejected, the complaint will be elevated to Step 5 below (Appeal).

Step 4: Close and Monitor

- After the complaint has been fully investigated, the resolution has been implemented and monitored, and no further action is deemed necessary to resolve the issue, the project management team will close the complaint.
- The Project management team will ask the complainant to sign a statement to acknowledge resolution. Signing the statement does not preclude the complainant from raising the issue again or seeking other avenues for redress should the resolution not result in a permanent fix or the issue recurs.
- If the complainant does not agree with the resolution offered, the Project management team / grievance committee will instruct the complainant to escalate the grievance through the Appeal mechanisms as described in Step 5 below. The complainant may choose to do so or close the complaint.
- The Project management team may re-open the complaint if the complainant provides new information.
- The Project management team may contact the complainant after closure to ensure no other problems have arisen.

Step 5: Appeal (optional if complainant is not satisfied)

- The Project management team has established an additional mechanism for community members to appeal closure of a complaint when they are not satisfied with the outcome of the investigation and/or the proposed resolution.
- The Project management team will designate a Complaints Appeals Panel (the Panel) comprised of senior managers or trusted external third parties, including technical specialists familiar with the issue. Generally, these people will not have had previous detailed knowledge of the complaint or engagement with the complainant.
- In some cases, the Panel may choose to include one or more reputable and independent third parties on the Panel.

- The Panel may decide to refuse an appeal if they feel the complaint has not been presented in good faith. The decision to refuse an appeal must be reviewed and signed off on by the project management team.
- In certain circumstances, the Project management team may decide to appoint an individual mediator or Independent Appeals Panel that is neutral and wholly independent of the Project management team. The decision to use such a wholly independent body will first be approved by the Project management team President.
- The selection of the mediator or individuals comprising the Independent Appeals Panel will be conducted in consultation with the complainant and other key stakeholders to ensure there is trust in the process.
- If the complainant is not satisfied with the Appeal process or any other aspect of the resolution, they will be directed to escalate the complaint through Conservation International's dedicated mechanism – CI Ethics Point, which allows for complaints to be registered and investigated by CI and its General Council's Office (GCO). The website for Ethics Point is – www.ci.**ethicspoint**.com

Confidentiality, Anonymity and Non-Retaliation

The community grievance mechanism must encourage community members to openly exchange views and concerns about operations with the project. Confidentiality will always be observed to maintain confidence in the community grievance mechanism and ensure compliance with relevant laws. Complainants may wish to:

- ***Raise a concern in confidence***. Details will not be disclosed when a complainant asks the Project management team to protect identity and will remain secure with those Project management team staff investigating the complaint. However, the situation may arise where it will not be possible to resolve the complaint without revealing identity (for example, when evidence needs to be presented in court). In this case, the Project management team will discuss with the complainant whether and how best to proceed.
- ***Raise a concern anonymously***. Complainants raising a concern anonymously need to provide sufficient facts and data to enable the Project management team to look into the matter without assistance. The Project management team will make every effort to evaluate anonymous complaints; however, anonymity may make it more difficult to investigate, protect the position of the complainant, offer and implement resolution, and give feedback. CI's Ethics Point can be used anonymously.
- ***Non-retaliation***. Complainants can raise a concern without the fear of retaliation by the project.

11. Monitoring, Evaluation and Reporting

Monitoring and evaluating the participation of indigenous peoples in implementation and tracking their share of benefits, as well as reporting thereof, will be undertaken during the project. Under Activity 2.2.1 of the proposed project, a separate category of indicators for indigenous peoples will be integrated into the Rangeland Stewardship Information Portal. This will allow for monitoring information relevant to indigenous peoples to be captured separately, facilitating tracking, evaluation and reporting. Initially, baseline information for indigenous peoples will be collected — and uploaded into the Rangeland Stewardship Information Portal — via the Grazing Area Baseline Assessments to be conducted via Activity 2.2.1. Regarding reporting, periodic results will be shared with the indigenous communities in an appropriate form and language. Monitoring, evaluation and reporting will then take place as detailed in the table below.

