ADAPTATION FUND

REGIONAL PROJECT PROPOSAL

ADSWAC Project

RESILIENCE BUILDING AS CLIMATE CHANGE ADAPTATION IN DROUGHT-STRUCK SOUTH-WESTERN AFRICAN COMMUNITIES

ANGOLA AND NAMIBIA

Title of Project:	**RESILIENCE BUILDING AS CLIMATE CHANGE ADAPTATION IN DROUGHT-STRUCK SOUTH-WESTERN AFRICAN COMMUNITIES**	
Countries:	**Angola and Namibia**	
Thematic Focal Area[1]:	**Food security**	
Type of Implementing Entity:	**REGIONAL IMPLEMENTING ENTITY (RIE)**	
Implementing Entity:	**SAHARA AND SAHEL OBSERVATORY (OSS)**	
Executing Entities:	**Regional :**	**ADPP (Ajuda de Desenvolvimento de Povo para Povo)**
	National :	Angola: ADPP (Ajuda de Desenvolvimento de Povo para Povo)
		Namibia: DAPP (Development Aid from People to People)
Amount of Financing Requested:	**11,880,000 US DOLLARS**	

1 Thematic areas are: Food security; Disaster risk reduction and early warning systems; Transboundary water management; Innovation in adaptation finance.

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ACRONYMS

ADPP	Ajuda de Desenvolvimento de Povo para Povo
AF	Adaptation Fund
AFS	Agroforestry Systems
BAU	Business as usual
CA	Conservation Agriculture
CAAP	Climate Adaptation Action Plan
CBFiM	Community-Based Fire Management
CBO	Community-Based Organization
CC	Climate Change
CCA	Climate Change Adaptation
CCAC	Climate Change Action Centres
CORB	Cubango-Okavango River Basin
CRA	Climate-Resilient Agriculture
CRIDF	Climate-Resilient Infrastructure Development Facility
CSO	Civil Society Organization
CVA	Climate Vulnerability Assessment
DAPP	Development Aid from People to People
DRR	Disaster Risk Reduction
DSS	Decision Support System
EE	Executing Entity
EC	European Commission
EIA	Environmental Impact Assessment
EOA	Ecological Organic Agriculture
ESP	Environmental and Social Policy
ESMF	Environmental and Social Management Framework
FAO	UN Food and Agriculture Organization
FBO	Farmer-Based Organization
FI	Farming Instructor
FFS	Farmer Field Schools
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	Green House Gas
GoA	Government of Angola
GoN	Government of Namibia
GSP	Green School Programme
HH	Household
HPP	Humana People to People
IE	Implementing Entity
IFAD	International Fund for Agricultural Development
IGA	Income Generating Activity
IPCC	Intergovernmental Panel on Climate Change
IWRM	Integrated Water Resource Management
MEFT	Ministry of Environment, Forestry and Tourism (Namibia)
MEFT-CC	Climate Change Department at the Ministry of Environment, Forestry and Tourism (Namibia)
MAF	Ministry of Agriculture and Fisheries (Angola)
MAWLR	Ministry of Agriculture, Water and Land Reform (Namibia)
MCTE	Ministry of Culture, Tourism and the Environment (Angola)
MSAFW	Ministry of Social Action, Familiy and promotion of Women (Angola)
MoED	Ministry of Education (both countries)
MoH	Ministry of Health (both countries)
MURD	Ministry of Urban and Rural Development (Namibia)
NAP	National Adaptation Plan
NEEN	Namibia Environmental Education Network
NNFU	Namibia National Farmers' Union
NR	Natural Resources
NTFP	Non-Timber Forest Products
OKACOM	Okavango river basin Commission
OKASEC	OKACOM Secretariat
O&M	Operation and Maintenance
OSS	Sahara and Sahel Observatory
PAVACC	Participatory Analysis of Vulnerability and Adaptation to Climate Change
PC	Project Coordinator
PDNA	Post-Disaster Needs Assessment
PMU	Project Management Unit
PO	Producer Organization
PSC	Project Steering Committee
RIE	Regional Implementing Entity
RPSC	Regional Project Steering Committee
SADC	Southern Africa Development Community
SLM	Sustainable Land Management
SNC	Second National Communication on Climate Change to the UNFCCC
SR1.5	IPCC Special Report on Global Warming of 1.5°C
TA	Traditional Authority
TNC	Third National Communication on Climate Change to the UNFCCC
TTC	Teacher Training College
UNDP	United Nations Development Program
UNFCCC	United Nations Framework Convention on Climate Change
WB	World Bank
WUA	Water User Association

PART I PROJECT INFORMATION

1. Project Background and Context

1.1 Project Area Context

1. Angola and Namibia are experiencing severe food and water insecurity due to high drought occurrence. The mean annual rainfall is barely less than 425mm per annum. Increasing temperatures and rainfall variability have led to increasing occurrences of floods and droughts with resultant negative effects on populations and ecosystems therein. Angola and Namibia are experiencing significant impacts of climate change (CC), which include changing weather patterns, drops/rises in water levels, and increased frequency of extreme weather events such as droughts and floods, whose socio-economic impacts make communities very vulnerable.
2. Climate projections for **Angola** based on IPCC models and Representative Concentration Pathway (RCP 8.5), indicates that mean annual temperature is projected to increase between 1.2 and 3.2°C by 2060, and 1.7 and 5.1°C by 2090, and warming is projected to occur more rapidly in the interior and eastern parts of Angola. Mean land surface temperatures are likely to surpass the increase in global mean land surface temperature in all seasons over southern Africa, and the projected warming of between 3.4-4.2°C, over this region, exceeds natural climate variability[2]. Although rainfall models vary, there is broad agreement that the rainfall amount will decrease in the future, with a stronger decrease in the southern part of the country[3].
3. Similarly, climate projections for **Namibia** according to the scenario with high GHG emissions (RCP 8.5), reveal that in 2050[4] the mean annual temperature will rise by 2.3°C, mean annual precipitation will fall by -38.9mm, annual accumulated cooling degrees of temperature above 18°C will rise by 1,129.3°C and total annual hot days of temperature above 35°C will rise by 45.8 days. Overall, rainfall was projected to decrease over much of Namibia with temperatures projected to increase by 2-5 °C, over this century, with lower rates of warming in the south-west and the highest warming records in the north-east[5].
4. Such projected temperature and rainfall anomalies, especially in Southern Angola and Northern Namibia, aggravate the CC situation for human populations and ecosystems in the two areas. In Namibia, these anomalies negatively impact on water resources, agriculture, biodiversity, health, disaster resilience, tourism and infrastructure on which the increasing human population depends for their livelihoods[6] yet the country is highly dependent on climate-sensitive natural resource-based sectors such as agriculture, fisheries and mining, which are accounted for 24% of the total Gross Domestic Product (GDP) in 2008 (Central Bureau of Statistic, National Planning Commission, 2009).
5. The Okavango River Basin is one of the most significant hotspots in the Kalahari Desert. Communities on both sides use the river for livelihoods, transport etc. and activities upstream have consequences downstream. Resulting from its permanent water resources, grasslands and forests, human land use activities such as crop and livestock farming have placed the river basin under environmental stress, raising concerns about its future sustainability.
6. Angola and Namibia, though ranked as middle-income countries, have significant internal urban-rural inequalities, while their respective agriculture sectors are underdeveloped due to primary national focus on resource extraction. Despite the potential for agriculture production, both countries are net importers of food, which places especially the most vulnerable populations at risk of climate-related shocks and market fluctuations. Little attention has been paid to rural development and crop and livestock production. The vulnerable populations are barely reached with agriculture extension and social services, which together with the harsh conditions leaves them in a continuous poverty trap. The target areas are geographically more coherent than they are with their own national capitals.
7. Population groups across frontiers share the same ethnic background, languages and cultural habits and characteristics. Roads in the areas are poor, and access is difficult at the best of times, and near impossible in the rainy season, especially on the Angolan side of the border.
8. Alternative livelihoods involving small scale trading are dependent on cross-border trade. Given difficult access and limited attention, there is no prospect for meaningful trade nationally. The Cuito and Cubango rivers meet at the southern Angola border forming a bigger river the Okavango, which constitutes the border between Angola and Namibia. This makes the area a hotspot for human settlement. The livelihood of the people in Cubango is centred on the two rivers and so any efforts towards improving the livelihood of these people must be focused on conserving the two rivers that lead to the Okavango delta in Botswana.
9. Therefore, the transboundary area of Cuando-Cubango and Kavango faces environmental stress in meeting the livelihood needs of the increasing human population leading to food insecurity; water pollution from fertilizer and pesticide application upstream along the Cuito, Cubango and Okavango rivers; soil erosion and siltation of rivers; unsustainable subsistence fishing; uncontrolled harvesting of the forest resources for timber, charcoal and fuelwood energy causing

2 https://climateknowledgeportal.worldbank.org/country/angola/climate-data-projections
3 USAID, 2018. Climate Profile for Angola. Fact Sheet. https://www.climatelinks.org/sites/default/files/asset/document/2018_USAID-CCIS-Project_Climate-Risk-Profile-Angola.pdf
4 https://climateknowledgeportal.worldbank.org/country/namibia/climate-data-projections
55 Department of Environmental Affairs (DEA). (2013) Long-Term Adaptation Scenarios Flagship Research Programme for South Africa (LTAS) Phase 1. Climate Trends and Scenarios for South Africa Technical Report (no. 1 of 6). Pretoria, South Africa. Available online: https://www.environment.gov.za/sites/default/files/docs/climate_trends_bookV3.pdf
6 Spear D., Zaroug M.A.H., Daron D.D., Ziervogel G., Angula M.N., Haimbili E.N., Hegga S.S., Baudoin M., New M., Kunamwene I., Togarepi C. and Davies J.E. 2018. Vulnerability and responses to climate change in drylands: The case of Namibia. CARIAA-ASSAR Working Paper. University of Cape Town, Cape Town, South Africa.

deforestation with minimal replanting; and, uncontrolled anthropogenic fires. Under projected CC in the two countries, it is inevitable that such environmental stresses render the communities in the transboundary area highly vulnerable to floods and droughts.

10. Within the transboundary region, the areas that are highly vulnerable to severe droughts are located within the region of Cuando Cubango Province in Angola and in Kavango East & West Regions in Namibia. Overall, Cuando Cubango Province of Angola and the Kavango of Namibia basin remains the least human-impacted river basins on the African continent. It is ecologically unique and the Okavango Delta in Botswana – the best-known basin feature, one of the world's largest Ramsar sites[7] – is of national, regional and global environmental and biodiversity value and importance, and has been recently added to the list of UNESCO's World Heritage Sites.

11. The long-term fate of the Cubango-Okavango Basin (CORB) and its delta depends upon the sustainable management of the water resources. In the northern part of the basin, rainfall is higher. Angola benefits from the most reliable and highest rainfalls, and lower evaporation. It has many more tributaries than in the downstream parts in Namibia and Botswana, two of the driest countries of Southern Africa. It is evident that floods and drought are disastrous situations that affect populations and markets in the transboundary area. When floods occur in Northern Namibia, in extreme cases families have to be relocated, and schools and businesses need to be closed down due to the damage the flood may cause. Many tourist attraction areas suffer the same fate, as many people visiting cannot visit them[8]. Communities lose assets and properties and sometimes their lives. The most vulnerable groups within the communities are children, orphans, women, elder people, or people with chronic diseases such as HIV and AIDS.

12. Similarly, the impacts of drought are strongly felt in the arid Cuando Cubango Province of Angola and the Kavango Regions of Namibia, an area of transboundary nature. Cuando Cubango is an area with unique biodiversity, owing to the rivers that flow through the region and drain into the Okavango Delta[9]. Most parts of Namibia currently receive much lower than average rainfall, compared to years before. Namibia is estimated to become hotter every year, and the weather will become more unpredictable resulting in more drought events.

13. Therefore, as the population in the area suffers from impacts induced by CC, most notably in the form of prolonged dry spells and long periods of drought conditions, they are not set to improve without interventions to build resilience to CC impacts. Hence deliberate efforts aimed at enhancing the resilience of communities and ecosystems to such impacts of floods and droughts are needed.

14. A unified cross-border approach will not only help the populations to adapt to changing conditions but also encompasses a key contribution to avoid further natural resource (NR) degradation such as encroachment of the protected areas. Sustainable utilisation and ecosystem services provision from agricultural soils, surface and groundwater resources, forests and other terrestrial ecosystems will be achieved.

15. As dry periods become longer and drought periods occur more frequently within irregular and uneven distribution of rainfall, migrations among pastoral groups will be inevitable as transhumants search for water and rangeland within the transboundary area. Although transhumance is a well-known strategy of pastoral communities to cope with drought effects, it negatively impacts on peoples' livelihoods as well as both countries' economies. There is a high likelihood of emergency of tribal or population cluster conflicts over NR use including the scarce water and pastures; and disease infestations among livestock and human pastoral populations. Conflicts are also likely to occur between the pastoralists and subsistence crop farmers over the stock routes for transhumance.

16. Similarly and due to the same changing conditions, subsistence agriculture also suffers several impacts. These include reduced agricultural crop yield, reduced grazing availability and overgrazing, declining quality of soils for dryland farming (sorghum, pearl millet and maize), loss of land productivity and soil degradation, lack of construction materials, increased water shortages for livestock consumption, pest outbreaks destroying crops, disease and parasites affecting livestock, hunger and famine (nutrition deficiency and malnutrition, Increased poverty and men migrate in search of better grazing opportunities or employment opportunities[10].

17. In either case, the small-scale subsistence farmers and pastoralists remain vulnerable to climate-induced effects. The abilities of these communities, let alone the most vulnerable groups, to cope with droughts have over the years following the CC impacts been greatly weakened due to the aggravated impacts of frequent and severe droughts.

18. The ability of local community populations and ecosystems in the area to recover from the shocks is so limited that communities have no alternative options but to resort to overexploitation of NR using unsustainable methods. Some other factors that worsen the vulnerability to drought risk include high dependency on climate-sensitive livelihoods, fragile and rapidly degrading physical environment, inadequate extension services.

19. Unsustainable natural resource utilization methods include harvesting only highly marketable tree species as Mussivi, Girassonde/Mucula, Mukoso/Muiumba, Mussissi, Mamué and Maku for timber and Mupanda for charcoal and wood fuel production. Communities undertake risky and unstainable agricultural crop production in fragile sites such as low-lying areas, wetlands and marshy areas within the transboundary area that are prone to flooding. Consequently, communities experience crop failures and limited crop harvests. Eventually food stocks remain critically low for

[7] The Convention on Wetlands, known as the Ramsar Convention, is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.

[8] Chalene Keja-Kaereho and Brenden R. Tjizu, 2019. Climate Change and Global Warming in Namibia: Environmental Disasters vs. Human Life and the Economy. Management and Economics Research Journal, 5 (3), Pgs. 11. https://doi.org/10.18639/MERJ.2019.836535.

[9] www.euronews.com Explore Angola 16 Oct 2019

[10] Angula, M.N. & Kaundjua, M.B., 2016, 'The changing climate and human vulnerability in north-central Namibia', *Jàmbá: Journal of Disaster Risk Studies* 8(2), Art. #200, 7 pages. http://dx.doi.org/10.4102/jamba. v8i2.200

communities to survive on during dry spells or flooding when food resources are limited. Especially critical are grain stocks towards the end of the season, before the next harvest. Fortunately, Angola in her Initial National Communication (INC, 2012) to the UNFCCC and the National CC Policy for Namibia (2011) identify their countries' economy, populations and ecosystems vulnerability to CC. The factors that influence vulnerability to CC are highly variable climate in the different regions including the transboundary area targeted by the proposed project; high population growth that is highly dependent on climate sensitive NR based sectors such as agriculture, subsistence fishing, rangelands, biodiversity and rain-fed agriculture for community livelihoods and high levels of poverty, lack of income and lack of employment opportunities as well as high HIV prevalence and number of female-headed households (HHs) in Namibia. Furthermore, the respective countries undertake to adapt to CC through various interventions including, NR-based concrete adaptation actions, capacity building and awareness-raising targeting the vulnerable communities and other stakeholders among others.

20. The contribution at regional level is within the framework of the SADC policy paper on CC and the SADC CC adaptation for the water sector strategy that focus on climate resilience, food security and water management efficiency enhancement. Ajuda de Desenvolvimento de Povo para Povo Angola (ADPP) Angola and Development Aid from People to People (DAPP) Namibia, in partnership respectively with the Angola and Namibia line Ministries and Departments of Environment, Agriculture, Water, Forestry, Education and Energy, collaborate in the proposed project to build climate resilience of communities in the cross-border area. The proposed project intends to build on the policy guidelines and strategic actions of the two SADC frameworks to establish new mechanisms to CC resilience by addressing drought-related challenges in the transboundary region. This will be achieved through enhancing national, sub-national and regional adaptive capacities to respond to CC risks in the cross-border or transboundary region; by building organizational and technical capacity for climate-resilient production and water management; and by improving food security in response to CC impacts among rural and vulnerable communities.

21. Not only will the proposed project build on and strengthen the regional linkages between the existing drought strategies (for instance the Windhoek declaration adopted at the 2016 Africa Drought Conference in Windhoek, Namibia; but also support Angola and Namibia in implementation of the Paris Agreement commitments and their respective Nationally Determined Contributions (NDCs). In addition, the two countries are currently developing National Adaptation Plans (NAPs) hence interventions of the proposed project will feed into and enrich these documents with field experiences so that maximum adaptation actions are achieved and undertaken.

22. Globally, the proposed project will contribute to the attainment of the targets for the Sustainable Development Goals (SDGs) targets of the two countries. This will be possible through the wide partnerships (at regional scale) that the project has proposed to put in place with other regional players including ADPP Angola and DAPP Namibia. ADPP and DAPP are widely experienced in working with and mobilizing communities from individual efforts to communal collective actions in improving peoples' livelihoods. Many of the targets of SDGs are closely linked to disaster risk management, food security enhancement, water resources management and capacity building, in the economies of the two countries. The project will strengthen national, regional and inter-regional alliances not only to realize SDG 6[11], but for many other development goals targets such as SDG 13[12] capacity development relevance in SDG 17 i.e. use of national, regional and global partnerships for developing a knowledge base, and effective capacity development; as well as targets for SDG 17.9[13] and SDG 6a[14] and 6b[15], SDG1[16], SDG2[17] and SDG5[18].

