

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

## **Annex 7: Summary of Consultations and Stakeholder Engagement Plan**

## 1. Summary of Consultations:

Date	Purpose of consultation	Stakeholders involved	No. of participants	Location
<b>June 2019</b>				
26 June 2019	Meeting to solicit lessons from Department of Environmental Affairs (DEA) Natural Resource Management (NRM) programmes on implementation of the Ecorangers model from a government perspective and to understand the new NRM Green Climate Fund (GCF) project concept for South Africa to see if/how there are alignment and knowledge sharing opportunities.	Dr. Christo Marais, Deputy DG DEA NRM, Works Programmes Kedibone Mambelo, Dept. of Agriculture and Rural Development Dr. Mandy Barnett, NIE Focal Point for GCF for South Africa Mfundzeni Tshindane, NIE Climate Finance Coordinator	5	Cape Town, South Africa
27 June 2019	GCF project preparation kick-off meeting. The purpose of the meeting was to raise awareness and solicit initial and ongoing support into the proposal development process for a GCF project aimed at building the resilience of ecosystems and livelihoods in Botswana's communal rangelands to the impacts of global climate change.	Stakeholders from the agriculture and environment sectors, local government, private sector and climate and rangeland ecology specialists, as well as farmers and community representatives	43	Gaborone
<b>July 2019</b>				
2 July 2019	Meeting with GIZ's Adaptation to Climate Change in Rural Areas in Southern Africa (ACCRA) team to introduce the proposed GCF-funded project and obtain an understanding of and support from ACCRA.	Hanna Sabass, ACCRA Project Manager Dieter Nill, ACCRA Programme Manager Wiebke Foerch, ACCRA Programme Advisor	4	Gaborone
3 July 2019	Meeting to report back on the outcomes of the Kick-off Workshop, ask for strategic guidance on the issue of securing co-finance for the project and solicit inputs and approval on the proposed steering committee membership.	Deputy Permanent Secretary (DPS) Thabang Botshoma, Ministry of Agriculture	3	Gaborone
8 July 2019	Meeting to expand the involvement of the Ministry of Environment and NDA in project preparation institutional alignment and co-financing strategy.	DPS Thabang Botshoma, Ministry of Agriculture DPS Dr. Oduetse Oldman Koboto, Ministry of Environment	4	Gaborone
9 July 2019	Meeting to understand FAO's portfolio in Botswana in order to ensure alignment, build on	Dr Rene Czudek, FAO, FAO Rep	4	Gaborone

Date	Purpose of consultation	Stakeholders involved	No. of participants	Location
	lessons learned, and look for financing synergies with the proposed GCF-funded project.	Lesedi Modo, FAO, Assistant FAO Rep		
23-25 July 2019	Participation in SADC Regional Awareness-Raising Workshop on Low Emissions Livestock: Supporting Policy Through Science in Southern Africa to understand latest policy and methodologies. Presentation and discussion of GCF project as an opportunity for a national case study.	Scientists, livestock emissions experts and policy-makers	60+	Pretoria
<b>August 2019</b>				
30 July-1 August 2019	Participation and presentation of GCF project to Ngamiland Commodity-based Trade and discussion meetings to inform project activity design and understand local barriers to collective grazing and herding.	District and National Veterinary Services, Municipal Leadership, Traditional Leadership, Representatives of 6 NGOs, Representatives of 3 Regional Farmers Associations, Private Sector, BMC, Tourism Operators	80	Maun
5 August 2019	Maun Community Consultation	Farmers and Officials (see workshop report)	18	Maun
7 August 2019	Gumare Community Consultation	Farmers and Officials (see workshop report)	35	Gumare
6 August 2019	Okavango Research Institute (ORI), Consultation Workshop on SASSCAL 2 Proposal to share linkage opportunities with the GCF project and Herding for Health more broadly in KAZA	Participants from: ORI Government Civil Society	25	Maun
7 August 2019	Participation and presentation of GCF project to build alignment between the GCF project and research activities related to climate smart livelihoods in Ngamiland	Okavango Research Institute, Okavango Community Trust, Okakom, Ministry of Agriculture District Representatives	12	Maun
6 August 2019	Meeting to introduce the proposed GCF-funded project and discuss possibilities of collaborating with the Land Board during implementation. The meeting also sought to establish if land could be allocated / demarcated (blocks) for livestock grazing without any risk of conflict with other land priorities.	Neo P. Mothobi, Tawana Land Board Secretary	3	Maun
8 August 2019	Meeting to introduce the project and solicit expert inputs on preparation	Kulthoum Omari, Climate change and adaptation specialist	2	Gaborone

Date	Purpose of consultation	Stakeholders involved	No. of participants	Location
	activities and implementation arrangements.			
8 August 2019	Kang Community Consultation	Farmers and Officials (see workshop report)	26	Kang
9 August 2019	Hukuntsi Community Consultation	Farmers and Officials (see workshop report)	24	Hukuntsi
9 August 2019	Meeting to introduce the proposed project and solicit inputs on preparation activities and implementation arrangements.	Niel Fitt, Director of the Kalahari Conservation Society	2	Gaborone
12 August 2019	Meeting with ASSAR Botswana project to share ideas for stakeholder engagement process as part of preparations for the proposed project's scoping mission to the Bobirwa sub-district.	Prof. Hillary Masundire, ASSAR project	3	Gaborone
12-14 August 2019	National Agricultural Investment Plan (NAIP) meeting to share information on the GCF project and identify where synergies can be made between the project and the NAIP.	Farmers from the beef, poultry, small stock, pork, aquaculture and equine, horticulture, rainfed and dairy sub sectors	70+	Gaborone
15 August 2019	Meeting with Ministry of Agricultural Development and Food Security to discuss the role of Land Boards in local communities and their relationship with VDCs, and collect information on policies related to communal grazing land.	Kwenantle Gaseitsiwe, ISPAAD Advisor and Chairman of Agricultural Land Allocation Committee	2	Gaborone
20 August 2019	Follow up meeting (to KCS meeting on 9 August) to agree to work with KCS in communities in Bobirwa where they are implementing projects.	Keneilwe Mathaba, Environment and Conservations Officer, KCS	2	Bobirwa
30 August 2019	Meeting to understand how Land Boards operate on a district/sub-district level as well as to inquire on the existence of modifications in the way policies/operations are implemented to accommodate the nature of cases they experience. This inquiry is critical for the development of the GCF proposal as land management rights are fundamental to the successful deployment of a collective grazing management plan.	Kwenantle Gaseitsiwe, ISPAAD Advisor and Chairman of Agricultural Land Allocation Committee Phillip Aboneng, Ministry of Lands	3	Mogoditshane Sub Land Board

Date	Purpose of consultation	Stakeholders involved	No. of participants	Location
<b>September 2019</b>				
2 September 2019	Meeting with the Department of Gender Affairs To solicit support and request for gender information for the GCF Project funding proposal preparation.	Ms. Thapelo Phuthego, Director of Gender Affairs Ms. Phemelo Maiketso, Deputy Director of Gender Affairs	3	Gaborone
3 September 2019	Selibe Phikwe Community Consultation	Farmers and Officials (see workshop report)	27	Selibe Phikwe
4 September 2019	Bobonong Community Consultation	Farmers and Officials (see workshop report)	33	Bobonong
5 September 2019	Gobojango Community Consultation	Farmers and Officials (see workshop report)	110	Gobojango
5 September 2019	Meeting with representatives of Mathathane Village to introduce them to the project.	Kgosi O.R. Serumula Ms. Tirelo Ditshotlo, Social Welfare Officer	2	Mathathane
6 September 2019	Meeting with representatives of Tsetsebjwe Village to introduce them to the project.	Kgosi Dialwa Motsamai Kgosi Kethalefile Gabanamotse David Manaka – Sand Dam Project Daniel Mosenene – Chair, VDC Ms Omphemetse Tau	5	Tsetsebjwe
13 September 2019	Meeting with Nutrition Specialist in MoA to confirm climate stress impacts on nutrition and livestock productivity	Dr John Mthetho – Department of Animal Production, Ministry of Agriculture	2	Gaborone
16–17 September 2019	Participation in Kgalagadi GEF Drylands Project Stakeholder Forum to present GCF project and discuss alignment opportunities	UNDP Leadership GEF Project Management Unit DPS Ministry of Environmental Affairs Four NGOs CBNRM Extension officers	10	Gaborone
<b>October 2019</b>				
2 October 2019	Meeting with the National Strategy Office (NSO) to: 1) introduce the GCF project proposal and Ecoranger concept as a vehicle for creating adaptive capacity in Botswana's communal lands and 2) to discuss the potential alignment of the NSO Beef Cluster Strategy with the project goals and 3) to test interest by the NSO to be the coordination convener and lead for M&E in the implementation phase of the project	Mr. Sipho Madisa, Head, NSO Beef Cluster Mr. Tsaone Thobele, NSO Beef Cluster Secondment from MoA Disikalala Gaseitsiwe, GDSA	4	Gaborone
3 October 2019	Ministry of Environment Focal Group Discussion to: 1) introduce/provide an update	Sonny W. Mokgwathi, Director, DFRR	11	Gaborone