Indicator	Data/Source	Collection Tool	Frequency
Grazing Area Baseline Assessments for indigenous peoples completed and stored in the Rangeland Stewardship Information Portal and as VDC Rangeland Stewardship Agreement Annexures.	Farmer facilitation teams, rangeland science and gender specialist will conduct Grazing Area Basline Assessments which will include baselines for IPs	Remote sensing Field observations to collect ground-truthed data Household surveys	Once off
Impact Reports (sections specific to indigenous peoples) Information captured in the IP category on the Rangeland Stewardship Portal	Project M&E and Farmer facilitation teams Ecorangers Restoration Teams/Team Leaders will monitor participation and benefit sharing amongst IPs	Mobile applications Field observations to collect ground-truthed data Household surveys	Annually from year 2

Type	Timing	Independent/Self-evaluation
Impact	Ongoing	**Independent (CI's Moore Center For Science)**
Outcome	At year 4.25 (mid-way through project)	**Independent**
Summative	End of Year 8.5 (project completion)	**Independent**

Ecosystem-Based Adaptation and Mitigation in Botswana's Communal Rangelands

ANNEX 6 Appendix B: CI- GEF/GCF Agency's Guidelines for Projects during the Corona Virus Disease 2019 (COVID-19) Pandemic

Prepared by Conservation International and C4 EcoSolutions through a PPF grant from the Green Climate Fund

CI- GEF/GCF Agency's Guidelines for Projects during the Corona Virus Disease 2019 (COVID-19) Pandemic

Issue date: March 23, 2020

In accordance with CI-GEF/GCF Agency donor safeguard requirements, "*Projects and programs avoid, where feasible, or* ***minimize the risk of community exposure to disease and other relevant health risks****, taking into account differentiated levels of exposure, and the needs and exposure of Disadvantaged or Vulnerable Groups or Individuals"*

As such, the CI-GEF/GCF Agency at this time recommends that project activities continue with the following guidelines:

- Stop project-related travel and restrict to only essential travel such returning home to be with family. Project-related travel includes visits to project communities, especially those that have vulnerable populations. You can maintain communication with communities via phone calls, teleconference or other appropriate ways. Those returning from travels in high risk areas should self-quarantine for 14 days and follow the guidance of local authorities. Please wait to hear from us on when it is appropriate to resume project-related travel.
- Avoid large gatherings and in-person meetings/events at this time. Postpone large gatherings to a later date or consider teleconference using tools such as Skype, Zoom, Whatsapp and Microsoft Team. If you do hold essential meetings/events, please retain the names and contact details of all participants for at least one month. This will help public health authorities trace people who may have been exposed to COVID-19, if one or more participants become ill shortly after the meeting/event.
- Actively encourage sick project staff, contractors and stakeholders to stay away from the workplace and to get medical help. If a project staff becomes sick at the workplace with COVID-19 symptoms, they should immediately inform their supervisor. The supervisor must act on the information including isolating the project staff, and notifying other project staff of possible exposure (while maintaining confidentiality of the sick staff).
- Explore and establish policies and practices, such as flexible worksites (e.g. telecommuting) and flexible work hours (e.g. staggered shifts) to increase the physical distance among project staff and other stakeholders. Note that some project staff may need to work from home if they have children where their school/day care have been closed or if they need to care for a sick family member.
- Emphasize the need for proper respiratory etiquette and hand hygiene by all project staff, contractors and stakeholders. Place posters at the entrance to the workplace and in other workplace areas where they are likely to be seen on the signs and symptoms of COVID-19, coughing and sneezing etiquette, proper hand washing techniques,

social/physical distancing and other important information such as local contact numbers for public health authorities. Provide in the workplace soap and water and/or alcohol-based hand rubs containing at least 60% alcohol, and ensure that these are refilled regularly.

- Maintain good housekeeping. Routinely clean all frequently touched surfaces in the workplace, such as workstations, countertops, phones, and doorknobs. Use the recommended cleaning agents and follow the directions on the label (e.g. concentration, application method and contact time).
- Follow guidance given by national and local public health authorities, World Health Organization (WHO), and Centers for Disease Control and Prevention (CDC).
- Prepare a plan of action in the event of an outbreak in the project area. This may include how to decide if/when to suspend project activities, and carry out an assessment on how the suspension will impact project activities and revising timeline of deliverables. We are working on guidance regarding the administrative and financial implications and will share that with you shortly.
- Continue to monitor the local situation carefully and implement the plan of action. Also, immediately notify CI-GEF/GCF Agency when there are confirmed cases in the project area.