[11] Ensure availability and sustainable management of water and sanitation for all

[12] Take urgent action to combat climate change and its impacts. This is taken in combination with target 1.5 of goal 1 (to build the resilience of the poor and those who are in vulnerable situations and reduce their vulnerability to climate related extreme events and other economic social and environmental disasters

[13] Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation"

[14] "By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies".

[15] "Support and strengthen the participation of local communities in improving water and sanitation management"

[16] End poverty in all its forms everywhere

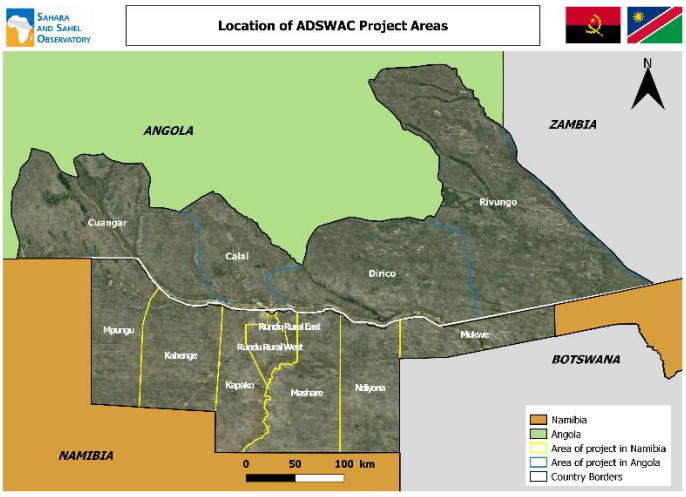
[17] End hunger, achieve food security and improved nutrition and promote sustainable agriculture

[18] Achieve gender equality and empower all women and girls

1.2 Description of the Project sites

23. The project will be implemented in different sites within the transboundary/cross border region between Angola and Namibia. This area is dominated by the hyper-arid, arid and semi-arid drylands depending on the amount of annual precipitation and temperature.

Figure 1 (left): Location of the transboundary project area between Angola and Namibia; Figure 2: (right) Municipalities (Angola) and Constituencies (Namibia) forming the project area;



24. These sites are considered to be most vulnerable and prone to drought (and floods) and to CC impacts, which led to their selection under this project based on the following criteria:

- Most rural-based communities practice rain-fed subsistence agriculture on communal land, are food insecure due to recurrent famine and cannot sustain HH food security.
- Rural communities are resource-poor, have low-incomes and limited livelihood options to enable them cope with drought (and floods) and CC impacts.
- Socially, there are many vulnerable members among the HHs of small-scale farmers especially orphans, women, children, youth, disabled, HIV/Aids affected groups, and the elderly.
- Communities are affected by conflicts resulting from the illegal cross border transhumance practices.
- Technical, financial, and human resource capacities of local government departments are insufficient and inadequate to reach the populations' needs to adapt to CC.
- The sites experience high rainfall variability with increasing frequency and intensity of drought occurrences (and floods), high environmental degradation , loss of biodiversity resources as well as the deterioration of water (quality and quantity) and resources (e.g. fish) on which communities depend for alternative livelihoods.

1.2.1 Geographical Location and Area

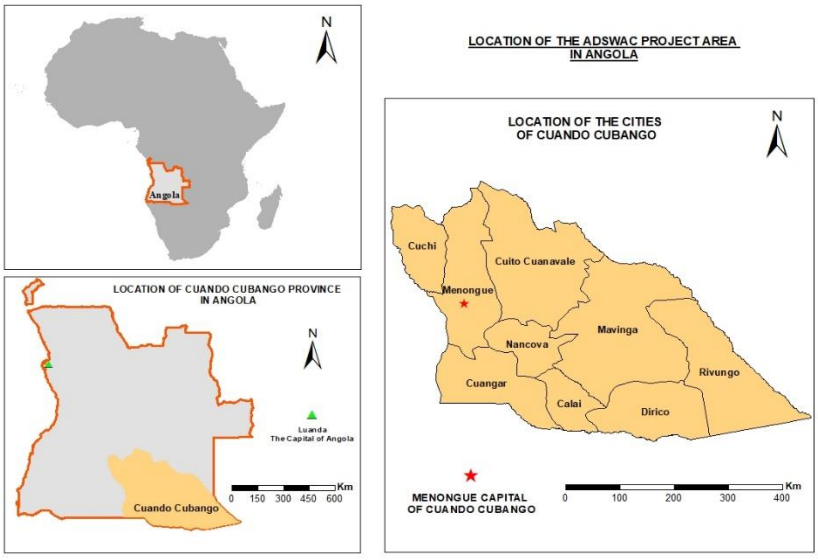


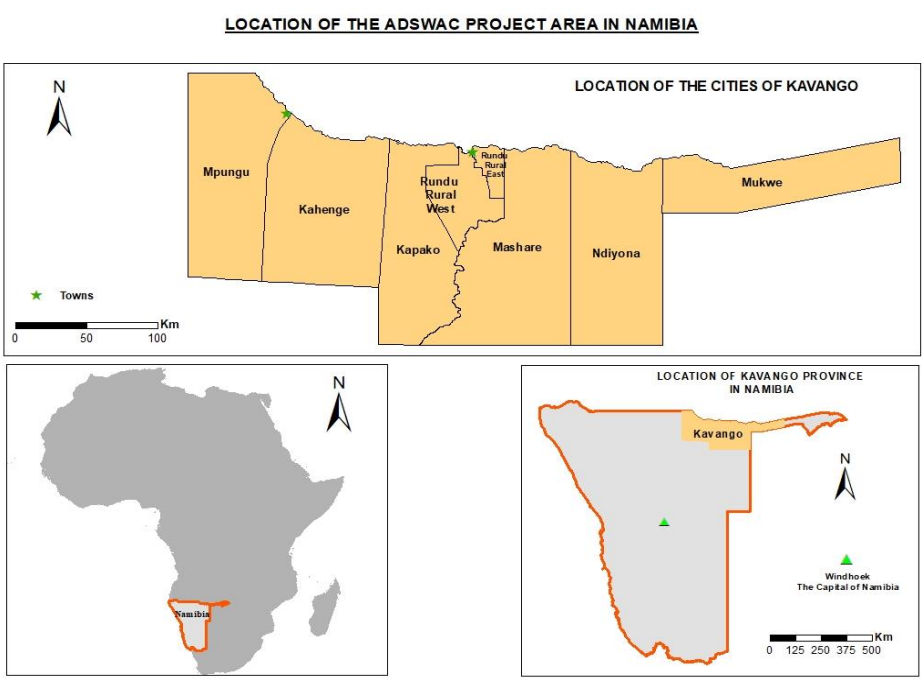
Figure 3: Location of Cuando Cubango province and other provinces in Angola

25. Angola is located in the inter-tropical and subtropical zone of the southern hemisphere. ***In Angola***, the project will be implemented in ***Cuando Cubango province***. Cuando Cubango is found at 13º 33' 26'' and 18º 02, of south latitude and 16º 28' 24'' 23º 56' 10'' of longitude (*Figure 1*). As one of the provinces of Angola, Cuando Cubango province covers an area of 199,049km^2 in southeast Angola representing 15.9% of the national territory, being the second largest after Moxico. It is the country's southernmost point part of Angola that is very close to the town of Dirico, where Angola and Namibia connect[19]. The capital of the Cuando Cubango province is Menongue, a city

[19] https://worldpopulationreview.com/country-locations/where-is-angola

founded on the banks of the Kuebe River representing 15.9% of the national territory, being the second largest after Moxico. It is one of the provinces with the lowest population density. It consists of 9 Municipalities: Cuchi; Menongue; Cuangar; Nankova; Cuito Cuanavale; Mavinga; Calai; Dirico and Rivungo. Cuando Cubango has international borders with Namibia and Zambia (*Figure 1*). The name of the province is derived from the Cuando and Cubango rivers, which flow through the eastern and western edges of the province respectively. Cuando Cubango is bordered by Moxico province to the North and Cunene to the west. In the south of Cuando Cubango, the province Kavango of Namibia and to the East is Zambia. Its border position has not contributed particularly to its economic development, being one of the least developed provinces in Angola.

Figure 4: Location of Kavango regions in Namibia and neighbouring countries



26. ***In Namibia***, the project will be implemented in ***Kavango East and Kavango West***, in communities along the river. Kavango generally covers an area of 41,700 km^2. Kavango is generally a flat area, that lies at about 1,100m above sea level. Kavango is also sometimes called Okavango and derives its name from the Okavango river that separates Angola and Namibia at the Namibia-Angola border and the Okavango people that inhabit northern Namibia. It includes the western part of Namibia's Caprivi Strip to the northeast, bordered by Botswana on the southeast and Ohangwena and Oshikoto to the west and Otjozondjupa to the south[20] (*Figure 2a)*. Kavango has nine constituencies with Mukwe, Ndiyona, Ndonga Linea, Mashare, Rundu rural in Kavango East and Kapako, Musese, Tondoro, Nkurenekuru in Kavango west (*Figure 2b*), each with its own constituency office forming part of the regional governments. It is also divided into six tribal authorities of Kwangali, Shambyu, Mbunza, Gciruku, Mbukushu and San (the Khoisan peoples), each represented by a Chief of the Traditional Authority (TA)[21][22]. The boundaries of constituencies and tribal representatives differ in many areas.

27. Considering that Cuando Cubango province and the Kavango regions share a common border, it is evident that there cross-cutting issues of socio-economic, environmental and global nature such as CC that are not limited to political boundaries. Therefore, a transboundary/cross-border approach of addressing such issues is vital for sustainable wellbeing of the populations and ecosystems across the two countries. The proposed project intends to build resilience of communities to CC in the two project sites.

1.2.2 Climate

28. Overall, ***Angola*** has a tropical climate with wide variations in rainfall amounts and duration across different parts of the country. Rainfall is a key determinant of climatic differences in Angola. Rainfall decreases rapidly from North to South between the Atlantic coast and the countryside. The altitude invariably decreases from the Northeast to the Southeast, from 1,500 to 900 meters, which causes the waters of numerous rivers that limit and run through the Province to converge in the extreme Southeast, where the Cuando and the Cubango rivers flow into the desert sands of the Kalahari Desert. The entire Province is a gentle slope, only marked by a thin line of heights that separates the hydrographic basins from the two great rivers that identify the region. The annual average temperature is above 20ºC, fitting in the tropical region of hot climate. Rainfall also decreases from the Northwest to the Southeast, from the level of 1,400 to that of the annual 600 mm, so the climate changes from "humid" in Menongue to "semi-arid" in Mucusso, where the influence of the Kalahari Desert is well known. This is confirmed by the variation in temperatures, thermal amplitudes and the degree of humidity. In the same way, the soils have different agricultural aptitudes in the different parts of the Province, the Northwest being the most suitable area for agriculture. There are two typical seasons: the rainy season, which runs from November to March, considering April and October as months of transition; the dry season, which extends from May to August, with the months of June and July as the coldest months of the year. The duration of the rainy season is from September to May in the north and from December to March in the south. Rainfall variability from one year to the next is generally high with the Southern part of Angola is frequently afflicted by drought.

[20] https://www.britannica.com/place/Kavango-area-Namibia
[21] National Statistics Agency, 2011. Census Regional Profile – Kavango region.
[22] National Statistics Agency, 2006. Kavango region – a digest of information on key aspects.

29. ***In Namibia***, the climate is generally hot and dry with sparse and erratic rainfall. Ninety-two percent of the land area is defined as hyper-arid, arid or semi-arid. The country ranks second in aridity after the Sahara Desert. The mean annual rainfall is less than 250mm with an upper limit of about 600 mm per year. Of the total precipitation, 83% evaporates, 14% is used up by vegetation, 1% recharges groundwater, and only 2% becomes runoff and may be harnessed in surface storage facilities. The rainy season in the North is about seven months while in the South it is two months. Kavango usually receives about 500 to 600 mm of annual rainfall. Mean annual temperatures are below 16°C along the southern coast, between 20°C and 22°C in large parts of the country's interior and the eastern parts, and above 22°C in the north including the Kavango area. Temperatures are moderated by the cold Benguela Current along the coast.

1.2.3 Agriculture

30. ***In Angola*** Agriculture in the project sites basically comprises crop farming and livestock production that form the major livelihoods of communities. Agriculture is the main activity of most rural HHs and is dominated by small-scale production. ***In Cuando Cubango Province*** especially in Calai, Cuangar, Dirico and Rivungo Municipalities, the predominant rain fed agricultural system, as well as the livelihoods of rural populations depending on the family type. The farming systems are dominated by small-scale farmers. Mainly cultivated crops are sorghum, millet and corn. Millet, sorghum and corn on a small scale, are the most grown crops. There is some small-scale horticulture, although fruit trees such as Citrus, Guava, Mango, Banana, and Papaya are recommended and encouraged too. Diversification of cultures is recommended with the introduction of Cassava, Macunde beans and sweet potatoes. The soils are generally poor and need "correction" with dolomitic limestone. Therefore, the cultivation systems of small farmers are overly fragile, characterized by harvest and post-harvest losses, price volatility, with forced migration. In terms of livestock production. ***In the arid southern Angola*** (Namibe, Cunene and Cuando Cubango provinces) where rainfall variability is generally high ranging between 200 and 400mm per annum is suited for rangeland and transhumant pastoralism. Although cattle raising is progressively more important, at certain times of the year there are outbreaks of contagious bovine PPBC (Pleuro Pneumonia) (2015/2016) and scabies (2018). Most HHs in the area own some heads of cattle, goats, pigs or poultry. Rains negatively affect crop yields resulting from effect of prolonged droughts that impede soil water availability for crop growth. The depressions support irrigated agriculture of sorghum and vegetables. Millet and sorghum grown in this area provide food for consumption for up to half of the year on average, while during the other half of the year consumption needs are met through market food purchases from nearby markets. It is subsistence agriculture, not profitable. The harvests are low due to the low level of rain and the unstable rainfall, which makes agricultural productivity very low, making agriculture a risk. The main difficulty lies in the dispersion of the population, which in turn hinders the organization of peasants.

31. Although **Namibia** is one of the net importers of food, there is potential for agriculture. Large scale irrigation schemes (referred to as Green Schemes), though not too successful at present, characterise the future of agriculture in Namibia including the Kavango region. There are few privately owned commercial agricultural enterprises that are often in a Public Private Partnership (PPP) framework because land is not owned but allocated based on long term lease agreements. Agriculture also involves commercial livestock farming where privately managed livestock farms (mainly cattle) based inland is a restraining factor. Currently no viable market for cattle exists in the Kavango region. The main constraints to developing the agricultural sector in Kavango is lack of an enabling environment for production, the required knowledge and skills of potential agronomists and the attitude of communities towards hard work that would lead to surplus production. Most communities reveal that adequate water supply systems to fertile soils especially along the river and the availability of farming equipment and inputs (which can be partly achieved by access to capital) is needed. Skills and knowledge transfer should be facilitated by vocational training providers (government and donor funded) on both short terms and long-term basis. In addition, strong links should be created in this regard with both existing and to be developed regional vocational training providers. Therefore, dryland cropping (pearl millet, sorghum, maize and beans and vegetables - tomato, onion, green pepper and spinach) and irrigated agriculture are under pressure due to irregular rainfall, prolonged dry spells, drought, periodically delayed onset of rainy season, extreme high temperatures prone to unreliable water supply which is mainly due to technical & human nature (maintenance and repair of water supply infrastructure). Contaminated /brackish water is not suitable for agriculture and human consumption. The main challenge to livestock production is that grazing areas are gradually deteriorating due to overgrazing and overstocking that are related to absent management systems and increasing herd sizes as well as changing rainfall patterns hampering regeneration and sufficient fodder production. Such constraints to agricultural production leave the vulnerable population, especially the poor, at risk of food insecurity due to CC, which especially applies in the areas targeted by the project.

1.2.4 Hydrology and Water Resources

32. ***In Angola***, the Cuando Cubango Province has a wide range of rivers, the Cubango and Cuito rivers being navigable. This vast hydrographic resource has a great fish richness, made even more appealing by its easy capture in shallow waters. Drinking water supply, especially to Menongue, Cali and Cuito Cuanavale Municipalities, is limited and based on the Conventional Water Supply Systems, where the remaining Municipalities await insertion. A new Conventional Water Supply System is under construction in the municipality of Rivungo, but is still inadequate. In Canguar, the population that consumes drinking water represents 80%, at headquarters, while 20%, in peripheral neighborhoods, do not have access at all except water directly from the river. As with most rural Angola, boreholes are the major means of water supply, but rivers are also an important source of water particularly for livestock and human consumption. In many areas, there are no proper sanitation facilities and open defecation is common practice.

33. ***In Namibia***, the Kavango river is a constant source of water supplying communities up to a distance of 10km. It is the main source of water at HH level (drinking, cooking & hygiene) and livestock; and for irrigated agriculture (only possible with infrastructure required to pump sufficient water from river to point of use (gardens). Water consumed from the river is unrefined/untreated yet pollution and contamination are currently a non-serious concern, but might be so in future. Boreholes and wells inland occur at distance from the river to facilitate recharge from river provided that water pumps are maintained and fuel for pumps is available. There are also a few water points, primarily for institutions such as government offices, schools and clinics where free access (sometimes fee structure applies) is permitted. A few village based water points (borehole and pump) exist, managed by local water point committees (installation was done by government). The distribution of pipelines often supplies adjacent water points (water reservoirs). Although most pumps are driven by combustion engines or solar powered systems introduced they are limited by quantity of water, depth of boreholes and associated costs. Overall, the main challenges are that the water distribution system at broad village level is still limited. Usually there are no water taps at HH level (no water distribution network) and HHs carry water from the source to homes (usually in 20ltr cans or smaller buckets) up to 1km requiring donkeys and carts whenever it is too far to carry water. Some boreholes inland provide brackish water, often not suitable for human consumption and irrigation. Livestock gets access to drinking water at river and inland water points (herded to water point on daily basis).