Date	Purpose of consultation	Stakeholders involved	No. of participants	Location
	on the GCF project proposal as a vehicle for creating adaptive capacity in Botswana's communal lands and 2) to discuss: a) alignment with Ministry's goals and initiatives b) project governance structure for implementation c) co-financing opportunities	Disikalala Gaseitsiwe, Deputy Executive Secretary, GDSA Secretariat Gaogakwe Phorano, Acting DPS, MoE Makhotso Gaseitsiwe, Intern, GDSA Secretariat Mosimanegape Legwaila, Curator, Natural History, Botswana National Museum Abednico L. Macheme, Counter Wildlife Trafficking Manager, Conservation International Tsalano P. Kedikilwe, Director, MoE Malebogo Somolekae, Chief Wildlife Officer, DWNP Dr. Mmadi Mogolodi Reuben, Principal Vet Officer, Research Division, DWNP		
4 October 2019	Meeting with BUAN Centre for Continued Education to: 1) introduce the GCF project proposal and Ecoranger concept as a vehicle for creating adaptive capacity in Botswana's communal lands and 2) to discuss the potential role of BUAN-CICE in leading the development of the training curriculum and implementation of the Ecoranger training in the 3 districts as part of the project	Dr. Israel Legwaila, CICE Director Dr. Ola Kgosikama, Project consultant Dr. Ernest Mochankana, Rangeland Ecology Professor Dr. Ayana Abdet, Veterinary Professor Three other professors	8	Gaborone
7 October 2019	Meeting with the Ngamiland DAC to discuss their potential contribution to the project.	Baagi P. Chilume, DAC, MoA Winani H. Malumbela, DVS, MoA	2	Maun
7 October 2019	Nxaraga Community Consultations	Kgosi Gaenyatswe, his Assistant, 4 male elders, councillor Mr Geoffrey Manja, VDC Chair, PTA Chair, and community members	57	Nxaraga
9 October 2019	Etsha Community Consultations	Community members, farmers and officials	22	Etsha 13 Village
15 October 2019	To assess potential collaboration with CICE BUAN on Ecoranger curriculum development and subsequent training	Dr. Israel Legwaila, Director of CICE BUAN Prof. Samodimo Ngwako. Deputy Chancellor – Academic Prof. Flora Pule-Meulenberg, Dean – Research Dr. Boingotlo Sebolai, Dean - Sciences	8	Gaborone

Date	Purpose of consultation	Stakeholders involved	No. of participants	Location
		Prof. Demel Teketay Fanta, Dean – Natural Resources Dr. Lawrence Akanyang, Lecturer – Range Resources Prof. Ultwang Batlang, HOD - Crops Mrs. Milly Monkhei, Lecturer – Economics Prof. Ayana A. Abdeta, Dean – Range Resources Dr. Ernest M. Mochankana Lecturer - VET Mrs. Nozipho Wright, Gender Specialist – Rangelands Project		
8 November 2019	Tshokwe Community Consultations	Community members, farmers and officials	54	Tshokwe
11 November 2019	Hunhukwe Community Consultations	Community members, farmers and officials	91	Hunhukwe
13 November 2019	Tshane Community Consultations	Community members, farmers and officials	80	Tshane
13 November 2019	Zutshwa Community Consultations	Community members, farmers and officials	50	Zutshwa
<b>December 2019</b>				
2 December 2019	The purpose of the meeting was to introduce the GCF project to Department of Local Government and Development Planning (DLGDP) management and solicit guidance on the proposed project activities and implementation arrangements	Mompati Seleka – DLGDP director Q.N. Swapo – DLGDP deputy director Keaneilwe E. Ralekgobo – DLGDP Unami Dintwa – DLGDP	7	Gaborone
3 December 2019	To seek inputs on the role of the Department of Rural Development (DRD) in rural extension coordination and drought relief to Botswana's communal rangeland farmers	Mr. Billyboy Siabatho, Deputy Director of DRD Ms. Lorraine Parry, RECC Secretariat Mr. Mothusi Maliehe, RECC Secretariat	5	Gaborone
3 December 2019	The purpose of the meeting was to update Dr. Modisa on developments in the GCF project and to solicit guidance on the proposed project activities and implementation arrangements and budget requirements.	Dr. Letlhogile Modisa, DVS	3	Gaborone
<b>February 2020</b>				
26-27 February 2020	GCF project final consultation and validation workshop. The purpose of the workshop was to finalise a transformative and inclusive project that	Stakeholders from the agriculture and environment sectors, local government, private sector and climate and rangeland ecology	67	BUAN CICE, Gaborone

Date	Purpose of consultation	Stakeholders involved	No. of participants	Location
	integrates job creation, poverty eradication, and agriculture initiatives into Botswana's climate change response in a way that contributes to national and global Sustainable Development Goals.	specialists, as well as farmers and community representatives		



## 2. Engagement and FPIC in PPF Consultations

**Principles of Engagement:** CI firmly adheres to its Rights-based Approach, which includes strong guidelines for FPIC, for developing all project proposals<sup>1</sup>. In order to deliver a robust and strategic stakeholder engagement process the Project team was guided by three key GCF principles in developing and implementing its stakeholder engagement process:

- Country Ownership: Alignment with government policies and programmes;
- Non-duplication: Building on the foundation of prior conservation and development initiatives and ensuring the process is informed by lessons learned; and
- Free, prior, and informed consent (FPIC): Consultations were held at the village level using the FPIC guidance.

**Engagement Strategies:** Four forms of consultation were used in the consultation process. In each form, the Project team sought to ensure the rights of the individual or group were recognized and that the consultation was inclusive for voices of youth and women while respectful of leadership traditions. The specific engagement strategies deployed were:

- **Individual meetings with organizational and government department leadership:** After developing a list of key organizations and government departments, representatives were contacted to set up appointments. Individual meeting agendas usually consisted of a brief presentation on the Project background by the Project Team member, followed by two key questions: *‘What do you like about the project concept/how will it support/align with your goals/objectives/ongoing programmes?’*; and *‘What are your biggest concerns about the project and how do you think these might be addressed?’*. A final question that was part of most individual meetings, especially in the early phases of consultation was *‘Who else do you think we need to consult?’*.
- **Initial workshops:** A series of seven initial workshops were held in June/July: one national in Gaborone, and two in each of the target Districts. The Ministry of Agriculture organized each of these meetings with traditional leadership, farmers, and local government departments. The Project team respectfully requested the Ministry, and the District Agricultural Coordinators in particular, to ensure an equitable number of female participants be invited. This was mostly achieved at all meetings. The workshop agenda utilized a variety of *Participlan* techniques to ensure everyone had an opportunity to express their opinion. The methodology poses a question and then each respondent first writes their own idea down on a card in silence (for those who could not write, one of the members of the project team or another participant was paired to write down the idea this individual had.) The cards and ideas were then discussed in small groups and then proceeded to go through a series of steps that aimed to unpack and allow they group to self-determine their priorities.

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<sup>1</sup> Please also see FP Annex 23 – FPIC and Conservation Agreements

Workshop reports were shared back with participants at the end to confirm the ideas were accurately captured in the reports shared in this Annexure.

- ***Follow up focus group meetings:*** Although the initial PPF plan included a second round of workshops to present back the rough evolving structure of the proposal for further inputs, due to challenges posed by national elections held in October 2019, the strategy necessarily shifted to organizing smaller focus group meetings. While CI knew of the election process during the time of the PPF, the level of political tensions associated with this highly contested election was not predicted. At the advice of the District Agricultural Coordinators (DAC), more informal community consultations were held and the Project team utilized this guidance and were then accompanied by the Department of Social work to visit cattleposts (where herders were interviewed) and Remote Area Dweller (RAD) communities (see more below on RAD community engagements). In addition to the community-level engagements, focus group meetings were hosted in Gaborone for key government departments and stakeholders to better understand the roles they would like to play and to understand their perspective on policy-implementation gaps and resource needs.
- ***Final Consultation and Validation Workshop:*** The draft proposal was presented at a final two-day workshop where representatives from the three target areas, national departments / ministries, and NGO actors participated. *Participlan* methodology was utilized again and many new ideas, particularly on governance and risks to the Project shared in the proposal came from this final consultation.

## **Consultations with Women and Indigenous People**

Two local gender and social assessment experts were part of the Project team responsible for the consultations with women and indigenous people and a Basarwa guide joined these two as part of the consultation team. Initial introductions were made to local communities, including indigenous communities, through Veterinary Officers of the Botswana Department Of Veterinary Services who had established relationships with the communities.

Consultations were held in local language and were accessible by participants. Additional time was created for longer conversations and follow up meetings were held at the request of some of the traditional leadership when it was felt that others needed to be involved who were not present at the initially scheduled time.

***Gender:*** In the initial workshops and the follow up focus group meetings, men and women were asked about their response to the project ideas in separate groups. Through this approach, several gender-specific differences were discovered on vulnerability and how the project could and should respond. See FP Annex 8 *Gender Assessment and Gender Action Plan* for more information.

**Indigenous People:** According to CI's Rights-based approach, all local farmers consulted in the project area are considered local and were consulted on the basis of FPIC. However, in Botswana, the Basarwa comprise a distinct and heterogeneous socio-cultural group whose economic lifestyle and culture differ from that of the dominant Tswana groups. Within the Project area, the majority of Basarwa are found in Remote Area Dweller (RAD) settlements. These settlements have been introduced by government in Botswana to bring bands of hunter-gatherers together into one geographical location where they can have access to facilities such as a clinic, school, tribal administration offices, and fresh reticulated water to alleviate their poverty conditions. The RAD settlements are a transitional phase of the Basarwa from the nomadic hunter-gatherer lifestyle to sedentary living. Through the Remote Area Dweller Development Programme, the government has provided Basarwa families with cattle, goats and sheep and they are also often hired by more wealthy farmers to provide herding services. As such, the consultations with this group of people was a priority for the project. Consultations were held in focus groups and individual interviews with herders at cattleposts. The ESMP plan for Indigenous People is a direct outcome of these consultations and with their implementation will support FPIC. Please see the Indigenous Peoples Plan in FP Annex 6, ESIA / ESMP for more information.