We will continue to closely monitor the situation and issue new guidelines as necessary.

Please contact us at cigef@conservation.org or cigcf@conservation.org should you have any questions.

Ecosystem-Based Adaptation and Mitigation in Botswana's Communal Rangelands

ANNEX 6 Appendix C: Safeguards Screening Analysis and Results

Prepared by Conservation International and C4 EcoSolutions through a PPF grant from the Green Climate Fund

CI-GCF/GEF PROJECT AGENCY

SAFEGUARD SCREENING ANALYSIS AND RESULTS

☐ **Preliminary Screening** (PIF/PFD Stage) ☒ **Secondary Screening** (PPG/PPF Phase)

I. PROJECT INFORMATION

A. Basic Project Profile

Country: Botswana	**GCF/GEF Project ID**:
Project Title: Ecosystem-Based Adaptation and Mitigation in Botswana's Communal Rangelands	
Executing Entity/Agency: Conservation International - Botswana	
GCF/GEF Focal Area: Mitigation: Forestry and Land Use; Adaptation: Most vulnerable people and communities; Ecosystems and ecosystem services	
GCF/GEF Project Amount: USD$39,200,000	
CI-GCF/GEF Project Manager: Robert Merritt	
Safeguard Analysis Performed by: Ian Kissoon, Director of ESS, CI-GCF/GEF Agency	
Date of Analysis: April 8, 2020 (Date of first (PPF) analysis March 13, 2018)	

B. Summary of Project Risk Categorization, Safeguards Triggered, and Mitigation Plans Required

Project Category:	**Category A**	**Category B**	**Category C**
		X	

Safeguards Triggered:	
☒ Environmental and Social Assessment, Management and Monitoring	☒ Accountability, Grievance and Conflict Resolution
☒ Indigenous Peoples	☐ Cultural Heritage
☐ Restrictions on Land Use and Involuntary Resettlement	☐ Resource Efficiency and Pollution Prevention
☒Labour and Working Conditions	☒ Community Health, Safety and Security
☒ Biodiversity Conservation and the Sustainable Management of Living Natural Resources	
Mitigation Measures:	
☒ Accountability and Grievance Mechanism	☒ Limited Env. & Social Impact Assessment
☒ Stakeholder Engagement Plan	☒ Environmental & Social Management Plan
☒ Gender Mainstreaming Plan	☐ Cultural Heritage Management Plan
☒ Indigenous Peoples Plan	☐ Process Framework for NR Restrictions
☒Labour and Working Condition Procedures	☐ Res. Efficiency & Pollution Prevention Plan
☒ Community Health, Safety and Security Plan	☐ Environment & Social Framework

C. Project Objective:

To significantly increase the adaptive capacity of the Botswana people to respond to the negative impacts of climate change in the country's communal lands.

D. Project Description:

The Project will achieve its objective through activities holistically designed to:

1. Strengthen institutions and support systems for climate-responsive planning and management in communal rangelands;
2. Reduce emissions and negative livelihood impacts through rangeland rehabilitation and improved livestock management;
3. Sustain enhanced adaptive capacity through value-chain and policy transformation.

The Project, with the extensive support of farming communities, the Government of Botswana, civil society organizations, and NGOs will replicate and scale the demonstrated success of the Herding For Health (H4H) model of communal rangelands management that was pioneered in South Africa by Conservation International and its partners.

The Project will also include the development and deployment of a Rangeland Stewardship Portal, through which data is collected on ecosystem health, climactic conditions, cattle herd locations, fires, disease outbreaks, and economic returns from livestock sales by farmers. This portal will allow open access to herders, communities, government and organizations to inform their decision making and planning. The Portal will also contribute to an innovative, participatory Project Monitoring and Evaluation system wherein information flows both to and from Project beneficiaries. As part of the Project M&E system, an innovative Impact Evaluation will be undertaken to better determine project-attributable change by comparing targeted areas with similar control areas in Botswana.