34. Both Cuando Cubango and Kavango lie within the river basins of the Okavango. With the growing human population in the river basin, the river faces pollution resulting from pesticides and fertilizers used in crop farming along the river as well as human beings that use the river as a dumping area for plastics. The river could be the source of water for irrigation for farmers to ably cope with drought and sustain agricultural crop production during drought, although currently knowledge and technologies are missing is some areas and inadequate in others.

1.2.5 Biodiversity

35. ***In Angola***, Cuando Cubango province boasts of two national parks and the transnational Kavango Zambezi Transfrontier conservation area (KAZA). The Province has high diversity of fauna, with wildlife found in the existing reserves. The key faunal species include elephant, Palanca royal, Rhinoceros, Hippopotamus, Nguelengue, Ngunga, Leopard, Lion, Hyena, Jaguar, Pacaça, Boar, Mabeco, Tortoise and Ostrich. The morphological situations of the plateau and the valley condition the various types of existing vegetation. The vegetation of the Province is characterized by: dense dry forest and savanna with shrubs and trees in the North; savanna with bushes, woods and forests in the South region; bush savannah in the Northwest region; exotic woods, especially Mussivi, Girassonde, Mumue, Mupanda and Muiunga in the Southwest region.

36. In Namibia, In the Kavango Region is the wild and undeveloped Khaudum Game Park. It covers 384,000 hectares and is home to animals such as antelope, elephants, zebras, wild dogs, lions, leopards as well as 320 bird species. However game numbers vary considerably as the park is unfenced enabling animals to follow their natural migration routes23. Human wildlife conflict especially along wildlife corridors are reportedly experienced from elephants; whereas hippos and crocodiles pose a less significant challenges. The areas prone to natural plaques (birds, insects and pests) are not mentioned as a significant threat. Apart from livestock predation, the other factors that cause the human wildlife conflicts in the region are policy and institutional challenges, livestock diseases, insecure livelihoods and negative local attitudes toward wildlife conservation and potential for interstate conflicts.

1.2.6 Forest resources

37. ***In Angola***, the Cuando Cubango Province, comprises forest cover types that are dominated by "miombo" woodlands, and composed primarily of trees of the legume family (Fabaceae). These include dense *Brachystegia*-dominated woodland in the north, *Burkea-Brachystegia* woodland in the central portion of the province, and *Burkea*-dominated woodland in the south. There are also riparian forests, especially in the south, and riparian grasslands, primarily in the north and centre. Both the amount of annual precipitation and density of tree cover decrease as one travels from north to south. Large-scale coal production is not felt in the coastal and river towns (probably due to the lack of a market). While in Menongue, Cuito Canavale and Cushi it is done on a large scale, which supplies coal to the Luanda market. Generally, there is no type of forest management plan for the municipalities on the waterfront. There is a history of devastating and uncontrolled deforestation between the years 2016 - 2018 where 116 companies were licensed to do logging. The municipalities most affected by this situation were Cuangar, Menongue, Cuito Canavale and Cushi. The species found in the province (Girassonde, Mupanda, Mucussi, Mussindi and Movala) are highly sought after in the markets of Namibia and South Africa. The exploration was mainly done by Asian companies. There is also noticeable distinct encroachment of forest species into previous clearings. Where active human settlements are located, recent tree cutting has occurred in patches of (usually) 1-5 hectares, either due to forest conversion to agriculture or to activities of carvoeiros (charcoal producers). Patches of tall grass interspersed with bush scrub and trees develop into forests of Rhodesian teak, mahogany, and mopane in the east. The aforementioned species in principle have regenerated, but due to frequent burning, the trees do not have time to grow. Such a species takes approx. 60 years to reach the desired size for exploration. It currently has only 20 companies licensed for controlled logging.

38. ***In Namibia*** within the Okavango region, the vegetation cover in the Basin is dominated by woodlands, grasslands, savannahs and shrublands. A corresponding vegetation zonation follows the climatic gradient from the humid Miombo woodlands dominated by *Brachystegia* species in the highlands, through *Baikiaea Burkea* Woodlands in the lowlands,

[23]Siyabona Africa (Pty)Ltd, 2019. Private Tours and Safari. http://www.siyabona.com/place/Kavango.html

to the more open Thorn bush savannahs in the Kalahari. Although ssome controversial activities reported about forests on in media are linked to Chinese, tree felling is strictly controlled by the Directorate of Forestry and clearing of forests for field cultivation along the river is now prohibited within 100m on either side of the river. Legal and controlled logging takes place as community involvement is occurs through management of community forests.

39. Overall, both Cuando Cubango Province and the Kavango Region have some small forest catchment areas. However, due to the increasing human population and CC, most parts of the forests in both project sites have been cleared to meet the timber, charcoal and fuel energy needs of the growing population. Consequently, the areas that used to have thick forests now are shrublands. Kavango has the best and most of Namibia's forested areas and being an arid country, the forests face a lot of pressure for utilization from forest conversion. There is a need for proper and sustainable management interventions for such forests.

1.2.7 Fires

40. ***In Angola***. There are many fires that contribute to the degradation of the soil, with a negative impact on the production of honey, reducing the possibility of beekeeping (chases away bees due to the absence of flowers combined with the smoke from the fires). Fires have several objectives and reasons: hunters, to facilitate hunting, small farmers to prepare the fields, drivers to improve visibility and passage, smoking accidents, children's games, among others. Firewalls (plugs) are rarely made, so that the fire often spreads beyond what was intended. In Cuando Cubango bush fires are frequent and have resulted in the loss of soil nutrients. Large areas have been converted from woodland and forest into shrub land using frequent burning usually with anthropogenic fires. Much of Cuando Cubango and parts of Moxico are mosaics of open woodland separated along sharp margins from dense woodland and forest[24]. Many areas have had recent fires that burned through the understory without having much (visible) effect on the overstory, except perhaps to slightly reduce overstory canopy. Grasses and shrubs were mostly absent in the recently burned areas, and bare soil was common.

41. ***In Namibia*** within the Kavango region, one of the common environmental problem among others are wild fires. Wild fires are sometimes accidental but majorly caused by careless members of communities that do not consider serious fire impacts especially during prolonged droughts. Although it is illegal to practise slash and burn during crop farming, not controlled burning is allowed. Although the Director of Forestry is responsible for controlling wild fires, the fire control systems and equipment in place are weak, ineffective and inadequate to contain the fires.

42. Overall, although fire an important ecological factor for vegetation management, if not controlled could lead to undesirable effects including, soil erosion and siltation rivers and streams causing water pollution. Socially wild and accidental fires trigger conflicts among community members including transboundary communities. Such negative effects are felt by communities from both countries and could explode to violence. It is even worse especially under extreme and prolonged droughts. The proposed project intends to support awareness raising about fire management by imparting knowledge and skills amongst community members in the cross-border area.

1.2.8 Population and indigenous peoples

43. ***In Angola***, according to data from the National Statistics Institute (INE), the population in the province of Cuando Cubango, at the date of the census, 16 May 2014, is 534,002 people, however estimates on the ground indicate that the population of the Province is more than 700,000 people, with over 62% of the population living in rural areas. Like most African societies, women in this delta are a vulnerable group since property ownership rights tend to favor men to women. Within Cuando Cubango in Calai, there are a total of 388 individuals belonging to the Khoisan ethnic group, also known as Kamussequeles. They speak the language "Kung - Ekoka". Dirico municipality within Cuando Cubango province is made up of one headquarter (HQ) community. The predominantly rural community in the municipality of Dirico is mostly located next to the two Cubango and Cuito rivers, constituting six main Bantu ethnolinguistic groups, namely: Diricos, Mbukushus, Sambios, Ngangelas, Ovimbundo and Tchokwe. There are also minority minority groups of non-Bantu origin, the Khoisan. Eight (8) languages are spoken, such as: Nganguela, Cuangar, Xambiu, Dirico, Mbucusso, Camussequele, Umbundo and Quioco are spoken in Calai. In CuangarMunicipality, Rukuangali, Ngangela, Umbundo, Cokwe, Kuanhama, Ntum (Koishan) languages are also spoken. The San group who is often referred to as 'Khoisan' and their related Khoisan descendant groups including the Kwisi, Kwehe in southern Angola are the indigenous people and are approximately 0.1% of Angola's population. The San number between 9,000 and 20,000 in Angola and are primarily in the provinces of Cuando Cubango, Moxico, Cunene and Huila. The San in Angola including the Kwehe and Mpungu Ikung are related groups in northern Namibia and Botswana. The Kwehe are numerous along Cuando Cubango southern border with Namibia.

44. ***In Namibia***, according to national statistics agency, the population of Kavango province is about 446,703 people as per population census of 2011. While in Kavango according to 2013 population census women were 56.5% while men were 43.5%. These statistics indicate that women are more in numbers than men yet men have more rights than women. Today the Kavango people consist of five individual tribes, namely the Kwangali, Mbuza, Shambyu, Gciriku and Mbukushu, each inhabiting an area of its own along the southern bank. The languages spoken by these tribes, Rushambyu and Rugciriku, are very similar. The Mbukushu, who speak Thimbukushu and live in the eastern part of Kavango, differ socially and ethnologically from the other four tribes[25]. Rukavango-speaking people constitute by far the

[24] Link.springer.com

[25] Siyabona Africa (Pty)Ltd, 2019. Private Tours and Safari. http://www.siyabona.com/place/Kavango.html

[25] http://www.travelnewsnamibia.com/uncategorized/people-kavango-zambezi/

largest language group in Kavango (79.4% of the population), and San constitute just 0.4% of the region's population (NSA 2013: 171).

45. Overall, the San are considered a minority group and have been subject to discrimination. Many San groups have inhabited the same lands for very many years and have developed a close relationship with the land and NR. The San of Angola appears to share similar socio-economic challenges as those experienced by the San in Namibia. In fact, many San fled across the border to Namibia during the civil war in Angola. There is limited data on indigenous people in Angola, and challenges such as lack of recognition of indigenous groups, discrimination and limited service provision are reported by Non-Government Organizations (NGO's) and multilateral agencies. These groups have little, if any political representation in Angola, and as such, they are left vulnerable. The lack of information is partly attributed to the limited infrastructure and remoteness of areas in southern Angola where indigenous people exist. State and civil society engagement with indigenous people is limited as well.

1.2.9 Livelihoods and cross border trade

46. In Angola, despite all the progress that has been made, the harsh reality determined by strong social and economic needs, makes Cuando Cubango still one of the Provinces with the highest poverty rate, having the second highest index of poverty in the country. The southern region of Angola constitutes part of Angola's Southern livestock, millet, and sorghum livelihood[26] which is a largely agro-pastoral zone where local communities are engaged in rain-fed subsistence crop farming and livestock production. Other livelihoods apart from crop farming and livestock productions are fishing and trade. In terms of cross-border trade, vehicles such as trucks use the road that leads to the border crossing with Namibia through which trade happens. Apart from timber, illegal bush meat and water, the Cubango valley has little to offer to the wider world. No diamonds or gold or oil have been found in this corner of Angola Water is their most treasured possession. The southern provinces of Namib, Cunene and Cuando Cubango have no maize and beans, therefore, supplies flow in from nearby Huila province and from Namibia.

47. In Namibia, the main livelihoods in Kavango region are; subsistence farming, harvesting of natural indigenous products, contributions from family members' incomes, pensions for the older people, social grants and sale of livestock. Subsistence farming at village and family levels which is based on occasional surplus production from mainly dryland cropping and livestock production. Horticulture is gradually gaining relevance among the cropping communities. NR harvesting includes wild harvesting of indigenous products for own use and sale such as fishing, firewood, thatch grass, indigenous products for instance the Marula, devil claw, nuts and beans. Harvesting and sale of thatch grass is also an important livelihood in which community members sale such thatch to companies building upmarket thatch roofed structures in developed areas especially in private homes and tourism establishments. Contributions from income earned by family members formally employed through sending money to family members as required and are often 'project' specific for example for filed cultivation is also vital. Pension for the older people usually from 60yrs onwards is about N$1,200 per month state pension. The social grants provided to the vulnerable, disabled, orphans as well as sale of livestock usually only if in need of cash are other livelihoods among communities in Kavango region. However, livestock constitutes traditional wealth and is only sacrificed under special circumstances, a reason sale of livestock is not a common livelihood. Overall, people in Kavango earn their living by involving in different activities like small scale Agriculture, art and craft, sale of livestock, and forestry, but all these are done on subsistence level and the population has generally remained poor. There is also tourism with numerous upmarket lodges along the Kavango river but still this has not had a big economic impact except some small levies payable to traditional authorities.

1.2.10 Climate Change, droughts, vulnerability and threats

48. ***In Angola***, CC has manifested in various forms including delayed onset of the rainy season. The planting season used to start in October every year. Currently, rainfall occurs in December often followed by prolonged dry periods that have been detrimental to crop production with pronounced low yields and high crop losses. The wet season suitable for growth of dryland crops has even become shorter. In addition, there are more drought years with poor to none harvests recorded than the past.

49. The Agriculture sector is vulnerable to prolonged periods of, increased variability of the rain regime, floods, extreme temperatures - all have negative impacts on food security, livelihoods and the adaptability of communities vulnerable. Harvest failures induced by drought, have reportedly caused severe malnutrition in children. Consequently, farming communities have become more vulnerable to CC because of food insecurity, reduced incomes and livelihoods, increasing disease and poor health as a result of increased frequency of flooding, prolonged dry periods and droughts impacted agricultural production currently characterized by delayed planting, low crop yields, crop losses, post-harvest losses, pests and diseases. Droughts and CC have also impacted on water availability. Reduced water availability and access induces women to walk long distances to fetch water and limits agricultural activities outside the season.

50. ***In Namibia***, CC has manifested in form of extreme weather patterns characterised by prolonged droughts and floods in Kavango region. The natural threats include irregular rainfall, prolonged dry spells, drought, periodically delayed onset of rainy season, extreme high temperatures, wild fires that are usually from accidental causes, gradual deterioration of grazing areas that can be ascribed to overgrazing and overstocking. Overstocking results from absent management systems and increasing herd sizes as well as the changing rainfall patterns thereby hampering regeneration and sufficient fodder production as well as unreliable water supply resulting from technical failure to

[26] https://www.lac.org.na/projects/lead/Pdf/scraping_two_chap9.pdf

[26] Government of Angola, 2017. Droughts in Angola 2012 – 2016. Post Disaster Needs Assessment

maintain and repair of water supply infrastructure. Due to irregular rainfall, prolonged dry spells, drought, periodically delayed onset of rainy season and extreme high temperatures dryland cropping that involves growing of traditional crops has been delayed leading to crop failures, low crop yields and enormous crop losses. Communities have become food insecure resulting in hunger and famine. The occurrence of wild fires has increased and led to rampant burning of woodland forests. Consequently, wood and non-wood forest products such as indigenous products including wild fruits and thatching grass are notably scarce thereby limiting livelihoods of communities. In this way communities have become food insecure and lost livelihood safety nets and wealth with increased poverty.

51. Namibia is one of the driest countries in sub-Saharan Africa and is highly dependent on climate-sensitive sectors. It has one of the world's most inequitable income distributions, and over half of the population depends on subsistence agriculture. Namibia's economy and people are therefore highly vulnerable to CC. Variations in annual rainfall within the cross-border area leads to prolonged dry spells and erratic rainfall. These prolonged dry spells result in: total or partial crop failure with far-reaching impacts on food security, leaving communities vulnerable to severe hunger; reduced water and pasture for livestock; increased frequency of disease outbreaks; loss of biodiversity and increased resource use conflicts. The unreliable water supply resulting from rainfall variability has also affected irrigated agriculture and further aggravated the food insecurity in Kavango. Human wildlife conflicts along wildlife corridors especially from elephants that invade peoples' gardens and homes in search for water have reportedly increased due to CC. The communities and individuals most hit by CC and droughts are communities east of the Kavango river that have limited access to water; farming communities in the inland (far south of the river) also have limited and locally restricted access to water. Their main livelihood depends solely on dryland cropping and livestock production that are highly vulnerable to droughts. Communities in areas with brackish underground water. The young labour force consisting of men and women has been forced to migrate in search for better opportunities. The elderly, child headed HHs and people living with HIV/AIDS that are dependent on such labour force have also become more vulnerable to CC and drought impacts.

52. Overall drought and CC have not only aggravated food insecurity, water pollution, human-wildlife conflicts, reduced fodder and pastures for livestock and wild life, but also reduced water availability and access due to drying up ground water recharge as well as land degradation (vegetation and soil degradation). Communities, individuals especially small-scale farmers are vulnerable to droughts and CC, their limited coping mechanisms coupled with limited knowledge, skills to undertake concrete adaptation actions to enable them adapt to droughts and impacts of CC.

2. Project Objectives

53. The **Overall Objective** of the project to enhance adaptation capacity and resilience of communities to climate change impacts and variability in the transboundary region between Angola and Namibia.

54. The **Specific Objectives** of the project are to:

- Enhance local, sub-national and regional capacities to adapt and respond to climate change risks in the cross-border area of Angola and Namibia;
- Build organizational and technical capacity for climate-resilient production and water management;
- Improve food security in response to climate change impacts amongst rural and vulnerable communities in Cuando Cubango Province and the Regions of Kavango East and Kavango West.

55. It is estimated that overall, the project will directly benefit 6,500 small-scale farmers (50% women), their families (+36,000 family members) through concrete adaptation interventions, while another 140,000 people will directly benefit from awareness campaigns and capacity building. An estimated additional 200,000 people will benefit from the project indirectly (25% of the provincial and regional population).