### **Key questions asked in the workshops, focal group meetings, and interviews**

It was clear in the first consultations that land and livestock management needs vary significantly across the three sites. The Project team therefore designed the Rangeland Stewardship Agreement negotiation process to be the detailed FPIC process for the Project at the village level. The guidelines and experience for how to integrate FPIC are well developed both within CI's Conservation Stewards Programme and within the Herding for Health Programme (more information on this can also be found in Annex 2 - Feasibility Study, Section 4). The Project team focused their questions for the second round of consultations to be more generic but still informative for the overall project design. Full interview questionnaires are found in Annex 6 and Annex 8, and the questions fall into following categories:

- How do climate stresses, including extreme events like droughts and floods, affect you and your family livelihood? How do you cope during these times?
- What are your current livestock management strategies?
- If there were to be collective management of livestock with all other farmers in the community, what would be the positive and negative outcomes?
- How do you currently experience working for Ipelegeng? What is the benefit and what are the challenges?
- How are decisions made in your community around land-use and/or projects?

### **Consultation Site Selection**

Full consultation across 104 sites targeted for the Project was not possible nor practical given the timeframe of the PPF and the phased implementation approach. Using the climate vulnerability assessment, initial consultation experiences, review of literature, and conversations with knowledgeable national NGOs, government officials, and UN agencies, a sub-set of communities for the second round of consultations was made based on:

- Governance (VDC, traditional authorities, high participation),
- Presence of experienced implementing agents,
- Build on prior or current investments—UN in Ngamiland and Kgalagadi, and the ASSAR project in Bobirwa
- Site is central for a cluster--Hosting of Testing/Replication Site Exchanges is Convenient,

A summary of the site selection and the representation of the Area is provided below:

<b>Ngamiland District Population</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
Ngamiland West	27913	31508	59421
Ngamiland East	44396	45938	90334
<b>TOTAL DISTRICT POPULATION</b>	<b>72309</b>	<b>77446</b>	<b>149,755</b>
<b>Selected Sites</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
Eretsha	434	478	912
Tubu	304	322	626
Gudingwa	351	374	725
Etsha 1	597	682	1,279
Etsha 13	1,184	1,510	2,694
Mogomotho	416	480	896
Beetsha	714	871	1,585
Sehithwa	1287	1461	2,748
Phuduhudu	6	4	10
Botlhatlogo	277	278	555
Bodibeng	335	443	778
Habu	251	282	533
<b>Total</b>	<b>6156</b>	<b>7185</b>	<b>13341</b>
<b>% of District Population</b>	<b>9</b>	<b>9</b>	<b>9</b>

<b>Kgalagadi District Population</b>	<b>Men</b>	<b>Women</b>	<b>TOTAL</b>
Kgalagadi North	10,352	10,124	20,476
Kgalagadi South	15117	14899	30016
<b>Total</b>	<b>25,469</b>	<b>25,023</b>	<b>50,492</b>

<b>Selected Sites</b>	<b>Men</b>	<b>Women</b>	<b>Total</b>
Tshane	536	484	1020

Lehututu	954	1002	1956
Hukuntsi	2251	2403	4654
			0
Zutswa,	217	252	469
Ukwe,	227	232	459
Huhunkwe	353	400	753
Total	4538	4773	9311
As% KN district population	44	47	45
As % of Kgalagadi N & S	18	19	18

<b>Bobirwa Population</b>	34251	37685	71936
<b>Selected sites</b>	<b>Men</b>	<b>Women</b>	<b>Total</b>
Kobojango	949	1189	2138
Tobane	948	2075	3023
Damochojena,	429	564	993
Lepokole,	437	518	955
Tshokwe	512	558	1070
Moletemane (Molema Trust),	761	903	1664
Tsetsebjwe,	1985	2408	4393
Motlhabeneng	632	824	1456
<b>TOTAL SITE POPULATION</b>	<b>6653</b>	<b>9039</b>	<b>15692</b>
As % District population	19	24	22

### 3. Stakeholder Engagement Plan:

#### Activity-level Stakeholder Engagement Plan (SEP)

Numerous activities under the project will involve periodic engagements with stakeholders from all levels — including government, community, NGO, private sector, and academia — to ensure the project remains responsive to community needs and is appropriate for national and local contexts. These critical engagements have been incorporated into the design of all project activities. The table below outlines the various stakeholder engagements that will be undertaken during project implementation.

Activity	Sub-activity	Stakeholder engagements	Period of engagement	Stakeholders
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-smart grazing practices and to be able to mobilise collective regenerative grazing agreements	1.1.1b. Bi-annual training workshops for Farmer Facilitator Teams and Demonstration Site Implementors on conservation agreement and community mobilisation and monitoring for behaviour change best practices	Bi-annual training workshops on conservation agreements and community mobilisation for behaviour change best practices — via a Project Train-the-Trainers Programme	Years 1, 3, 5 and 7	<ul style="list-style-type: none"> <li>Farmer Facilitator Teams (including representatives from state and NGO bodies, and graduate monitors)</li> <li>Demonstration Site Implementors, including Project staff, government extension workers, NGO partner field staff, and unemployed graduates</li> </ul>
		Annual exchange to facilitate peer learning on stewardship agreements	Annually from year 2	
	1.1.1c. Community mobilisation and monitoring tool design charrette and follow-up development <sup>2</sup>	Charrette with target communities to design the community mobilisation tool	Year 2	<ul style="list-style-type: none"> <li>Local communities, including representatives from demonstration sites and community representatives</li> <li>Farmer facilitation teams</li> <li>Communications experts</li> </ul>

<sup>2</sup> A charrette is a gathering 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	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	Training roadshow, including 6 workshops (2 per Project Area)	Years 1 and 2	<ul style="list-style-type: none"> <li>• Umbrella Village Development Committees (VDCs)</li> <li>• Land Boards</li> <li>• District Development Committees (DDCs)</li> </ul>
	1.1.2c. 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 34 Priority Site VDC meetings in alternate months)	Training programme, including biannual workshops per Project area and participation in the 9-demonstration sites and 34 Priority Site VDC meetings in alternate months	Annually from year 2	VDCs and target communities
	1.1.2e. Empower community governance through leadership training, public signing ceremonies and local governance exchanges to Project demonstration sites	Five leadership trainings/champion building sessions	Annually from year 2	<ul style="list-style-type: none"> <li>• Local communities</li> <li>• Governance representatives (50% women and equitable proportion of indigenous peoples relative to the population)</li> </ul>
		At least 80 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	

Activity 1.1.3. Replicate 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	1.1.3b. Train and enable locally facilitated, gender equitable farmer exchanges in the region	Training of local demonstrators	Year 2	<ul style="list-style-type: none"> <li>27 local demonstrators (local farmers)</li> </ul>
		Farmer exchanges (gender equitable)	Years 3, 4, 5, 6 and 7	<ul style="list-style-type: none"> <li>At least 1,000 farmers (male and female) from the region</li> </ul>

Activity 1.2.1. Support establishment of inter-institutional coordination mechanisms for climate-smart rangeland management across gov't, NGOs, community-based organizations, and farmers' associations.	1.2.1a. Develop and facilitate in Project Steering Committee (or other appropriate network structure in Botswana) including presentation of annual workplans and budgets	Inter-ministerial Project Steering Committee (PSC)	Annually (September)	<ul style="list-style-type: none"> <li>Headed by MoA</li> <li>Relevant government ministries</li> </ul>
		Rangeland Stewardship Forum within each project area facilitated by the Project Management Unit (PMU)	Years 2, 4, 6 and 8	<ul style="list-style-type: none"> <li>Civil society</li> <li>Farmers groups</li> <li>Government agencies</li> </ul>
		Engagement with national departments to further embed and align Project activities and monitoring with initiatives	Year 1	<ul style="list-style-type: none"> <li>Ministry of Agriculture, Department of Crop Production; Ministry of Land, Water and Sanitation; and the Ministry of Health</li> </ul>
	1.2.1b. Report to NDA and Rural Extension Coordination Committee (RECC) structures via a Project Steering Committee with information relevant to national rural development	Presentations to NDA and RECC meetings as requested	As required	<ul style="list-style-type: none"> <li>NDA</li> <li>RECC</li> </ul>
	1.2.1c. Facilitate complementary training collaborations between VDCs and broader agricultural land,	Complementary training collaborations between VDCs and broader agricultural, land, water, and health strategies	Throughout implementation	<ul style="list-style-type: none"> <li>VDCs</li> <li>NGOs</li> <li>CBOs</li> <li>farmers' associations</li> <li>Ministry of Agriculture, Department of Crop Production; Ministry of Land, Water and</li> </ul>



	water, and health strategies			Sanitation; and the Ministry of Health
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Activity 1.2.2. Support the development of a Rangeland Stewardship job creation initiative under the Ipelegeng Programme within Ministry of Local Government	1.2.2a. Work with Ministry of Agriculture and Department of Local Government Development Planning (DLGDP) to prepare detailed workplan, budgets, and Standard Operating Procedures for Ecorangers/Rest oration Team deployment by the end of year 2.	Consultations with government stakeholders	Years 1 and 2	<ul style="list-style-type: none"> <li>Ministry of Agriculture</li> <li>Department of Local Government Development Planning (DLGDP)</li> </ul>
	1.2.2b. Work with MoA and DLGDP to implement agreed preparation and capacity development in year 3.	Consultations with government stakeholders and implementation of Workplan for Ecoranger Deployment for Demonstration and Replication Sites	Year 3 (demonstration and replication sites)  Year 6 (all sites)	<ul style="list-style-type: none"> <li>Ministry of Agriculture</li> <li>Department of Local Government Development Planning (DLGDP)</li> </ul>
	1.2.2c. Work with MoA and 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	Consultations with government stakeholders	Annual	<ul style="list-style-type: none"> <li>Ministry of Agriculture</li> <li>Department of Local Government Development Planning (DLGDP)</li> <li>Local Gov't RECC Natural Resource Coordinator</li> </ul>