The Project approaches will simultaneously reduce degradation of Botswana's rangelands while improving the condition of livestock to increase the resilience of Botswana's most vulnerable populations. The Project activities will also result in significant emissions reductions by increasing the carbon sequestration potential of the landscape and by reducing enteric emissions from livestock through improved management and fodder.

E. Project location and biophysical characteristics relevant to the safeguard analysis:

The Project will be implemented in three target areas of Botswana: Ngamiland (northwest), Kgalagadi (southeast), and Bobirwa (east central). The three areas were prioritized for GCF Project intervention by national stakeholders in 2016 due to their high climate vulnerability. Collectively, the areas cover 41.3% (~240,000 km²) of the country and have an average population density of 2.6 people/km^2. In the communal lands of the three areas, poverty levels exceed 50% , with socio-economic conditions largely attributed to the effects of drought on traditional agriculture, limited alternative economic opportunities in rural areas, and lack of access to formal markets

Over the 8.5-year implementation period, the Project is expected to directly increase the climate change resilience of 96,000 people and improve the management of 46,000 km² of natural ecosystems. Indirectly, the Project will contribute to the resilience of 176,500 people within the Project landscapes who participate in communal livestock farming.

F. Executing Entity (EE)'s Institutional Capacity for Safeguard Policies:

CI-Botswana has experience executing U.S. Government Agencies safeguard policies to ensure that potential negative environmental and social impacts on important resources and the society at large are adequately managed, and positive impacts are enhanced.

II. SAFEGUARDS TRIGGERED BY THE PROJECT

Based on the Environmental and Social Impact Assessment (ESIA) carried out by the Project, and the corresponding Environmental and Social Management Plan (ESMP) (refer to Annex 6), the following safeguards policies and mitigation measures were identified:

Safeguard Policy	Yes	No	TBD	Mitigation Measure
1. Environmental & Social Impact Assessment (ESIA)	**X**			*The scale and type of potential biophysical, social and, where appropriate, transboundary risks and impacts were assessed so as to ensure mitigation and monitoring strategies are designed to manage these risks and impacts. Accordingly, the Project has developed an ESMP (see **Annex 6**) where the mitigating and monitoring strategies have been articulated.*
2. Accountability and Grievance Mechanism	**X**			*The Project will implement a grievance mechanism to address concerns, complaints, and grievances made by any project stakeholder, beneficiary, or other interested party. This grievance mechanism is described in detail in **Section 13 of Annex 6.** In addition to the project level grievance mechanism, all stakeholders will be provided with information on and access to Conservation International's Ethics Point hotline to register a complaint or grievance. www.ci.ethicspoint.com*
3. Biodiversity Conservation and the Sustainable Management of Living Natural Resource	**X**			*The thrust of the project is to reduce GHG emissions and the negative livelihood impacts of natural habitat degradation through rangeland rehabilitation and improved livestock management.* *The project activities listed in the log frame as well as the ESMP (see **Annex 6**) will collectively address the protection of the natural habit).*
4. Restrictions on Land Use and Involuntary Resettlement			**X**	*The project's requirement for participation of land users in target locations may trigger restrictions of access, the level of which is yet to be determined. Cattle owners outside their locality have already migrated onto other people's grazing areas. Previously, local communities have attempted to restrict such uncoordinated migration of cattle posts because of scarce rangeland resources made even scarcer by prolonged drought and disease control fences. To mitigate this challenge, the project has been designed to include training and support to enhance the capacity of land authorities to ensure sustainable land and livestock management. Community training has been designed similarly to facilitate change in attitude and behaviour towards sustainable resource use and management. See **Section 12.3 of Annex 6** for more details.*