56. In **Cuando Cubango Province in Angola** (*municipalities of Cuangar, Calai, Dirico and Rivungo),* the project will benefit 4,800 farmers and their families (+23,000 family members), and 80,000 people through increased awareness and enhanced capacities at various levels;

57. In **Kavango East & West Regions in Namibia** (*constituencies of Mpungu, Mkurenkuru, Tondoro, Musese, Kapako, Rundu Rural, Rundu Urban, Mashare, Ndonga Linena, Ndiyona, Mukwe)* the project will benefit 1,600 farmers and their families (+13,000 family members), and 60,000 people through increased awareness and enhanced capacities.

3. Project Components and Financing

Table 1: ADSWAC Budget summary

Project/Programme Components	Expected Outcomes	Expected Outputs	Countries	Amount (US$)
1. Strengthening awareness, knowledge and capacity to adapt to climate change and variability at community-, district-, national and regional level	**1.1.** Enhanced awareness and ownership of adaptation and climate risk reduction processes of the targeted populations;	**1.1.1.** Communities and populations in the targeted area have participated in climate change adaptation and risk reduction awareness activities;	Angola Namibia	1,190,000
	1.2. Enhanced capacity at sub-national, national and regional level to adapt to climate change risks and variability in the agriculture and water sectors;	**1.2.1.** National and regional centres and networks to respond to extreme weather events have been established, reinforced and supported in their operation;	Angola Namibia	740,000
2. Organizational and technical learning for climate-resilient production and water management	**2.1.** Established and strengthened community-based and farmer-based organizations for agricultural production and water management;	**2.1.1.** 160 Producer Organizations (POs) are established and strengthened;	Angola Namibia	260,000
		2.1.2. 160 Water User Associations (WUAs) are established and strengthened;	Angola Namibia	540,000
	2.2. Enhanced technical capacity of smallholder farmers and technical staff to adopt and mainstream climate-resilient agricultural practices;	**2.2.1.** Climate-resilient and water-efficient agricultural practices through extension services are disseminated;	Angola Namibia	300,000
		2.2.2. 160 model plots (Farmer Fields Schools (FFS)) for climate-resilient and water-efficient agriculture practices are established	Angola Namibia	420,000
3. Improving resilience of ecosystems and livelihoods through the implementation of community adaptation actions to improve food security in response to climate change and variability	**3.1.** Resilience of populations and ecosystems improved through concrete adaptation measures	**3.1.1.** Target farmers' and populations' access to and use of water during the dry season are increased	Angola Namibia	2,730,000
		3.1.2. Production is diversified and adapted to climate change impacts	Angola Namibia	3,050,000
		3.1.3. Improved livestock production is supported	Angola Namibia	715,000
4. Project/Programme Execution cost (9,2%)				1,005,000
5. Total Project/Programme Cost (1 - 4)				10,950,000
6. Project/Programme Cycle Management Fee OSS (8,5%)				930,000
Amount of Financing Requested				11,835,000

4. Project Calendar

Milestones	Expected Dates
Start of Project/Programme Implementation	January 2021
Mid-term Review (if planned)	July 2023
Project/Programme Closing	January 2025
Terminal Evaluation	March 2025

PART II PROJECT JUSTIFICATION

A. Project components

COMPONENT 1: Strengthening awareness, knowledge and capacity to adapt to climate change and variability at community, district, national and regional level

58. Component one of the ADSWAC project aims at addressing the gaps in capacities regarding CC adaptation at various levels in Northern Namibia and Southern Angola. Communities in Northern Namibia and Southern Angola have inadequate knowledge on CC and their capacity to cope with CC impacts is limited. The proposed project will raise and institutionalize awareness at community-level and build capacities of sub-national, national and regional structures. The activities under Component 1 will be implemented in cooperation with local structures in the form of Climate Change Action Centres (CCACs) that will be established by the project within the communities. The CCACs will be the central units around and from which all activities in this component will be organized and coordinated. All activities will be coordinated and implemented in strict collaboration with ADSWAC project staff and the Ministries of Education and Environment in the respective countries, as well as their sub-national counterparts and Traditional Authorities (TAs). These specific aspects will be achieved through outcomes 1.1 and 1.2 as well as outputs 1.1.1, 1.1.2 presented below. The proposed activities in relation with the corresponding outcomes and outputs are also presented accordingly.

Outcome 1.1: Enhanced Awareness and ownership of adaptation and climate risk reduction processes of the targeted populations;

Output 1.1.1 Communities and populations in the targeted areas have participated in climate change adaptation and risk reduction awareness activities

Activity 1.1.1.1 Establish Climate Change Action Centres (CCACs) to coordinate CC action in the municipalities/regions:

59. CCACs will be the prime responsibility of the Municipality Administration (Angola) and Regional Councils (Namibia) and will be linked to the Provincial/Regional Departments of Civil Protection. CCACs will be manned by 1 CCAC Leader and 2 CCAC Community Agents, who will be locally recruited by the EEs and whose capacity will be built to manage the CCACs and their activities. CCACs will be responsible for creating municipal Community Adaptation Action Plans (CAAPs) (A1.1.1.4), training community leaders and other stakeholders in resilient rural development and CC awareness (A1.1.1.3), will be used for capacity building of local authorities, coordinating CC awareness campaigns in communities and schools (A1.1.1.5 and A1.1.1.6), and local participatory climate vulnerability assessments (CVAs) and adaptation planning (A1.1.1.4). The ADSWAC project will establish a total of six CCACs, of which four will be in Angola and two in Namibia. There will be 1 Lead CCAC, in Calai (Angola), which will overview coordination with and monitor the other centres and ensure cross-border collaboration.

Activity 1.1.1.2 Build capacity of sub-national and local authorities and entities on climate change adaptation planning and implementation

60. The project will build the capacities of officials from the relevant provincial/regional and local departments (Agriculture, Environment, Water, Planning) in: (i) conducting Climate Vulnerability Assessments (CVAs); (ii) CVAs and the development of participatory CAAPs, and (iii) strengthening climate information channels that reach to the community-level. Trainings will be provided by consultants/experts recruited by the EEs.

Activity 1.1.1.3 Develop Community Adaptation Action Plans (CAAPs)

61. Participatory analysis of vulnerability and adaptation to CC (PAVACC)[27], will be conducted in collaboration with meteorological services, agricultural extension services, the civil protection unit, CBOs, local government, and local NGOs where applicable. This will help to identify suitable adaptation options, with a specific emphasis on crop, livestock and other natural resource-based livelihood options. Relevant government and civil society staff will be trained to ensure regular updating of vulnerability information. The CAAPs will guide decisions made by communities and farmers for diversifying their production systems, addressed under Component 3. Small grants will be available to support POs with innovative and valid business cases.

Activity 1.1.1.4 Climate change awareness campaigns in communities

62. CCACs will primarily (1) train community leaders and church leaders, and (2) provide CC awareness lessons for children and young people. The potential for knowledge generation and learning is high through the involvement of youth in particular in the Farmer Field Schools (FFS) (Output 2.2.1) and through the school education system (A1.1.1.6). Along with CC information, the CCACs, in cooperation with Environment and Forestry Departments, will conduct campaigns that raise awareness of the risk from flooding, the mitigation of drought impacts and the need for improved management of NR, including the disadvantages of slash and burn farming and of deforestation.

[27] Boureima M. et al. 2013. Participatory analysis of vulnerability and adaptation to climate change: a methodological guide for working with rural communities. Occasional Paper 19 – English version. Nairobi: World Agroforestry Centre.

Activity 1.1.1.5 Climate change awareness campaigns in schools and school gardens

63. The Green Schools Programme (GSP) will target primary to secondary schools and is a proven methodology previously implemented by the EEs in Angola and Namibia. It will provide CC awareness lessons for children and youth. A total of 40 schools will be reached and at each of the schools a local green school agent will be recruited to coordinate activities at school- and community-level. EEs and the Ministries of the Environment and of Education will develop a teachers' manual and a student action booklet, adapted to local contexts. The GSP will be carried out under auspices of the Ministry of Education in Angola and will be included in their regular supervisory framework. In Namibia, the GSP will be facilitated by the MEFT supporting the establishment of environmental education clubs at schools under the auspices of the Namibian Environment Education Network (NEEN).

Activity 1.1.1.6 Dissemination of project results, best practices and lessons learned in sub-national, national and international forums and through online campaigns (website, social media)

64. The GoA and GoN, in partnership with the ADSWAC project, will seek to communicate all relevant findings, conclusions and recommendations in-country and to neighboring governments as well as SADC officials and experts on CCA. Project results, best practices and lessons learned will be divulged in sub-national and national forums. In cooperation with regional partners such as OKACOM, CRIDF, GEF/UNDP, USAID's Resilient Waters, and other relevant stakeholder, project results will be disseminated through regional and international forums, and through the respective websites and on- and offline networks of those partners.

Outcome 1.2: Enhanced capacity at sub-national, national and regional level to adapt to climate change risks and variability in the agriculture and water sectors

Output 1.2.1 National and regional centres and networks to respond to extreme weather events have been established, reinforced and supported in their operation

Activity 1.2.1.1 Establishment of transboundary coordination mechanisms (authorities as well as civil society) for adaptation and disaster response systems through regional forums with key stakeholders

65. At national level, mainstreaming of information gathered and lessons learned will be channeled through sub-national authorities and civil society networks. At regional level, a transboundary coordination mechanism established by the project in Calai (Angola) will be the central institution providing a foundation to support and complement regional, national, local adaptation mechanisms and initiatives. It will consist of semi-annual meetings, in which local government and civil society stakeholder will gather to strengthen coordination of CCA initiatives, and to discuss and address regional CCA issues. Participants will formulate recommendations for municipality and regional governments regarding possible adaptation interventions to be implemented cross-border. Specific groups or sectors will be invited to individual meetings to address specific topics (e.g. small-scale traders and POs for cross-border trade). The mechanism will seek synergy with existing transboundary systems and meetings, such as those of OKACOM and of KAZA.

Activity 1.2.1.2 Strengthening the transboundary coordination mechanisms (authorities as well as civil society) for adaptation and disaster response systems

66. The project will strengthen the mechanism through specific capacity building sessions for the participants in CCA and DRR management. The mechanism, for its regular meetings, will partner with other programs implemented by other agencies focused on similar issues, such as water and food security and climate-resilient livelihoods. Capacity building will include organizational aspects (e.g. communication channels, information sharing methods) and technical aspects (e.g. best practices sharing in specific CCA activities, unlocking indigenous knowledge, etc.)

Activity 1.2.1.3 Support the development of small-scale cross-border agricultural trade

67. Small-scale trade between Angola and Namibia is common practice, mostly in the shape of Angolan producers and small-scale traders looking for surplus income that cross over to Namibia, where produce is welcomed to fill food shortages in the markets, expected to be exacerbated by CC. The ADSWAC project will implement two main sub-activities: (i) organize meetings between local agricultural stakeholders (local government, PO representatives, private sector) to incentivize new initiatives; and (ii) facilitate cross-border public-private partnerships (PPPs) between producers, small-scale traders, input suppliers and buyers, in alignment with the strengthening of POs and linkages to the market (Activities *A2.1.2.6* and *A3.1.2.9*). The activity will place particular focus on processed and stored foods, of which surplus may be marketable in difficult periods, and takes into account the growing market potential from Okavango tourism.

Activity 1.2.1.4. Sensitize and provide conflict management trainings for cattle herders, crop farmers and local authorities near transhumance corridors.

68. Although the project does not prioritize cattle production but focuses on short-cycle livestock (*Output 3.1.3*), the project will conduct sensitization campaigns to prevent and address potential conflicts arising from transhumance activities. Herders from Namibia cross over in Angola to seek for rangeland and water, notably in Olupale locality. This is seen as a coping activity which is expected to increase under CC as water scarcity and drought will be more prevalent. Meetings between cattle herders, crop farmers and TAs will be facilitated in order to address conflicts, and conduct trainings in conflict management. A specific focus will be placed on sensitizing Namibian herders to reduce transhumance into Angola.

Activity 1.2.1.5. Strengthen cross-border community-based fire management.

69. The reduction of wildfires and slash-and-burn practices will be a transversal issue in the awareness raising activities (*Activity 1.1.1.4*) and the promotion of improved agricultural practices (*Output 3.1.2*). Additionally, the project will organize workshops in border communities to address cross-border wildfires, in order to facilitate effective fire management and coordination between communities. This applies to communities where the river doesn't form the border and hence a natural firebreak. Workshops, executed by the EEs, will target local authorities and CBOs that are mandated with Community-Based Fire Management (CBFiM) and will include: refresher trainings on CBFiM, alignment of fire management and fire ceasing practices, and discussions and agreements on collective cross-border fire management and responses. The project will apply lessons learned from similar micro-projects piloted in KAZA.

COMPONENT 2: Organizational and technical learning for production and water management

70. Component two focuses on strengthening and institutionalizing capacities at community-level to address CC impacts, vulnerabilities and adaptation to those in the agriculture and water sectors, as the two crucial sectors for livelihoods and food security in the targeted regions. The project will establish and strengthen community-based and farmer-based organizations (Outcome 2.1) and support smallholders to adopt and mainstream climate-resilient agricultural (CRA) practices (Outcome 2.2). The POs and WUAs will be established in collaboration with Extension Workers from the Ministries of Agriculture (MoA)s and project staff, while the WUAs will be supported by the Departments of Water in the respective countries. Their establishment and organization will be crucial building blocks for increased climate resilience, for successful implementation of the ADSWAC adaptation activities, and for the sustainability of the actions and their results. The POs and WUAs will be the key partners to implement activities under this and the third component.

Outcome 2.1: Community-based and farmer-based organizations for production and water management have been established and strengthened;

Output 2.1.1 160 Producer Organizations (POs) are established and strengthened

Activity 2.1.1.1 Establishment and strengthening of 160 Producer Organizations (POs)

71. The EEs and the MoAs will facilitate the process of formation of 160 POs (associations/clubs) (120 in Angola, 40 in Namibia), and cooperatives and will facilitate the acceptance and recognition of their legal status by financial institutions, government institutions, traders and TAs. Where POs already exist (Clubs, Associations or cooperatives) the leadership and governance will be strengthened. The POs will be the central bodies to facilitate the adaptation of production systems, the FFS, the uptake of CRA practices, and the diversification of production (Component 2, Outcome 2.2 and Component 3). The establishing of the POs is based on the experiences of the EEs and the structures of the Farmers' Clubs Model (FCM), an agricultural extension method that supports POs and smallholders, and which has been implemented in over 330 projects across Sub-Saharan Africa, Asia and Latin America. The FCM is based on establishing local structures such as POs, and promoting peer-learning as a method to transfer and maintain knowledge on farming practices and other practices at the local level.

Activity 2.1.1.2 Build capacities of associations to develop their board and structures and strengthen their management abilities

72. The project, through extension workers, local trainers and consultants, will assist POs to develop their leading committees (boards), management structures, code of conduct and constitution to a level appropriate to their role and level of business. The project will counsel the leadership and members in finding appropriate structures, election of an administrative committee and definition of statutes. POs' key members will receive training in stock control, facility management and bookkeeping, among others. The POs will provide services to its members, such as stock and inventory control, warehouse management, procuring inputs and marketing produce on behalf of its members for achieving economies of scale, protect inputs and products from weather, ensure their goods are safe from theft, and will have an aggregate function supply.

Activity 2.1.1.3 Build capacities and support POs in adapting production systems (drought-resistant varieties, water-saving irrigation, short-cycle livestock, fodder production)

73. This activity will be implemented through the POs and their respective Farming Instructors, MoA extension workers and Lead Farmers. The methodologies to work with smallholder farmers includes FFS, Farmer Demonstrations and Field Days, Farmer Business Schools, meetings and improved organization for collective market access to distant markets. The following changes will be promoted for adoption: (i) SLM Practices, (ii) horticulture, (iii) the introduction of short season adapted varieties of cereals and legumes, (iv) local seed banks, (v) short-cycle animal production, (vi) fodder production, and (vii) production diversification. The concrete impacts of this activity will come under effect through the adoption of these practices by the targeted farmers (PO members) (Activities under Component 3). Through increased technical capacities at the PO level, the new practices and systems introduced will be supported and sustained.

Activity 2.1.1.4 Build capacity of the POs in management of low-cost storage and processing equipment

74. Similarly, the POs will receive trainings in the O&M of the storage and processing facilities that are introduced by the project (A3.1.2.6 and A3.1.2.7) to reduce food losses, addressing the increased risk of food insecurity induced by CC impacts. Links to suppliers of inputs, spare parts and technical support providers of the MoA's will be established.

Where applicable, POs will receive trainings in management of solar irrigation equipment. In other places WUAs will be responsible for the equipment and will enter into agreements with the POs on their use.

Activity 2.1.1.5 Train POs in business skills and establishment of links to the market

75. POs will receive trainings in production and business plan development, understanding of agricultural markets, marketing, negotiation skills and contract management. Farmer business schools will teach "farming as a business" and promote the use of basic business plans for irrigated and dryland crops and for the production of short-cycle livestock. Farming instructors will facilitate this together with MoA extension workers and a Rural Market Development expert. Simultaneously the project will facilitate linkages between the POs and private sector actors, including input distributors as well as potential buyers of raw and/or processed products. Transboundary trade plays an important role in livelihoods in the targeted communities, hence activities to exchange information and experiences will play an important role.

Output 2.1.2 160 Water User Associations (WUAs) are established and strengthened;

Activity 2.1.2.1 Establish 160 WUAs to manage water points and promote accompanying hygiene messages around safe water storage and use, and water demand messages

76. The project will support the water component by establishing and/or strengthening community-level WUAs that will take on responsibility for managing water points, water infrastructure, promoting accompanying hygiene messages around safe storage and use of water and water demand management (Activities under Component 3, Output 3.1.1). Adequate and efficient water management will be crucial in managing the impacts of CC in the targeted areas, where water scarcity will be a key adaptation challenge. A total of 160 WUAs will be established and/or strengthened. Where applicable, WUAs will be integrated with existing water point committees, which will then be strengthened in their community outreach capacities. The EEs will recruit and train local and qualified Water Security Officers, who will be the field staff responsible to support the WUAs. This will happen in cooperation with extension workers from local governments' Departments of Water.