Activity 1.2.3. Expand capacity of Ministry of Agriculture Department of	1.2.3.b Integrate climate condition status into regulations and protocols for CBT veterinary checks.	Consultations with DVS to update regulations and protocols	Year 2	<ul style="list-style-type: none"> <li>DVS</li> </ul>
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Veterinary Services (DVS) to respond to climate-induced diseases and infections and enable Commodity based Trade in the Project Areas	1.2.3c. Train and expand veterinary service capacity in target regions in climate-proof CBT protocols	Learning weeks for training and capacity building on climate-proof CBT protocols and regulations, as well as sharing of experiences	Annually	<ul style="list-style-type: none"> <li>• DVS</li> <li>• Veterinarians and veterinary officers from target regions</li> </ul>
	1.2.3d. Activate Ecoranger deployment in support of quarantine management for unlocking export markets from target communities Activate Ecoranger deployment in support of quarantine management for unlocking export markets from target communities	Test the use of Ecorangers for quarantine management and technology-enabled use of drones for vaccine and medicine distribution	Year 2	<ul style="list-style-type: none"> <li>• DVS</li> <li>• Ecorangers</li> <li>• Target communities</li> </ul>

Activity 1.3.1. Establish a Rangeland Stewardship Information Portal	1.3.1a. 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.)	Task team meetings and consultations	Year 1	<ul style="list-style-type: none"> <li>• Task Team representative of user groups — Farmer Facilitation Teams, Farmers and VDCs in target communities</li> </ul>
	1.3.1c. Local and national user workshops on Rangeland Stewardship Information Portal to capture recommendations for improvement.	Local and national workshops	Year 4	Rangeland Stewardship Information Portal users: <ul style="list-style-type: none"> <li>• Farmer Facilitator Teams</li> <li>• VDCs</li> <li>• District- and national-level decision makers</li> </ul>
	1.3.1d. Integrate modifications based on user feedback annually and in final system	Consultations	Year 5	Rangeland Stewardship Information Portal Users: <ul style="list-style-type: none"> <li>• Farmer Facilitator Teams</li> <li>• VDCs</li> <li>• District-, and national-level decision makers</li> </ul>

	improvement in year 5			
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Activity 1.3.2. Train and staff village hubs and relevant officials to enable access to the Rangeland Stewardship Information Portal for improved decision-making and EbA planning	1.3.2a. Train 460 local officials and 40 national officials on use of the Rangeland Stewardship Information Portal systems.	Rangeland Stewardship Information Portal training	Year 2	<ul style="list-style-type: none"> <li>• 460 local officials and 40 national officials</li> </ul>
	1.3.2b. Ensure staff capacity is in place at the local level: three regional coordinators (hosted by the District Agric Coord / DFRR offices in year 2) who facilitate ongoing training of incoming Ecorangers and VDC representative staff	Training	Annually from year 2	<ul style="list-style-type: none"> <li>• Relevant officials, VDCs, and all Ecorangers and Restoration Team leaders</li> <li>• District Agric Coord / DFRR offices</li> </ul>
	1.3.2d. Lessons learned workshop and updating the system in years 3, 5, & 7	Training and mentorship	Annually from year 2	<ul style="list-style-type: none"> <li>• Local entrepreneurs in target communities</li> </ul>
		Lessons learned workshops	Years 3, 5 and 7	<ul style="list-style-type: none"> <li>• Local entrepreneurs in target communities</li> </ul>

Activity 1.4.1. Promote the Project EbA approach and lessons learned to key decision-making forums	1.4.1a. Develop and implement a Project communications strategy which targets key decision-makers	Consultations	Year 2	<ul style="list-style-type: none"> <li>• Key decision makers (village leaders, NGOs, government representatives, farmer representatives)</li> </ul>
	1.4.1b. Support Ministry of Agricultural on ROI Analysis of communal livestock	Technical support	Annually from year 3	<ul style="list-style-type: none"> <li>• MoA</li> </ul>

	contribution to agriculture-related GDP			
	1.4.1c. Support Ministry of Agriculture and Ministry of Environment on GHG Inventory to include emissions calculations	Technical support and training workshop	Years 5 and 8	<ul style="list-style-type: none"> <li>• MoA</li> <li>• MoE</li> <li>• Relevant national stakeholders</li> </ul>
	1.4.1d. 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	GDSA and SADC climate smart livestock production forums	Years 2, 4, 6 and 8	<ul style="list-style-type: none"> <li>• GDSA</li> <li>• SADC</li> <li>• Relevant stakeholders in the Government of Botswana and other national governments (for dissemination and dialogue)</li> </ul>

Activity 2.1.1. Create and monitor deployment of a new national curriculum for climate-resilient livestock herding with >5,500 unemployed trainees across the nine target clusters to build adaptive capacity at the individual and community level.	2.1.1a. Development of the curriculum and training programme for professional herding and rangeland rehabilitation work	Consultations and collaborations	Years 1 and 2	<ul style="list-style-type: none"> <li>• BUANCICE</li> <li>• MoA</li> <li>• South African Herding Academy</li> <li>• Southern African Wildlife College</li> </ul>
	2.1.1b. Train 5,500 Ecorangers and Restoration Workers during non-growing season with short course delivery in district training centres	Technical and life skill development training	Years 2 to 8	<ul style="list-style-type: none"> <li>• Ecorangers</li> <li>• Restoration workers</li> <li>• Mentor farmers</li> <li>• MoA</li> <li>• BUANCICE</li> <li>• Ipelegeng</li> </ul>

Activity 2.1.2. Create and deploy 500 graduate monitors to measure compliance and impacts and support Rangeland	2.1.2a. Graduate internship programme designed in year 2 and deployed in years 3-8	Graduate internship programme development	Year 2	<ul style="list-style-type: none"> <li>• Department of Animal Production</li> <li>• Department of Range Forestry and Fisheries</li> <li>• BUAN Natural Resource Management</li> <li>• Okavango Research Institute</li> <li>• Network of supporting NGOs</li> </ul>
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Stewardship Information Portal and BAITs data management and use for enhancing local adaptive management capacity.		Graduate internship programme implementation – hosting and mentorship of interns  Life-skills training for graduate interns	Years 2 to 8	<ul style="list-style-type: none"> <li>• Graduate interns</li> <li>• Department of Animal Production</li> <li>• Department of Range Forestry and Fisheries</li> <li>• BUAN Natural Resource Management</li> <li>• Okavango Research Institute</li> <li>• Network of supporting NGOs</li> </ul>
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Activity 2.2.1. Implement inclusive and operational best practice in the completion of baseline assessments, gender equitable recruitment, and procurement of “grazing support packages” per Village Grazing Area that has a signed Rangeland Stewardship Agreement	2.2.1.b Procurement and provision of “climate-smart grazing support packages” including village hubs and gender equitable training and beneficiation at nine Project Demonstrations in years 1 & 2, within 104 VDCs in years 3-8	Ecoranger recruitment	At demonstration sites in years 2; expand to priority sites in years 3-5; amplify to all sites in clusters years 6-8	<ul style="list-style-type: none"> <li>• VDCs</li> <li>• Target communities</li> <li>• Farmers</li> <li>• Ecoranger candidates</li> <li>• MoA</li> <li>• DVS</li> <li>• Department of Forest and Range Resources (DFRR)</li> <li>• Ipelegeng</li> </ul>
		Farmer endorsement		
		Inception meetings		
		Two-day training sessions	Annually	
		Disbursement of “climate-smart grazing support packages”	At nine Project Demonstration sites in year 2, within 104 VDCs in years 3-8	<ul style="list-style-type: none"> <li>• Ecorangers</li> <li>• Restoration teams</li> </ul>

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	2.2.2a. Grazing area and community vulnerability baseline assessments are included as annexures to Rangeland Stewardship Agreements	Community consultations for baseline and vulnerability assessments	Demonstration sites – Year 1  Replication sites – Years 2 and 3  Amplification sites – Year 5	<ul style="list-style-type: none"> <li>• Communities located within 104 target VDCs</li> </ul>
	2.2.2b. Implementation of community-based climate-smart grazing, rangeland restoration, water and soil, and fire management in all VDC lands in Project areas	Design and Implementation of on-the -ground adaptation interventions	Demonstration sites – from Year 2  Replication sites – from Year 3  Amplification sites – from Year 6	<ul style="list-style-type: none"> <li>• Ecorangers</li> <li>• Rangeland Restoration Teams</li> <li>• Local communities in target VDCs</li> </ul>
	2.2.2c. Facilitate farmer/community “how is it going?”	Farmer/community meetings	Monthly meetings at demonstration	<ul style="list-style-type: none"> <li>• Farmers</li> <li>• Local communities from target VDCs</li> </ul>

	monthly meetings at demonstration sites in years 1&2; expand to quarterly meetings at priority sites 3-5; amplify to all sites in clusters years 6-8		sites in year 3; expand to quarterly meetings at priority sites from years 4-5; amplify to all sites in clusters years 7-8	
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Activity 2.2.3. Monitor and analyse changes in ecosystem health and livestock emissions for adaptive management and emissions reduction reporting.	2.2.3a. 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	Establishment of a representative Technical Advisory Group	Year 1	<ul style="list-style-type: none"> <li>Local, national and global monitoring and evaluation (M&amp;E) experts</li> </ul>
		Kick-off workshop	Year 1	<ul style="list-style-type: none"> <li>Relevant stakeholders including farmers, VDCs, government representatives, and NGOs</li> </ul>

Activity 3.1.1. Facilitate new income generation and savings opportunities, especially innovative CBT for livestock purchase from communal farmers active in Rangeland Stewardship Agreements as long-term sustainability and amplification strategy.	3.1.1a. Market readiness and financial literacy training for 15,000 farmers (6000 women, 9000 men) and 6,000 Ecorangers and Restoration Workers (3,600 women and 2,400 men)	Market readiness and financial literacy training	Annually from Year 3	<ul style="list-style-type: none"> <li>15,000 farmers (6000 women, 9000 men)</li> <li>6,000 Ecorangers</li> <li>Restoration Workers (3,600 women and 2,400 men)</li> </ul>
	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	Consultations and meetings	Annually from Year 4	<ul style="list-style-type: none"> <li>H4H Enterprise Partners, such as Meat Naturally Botswana, and/or other relevant climate conscious enterprises</li> </ul>