5. Indigenous Peoples	**X**			*The criteria of vulnerability that was used to select where the project will commence, and its succeeding stages of implementation picked six Basarwa settlements as some of the beneficiaries of the second phase of project implementation. Therefore, all the activities related to this phase will be targeting Basarwa communities living in areas most severely affected by climate change. Basarwa are internationally classified as Indigenous People and officially as Remote Area Dwellers (RAD) by the government of Botswana. There are some members of this indigenous community who live as herders at cattle posts owned by the dominant ethnic groups and they are particularly vulnerable to exclusion and marginalization.* *An Indigenous Peoples Plan (see **Section 11 of Annex 6**) has been developed to ensure FPIC is followed and to reduce risks of exclusion and marginalization.*
6. Cultural Heritage		**X**		*The ESIA stated that cultural heritage is unlikely to be directly affected by the project. However, the project is designed for active participation of farmers and communities to engage in planning and land management. It is expected that communities will consider their cultural resources. Therefore, both project design and the activities for implementation are inherently mitigation measures.*
7. Resource Efficiency and Pollution Prevention		**X**		*The project does not include the use of pesticides. However, if pesticides are used in the value chain activities related to the project and facilitated by other partners such as government departments, the need to develop a mitigation plan might arise.* *As a contingency measure, planned workshop with participant stakeholders will include a monitoring of activities related to pest control and seek to support a participatory planning process. Pest management will be an integral part of the environmental protection plan.*
8. Labor and Working Conditions	**X**			*There are risks related to the commitment of gender parity in employment creation as a result of the project. As pastoralism is currently a male-dominated livelihood in Botswana, there is the risk of sexual harassment at work, the threat of which is compounded by the fact that it is not expressly prohibited by law. Additionally, there is the risk of women and children being exploited as free labour. To mitigate these risks, data will be collected on the spatial patterns of land-use by women and men, as well as by cattle and small stock, to enable informed planning and decision making. This and other mitigation strategies relevant to labour-related risks are reflected in the Labour and Working Conditions Risk Management Plan (**Section 12.2 of Annex 6**), Indigenous Peoples Plan (Section 11 of Annex 6) and Gender Action Plan (Annex 8).*

9. Community Health, Safety and Security	**X**			*The collective rotational grazing approach proposed for this project will bring unprecedented numbers of animals to be kraaled together and grazed together on communal rangelands. There are therefore health, safety and security issues that will be particular to this form of land and livestock management system which will require a robust and fit-for-purpose risk management plan that must be developed through a participatory stakeholder engagement bringing together key stakeholders with relevant knowledge.* ***Section 12.4 of Annex 6*** *articulates an indicative Community Health, Safety, and Security Management Plan.*

Other Plans

Apart from the safeguard policies, the project is required to comply with the CI-GCF/GEF's Gender Policy and Stakeholder Engagement Policy. As such, the project developed the following plans:

I. *Gender Action Plan (GAP)*
To ensure that men and women have equal opportunities to participate and benefit from the project, a Gender Assessment Report and Gender Action Plan has been developed (see ***Annex 8****).*

II. *Stakeholder Engagement Plan (SEP)*
To ensure that the project complies with the CI-GCF/GEF's Stakeholders' Engagement Policy, the Project has prepared a Stakeholder Engagement Plan (See ***Section 14 of Annex 6****).*

III. *COVID-19 Guidelines*
In response to the COVID-19 pandemic, projects are required to follow the guideline issued by CI-GEF/GCF Project Agency during the PPF and Implementation Phases. The guideline is attached (Annex 6 – Appendix B).

III. PROJECT CATEGORIZATION

Based on the safeguard policies triggered, the project is categorized as follows:

PROJECT CATEGORY	Category A	Category B	Category C
		X	
Justification: The ESIA has determined that the project's activities will not cause or enable to cause significant negative environmental and social impacts. Potential impacts have been identified as site-specific, reversible, and mitigated measured identified. As such, the project is assigned Category B.			

IV. DISCLOSURE

Plan	Disclosure
Environmental & Social Impact Assessment (ESIA)	*Annex 6 (ESIA and ESMP)*
Accountability and Grievance Mechanism	*Section 13 of Annex 6*
Environmental & Social Management Plan (ESMP)	*Annex 6 (ESIA and ESMP)*
Voluntary Resettlement Action Plan (V-RAP)/ Process Framework	*Section 12.3 of Annex 6*
Indigenous Peoples Plan (IPP)	*Section 11 of Annex 6*
Cultural Heritage Management Plan	*NA*
Resource Efficiency and Pollution Prevention	*NA*
Labor and Working Conditions Procedures	*Section 12.2 of Annex 6*
Community Health, Safety and Security Plan	*Section 12.4 of Annex 6*
Stakeholder Engagement Plan (SEP)	*Section 14 of Annex 6*
Gender Mainstreaming Plan (GMP)	*Annex 8 (Gender Assessment Report and Gender Action Plan)*