Activity 2.1.3.2 Train and coach WUAs in managerial capacities

77. The EEs and the sub-national water departments will develop the necessary organizational capacity of the WUAs, extension workers and relevant committees covering subjects like: group dynamics, meeting management, conflict resolutions, etc.

Activity 2.1.3.3 Develop the technical capacity of the WUAs in the water committee component to manage the water point, establish guidelines for usage, ensure equal access to all, etc.

78. The WUAs will receive trainings in the O&M of water points, including technical trainings on maintenance of equipment, as well as trainings on managing equal access for all in periods of water scarcity. The WUAs will be linked to government Water Departments, service providers and providers of spare parts respectively for having access to technical assistance from the government, as well as to suppliers and installers of equipment. Each WUA, in agreement with local development committees and POs, will develop a locally appropriate levy-systems, in which water users will pay a small fee that will cover operational and maintenance costs for the water infrastructure and to build up financial reserve for incidental matters.

Activity 2.1.3.4 Develop the technical capacity of the WUAs in community outreach

79. In order to help promote the appropriate use and storage of water from point of source to HH consumption, the proposed project will support the WUAs with two main components, namely the water committee and the hygiene action team. The hygiene action teams will focus on community outreach regarding hygiene messaging, and they will include water demand management in their outreach. Their capacities and knowledge will be built on the safe storage and use of water, water purification techniques to be promoted, good hygiene and sanitation practices to be mainstreamed and effective practices to reach the population with behavior change communication. The importance of managing water demand will also be emphasized, in order to use water responsibly and efficiently during periods of scarcity.

Activity 2.1.3.5 Build capacities for the establishment and management of water infrastructure

80. The capacities of the WUAs will be built in the establishment and management of the water infrastructure installed by the project (A3.1.1.1 and A3.1.1.2), to secure that the investments maintain beyond the project and that local capacity is in place to establish new systems. O&M manuals will be developed by the EEs and the water departments in English and Portuguese, for the respective water solutions opted for, and distributed to the WUAs. During construction and installation of water infrastructure, the WUAs and benefiting community members will be actively involved in both design and installation, so that they acquire the knowledge and experience to establish new systems when applicable (investment, lifetime, maintenance and repair costs, etc.).

Outcome 2.2: 6.500 smallholder farmers (50% women) have been technically supported to adopt and mainstream climate-resilient agriculture practices

Output 2.2.1 Climate-resilient and water-efficient agriculture practices (CA and AFS) through extension services are disseminated;

Activity 2.2.1.1 Establishing partnership and Memorandum of Understanding (MoU) with the subnational extension services

81. The ADSWAC project will work in conducive partnership with the agricultural extension services of the MoAs to deliver trainings and extension to the targeted farmers. An MoU will be written and signed with Provincial extension services in Cuando Cubango Province in Angola and with Regional extension services of Kavango East and Kavango West in Namibia. Due to limited budget and capacities, there are currently insufficient government extension agents to reach all farmers in the targeted municipalities. The ADSWAC project will recruit Farming Instructors (FIs) which will serve as additional extension workers throughout the project's implementation. The FIs will be recruited locally and after 5 years of project implementation will be experienced extension officers who can continue their work either with funding from other donors, government funded initiatives, or if government budgets for agriculture development increase. FIs and government extension workers will work in direct collaboration and coordination to reach the targeted smallholders.

Activity 2.2.1.2 Train the extension agents to ensure farmer trainings

82. At the start of the ADSWAC project, extension officers and FIs will participate in an intense performance-based and week-long training workshop in which the climate-resilient practices will be taught. These trainings will be led by expert agronomists who will teach the key principles of CRA, and technical capacities related to the practices to be adopted by the farmers (Component 3). Other implementing staff involved in the agricultural components of the project will also participate in the trainings. Regular refresher trainings and meetings will be organized in which experiences will be shared across agencies and countries.

Activity 2.2.1.3 Conduct regular farmer field days and FFS using a Technical Orientation Manual

83. The extension workers and FIs will organize farmer field days and training sessions at the FFS to give specific technical trainings to targeted farmers. Extension services will be organized and delivered through the POs, who will serve as an access point for the extension workers for easily reaching all farmers. Farmer field days and visits will serve to provide specific advice to the farmers, either in farm planning and design, addressing issues such as pests and plagues, the correct application of CRA techniques, horticulture production, rainwater infrastructure, etc. The CRA practices will be promoted on the model plots (Output 2.2.2) where regular trainings will take place. Extension agents will continue to provide extension support and use the methodology of FFS beyond the end of the project. FIs and lead farmers in the community will operate model farms and will continue to organize field days with support of traditional leaders.

Output 2.2.2 160 model plots (Farmer Field Schools) for climate-resilient and water-efficient agriculture practices (Conservation Agriculture (CA) and Agroforestry Systems (AFS)) are established;

Activity 2.2.2.1 Select and agree on the demonstration plots

84. One demonstration plot (FFS) will be established per PO, and will be designed and developed by the farmers, with guidance from instructors, extension workers, specialized staff and local experts. The model plots will be managed by the POs and the yields produced on the plots will be shared equally among the member farmers, overseen by Lead Farmers and instructors. Sites for the demonstration plots will be suggested by communities, in agreement and coordination with the local village development committees and TAs.

Activity 2.2.2.2 Train and sensitise the lead farmers/focal points in each of 160 community/producer organizations

85. For each of the POs, which will consist of 30-40 members (50% women), four to five lead farmers will be elected by the members. These lead farmers, for which a 50% ratio of women will be targeted, will form the PO committee/board. Committee members will receive trainings in group management, organizational capacities and will be responsible for organizing trainings, managing FFS, coordinating with extension workers, and for organizing collective processes such as buying inputs and aggregated processing and sales.

Activity 2.2.2.3 Organize with the support of the extension services sensitization sessions to farmers to encourage them to apply new resilient practices

86. Throughout the project, regular trainings will be provided to each of the POs in CRA practices. Trainings will be provided by MoA extension workers and ADSWAC project staff. Based on previous experiences with similar projects in both Angola as Namibia, farmers are likely to adopt the practices as they will they will observe the benefits in terms of productivity and in terms of reduced crop losses during drought events. The core practices promoted on the plots will be based on Conservation Agriculture (CA), Agroforestry Systems (AFS) and horticulture (based on applicable CA and Ecological Organic Production (EOA) principles).

Activity 2.2.2.4 Set up the demonstration plots and procure inputs for their establishment and management

87. Initially, there are two types of model plots: 1. Developed community gardens, demonstrating the horticultural production potential and benefits by individuals in a group setting. 2. Dryland crop fields where individuals experiment with different CA practices and observe achievements and comparison with traditional methods. Model plots will be established by lead and participant farmers in each of the POs, in cooperation with project staff and extension workers, and will serve also as a meeting place for the POs, where farmers can share experiences and best practices, discuss challenges and collectively find solutions. The FFS will be managed by PO members. Inputs will be provided for the establishment of the FFS, including seed packages, tools and small equipment. Model plots will consist of dryland crop fields, irrigated horticulture production units and short-cycle livestock production units, both managed by groups and on an individual basis.

COMPONENT 3: Improving resilience of ecosystems and livelihoods through the implementation of community adaptation actions to improve food security in response to climate change and variability

88. Component three is focused on concrete and tangible CCA outputs in the agriculture and water sector, to achieve climate-resilient livelihoods and food security for the targeted farming communities. The component is directly linked to the organizations and capacities that are being established under Component 2, in the sense that all activities will be implemented in partnership with POs and WUAs, who will allow for easy reaching big numbers of farmers and community members. Component 3 will be led by ADSWAC project staff in strict collaboration with local and traditional authorities, and with the Ministries of Agriculture and Water in both countries. The component focuses on addressing drought and other CC impacts in the targeted sectors. It will achieve this through activities organized in clusters that are focused on access to water during the dry periods (Output 1.1), climate-proofing of agriculture activities, and diversification of production and income options (Output 1.2), and improving livestock production and management in the face of CC impacts (Output 1.3).

Outcome 3.1: Resilience of populations and ecosystems is improved through concrete adaptation measures

Output 3.1.1 Target farmers and population access and use of water during the dry season are increased

Activity 3.1.1.1 Select the most viable water solutions for production

89. The project, under this component, aims to strengthen the provision of water access for production, addressing CC induced impacts. The most viable solutions for water provision will be location-specific, and the most viable solutions will be identified through a participatory process, in consideration of resource availability and stability, legal frameworks and environmental implications. Local farmers, WUA representatives, project staff, government water experts and service providers will identify which water infrastructure is most effective and efficient in each respective location. Where farmers' fields are located near rivers, solar or manual pumping from the river may be the most viable, while in locations further distanced from the river, boreholes and wells may be the most viable solution. Where the landscape lends itself for rainwater harvesting, this may be the most viable. A combination of options can be considered, as well as the revival of dormant existing water infrastructure.

Activity 3.1.1.2 Establish water infrastructure for production

90. Following the identification and validation of water solutions, the project will establish the selected infrastructure on-site. Infrastructure will be established in cooperation with local communities, relevant stakeholders and farmers. WUAs will be closely involved and will be responsible for the O&M.

Activity 3.1.1.3 Implement water capture and retention systems at farmers' fields

91. Where applicable, the project will establish systems to capture and retain rainwater near and in farmers' fields. Ponds will vary in scale depending on the size of the fields and will be made by the farmers and with local materials, potentially reinforced with plastics if feasible. Where the landscape (elevation, etc.) allows, swales will be dug in and around the fields to both store water and allow for strategic infiltration in the soils.

Activity 3.1.1.4 Establish models for water collection for human consumption

92. The project will establish model collection systems for rooftop rainwater in water tanks at public sites, such as schools, health centres, CCACs, municipality centres. The models will mainly serve as a showcase for individual HHs to adopt, if local infrastructure (e.g. appropriate rooftops) and financial means allow.

Activity 3.1.1.5 Promote solar powered water pumps and small-scale irrigation systems

93. The project will promote small-scale irrigation. Water will be pumped by two systems: 1) manual/treadle pumps available on an individual farmer basis to allow families to pump water from rivers and shallow wells for gravity fed furrow or drip irrigation fed by a reservoir; and 2) Solar power to pump from rivers, boreholes or from wells dug where groundwater is shallow to a reservoir or directly for flood/furrow irrigation. The systems will be promoted through the POs where applicable, and each common plot will be provided with 1 irrigation system to meet daily water requirement. The POs will be capacitated to operate and manage the systems (A2.1.1.4), and where applicable, such responsibility may be transferred to the WUAs.

Activity 3.1.1.6 Conduct community campaigns for safe water use and water demand management

94. The WUAs will carry out sensitization campaigns in all targeted communities on a regular basis to accompany the hardware-related interventions. The sensitization, based on the WUAs' capacity building (A2.1.2.4) will evolve around two main topics: (i) safe water use and hygiene; and (ii) water demand management.

Output 3.1.2 Production of 6,500 targeted farmers (50% women) is diversified (crop diversification, beekeeping, fishing)

Activity 3.1.2.1 Promote improved soil management

95. Through the POs and their respective FFS, the project will promote improved practices for better soil management, leading to more fertile soils and better water retention capacity, contributing to increased resilience towards the effects of CC on agricultural soils. Trainings will be provided and demonstrated on the FFS. In terms of soil fertility enhancement, the project will promote practices based on core elements of CA and EOA practices. In terms of water retention capacity of soils for dryland cropping, the project will mainstream shallow depressions and "zai" techniques as micro-practices, and establish swales around farms to improve water collection and infiltration in the soils (synergy with A3.2.1.4).

Activity 3.1.2.2 Promote cropping practices resilient to climate change

96. Together with the POs and their member farmers, the project will promote improved cropping practices. Trainings will be provided and demonstrated on the FFS. The practices will include crop rotation, improved planning of planting seasons, and the introduction of intercropping techniques, including AFS. Introduction of AFS includes the planting of trees in and around the fields with a variety of species for nitrogen fixation, fodder for animals, shadow, firewood, fruits, construction and improvement of health. Farmers will be encouraged to apply a minimum of two AFS practices on their individual lands, according to local conditions, demand and farmers' preferences.

Activity 3.1.2.3: Increase the use of a range of drought-resistant crops and seeds

97. The project will introduce short season, adapted varieties of cereals and legumes. Crops for the introduction of improved (not hybrid or GMO) and adapted seeds and crops will include pearl millet, sorghum (e.g. variety Macia), short season determinant cowpea (IT18 type), bambara nuts, pigeon pea, orange flesh sweet potato and cassava. Appropriate and adapted crop varieties will be multiplied at community level after their evaluation by farmers. With regard to horticulture, seasonal vegetable crops of suitable variety tolerant to the prevailing climate and production environment will be identified. Other incentives will be provided such as packages of improved drought and extreme weather tolerant seeds for farmers who best implement CRA practices learnt from the FFS. The project aims to improve the capacity of communities to create seed banks of improved short and long season crop varieties and establish nurseries to maintain these seed banks. Seed multiplication schemes for drought tolerant crops and crop varieties will be established at the community level for distribution to farmers. Smallholder farmers will receive training in the selection of seed and management of seed stocks.

Activity 3.1.2.4 Promote horticulture and horticulture production sites

98. Vegetable production will be an important way for farmers and communities to diversify their production, secure the availability of plant- based food throughout the year as well as their nutrition intake and related health improvement, and generate income from surplus produce. In the light of CC-induced food insecurity, improved nutrition will play an important role in the resilience of farmers, HHs and communities. The project will establish communal plots in each targeted community, near to river beds or other permanent sources of water. Land will be allocated by traditional authorities and village committees. The size of communal plots (community gardens) will be aligned to active participants (members) and their capacities as well as to the availability of water (daily water requirements of garden). The horticulture plots will be established and managed by the POs and communities, with support from ADSWAC project staff (and the WUA). Participants (+50% women), will receive trainings from project staff in vegetable production. Practices and techniques will follow similar guiding rules as CA (e.g. composting, zero-tillage, mulching, etc.) and based on the principles of EOA with emphasis on locally available input resources.

Activity 3.1.2.5 Develop and promote non-agricultural sources of income such as beekeeping, fishing, wild indigenous fruits and microenterprise development

99. The most important aspect of diversification, will be the development of non-agricultural sources of income such as beekeeping, fishing and microenterprise development. Asides from those, the project will investigate and implement the harvesting of wild indigenous fruits, a common practice in Namibia but not in Angola, as well as other NTFPs (e.g. reed for roof thatching, etc.). Other productions that may be considered include: production of natural fertilizers and pesticides, insect production for chicken feed, services such as repair, processing, etc. In line with the CAAPs developed by communities (A1.1.1.4), small grants will be available for POs with strong business ideas, who will be able to acquire materials. Trainings in will be provided by specialists, extension workers and project staff, facilitated through and in cooperation with POs. Where possible, preference will be given to female farmers and HH members. Additional to small grants, access to equipment and materials will also be facilitated on a credit basis following the development of a viable business plan. This activity will be implemented through and in cooperation with the POs, who will have the legal structure and the operational capacity to access loans.

Activity 3.1.2.6 Facilitate saving groups among farmers

100. Sub-groups for solidarity within the POs will be formed for credit and savings to ensure that they are cohesive and fit for purpose for mutual loan guarantee involving 10 to 15 persons. These groups will be formed by women as a priority although groups for men will also be necessary for credit purposes. Agricultural loans to HHs (men and women) will be provided for self-selected cohesive solidarity groups within POs.

Activity 3.1.2.8 Introduce low-cost storage and processing equipment; Introduction of low-cost storage and processing equipment

101. Given the increased variability of rainfall it is not clear when farmers should plant. In semi-arid regions an effective strategy is to sow at each planting rain with short season varieties in the expectation that at least one or all sowings will produce a crop. This requires increased seed stocks. In addition, grain stocks from harvests in good years need to be carried over for subsequent years. Small storage units made from local materials, or low-cost technologies at HH-level will address post-harvest losses, for either food security purposes or to allow sale when market prices are higher. Through the POs, the EEs in cooperation with the MoAs, will capacitate the farmers in value addition by training them in post-harvest techniques, processing and good storage practices. Small storage facilities will be established at PO-level and will serve as the central sites for these activities. Small-scale processing equipment will be provided to the POs based on the crops they grow and their preferences, to be able to process before storage, use or marketing.

Activity 3.1.2.9 Develop public-private partnerships (PPPs) to improve links to the markets

102. Farmer business schools, at the level of POs, will promote the use of basic business plans for irrigated crops, dryland cropping, for production of short-cycle livestock as well as other potential IGAs. The development of PPPs will relate to improved input supply, access to credit and linkages to close and distant markets for animals and vegetables. During full proposal development, a more detailed assessment of value chain inclusion and development will be conducted, which will be based in a recent Value Chain Analysis that was carried out for the KAZA trans frontier conservation area[28].

Activity 3.1.2.10 Organize exchange visits between POs across the border to facilitate experience sharing

103. The project will organize and implement exchange visits between PO members from Angola to Namibia and the other way around. Practices that are implemented on one side of the border may inspire action for farmers at the other side of the border, while knowledge and experiences regarding the implementation of the activities under the project can be shared.

Output 3.1.3 Improved livestock production is supported

Activity 3.1.3.1 Facilitate farmers' access to veterinary services

104. The project will seek to enable access to veterinary services for cattle farmers in the regions. Herders from Namibia cross over in Angola to seek for pasture, where Angolan cattle farmers currently lack access to vet services. CC projections of frequent droughts could increase the frequency of cattle herders crossing into Angola, also increasing the risk of spread of cattle diseases.

Activity 3.1.3.2 Promote short-cycle livestock production

105. Aligned with the diversification of production and income to increase resilience (Output 3.1.2), and integrated with the improved production of cereals and legumes (A3.1.2.2), the ADSWAC project will promote the production of small short-cycle animals. The project will focus on the scaling up of small animal production, namely poultry, goats, rabbits and potentially pigs (if food can be secured).