Activity 3.1.2: Train interested men and women in target communities to participate in business initiatives which enable, complement or are based on climate-smart livestock production	3.1.2a. Identify site-specific complementary sustainable initiatives and enterprises based on viability criteria established with Local Entrepreneurship Authority (LEA)	Consultations	Year 3	<ul style="list-style-type: none"> <li>• LEA</li> <li>• Citizen Enterprise Development Agency (CEDA)</li> <li>• Meat Naturally Botswana</li> </ul>
	3.1.2b. Train and build the capacity of 17,000 (10,200 women, and 6,800 men) in target communities on complementary initiatives identified with Local Economic Agency (LEA and Citizen Enterprise Development Agency (CEDA)	Community trainings	Annually from year 3	<ul style="list-style-type: none"> <li>• 17,000 (10,200 women, and 6,800 men) people in target communities</li> <li>• LEA</li> <li>• CEDA</li> <li>• MoA</li> </ul>
	3.1.2c. Provision of core business/market readiness skills in all regions with LEA and facilitate linkages with CEDA and other funder investments	Business/market readiness skills training	Annually from year 3	<ul style="list-style-type: none"> <li>• Local communities</li> <li>• LEA</li> <li>• CEDA</li> </ul>

Activity 3.2.1. Design, implement, and measure impact of a behaviour change campaign with key segments of the broader red-meat value chain	3.2.1a. Identify, procure, and train local communications / marketing partners to work with RARE in year 2	Technical trainings	Year 3	<ul style="list-style-type: none"> <li>• Local communications / marketing partners</li> <li>• RARE</li> </ul>
	3.2.1b. Implement targeted awareness campaign through multi-media channels in a way that allows for tracking impact	Awareness-raising campaign	Annually from year 4	<ul style="list-style-type: none"> <li>• RARE</li> <li>• Commercial farmers</li> <li>• Target communities</li> </ul>

Activity 3.2.2. Engage Botswana Meat	3.2.2b. Policy-Implementation dialogues hosted	Policy implementation dialogues	Years 2, 4 and 6	<ul style="list-style-type: none"> <li>• DVS and AHEAD</li> <li>• Farmer facilitation teams</li> </ul>
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Commission, CEDA, and other key market players on climate-resilient livestock production protocol development	by DVS and AHEAD on development of community climate smart livestock, wildlife-friendly production that enables and complies with CBT standards			<ul style="list-style-type: none"> <li>• Farmers</li> <li>• Relevant institutions and private sector players such as OIE and BMC</li> </ul>
	3.2.2c. 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”)	Launch workshop and follow-up meetings for sharing of report on technological and financial opportunities related to “climate-proofing” the red meat value chain	Years 3 and 5	<ul style="list-style-type: none"> <li>• BMC</li> <li>• CEDA and other key market players</li> <li>• Key government stakeholders</li> </ul>

**Please see Appendix A to this Annex for the Validation Workshop Report from February, 2020.**



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

ANNEX 7 Appendix A: Validation Workshop Report

# CLIMATE CHANGE VULNERABILITY ASSESSMENT (CCVA)

Aim

To determine the climate change vulnerability of Ngamiland, Bobirwa and Kgalagadi

# CLIMATE CHANGE VULNERABILITY ASSESSMENT (CCVA)

## Methodology

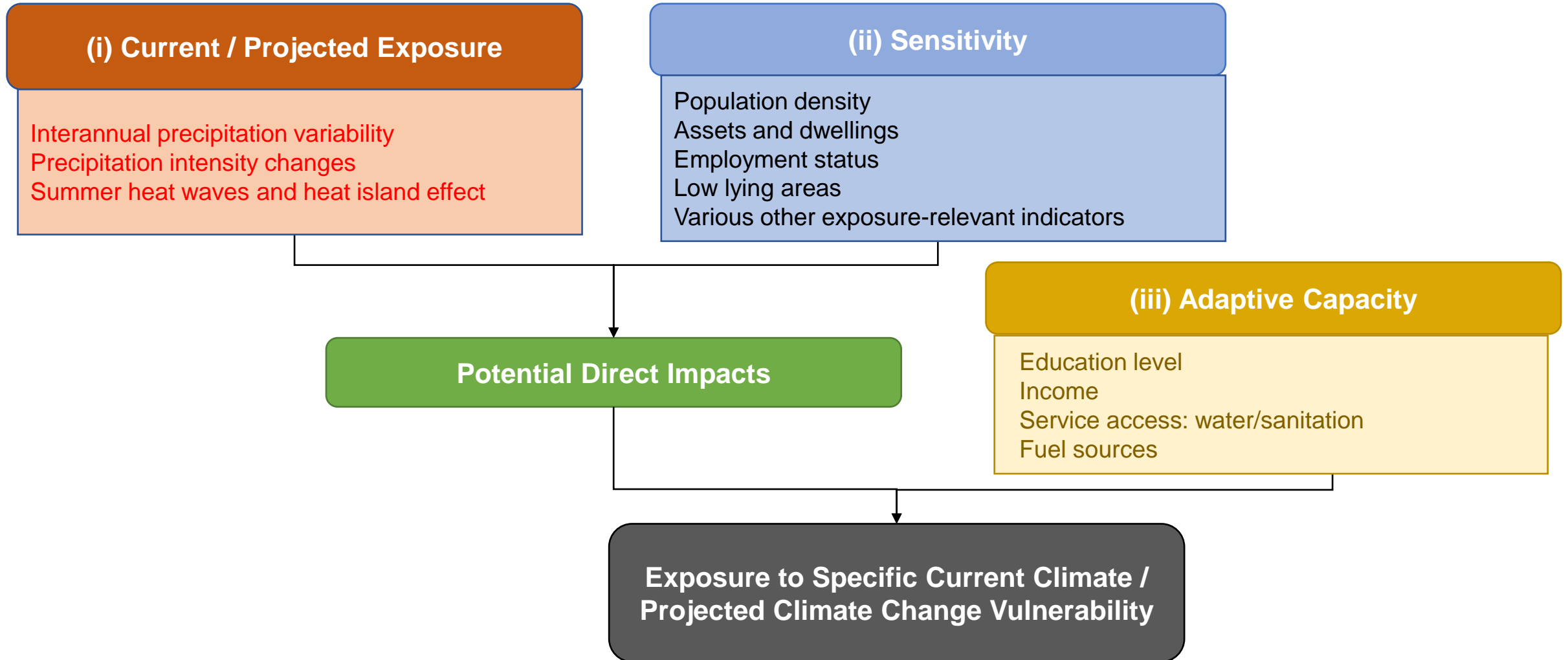
- The assessment used a combination of spatial and statistical analyses of timeseries data to determine the climate change vulnerability of Bobirwa, Kgalagadi and Ngamiland. The Climate Change Vulnerability Assessments (CCVAs) are the combination of each of these indices using:

$$\text{Vulnerability} = \text{Exposure} \times \text{Sensitivity} - \text{Adaptive Capacity}$$

- for each of the social, livestock, livelihood sectors and the rangelands.

# CLIMATE CHANGE VULNERABILITY ASSESSMENT (CCVA)

## Methodology



# CLIMATE CHANGE VULNERABILITY ASSESSMENT (CCVA)

## Exposure

- To determine the **exposure** of the target areas, the primary climate variables were used to assess the direction of change in the factors of:
  - i) precipitation totals; ii) precipitation intensity; iii) drought potential; and iv) temperature changes (heat waves).
- Further specific climate exposures were applied to the analysis of livestock exposure, including:
  - i) climate stress; ii) water supply; and iii) water demand pressure.
- For the livelihoods exposure analysis, the following data was applied:
  - i) seasonal variability changes; and ii) overall exposure indices.

# CLIMATE CHANGE VULNERABILITY ASSESSMENT (CCVA)

## Sensitivity

- The **sensitivity** component of the social vulnerability analysis included population demographic variables such as:
  - i) gender; ii) people with disabilities; iii) household sources of fuel for heating and light; and iv) access to water and sanitation.
- Livestock sensitivity used:
  - Vegetation drought sensitivity and natural sensitivity data.
- Livelihoods, being reliant on rangelands, used sensitivities of:
  - i) loss of normal vegetation cover; ii) depletion of biodiversity; iii) the reduction in ecosystem services; iv) significant loss of beneficial natural assets; and v) standardised soil moisture sensitivity.

# CLIMATE CHANGE VULNERABILITY ASSESSMENT (CCVA)

## Adaptive capacity

- The **adaptive capacity indices** included social vulnerabilities which included variables such as:
  - i) access to education; ii) current levels of employment; and iii) additional vocational training.
- The livestock adaptive capacities used:
  - the water stress index and an adapted livestock drought economic resilience index - measuring livestock economic susceptibility in drought conditions.
- Livelihoods were assessed using:
  - Rurality Index as well as population accessibility data.