Activity 3.1.3.3 Improve the production of fodder for livestock

106. To complement and strengthen the livestock activities, the project will promote fast-growing tree and shrub species that can serve as fodder, especially for the small animals. Where applicable, tree and shrub species will be included in the AFS systems promoted under the project (A3.1.2.2), hence this activity will be promoted through the PO networks and by project staff and extension workers. For poultry, grain by-products are suitable but not sufficient and special emphasis need to be given to the fodder supply chain, and the possibility of insect farming as a supply of fodder (a new technology) will be piloted.

Activity 3.1.3.4 Sensitize and provide conflict management trainings for cattle herders, farmers and local authorities near transhumance corridors

107. Although the project does not prioritize cattle, the project will conduct sensitization campaigns through community meetings to prevent potential conflicts arising from transhumance activities. Meetings between cattle herders, crop farmers and TAs will be facilitated so to address conflict management.

[28] Promoting climate-resilient livelihoods in the KAZA TFCA, Value Chain Analysis and Proposed Partnerships (link)

B. Promotion of new and innovative solutions to climate change adaptation

108. Rural agricultural communities in both countries and specifically in the targeted regions, have experienced the impacts of drought and other weather extremes for a long time. Their subsistence is essentially dependent on climate-sensitive livelihoods that are derived from fragile and degrading NR amidst weak and inadequate extension services for improved agricultural production and NR management. The abilities and capacities of the targeted communities to cope with CC induced events such as droughts have remained weak over time, due to limited development and lack of support from governments that had priorities other than agriculture or rural development. In that understanding, the project will bring innovative solutions through the ADSWAC project's approach. Overall, the ADSWAC project is designed to promote the "*Community Structure Based Participatory Learning and Action Approach*" supported by CCACs as the major innovative solution to CCA. Under this approach community based structures will serve as the major drivers of adoption and adaptation of drought planning, response and management actions. In this case, the project will combine both learning and action to build resilience of communities especially small-scale farmers and pastoralists in the cross-border region to drought and other CC risks. Capacity of community-based structures such as POs and WUAs will be built so that other community members can easily interact and learn from such leaders. This innovative approach to climate change adaptation will be integrated into specific innovative aspects of the project including the following.

109. Firstly, the project will be innovative in a participatory approach towards awareness, learning, planning and action. Considering the project's design, stakeholders from various levels will be engaged and linkages between them will be strengthened in creating common understanding and synergies of the impacts of CC and the ways forward. Various stakeholders are involved, including teachers and students and communities in local adaptation planning. This approach is novel to the addressed areas, and aims to not only strengthen the agency and ownership of the participants, but also establish and consolidate linkages across different sectors and different layers of society. Thereby the project establishes platforms for information-sharing, learning and collaboration, which will be necessary given the omni-sectoral nature of CC. The innovativeness of this approach lays furthermore in the factor that existing knowledge and experiences from a wide variety of people will be captured as a foundation for designing appropriate action plans. Particularly innovative is the establishment of the transboundary coordination between Angolan and Namibian stakeholders, which will allow for a coordinated and joint response to droughts and other potential CC-related disasters in a hard-to-reach region with similar conditions and characteristics across the border. Also, a concertation mechanism will be established which includes several joint scientific and technical activities, including updating the database, setting up water and related resouces monitoring network and defining data exchange protocols between both countries. This mechanism will be implemented on a consultative basis and will take into account the specificities of the areas.

110. Secondly, the project will introduce, develop and enhance technical capacities and opportunities at various levels, including sub-national and local authorities, as well as CBOs, communities individual farmers and community members. This is innovative in a target zone where a very small share of the population has had or will have access to higher technical education. Capacities created and strengthened will stay at the community, and experience shows that they will be passed on to other direct and indirect beneficiaries (ripple effects in the community).

111. Thirdly, the project is innovative in its particular methodology emphasising the strengthening of social capital as a key building block of climate resilience. Additional to the platforms mentioned above, the project is built on the strengthening of organizational structures at community-level to carry on activities and continue on climate-resilient development pathways.

112. Fourth, ADSWAC will support smallholder farmers in changing from business as usual to climate resilient farming practices. To exemplify how innovative this is in the area, staff from the agricultural development centre in the area had never heard about CA before the ADSWAC team consulted them, while CA has been very effective in other areas in the country and the region. In that regard, the project will have a high impact supporting smallholder farmers directly in transforming their food production systems. Included in this, are besides CA, also EOA, AFS and water-efficient techniques. Additional to the practices and techniques, the project will introduce drought-resistant crop types and varieties that are new to the area, but common in the countries, such as pearl millet, sorghum, short-season cowpea, orange sweet potatoes, and others.

113. Fifth, the project will introduce new IGAs to diversify both food production and income of smallholder farmers and their communities, innovative to the area. As such, activities introduced will include non-agricultural livelihood options such as beekeeping and fishing, which can provide for both healthy nutrient sources as income. Besides these non-agricultural options, the project will also enhance the integration of smallholders in value chains, thereby creating new job opportunities such as at processing centres, storage/aggregation units, and sales and supply related activities. Different from BAU are also the focus on short-cycle livestock production and fodder production, both adding to diversification and food security.

114. Sixth, the project is focused on establishing water infrastructure and irrigation systems, providing farmers with water for production during periods of drought and throughout the year. Access to water for production at this scale is novel to the area and will be implemented through various types of technologies and techniques. In addition, during the full proposal stage a participatory consultation process will be adopted, involving the farmers, to allow the definition of farming activities adapted to wetlands ecosystems bringing innovative opportunities for the concerned populations.

115. Another innovative introduction of the ADSWAC project is the activity that will establish linkages between weather forecasting and climate information services and the communities. This will enhance the agriculture related interventions, allowing for communities, farmers and producer groups to better plan their planting seasons.

116. The innovations in adaptation and resilience building will be shared and fostered through the knowledge sharing activity that is included in the project and through the network of stakeholders that are involved in the project, including

agricultural development centres. Lessons learned will be shared in national, sub-national and regional platforms for further adoption.

C. Economic, Social and Environmental Benefits

117. The ADSWAC project's design promotes activities that are compliant and compatible with the ecological and socio-economic context of smallholder farmers in the border region between Angola and Namibia, as well as the Environmental and Social Policy of the Adaptation Fund.

At socio-economic level

118. The ADSWAC project will directly contribute to enhance livelihoods of population across the targeted areas, through improved approaches in agricultural practices and technologies and agriculture-related livelihoods, facilitated by a better access to water in periods of drought, by increased awareness on CC and upgraded planning capacities and coordination. Improved livelihoods of smallholders will also be achieved through investments in building organizational and technical capacities of farmers and farmers' groups. Communities' production systems will become more climate-resilient including access to water for irrigation, and introduction of alternative or additional livelihood options through diversification of production and opportunities along the agricultural value chains. The adoption of CRA practices such as CA, AFS and EOA, unknown to the farmers in the area, will increase productivity and crop yields significantly. This will contribute to improved food security of farming families, will increase income from surplus production and will have positive effects on overall health, and on less tangible social and psychological constructs such as personal pride, recognition, dignity, self-worth etc. Adaptation of the agriculture system will foremost include access to water for irrigation. Better life conditions will furthermore be achieved through the promotion and development of alternative livelihood options, both agriculture-based (post-harvest and value-addition activities) and non-agriculture-based activities (bee-keeping, short-cycle livestock, services, indigenous products). HHs will thereby access new income streams strengthening their economy.

119. The project will build technical capacities among the project beneficiaries that are lasting and will have a continued benefit at the community-level, hence creating long-term socio-economic benefits. To further encompass the benefits gained by communities and farmers, the strengthening of POs, WUAs and cooperatives will allow for farmers to benefit from aggregating their production as well as the purchase of inputs, and from having formalized institutions that will allow for access to credit and funds as required for further investments. Informal credit and saving groups within the POs will also facilitate access to credit where necessary which may provide further benefits to farmers and communities.

120. The project will enhance awareness on CC, which will lead to better informed decision-making for production and for the protection of assets. Enhanced planning capacities, and the development of local adaptation plans will allow a better livelihood resilience. Additionally, the active participation of farmers and communities in vulnerability assessments and adaptation planning will strengthen the cohesion of communities and the coordination and integration between stakeholders.

121. Altogether, the project will improve the quality of life, and dignity and self-respect of targeted populations through improved social and economic conditions.

Gender

122. The project will be gender-sensitive and -responsive, in compliance with the AF's Gender Policy and Action Plan. In consultation with women and girls, the project will take affirmative actions to reduce the discriminative behaviour. Also a gender action plan for the ADSWAC project will be developed, building upon the existing OKACOM GAP.

123. Discriminative behaviours to be addressed include, among others: women generally are not allowed to handle money or gain access to credits, women tend to have only secondary roles in farmer organizations, generally land is not allocated to women, women's economic contribution is undervalued, in dry seasons women and girls are tasked with heavier burdens such as carrying water from water points and wells, etc.

124. Taking concrete measures for the participation of women to decision-making, and the access for their knowledge, training, inputs and all project activities, will strengthen the position of women in the community and the society. Gender parity will furthermore be secured in POs' and WUAs' boards and committees.

At the environmental level

125. Through awareness campaigns in communities and the GSP, the project will increase understanding on the interaction between climate, environment, ecology, agroecosystems and the human factors that impact the use of NRs and its dynamics. It is expected that this will have a positive effect and reduce detrimental behaviour practices. The promotion of CRA practices in agriculture will inevitably lead to a reduction in soil erosion, soil nutrient depletion, and water infiltration and retention capacity, contributing to ecosystem resilience. The rainwater harvesting and irrigation practices introduced and promoted will lead to an improved water resource use. Creating awareness on improved rangeland and herd management, as well as drinking points for cattle, will also reduce the impact of livestock on the ecosystems. Food and nutrition security in the face of CC will be improved, which will reduce the need for the communities to fall back on environmentally negative coping practices such as unsustainable management and exploitation of forest resources and indigenous products.

126. The development of local adaptation plans will contribute to CC management, including the management of NR, which will be included in the planning process. In addition, the concrete adaptation plans may include tangible actions for protecting and/or enhancing ecosystems and their resilience.

127. All these are anticipated benefits of the project interventions. However, to mitigate negative impacts of the interventions in compliance with AF ESP, Environmental and Social Impact Assessments, Gender analysis supported by a complete gender action plan as well as a grievance redress mechanism will be undertaken during the development of the full proposal document.

Table 2:ADSWAC Economic, Social and Environmental Benefits

Outcomes	Economic Benefits	Social Benefits	Environmental Benefits
Outcome 1.1 Enhanced awareness and ownership of adaptation and climate risk reduction processes	• Enhanced awareness of CC leads to better decisions for maintained production and protection of assets;	• Enhanced livelihoods, food security, and income through better-informed decision-making;	• Increased understanding of the interaction between climate, environment and human factors that impact use of NR;
Outcome 1.2 Enhanced capacity at sub-national, national and regional level to adapt to climate change risks and variability in the agriculture and water sectors	• Enhanced rural livelihoods as a result of better adaptation plans; • Reduced losses in infrastructure and production from better planning; • Better coordination among stakeholders increases ability to reach more people with climate-resilient development actions;	• Strengthening the active participation of vulnerable populations in planning and decision making linked to CC; • Strengthened cohesion and integration between stakeholders;	• Local adaptation plans take into account sustainable management of NR;
Outcome 2.1 Community-based and farmer-based organizations for production and water management have been established and strengthened	• Better systems for development and O&M of infrastructure reduce costs; • Formation of POs provides farmers' access to credit; • Enhanced organizational capacities for access to markets;	• Strengthened cohesion and integration between community members and farmers; • Improved collaboration among the farmers through the POs; • POs and WUAs serve as informal safety nets; • Improved collaboration among and in the communities through the WUAs;	• POs' business and production plans based on environmentally friendly practices, reduces pressure on ecosystems; • WUAs' capacities to manage water improves management, and reduced impacts from coping practices; • Improved control over pollution and contamination of rivers;
Outcome 2.2 Smallholder farmers (50% women) have been trained and technically supported to adopt and mainstream climate-resilient agriculture practices	• Improved capacities of extension workers and lead farmers supports increase in production and HH economy; • Improved capacities of extension workers and lead farmers conduct to reduction in potential losses;	• Improved services from extension workers and government staff for farmers; • Improved dignity, self-worth and self-respect;	• CRA practices contribute to reduction in slash-and-burn practices and deforestation; • CRA practices (such as AFS) potentially contribute to reforestation; • CA, EOA and AFS practices contribute to improved agroecosystems;
Outcome 3 Resilience of populations and ecosystems is improved through concrete adaptation measures	• Increased agricultural production generating economic surplus for farmers; • Diversification of income options strengthens HH economy; • Reduction in agricultural production losses; • Ability to produce food all-year-round improves HH income;	• Improved life quality through improved food and nutrition security; • Enhanced resilience through diversification of income; • Improved quality of life through increased income; • Improved access to food all year round for population; • Improved overall health of communities;	• Improved food security reduces need for negative coping practices • Improved land management leads to reduced soil loss, and improved maintenance of soil resource base; • Improved water use reduces pressure on water resources; • Reduced pressure on ecosystems as existing resources are more sustainably utilized;

D. Cost-effectiveness

128. ADSWAC aims to enhance adaptation capacity and resilience of communities to CC impacts and variability in the transboundary region between Angola and Namibia. This will be achieved through strengthening the capacity of vulnerable communities and other stakeholders to adapt to CC, knowledge and information sharing and implementation of concrete adaptation actions within the transboundary region between the two countries.

129. Overall, by focusing on undertaking transboundary adaptation actions i.e. actions that transcend the political borders other than tackling the drought problem in separate countries is an innovative way of avoiding to duplicate costs. Such a cross border approach not only enhances regional cooperation, but also harnesses the advantages of knowledge diffusion and influence between communities, districts and countries. In posterity, such advantages serve to reduce costs and improve on the benefits. A diversity of project interventions is eventually implemented by targeting a relatively larger number of project beneficiaries emanating from relatively unique socio-economic backgrounds prevalent in the two different countries. Therefore, the cross-border approach that disperses costs and benefits between communities and other stakeholders in both countries will at the least minimum lead to positive cash flows and benefit cost ratio, implying that the proposed project is cost-effective and worth an investment.

130. The joint approach of sharing updated and relevant information on drought management at community, district and regional levels facilitates deployment of a regional action plan where the joint capacities and measures of interventions will be more efficient and more cost-effective. A joint approach to tackling the drought problem leads to an effective response to drought and greater resilience to climatic variations and changes. Drought phenomenon is a transboundary issue experienced by the target countries. It allows streamlining of capacity building and support processes thereby

creating an economy of scale in cost effective implementation. Furthermore, the capacity-building component of the proposed project targets various stakeholders such as, policy makers, managers, technicians, local government representatives, local community representatives and people at community, district and regional levels. It moreover, proposes to support the vulnerable members such as women, children, orphans, youth and elderly in undertaking adaptation actions and Income Generating Activities (IGAs). Undertaking such interventions across the borders is not only catalytic but also pioneers innovativeness in addressing CC and drought that transcend the political boundaries. Comparing taking no action and actually undertaking the proposed project interventions basically leads to positive cost-benefit ratios probably with varying magnitudes. Overall, regionally led implementation is less expensive and faster. It helps build a pool of regional and national experts. The innovations generated are adopted more easily by the member countries and moreover, it promotes sustainability. It provides platform and means for the countries to share experiences, practices, lessons, knowledge, and resources. These advantages further point to and contribute to the cost effectiveness of the proposed project. During the full proposal development, a specific detailed cost effectiveness study of the concrete adaptation action activities will be conducted and the findings will be taken into account while drafting the activities budget and quantification.

E. Consistency with development strategies

131. The ADSWAC project is anchored in, and aligned with, the key relevant policies and strategic plans, respectively at regional level within the Southern African Development Community (SADC) and the Okavango Commission (OKACOM), and at national levels in Angola and Namibia. The tables below give an overview of all relevant policies and strategies identified, and a brief description of how ADSWAC is consistent with core strategic points.

Regional Level

Table 3: Consistency with Regional development strategies and policies

Policy/Strategy	Relevant strategic points of the policy and corresponding ADSWAC activities
SADC Policy Paper on Climate Change	Key strategic points: (2) Climate Resilient Development; (3) Climate Resilient Agriculture (CRA) for Regional Food Security; (5) Driving Dry Economies – programmes to increase water management efficiency. Activities under Components 2 and 3 of ADSWAC (Outcome 2.2; Outcome 3.1).
SADC Climate Change Adaptation for the water sector strategy	Strategies' alignment: 2.1.1 CC Awareness and Communication; 2.1.2 Education and capacity building; 2.1.5 Water Advocacy; 2.2.1 Multi-purpose water storage (rainwater); 2.2.3 Irrigation (in rain fed production systems susceptible to droughts); 2.3.7 Water Demand Management. Activities under Component 1 *(strengthening awareness, knowledge and capacity to adapt to CC*); and water-related activities under components 2 and 3 (Outputs 2.1.1; and 3.1.1)
SADC Regional Agricultural Policy	3A. Enhance Sustainable Agricultural production, productivity and competitiveness; 3B. Improve Regional Trade and access to markets; 3D. Reduce Social and Economic Vulnerability of the population in the context of food security and the changing economic and climatic environment. ADSWAC's Components 2 (Outputs 2.2.1; and 2.2.2) and 3 (Outputs 3.1.1; and 3.1.2*)* are directly targeting sustainable agricultural production in a changing climate.
Okavango development strategy	*Under development – Mission: "an economically prosperous, socially just and environmentally healthy development of the Cubango-Okavango River Basin"* *Key strategy point alignment: climate-resilient livelihood development.* Activities under Component 3 of the ADSWAC project target climate-resilient livelihood development (Outputs 3.1.1; 3.1.2; and 3.1.3).