# CLIMATE CHANGE VULNERABILITY ASSESSMENT (CCVA)

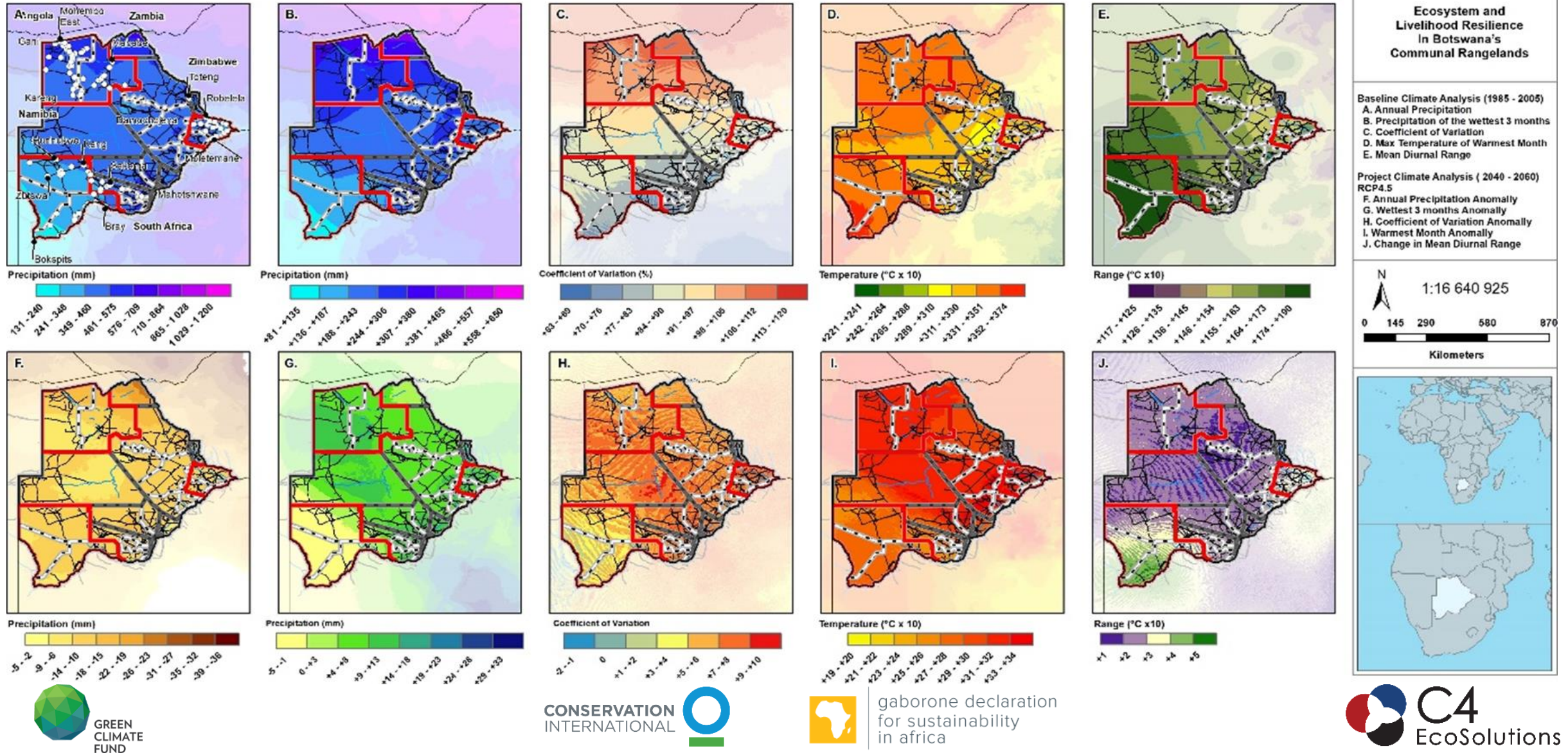
## Rangeland assessment

- The **rangeland assessment** was undertaken in a different manner. The **SPARC** dataset was used to highlight areas of changing climatic suitability of the medium- to high-value grazing grasses.
- The climate **exposures** were derived from WorldClim bioclimatic variables of:
  - Annual Mean Temperature
  - Mean Diurnal Range (Mean of monthly (max temp - min temp))
  - Temperature Seasonality (standard deviation \*100)
  - Min Temperature of Coldest Month
  - Annual Precipitation
  - Precipitation Seasonality (Coefficient of Variation)
- **Sensitivities** are species-specific variables of
  - Aridity, Bulkdensity, Clay, Depth, Ph, Silt
- **Adaptation capacities** are dependent on rangeland management practices.