Angola

Table 4: Consistency with Angola development strategies and policies

Policy/Strategy	Relevant strategic points of the policy and *corresponding ADSWAC outputs*
Intended Nationally Determined Contribution	Adaptation Priorities include Agriculture and Food Security, among which the following relevant priorities: (2) Promote SLM for increased agricultural yields; (9) Soil erosion control through organic methods; (10) Diversifying crops to less climate sensitive cultures; (12) Locally available adapted seed varieties; (18) Implement water-harvesting system in drought-prone areas. ADSWAC specifically addresses these priorities, with activities under Component 3 (Output 3.1.1; Output 3.1.2)
National Strategy for Climate Change 2018-2030	Adaptation Strategies include: ii. Adaptation to Droughts, with Cuando Cubango as one of the priority zones (-20% in precipitation by end of century) – the target area of ADSWAC. Priority Initiatives for Adaptation, among others: A1. Sustainable Agriculture; A2. Sustainable Food consumption; A7. Drought Risk Management; which are addressed under Component 3 (concrete adaptation actions).
Strategy of Long-term Development for Angola 2025	ADSWAC's livelihood focus in agriculture and improved water management is aligned with the following key development priority clusters of the strategy: Rural development; Socio-economic Development; Agriculture and value chain development; Food Security; Water management;
National Action Programme to fight Desertification (PANCOD)	This Programme established a participatory process, through public consultations, to define the objectives and actions to be taken in the framework of this programme. The aim of this programme is to reduce poverty and social inequality, and to widen in a sustainable way the productivity of regions subject to drought, among which the targeted ADSWAC area. The Policy is underlining the relevance of adaptation and resilience to CC as currently and in the future will be experienced by rural communities. This is aligned to proposed interventions, addressing these challenges.
PDNA Droughts in Angola	Priority actions and sectors for medium- and long-term drought recovery: Agriculture (*CSA practices, community water infrastructure, income diversification, sustainable farming technologies, strategic reserves*); Water, Sanitation and Hygiene (*water harvesting, sustainable alternatives of wells/boreholes*); Education (*promote*

	horticulture); and the Environment (*Soil erosion control, SLM practices, rotational pasture*). These 4 sectors and their respective guidelines are core intervention areas and methodologies of ADSWAC.
National Development Plan for the Agriculture Sector 2018-2022	The corresponding strategic objectives are: 1 Satisfy the population's food needs; 2 Increase the contribution of the agricultural sector to growth and diversification of the economy; 3 Meeting the needs of producers; 4 Expanding agricultural production to meet the country's needs and for export; 5 Support sustainable development of family and business agriculture; 6 Improve the productive capacity and infrastructure of the Agrarian Sector; 9 Attract, retain, value and develop the staff of the Sector. This Policy is aligned to the project interventions, with special emphasis on food security, diversification, supportive technologies and skills development under Components 2 and 3.
National Adaptation Programme of Action	Main objectives: to enhance adaptive capacities; to facilitate capacity building for the preparation of adaptation activities. Among the 15 priority responses are: 2. Promote SLM practices for increased agricultural yields; 9. Soil erosion control through organic methods; 10. Diversify crops to less climate sensitive cultures; 12. Locally available adapted seed varieties. These priorities are integral parts of the ADSWAC project.
OKACOM National Action Plan Angola	ADSWAC responds, with activities under Component 3, to the key thematic area TA1: livelihoods and socio-economic development and its targets TA1.1 (*livelihoods*), TA1.2 (*more food and means of subsistence*) and TA1.3 (*job opportunities in informal market*). Contributes to targets TA2.4 (*Effective water & sanitation management*), TA3.7 (*environmental awareness*).

Namibia

Table 5: Consistency with Namibia development strategies and policies

Policy/Strategy	Relevant strategic points of the policy and *corresponding ADSWAC outputs*
Intended Nationally Determined Contribution	Adaptation priorities: (a) Improving technical capacity at national and sub-national level; (b) Appropriate responses to reduce impacts of low rainfall on people, crops, livestock; Agricultural Adaptation Strategies; Lowering risk to vulnerability of people and production systems; Promotion of CA and CSA. ADSWAC outcomes and outputs respond to these priorities ((a) with Component 1 – strengthening awareness and capacity; (b) with Component 2 – learning for CRA and water management, and Component 3 – enhanced resilience and adaptation for improved food security)
National Climate Change Strategy & Action Plan 2013-2020	Specific Objectives: To reduce climate change impacts on Namibia's key sectors and vulnerable communities; To develop and enhance capacities at all levels and strengthen institutions to ensure successful implementation of climate change response activities. Adaptation Strategic Aims: 1. Food Security and sustainable biological resource base [*Food Security; Climate-resilient farming; SLM Practices; Conservation measures*]; 2. Sustainable water resources base [*Harvesting and capturing water during rainy season; promote conservation of water; improve transboundary cooperation*]. ADSWAC is aligned with 1. through the practices mainstreamed in activities under Outputs 2.2.1, 2.2.2 and 3.1.2) and with 2. Through the activities under Output 3.1.1.
Namibia's 5th National Development Plan (NDP5) 2018-2022	ADSWAC contributes to priorites: (A) Economic Progression key sectors (*Agriculture Sector and Food Security; Rural Economic Development*); (B) Social Transformation (*Gender equality*); (C) Environmental Sustainability (*Ensure sustainable environment and enhance resilience*). ADSWAC is aligned with its objective of improved food security responding to CC, and through activities for alternative livelihood options (Component 3) aligned with point (A), while awareness and capacity enhancement (Component 1) are aligned with (C). Gender equality and inclusion of vulnerable groups (B.) are transversal issues addressed.
Namibia Agriculture Policy	Relevant policy principles: Improve national and HH food security, product development and diversification, value addition, rural development, sustainable farming. Addressed by ADSWAC through activities under Output 3.1.2.
Third National Action Programme to implement the UNCCD 2014-24	Relevant Objective: "Mitigate the effects if drought in support of poverty reduction and environmental sustainability". Relevant Outcomes: iv. "affected communities and ecosystems strengthened to mitigate the impacts of drought"; and v. "*Supporting communities and small farmers to implement SLM*." ADSWAC project's overall objective is to increase resilience towards drought, including by improving and diversifying HH income and mainstreaming improved agricultural practices (SLM) (Outputs 2.2.1; 2.2.2 and 3.1.2).
OKACOM National Action Plan Namibia	ADSWAC responds to the key thematic area of livelihoods and socio-economic development and its targets (*sustainable agriculture, improved food security, sustainable use of forests*), with activities under Output 3.1.2. It also contributes to thematic area of Water Resources management (*target 5: rural access to water and sanitation*) with activities under Output 3.1.1.
National Drought Policy and Strategy	Relevant objectives: **i.** ensure that HH food security is not compromised by drought; **ii**. encourage and support farmers to adopt self-reliant approaches to drought risk; **iv**. ensure the continuous supply of potable water to communities, and particularly to their livestock, their schools and their clinics; **vi**. enable rural inhabitants and the agricultural sector to recover quickly following drought; **vii**. ensure that the health status of all Namibians is not threatened by the effects of drought. ADSWAC activities under Outputs 3.1.1 address access to water, while under Outputs 2.1.1, 2.1.2, and 3.1.2 the agricultural sector's resilience is supported.
Namibia Water Policy White Paper	Aligned with following thematic areas: (a) Shared Water Courses Principles; (b) Water Use and Conservation Principles; (c) Institutional and Community Participation. The ADSWAC project aligns with these areas, notably through establishing and strengthening of WUAs (Output 2.1.2), and through mainstreaming water conservation practices in agriculture (Outputs 2.2.1, 2.2.2, 3.1.1, 3.1.2).
Water Supply and Sanitation Policy	To improve the provision of water supply in order to: • Contribute to improved public health; • Reduce the burden of collecting water; • Promote community based social development taking the role of women into special account; • Support basic water needs; • Stimulate economic development; and • Promote water conservation. Activities related to water access and management (under Outputs 2.1.2 and 3.1.1) are targeting improved provision of water supply, as well as improved water conservation.

F. Alignment with national technical standards

132. During the implementation of the project, the implementing entity (OSS) and the other executing entities must comply with the Adaptation Fund standards and policies such as the Environmental and Social Policy and the Gender Policy. The ADSWAC project is compliant with the various laws that relate to the implementation of the project's activities, such as environmental, agricultural and water resource acts and laws. Direct involvement of related line Ministries in both countries adds strength to the compliance and alignment with laws and policies. Ministries have been consulted during project design and development to ensure that activities comply with relevant national standards. The tables below give an overview of the most relevant laws and acts in the addressed sectors, and their relevance to the ADSWAC project.

133. Regarding the technical standards applicable to water supply, water harvesting, irrigation systems, plant production and selection, construction, etc, of which some are identified below, a full detailed analysis, evaluations and consultations with the competent services will be carried out during the environmental and social impact study in the development phase of the full proposals

Angola

Table 6: Alignment with Angola technical standards

Policy	Purpose of the Policy	Relevance to the project
Environmental Framework Law - Law No. 5/98,	This is the instrument for implementation of the environmental provisions of the Constitution. It provides the framework for environmental legislation and regulations. Facilitates the protection and conservation of the environment; promotes quality of life and sustainable use of NR.	This is relevant to activities that address the use of water resources (under Output 3.1.1), and across agricultural activities, which will be in compliance with the law. Notably these activities are the establishment of FFS (Output 2.2.2), the dissemination of CRA practices, (Output 2.2.1) and the application of improved practices (under Output 3.1.2)
Angola Basic Law on Forests and Wildlife Law nº 6/17	This new Forest Law, represents an evolution from the previous law of the sector, as it offers a guarantee of more sustainable production of forest resources, contractual security and better control of exploitation.	Relevant to activities under Output 3.1.2, that involve forest-based alternative livelihood options (bee-keeping, NTFPS, etc.). It is also relevant to activities related to establishment of new fields for agriculture production (FFS under Output 2.2.2, activities under Output 3.1.2).
National Water Law, (Decree No. 06/02) : • Presidential Decree nº 82/14 of 21 April • Presidential Decree nº 83/14 of 22 April • Presidential Decree No. 261/11 of 6 October	It defines general principles for integrated management, consumer participation, institutional coordination and other relevant issues. This includes organization of O&M at community-level, coordination of institutions, sectors and beneficiaries, and sustainable use of water resources.	This is relevant for water supply, distribution and availability at community level (Output 3.1.1), and is especially relevant for the WUAs that will be established and strengthened, and which will conduct outreach in the communities regarding water use (Output 2.1.2).
Law No. 14/05 on Agricultural Development	It provides the basic legislation for agriculture development. It provides the development goals and rules on farmers and agricultural organizations.	This law is relevant to the establishment and operationalization of POs (Output 2.1.1), for the activities related with extension of practices and FFS (Outputs 2.2.1 and 2.2.2), and is applicable to the activities on concrete adaptation of livelihoods (under Output 3.1.2) and promotion of improved livestock production (Output 3.1.3).
Law transgenic or genetically modified products Decree 92/04	Prohibits the introduction into the national territory of any variety of transgenic or genetically modified seeds and grains.	This law is in the first place relevant to activities related to the introduction and promotion of drought-tolerant seeds and crops (A3.1.2.3 and A2.2.2.3), but is also relevant to comply with in all agriculture related activities of ADSWAC.
NA 84:2019 General principles for Food Hygiene		This standard applies to the implementation of agricultural interventions related to crop production, processing and sale (activities under Output 3.1.2)
NA ISO/TS 22004:2013 Food safety management system		This standard applies to the implementation of agricultural interventions related to crop production, processing and sale (activities under Output 3.1.2)
NA EN 197-1:2000 Cement: specifications and compliance criteria for standard cements		This standard applies to the establishment of new infrastructure, notable the CCACs under Output 1.1.1 and water infrastructure under Output 3.1.1.
NA EN 12201-1:2019: EN Plastic piping systems for water supply		This standard will be complied with regarding the establishment of irrigation systems under Output 3.1.1.

Namibia

Table 7: Alignment with Namibia technical standards

Policy	Purpose of the Policy	Relevance to the project
No. 7 of 2007 Environmental Management Act	To promote sustainable management of the environment and use of NR by establishing principles for decision making on matters affecting the environment; to establish the Sustainable Development Advisory Council; to provide for appointment of the Environmental Commissioner and environmental officers; to provide for a process of assessment and control of activities which may have significant effects on the environment.	This Act directly relates to natural water resources and the sustainable extraction and well as recharge, in activities under Output 3.1.1 that will facilitate access to water. Equally, it addresses development for agricultural production, which will be applicable to activities under Outputs 2.2.1; 2.2.2; 3.1.2 and 3.1.3 that relate to adaptation of agriculture production.
No. 11 of 2013 Water Resources Management Act	To provide for management, protection, development, use and conservation of water resources; to provide for regulation and monitoring of water services.	These Acts address the extraction of water from existing resources (river and underground) for agricultural and village-based water supply, which will relate to activities under Output 3.1.1, that facilitate water access for production., and are relevant for WUAs being established and/or strengthened (Output 2.1.2).
No. 24 of 2004 Water Resources Management Act	To provide for management, development, protection, conservation, and use of water resources; to establish the Water Advisory Council, the Water Regulatory Board and the Water Tribunal.	
No. 1 of 2011 Animal Health Act	To provide for the prevention, detection and control of animal disease; to provide for the maintenance and improvement of animal health; and to provide for incidental matters.	This Act relates to the cross-border movement of livestock (transhumance) and is relevant for cross-border cooperation between respective ministries and communities. It will apply to activities addressing transhumance (A1.2.1.3) and livestock production (Output 3.1.1).
No. 12 of 2001 Forest Act	To provide for the establishment of a Forestry Council and the appointment of officials; to consolidate laws relating to the management and use of forests and forest produce; to provide for the protection of the environment and the control and management of forest fires; to repeal the Preservation of Bees and Honey Proclamation, Trees and Forests.	This Act sensitises issues requiring close cooperation with the Department of Forestry, with reference to tree planting and clearing of fields for potential expansion of production. This is relevant to the establishment of FFS (Output 2.2.2) and to the diversification and improvement of production (Output 3.1.2), and the development of alternative productions (bee-keeping, NTFPs).
No. 17 of 1995: Traditional Authorities Act	An act to provide for the establishment of TAs, the designation and recognition of leaders; to define their functions, duties and powers.	The TAs are of highest relevance with regard to: allocation of land for FFS and horticulture gardens (Outputs 2.2.2 and 3.1.2), mobilising communities and conflict management (all activities). At community levels, the close cooperation with TAs is a prerequisite for success, especially as some of their powers are beyond those of government institutions. This is relevant for all ADSWAC activities.
No. 25 of 2000: Traditional Authorities Act	To provide for the establishment of TAs and the designation, election, appointment and recognition of traditional leaders; to define the powers, duties and functions of TAs and traditional leaders.	
No. 3 of 2009: National Youth Council Act	To provide for establishment of the National Youth Council and the Youth Development Fund; to provide for the establishment of youth forums; to provide for registration of youth organizations and associations affiliates to the Council.	This Act guides on the involvement of the youth, as emphasised by stakeholders and community representatives consulted, on suitable frameworks for inclusion. This is relevant for activities addressing education and awareness (under Output 1.1.1) and across activities that will involve youth.
NAMS/ISO 11133:2015 Microbiology of food, animal feed and water		This standard applies to the implementation of agricultural interventions related to crop production and livestock fodder (activities under Output 3.1.2 and 3.1.3)
NAMS/ISO 22000:2013 Food Safety Management Systems		This standard applies to the implementation of agricultural interventions related to crop production, processing and sale (activities under Output 3.1.2)
NAMS/EN 197-1:2014 Composition, specifications and conformity criteria for common cements" for constructions		This standard applies to the establishment of new infrastructure, notable the CCACs under Output 1.1.1 and water infrastructure under Output 3.1.1.
NAMS/ IEC/TS 62257-1:2013 Recommendations for small renewable energy systems		This standard will be complied with regarding the establishment of solar water pumps under Output 3.1.1.

G. Synergies and complementarities

Synergies and avoided duplication

134. The ADSWAC project will not support activities that are already being supported with other funding sources and will not have co-financing for the implementation of its activities. However, the project has consulted the key organizations that are implementing programs in the CORB and the border areas to secure there is no duplication of efforts, that the project builds on important lessons learnt and that synergy is sought with existing initiatives.

135. Accordingly, the project was designed with a foundation in existing initiatives of OKACOM and KAZA, and was informed by a recently conducted climate vulnerability assessment by the Climate Resilient Infrastructure Development Facility (CRIDF), which identified vulnerability hotspots in the CORB.