# CLIMATE CHANGE VULNERABILITY ASSESSMENT (CCVA)

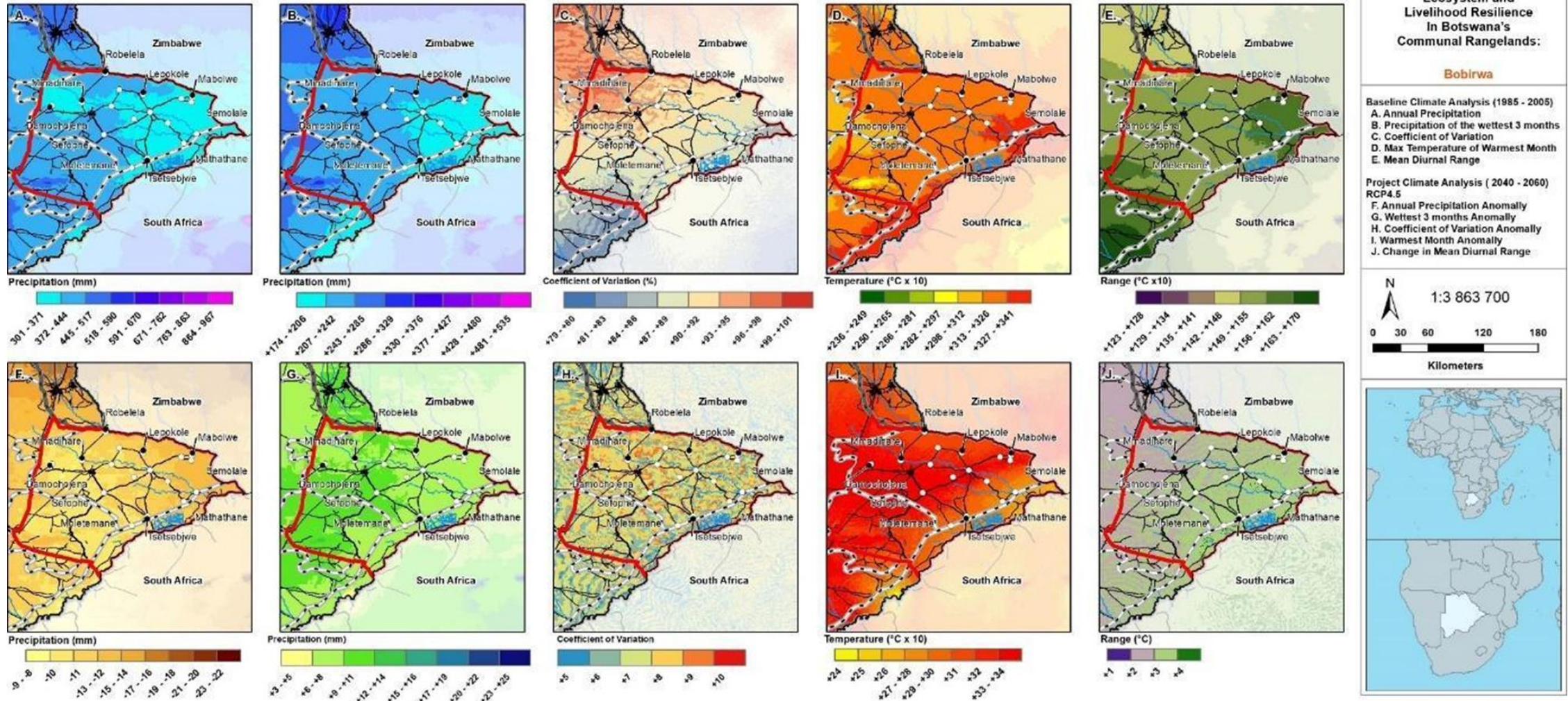
## Changes of primary climate variables





# CLIMATE CHANGE VULNERABILITY ASSESSMENT (CCVA)

## Bobirwa climate changes



# CLIMATE CHANGE VULNERABILITY ASSESSMENT (CCVA)

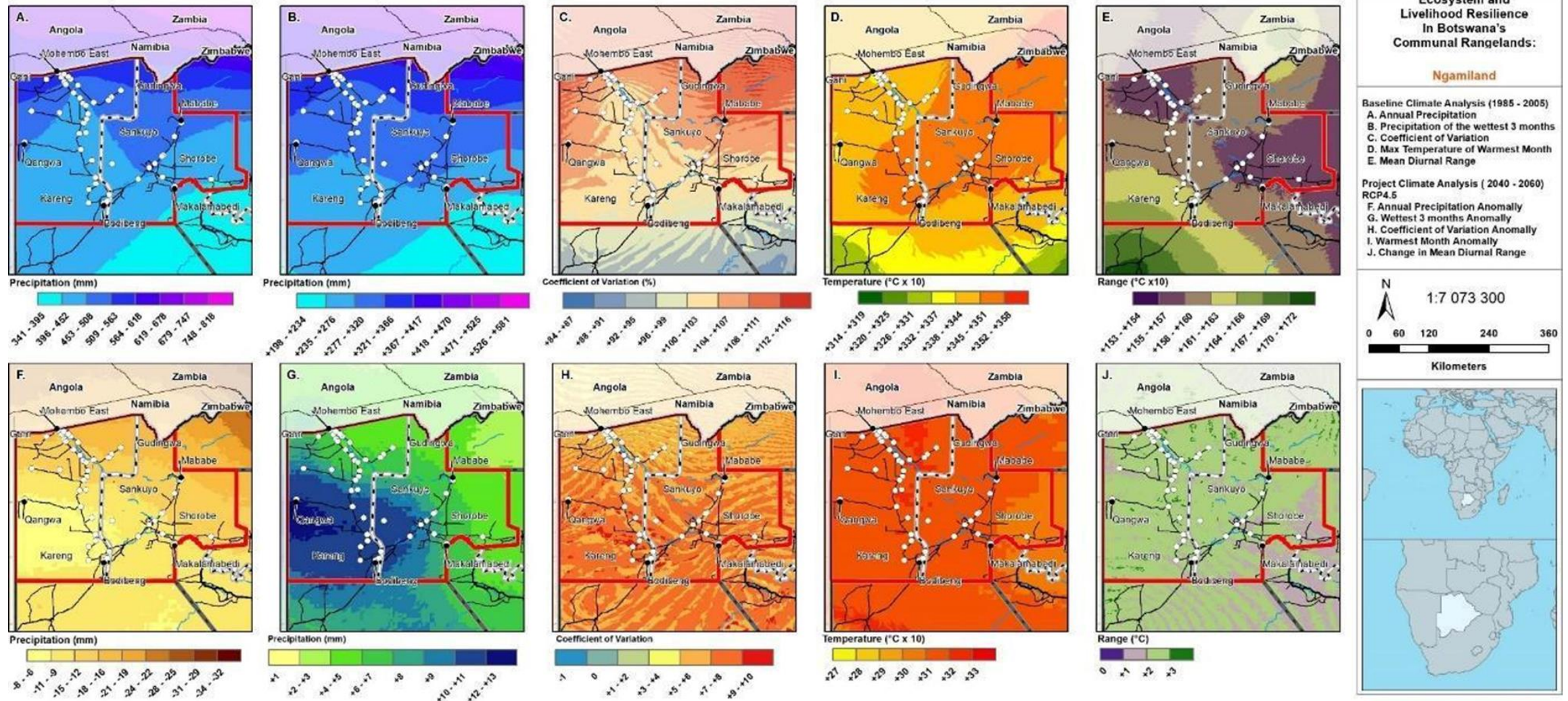
## Bobirwa climate changes

1. Percentage change in annual precipitation, change in precipitation totals and monthly standard deviation	2. Drought potential under Standardised Precipitation Index (SPI)	3. Change in summer monthly precipitation totals and 90th percentile events	4. Increase in daily maximum temperatures and intensity of heatwaves	Sum of the additionality of these hazards.
Precipitation will decrease by 8–14 mm/yr but increase by up to 14 mm in peak summer months. Therefore, shoulder seasons will exhibit reduced rainfall to account for the overall decreased annual volume. Seasonal variation will increase by 7–10%.	Frequency of drought will increase with an increase in SPI events in the very and extremely dry statues.	There is a general trend of decreasing precipitation. Projections show a large decrease in early onset events of October. This continues until increases in January. February and March show some variation, though there is not a clearly defined trend. The event returns show increases of intensity of ~10% for most of the return thresholds.	Projections show an increase of 3.1°C in the warmest months by 2050 under RCP4.5, with minimum temperatures increasing to a slightly lesser extent. The number of extreme temperature days will rise from an average of 1.2/yr to ~6 by 2100 under RCP4.5.	Bobirwa will experience a low to medium seasonal variability which will impact livelihood exposure. Low water supply and demand pressure will impact livestock exposure.



# CLIMATE CHANGE VULNERABILITY ASSESSMENT (CCVA)

## Ngamiland climate changes



# CLIMATE CHANGE VULNERABILITY ASSESSMENT (CCVA)

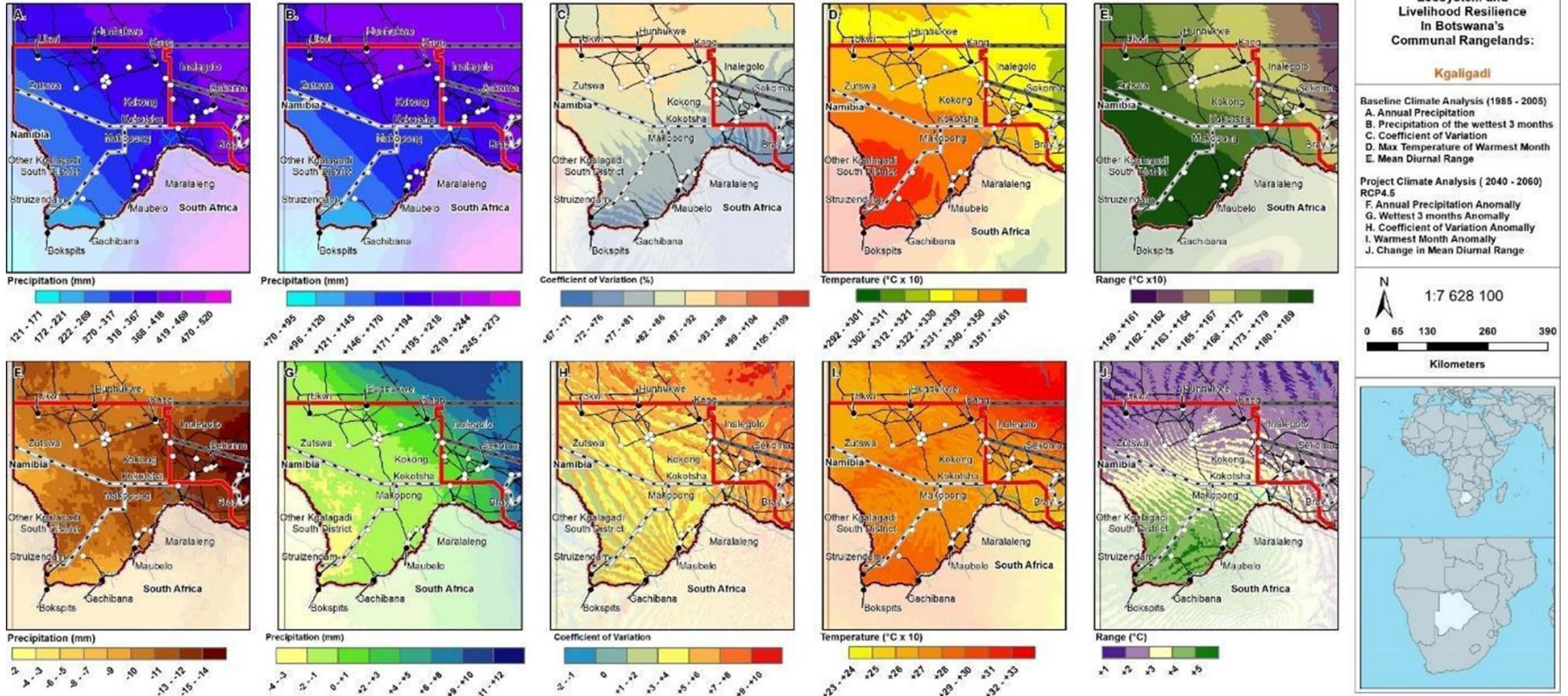
## Ngamiland climate changes

1. Percentage change in annual precipitation, change in precipitation totals and monthly standard deviation	2. Drought potential under Standardised Precipitation Index (SPI)	3. Change in summer monthly precipitation totals and 90th percentile events	4. Increase in daily maximum temperatures and intensity of heatwaves	Sum of the additionality of these hazards.
Precipitation will decrease by 19 mm/yr but increase by up to 13 mm in peak summer months in Qangwa (west Ngamiland). Decreases are therefore mostly resigned to the shoulder seasons. Seasonal variation is set to increase by 5–10%.	Frequency of drought will increase with an increase in SPI events in the very and extremely dry statuses.	Monthly projected precipitation shows a decrease in the early onset events of October and to some extent in November. This is offset by monthly increases in volume in December and January. The event returns show an increase in intensity of ~7% for the 1:100-year events, 9.5% for 1:80-year events and between 10% and 13% for the remaining events.	Projections show an increase of 3.3°C in the warmest months by 2050 under RCP4.5, with minimum temperatures increasing to a slightly lesser extent. The number of extreme temperature days will rise from an average of 1.8/yr to ~9 by 2100 under RCP4.5.	Small areas will experience low seasonal variability, whilst most areas will experience medium high to high seasonal variability which will impact livelihood exposure. Medium-low to medium-high water supply and demand pressure will impact livestock exposure. A small area in the far north will experience very low pressure.



# CLIMATE CHANGE VULNERABILITY ASSESSMENT (CCVA)

## Kgalagadi climate changes



# CLIMATE CHANGE VULNERABILITY ASSESSMENT (CCVA)

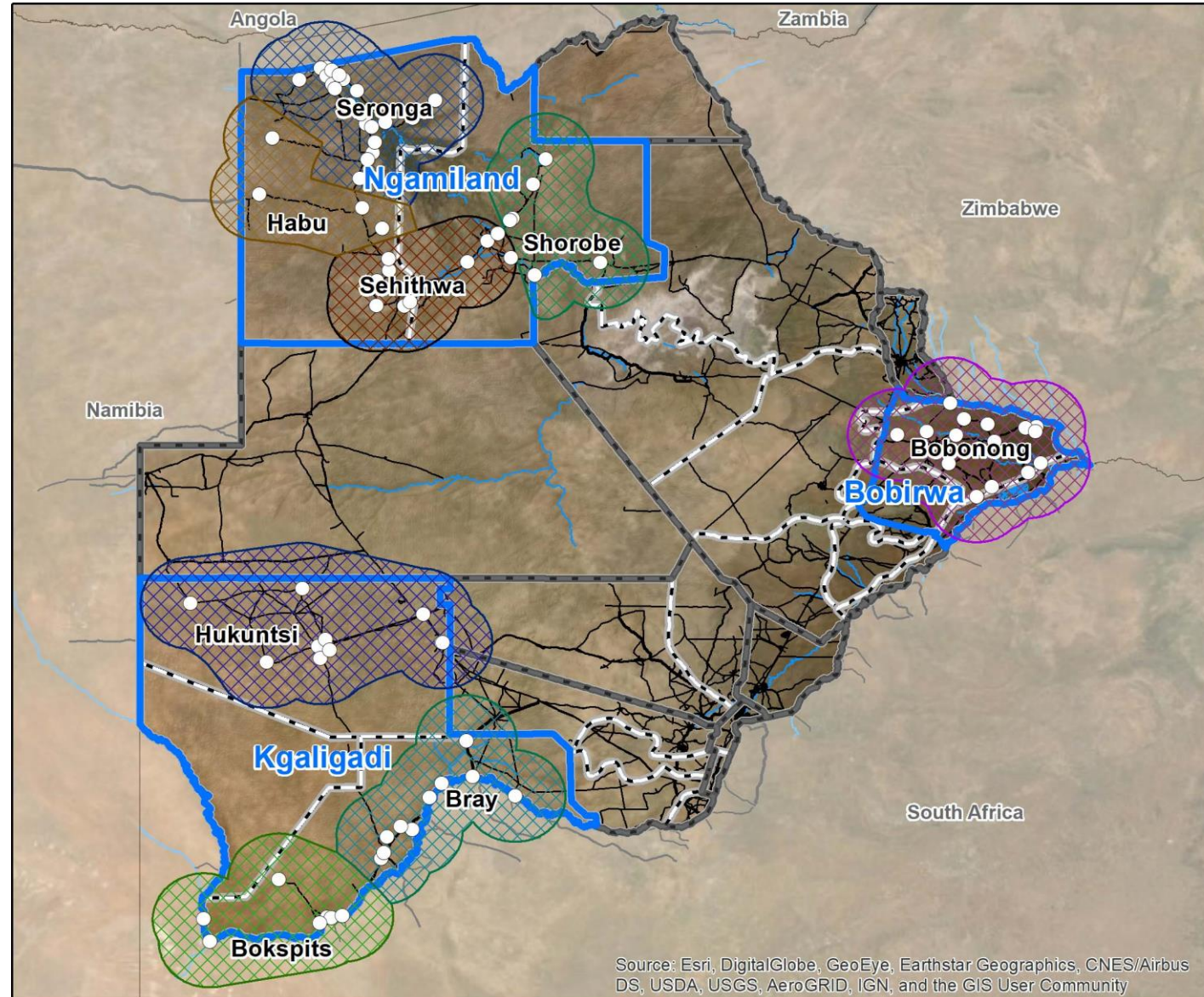
## Kgalagadi climate changes

1. Percentage change in annual precipitation, change in precipitation totals and monthly standard deviation	2. Drought potential under Standardised Precipitation Index (SPI)	3. Change in summer monthly precipitation totals and 90th percentile events	4. Increase in daily maximum temperatures and intensity of heatwaves	Sum of the additionality of these hazards.
Precipitation will decrease by 7–14 mm/yr but increase by up to 5 mm in peak summer months. Seasonal variation is set to increase by up to 6% annually.	Frequency of drought will increase with an increase in SPI events in the very and extremely dry statues.	There is a slight projected increase in volume from November to February. As with the other areas, early season sees a decrease in volume resulting in a likely delayed onset. The event returns show increases in intensities of between 10.5 to 12.5% for the larger return event.	Maximum temperatures will likely increase by ~3.0°C by 2050 under RCP4.5, with minimum temperatures set to increase to a lesser degree. The number of extreme temperature days will rise from an average of 0.5/yr to ~3 by 2100 under RCP4.5.	Very low to low seasonal variability will influence livelihood exposure. Wide variation (very low to very high pressure) in water supply and demand pressure will impact livestock exposure.



# CLIMATE CHANGE VULNERABILITY ASSESSMENT (CCVA)

## Site prioritisation





# ENVIRONMENTAL AND SOCIAL ASSESSMENT (ESIA)

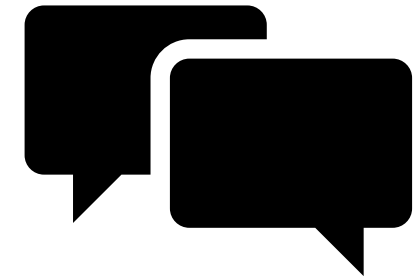
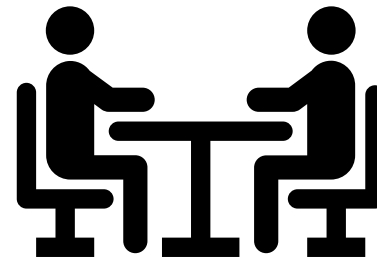
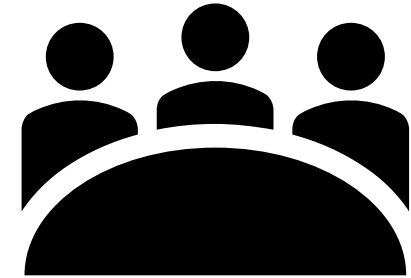
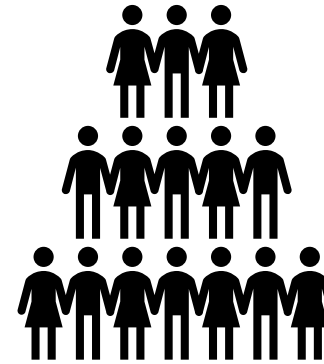
Aim

To determine the environmental and social risks of the project to ecosystems and communities in Ngamiland, Bobirwa and Kgalagadi

# ENVIRONMENTAL AND SOCIAL ASSESSMENT (ESIA)

## Methodology

- Desktop **review and analysis** of available literature and relevant legislation, policy and programmes
- **Vulnerability** assessment to determine site selection
- **Public meetings**
- Key informant **interviews**
- **Focus group discussions** (FGDs)
- **Consultation workshops** with project stakeholders and beneficiaries



# ENVIRONMENTAL AND SOCIAL ASSESSMENT (ESIA)

Major risks: Environmental

## **Protection of natural habitats:**

- Lack of project buy-in from pastoralists may disrupt project delivery and lead to a perpetuation of unsustainable practices.
- 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.

# ENVIRONMENTAL AND SOCIAL ASSESSMENT (ESIA)

Major risks: Social

## Involuntary resettlement

- Participation of land users in target locations may cause **restrictions of access to land**, 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.

## Indigenous peoples

- Certain 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**.

# ENVIRONMENTAL AND SOCIAL ASSESSMENT (ESIA)

Major risks: Social

## Labour and working conditions:

- Risk of **not achieving gender parity** in employment creation, since pastoralism is currently a male-dominated livelihood in Botswana.
- There is also 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**.

## Community, health, safety and security:

- The collective rotational grazing approach proposed for this project will bring **unprecedented numbers of animals 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.

# GENDER ASSESSMENT

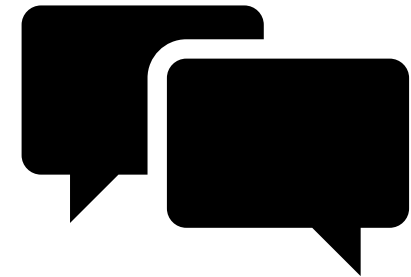
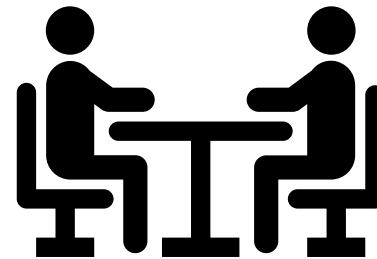
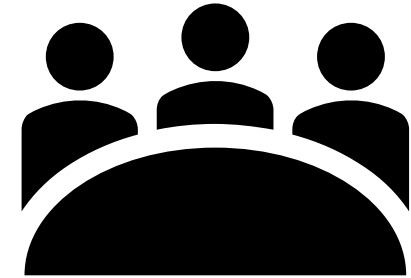
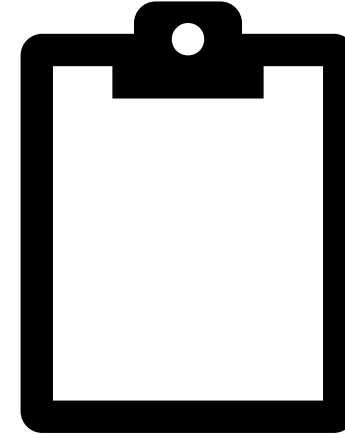
## AIM

To understand the different vulnerability and impact of climate change on women and men in Ngamiland, Bobirwa and Kgalagadi

# GENDER ASSESSMENT

## Methodology

- Desktop **review and analysis** of available literature and relevant legislation, policy and programmes
- Key informant **interviews**
- Household **questionnaires**
- **Focus group discussions** (FGDs)
- **Consultation workshops** with project stakeholders and beneficiaries



# GENDER ASSESSMENT

## Findings

1. Although gender equality is upheld in national legislation and the formal judicial system, **customary law**, which applies mainly in the rural areas, is enforced by tribal structures and customary courts, which **generally have fewer protections for women**.
2. In project areas, women are more likely than men to be **reliant upon remittances** from family members, **public employment schemes** such as Ipelegeng, government **poverty eradication programmes** like food baskets, or government **pensions**.
3. **Gender-based violence** is a possible risk to elements of project implementation. Women may be at greater risk as a result of their exposure **during eco-ranger activities** or from **intimate-partner violence** as they become empowered in their households.
4. **Gender norms in the household** —particularly women's roles as **caregivers** — are a critical factor affecting men and women's **adaptive capacity** to climate change. This links with their **roles and responsibilities** in agriculture as well.



# GENDER ASSESSMENT

## Findings

The assessment also identified **gendered risks** related to **unequal:**

- i) division of **labour**;
- ii) access to **financial resources**;
- iii) access to **land**;
- iv) livestock** ownership
- v) access to **water resources**;
- vi) access to **information** and **technology**;
- vii) decision-making** roles and authority

# GENDER ASSESSMENT

## Findings

These factors expose men and women to different dynamics of risk associated with climate hazards like droughts and floods.

E.g. although women may be exposed to **diversified, ongoing risk**, men have **greater exposure to particularly severe climate events**, since their livelihoods, income and wealth are generally **concentrated in their cattle livestock**.

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

## **ANNEX 7 Appendix B: Meeting Reports**

*This portion has been redacted in accordance with the GCF Information Disclosure Policy, as the portion is confidential under the disclosure policy of the Accredited Entity*