136. Currently, there are three (3) major sector-relevant regional programmes being implemented in the CORB. The synergy and interaction between the current interventions are monitored and coordinated by the OKACOM Secretariat (OKASEC). The programmes are: (i) the "Resilient Waters" programme, funded by USAID; (ii) the UNDP project "Support to the CORB Strategic Action Plan Implementation ", funded by the Global Environment Facility (GEF); (iii) the" Programme for Transboundary Water Management in the CORB", funded by the European Commission (EC). The OKASEC will have an important role in the ADSWAC project through their participation in the RPSC. The design of ADSWAC is informed by lessons learnt and best practices from the above-mentioned projects, and detailed planning of implementation will take into account there is no duplication of efforts and the smooth coordination between the involved institutions is secured. The ADSWAC project addresses the same challenges as the three regional programmes and accordingly is in synergy with specific components and activities, as summarized below. The alignment of the ADSWAC project with these three programmes is depicted in the table below:

Table 8: ADSWAC synergies with regional programmes in the CORB

Project	Objectives	Synergies
"USAID's Resilient Waters" (*USAID implemented by Chemonics – $32,400,000 – 2018-2023*)	**Overall Objective:** to build more resilient and water secure Southern African communities and ecosystems through improved management of transboundary natural resources and increased access to safe drinking water and sanitation services; **Relevant specific Objectives:** 2) Increased access to safe, sustainable drinking water and sanitation services; 3) Strengthened ability of communities and key institutions to adapt to change, particularly the impacts of climate change	ADSWAC addresses objectives 2) and 3) with improved access to water and strengthening the adaptive capacities of communities. Coordination will happen through OKASEC, to assure lessons learned are shared both ways, and there is no duplication of interventions.
"**Support to the CORB Strategic Action Plan Implementation**" United Nations Development Program (UNDP) (*GEF-5 – 00096121 – $342,738,032[29] – 2017-2020*)	**Project Objective**: to strengthen the joint management and cooperative decision- making capacity of the CORB's states on the optimal utilization of natural resources in the basin, with the aim to support the socio-economic development of the basin communities while sustaining the health of the basin ecosystems. **Relevant Outcomes**: 3) Environmentally sound socioeconomic development demonstrated in the basin to enable the basin population to improve their socio-economic status with minimum adverse impacts to and enhanced protection of the basin ecosystem.	ADSWAC's project activities are in line with and support the implementation of the CORB Strategic Action Plans in Angola and Namibia. With concrete adaptation activities, ADSWAC notably contributes to Outcome #3, that seeks to establish demonstrations of socioeconomic development of the surrounding communities.
"**Programme for Transboundary Water Management in the CORB**" European Commission (EC) (*EDF11 - RSO/FED/039-558 – €6,693,960 – 2017-2020*)	**Overall Objective**: To strengthen the Cubango- Okavango river Basin governance and promote sustainable management of its water and land resources. **Relevant Specific Objectives (SO): SO.3**: To strengthen land management in the Cubango-Okavango	SO.3 of the EU program includes *improved income levels of populations in demonstration communities*. ADSWAC project activities will learn from activities already implemented and will contribute to further development of those;

137. Particularly the OKACOM-UNDP/GEF project is higly relevant for ADSWAC's project actiivities. The Basin Development Management Framework developed will inform the Strategic Action Plan and National Action Plans will be an important tool to inform detailed planning of ADSWAC's activities. Equally, it will benefit from the capacity strengthening of the Okacom Secretariat and other organs conducted within auspices of the UNDP/GEF project. More concretely, under component 3, the UNDP/GEF project will set up six demonstration projects (+-400,000 USD each) on (a) *sustainable tourism*, (b) *sustainable fisheries*, and (c) *food security/CC adaptation.* These projects and their results are relevant for the ADSWAC project's activities, with which complementarities will be ensured mainly on food security/climate resilience aspects.

138. As the OKASEC will be a key member of the RPSC, synergies and interactions between projects will be facilitated. The UNDP/GEF Project Implementation Unit is housed at OKASEC, which facilitates (1) that project sites don't overlap; and (2) that lessons learned from demonstration projects feed into the implementation of the activities proposed in ADSWAC. This particularly applies to the 4 demonstration projects that are implemented in Angola and Namibia. Further

[29] $6,100,000 from GEF-5 + co-financing from governments and other sources (more info: https://www.thegef.org/project/support-cubango-okavango-river-basin-strategic-action-programme-implementation)

consultations with OKASEC during full proposal development will concretize the implications for the ADSWAC project (e.g. identification of project sites, development of unidentified sub-project's (USP) approach and criteria).

Building on previous and existing initiatives

139. As such, the ADSWAC project is not a continuation of an existing programme, yet it is building upon important accumulated experiences of the EEs in the target regions on both sides of the border, and on experience of its sister organizations within the HPP Federation. The project's activities will be delivered through the structures of the Farmers' Clubs Model (FCM), an agricultural extension method supporting POs, that has been implemented in over 330 projects across Sub-Saharan Africa, Asia and Latin America. With support of the international donor community and national governments, the model has reached approximately 150,000 farmers to day, successfully increasing production and income, and building resilience towards CC. The table below gives an overview of recently implemented projects related to CC and SLM/CRA by the EEs in the target regions.

Table 9: Previous experiences of the EEs, relevant to the ADSWAC project

Project	Timeline, Funder	Key components / results
"**Functional Literacy in Smallholder Agriculture Development and Commercialization**" Huambo, Angola	2018-ongoing IFAD, WB	67 literacy tutors; 2000 literacy learners; Part of MOSAP II project
"**Facilitating CC adaptation and agricultural development of small-scale farming communities**" Kavango East & West, Namibia	2017-2020 European Union	750 farmers organized in clubs, supported with access to water for agriculture, adoption of Conservation Agriculture, and post-harvest technologies/techniques
"**Sustainable Charcoal Project**" Huambo, Angola	2017-2019 IFD, IAD, Provincial government	4 charcoal communities; 40 community members in environment groups; 7,000 trees planted; 4 inventories of forest resources; General environmental awareness campaigns
"**Farmer Field Schools**" Cunene, Angola	2013-2017 FAO, UNDP	- 32 FFS financed by FAO, 900 families benefiting from the 32 field schools - 10 FFS financed by UNDP, 300 families benefiting from the 10 field schools
"Farmers' Clubs, Phase I & II" Cunene, Angola	2011-2017 Ministry of Foreign Affairs, Finland	1.530 farmers organized and supported against periods of drought, including agricultural training, literacy, and facilitation of technical assistance and inputs from the government, FAO.

140. The project also builds on experience of regional projects and cooperation between ADPP and DAPP in the implementation of the "*Towards Malaria Elimination*" project, which addresses the transboundary aspect of eliminating malaria. The project has been implemented since 2017 and takes place in underserved communities near the border.

H. Learning and knowledge management component

141. Within the design of the ADSWAC project a knowledge management and learning section is included under Component 1 and defined as "*Activity A1.1.1.6 Dissemination of project results, best practices and lessons learned in sub-national, national and international forums and through online media"*. In that sense, learning and knowledge management is included within the project from the onset; This section of the project will help facilitate experience sharing and cross-learning of innovative drought and extreme weather fluctuation adaptation interventions in the dryland areas of Southern Africa. Knowledge on risk management and concrete adaptation actions addressing droughts and other extremes will be generated. Accordingly, this knowledge gained will be processed and tailored for information sharing for specific audiences, which include regional, national, sub-national and local audiences and stakeholders.

142. A detailed plan for knowledge management will be made during the start-up phase of the project, including specific targets and indicators and alignment with the M&E Framework. For the knowledge generation, learning and dissemination strategy, the following constrains and proposed actions will be taken into account:

Constraints / Baseline Situation	Proposed Activities
Limited information on climate vulnerability at local level, and/or lack of conceptual interpretation Lack of consideration of CC adaptation measures in village/community development plans Limited national and regional knowledge on successful concrete adaptation interventions Limited exchange of knowledge between countries CC Adaptation as a relatively novel concept in the region	Conduct local rapid vulnerability analyses, document and share findings and methodologies. Awareness raising and capacity building activities, CAAPs Documentation of best practices, challenges, lessons learned and dissemination to stakeholders at all levels. Exchange visits in and between countries, attendance and participation in regional and international conferences to share experiences.

143. Additional to concrete documentation and knowledge and learning that will be generated through the project, ADSWAC's component 1 is focused on awareness generation (*A1.1.1.1; A1.1.1.4; A1.1.1.5*) and capacity building (*A1.1.1.2; A1.1.1.3*) in CC and CCA.

144. Aside from the awareness raising and capacity building activities, the project will support the generation and documentation of case studies, good practices, challenges and lessons learned. This documentation can facilitate and support the design of future projects, for scaling-up of project interventions, for adoption of new practices by communities and local authorities, and for the informing of policies and strategies at various levels, from local to regional. The generation and documentation of the above will enable the production of appropriate awareness materials.

145. The project will organize open events such as the project launch and closure meetings and will participate in national forums on CC to facilitate awareness raising and sharing of lessons learned to a wide spectrum of relevant stakeholders and audiences. Annual progress reports of the ADSWAC project, as well as annual reports of the EEs will be shared with the relevant stakeholders and authorities.

146. Under component 3, the project will organize and facilitate exchange visits and tours (*A.3.1.2.1*) to areas with successful drought management interventions, both in-country as cross-border, to enable experience sharing among extension officers, farmers, and other key project stakeholders to share experiences at regional and local levels. Such visits and tours will include the targeting of women and youth among the smallholder farmers in the region. Additional to public knowledge sharing, the lessons learned and best practices arising from the project will be shared by the EEs within their network (the HPP Federation), which includes six other member organizations in the SADC Region that share similar CC impacts, agro-ecological conditions and drought challenges. Hence, the knowledge generated will inform the design of CCA interventions for projects that, as of today, reach approximately 100.000 smallholder farmers in the region.

147. Representatives from the EEs will be present at international meetings, where information on the projects will be shared. These meetings include: UNFCCC COPs, Adaptation Future conferences, GCF Board Meetings, European Development Days, regional climate weeks, and others. Information on the ADSWAC project will be shared formally, at official side events and exhibits, and informally during these events.

I. Consultative process

148. The consultation process initially started with meetings and discussions between OSS and representatives from the EEs. Discussions covered the need to address the increasing frequency of droughts in Southern Africa, and the need for transboundary projects. The EEs consulted their teams in the border areas, and involved the relevant ministries in an initial identification of vulnerabilities and adaptation options. During the formulation of the pre-concept, further discussions took place between the EEs and the AF designated authorities in both countries, after which the endorsement letters were obtained.

149. After submission of the pre-concept, discussions continued with stakeholders both in-country, at sub-national levels in both countries. Consulted parties included in-country the Ministries of Environment, of Agriculture, of Education, and their sub-national counterparts. Furthermore, discussions and information sharing took place in the side-lines of World Water Week 2019 in Stockholm, where key actors operating at a regional level in the CORB were present, including OKACOM, CRIDF and USAID's Resilient Waters.

150. Following the approval of the ADSWAC pre-concept by the AF board, a more extensive consultation process was initiated. This included consultations with the OKASEC during a mission in Windhoek, Namibia, and included consultation missions to the targeted areas on both sides of the border. At national level, meetings took place both in Luanda with Ministries involved, as in Windhoek.

151. The Angolan team conducted a two-week long mission to Cuando Cubango Province, its capital Menongue, and the targeted municipalities and communities in January 2020, in which it consulted all relevant local authorities, and carried out consultations in a sample of the target communities. The team in Namibia conducted in its turn a two-week consultation missions in the Kavango Regions, with a similar approach and outcome. An overview of institutions and people consulted is summarized in the table below. The meetings at national level and with sub-national authorities were structured around the following points:

- Provide information to key stakeholders on the AF and the CN development processes;
- Facilitate the integration of inputs by stakeholders;
- Seek endorsement from the national and local authorities
- Understand the needs, vulnerabilities and barriers the various parties face;
- Identify the needs and requirements for implementation;
- Understanding needs for improving and adapting local populations' living conditions;

152. The main purpose of consultation sessions at community-level was to seek the beneficiaries' points of view and to collect information for a better design of the project with a focus on involving vulnerable groups, indigenous groups, minorities, farmers, women, and youth. The table gives an overview of the institutions, organizations, and groups consulted in the respective countries at national and local level. Detailed reports from the consultations, including contact information, as well as general findings, are available on the REE's website[30].

[30] Reports from local and national-level workshops are available on the following link: https://adpp-angola.org/en/recilience-buildings-as-climate-change-adaptation

Table 10: Overview of stakeholders consulted during concept note development

Location / Level	Institutions, Organizations and population groups consulted
Regional Level	OKACOM Secretariat (regional, Botswana office); OKACOM representation Angola; OKACOM representation Namibia; CRIDF; USAID's Resilient Waters
Angola, National level	Ministry of the Environment, Ministry of Agriculture & Forestry; Ministry of Water & Energy; Ministry of Families and Social Action; Ministry of Education
Angola, Cuando Cubango province	Provincial Governor for Cuando Cubango; Office of the Governor; Provincial Departments: Agriculture Research Development; Forestry; Livestock; Water & Energy; Environment; Education; Families and Social Action; Civil Protection Unit; Municipal Directorates in Cuangar, Calai and Dirico municipalities; Local NGOs; Communities in Cuangar, Calai and Dirico municipalities;
Namibia, National level	Ministry of Urban and Rural Development; Ministry of Agriculture, Water and Forestry; Ministry of Environment and Tourism; Namibia Desert Research Foundation;
Namibia, Kavango East & West Regions	Regional Governor's Office and Regional Council Kavango West; Regional Governor's Office and Regional Council Kavango East; Regional Departments for both Kavango Regions: Environment and Tourism; Environmental Education; Agriculture, Water and Forestry; Health; National Youth Council of Namibia; Local OKACOM representation; National Environmental Education Namibia Coordinators; Constituency offices: Mukwe; Divundu; Ndiyona; Traditional Authorities: Okangwali; Mbunza; Kangongo;

153. Given the presence of indigenous people and minorities such as Khoisan and San, in the border between the two countries (project intervention areas) and in accordance with the Adaptation Fund requirements, special attention has been given to the Free, Prior and Informed Consent (FPIC) procedures. During the consultations with local institutions, traditional authorities, NGOs and communities, a first identification of indigenous people and preliminary mapping has been done. After this mapping it has been planned that additional and more specific consultations involving these minorities will be conducted. But unfortunately, due to the current pandemic COVID-19 these meeting has not been realized. These consultations will be postponed to undertake comprehensive community-level consultations in the two countries and target areas during the full proposal development stage. These consultations will focus on discussions with Indigenous Peoples and communities' representatives on the project activities and related risks. These consultancies will be conducted in the local language so that everyone attending will have the same opportunity of understanding and expressing his objection if any. Then, the consent of indigenous people will be required to ensure their commitment and involvement in the project. The project grievance mechanism will also be presented and promoted during these consultations. It should be also noted that other vulnerable groups such as women, youth and elders would be effectively integrated into the consultative process.

Consultation Workshops

154. Due to the extraordinary situation surrounding the outbreak of the COVID-19 virus and the corresponding lockdown measures, it was decided not to hold face-to-face workshops, in line with travel restrictions and safety measures issued by the respective countries, and informed by the civic duties of the parties involved. Instead of the initially planned Regional validation workshop in Rundu, OSS, in agreement with the EEs, decided to undertake the following consultations: (a) national-level workshops and consultations, led by the EEs through virtual means (Skype, WhatsApp, phone calls) during the period of April 6th to 9th, accompanied by written inputs from key stakeholders; and (b) a Regional level virtual workshops, led by OSS, through the BlueJeans platform, which took place the 15th of April, 2020.

155. At national level, **in Angola**, three Skype and WhatsApp meetings were organized with national-level stakeholders, including representatives from the Ministry of Environment, the Ministry of Agriculture and Forestry, UNDP and the hydrological departments of the relevant river basins, consecutively on the 6th, 7th and 8th of April 2020. Project summaries were shared on beforehand with stakeholders, including the log frame, institutional arrangements descriptions and budget outlines. The main recommendations resulting from the meetings were: (i) the project focus on supporting subsistence farmers to adapt to CC is highly relevant in the targeted areas; (ii) a sustainable forest management component could add value (focus on reducing charcoal dependence); (iii) the project should pay close attention to working-age youth (15 to 35 years old); (iv) importance to work in close collaboration with local and traditional authorities to secure ownership; (v) community-based grants or funds are advised; (vi) hygiene and sanitation activities are highly recommended, and (vii) the importance to include the Khoisan people, a minority population group. Other smaller recommendations were formulated, consolidated in the reports published on ADPP's website[30]. The recommendations were taken into account and adjustments were made according to some recommendations (sanitation, community grants), while other recommendations (notably, including a forest management component) need further assessment and consultations, and will be considered during the development of the full proposal. The FPIC process will be respected.

156. At national level, **in Namibia**, a set of phone call were made with the relevant stakeholders, including representatives from the Ministry of Environment, Forestry and Tourism; Ministry of Agriculture, Water and Land Reform, national OKACOM representation, the Knowledge Centre for Ecological Agriculture, the Namibia National Farmers Union, NEEN, GIZ and regional governments. The consultations took place between April 6th and 10th, 2020. Project summaries were shared on beforehand with stakeholders, including the log frame, institutional arrangements descriptions and budget outlines. The main recommendations resulting from the consultations included: (i) it is important to build on, or revitalize, dormant projects instead of starting up new ones; (ii) existing POs or associations should be

included in the project; (iii) other organized agricultural associations should be involved: the Namibia Association for Horticultural Producers (NAHOP) and the Namibia National Farmers Union (NNFU); (iv) regarding CC awareness raising, it will be important to focus on electronic media to effectively reach youth populations; (v) a presentation of the project should be made at the Governor's offices (Kavango regions) before submission of the full proposal. Other recommendations were formulated, consolidated in the reports published on ADPP's website[30]. The recommendations were taken into account and adjustments were made accordingly (inclusion of NNFU and NAHOP in the concept note, building on existing structures), while others need further evaluation (e.g. including multimedia campaigns in CC awareness raising) during full proposal development.

157. At **regional level**, OSS hosted a virtual workshop on the 15th of April, through the BlueJeans platform. Participants of the meeting included: representation from OKACOM, from CRIDF, from the MEFT (Namibia), from the Ministry of the Environment (Angola), from the EEs in the respective countries including their regional/provincial teams, and a team of OSS. During the meeting, OSS presented, among others: OSS's organization and expertise, the project objective, components, outcomes and outputs, the regional dimension of the project, the institutional framework, the budget outline, the project development process and a set of specific topics to be discussed (involvement of local communities, indigenous peoples and the FPIC process, land issues, gender and youth, environmental and social risk assessment and management plans, capacities and needs of national institutions). Within each topic, space was provided for stakeholders to discuss, provide inputs and validate. The key recommendations from the meeting included: (i) the project should make sure to align with other interventions in the area, and to build on existing work and achievements; (ii) it will be relevant to include Botswana in further phases of the project; (iii) the gender ambitions should be mainstreamed in the outcomes and outputs descriptions; (iv) the OKACOM Gender Action Plan can serve as a foundation for the ADSWAC gender approach; (v) special attention needs to be given to the Khoisan people, an indigenous hunter-gatherer population group in the target area; (vi) Traditional Authorities' role in the project is very important regarding land allocation and local ownership of the project; (vii) Early warning systems would be important for smallholders in Cuando Cubango province (Angola).

J. Full cost of adaptation reasoning

158. Rural communities in Northern Namibia and Southern Angola near the Okavango River Basin are situated in remote, hard-to-reach areas of the respective countries, and are significantly underserved compared to other regions in the countries. As a consequence, rural populations face various socio-economic development challenges, and the vast majority are reliant on NR for their livelihoods. The majority of their challenges are further placed under pressure through increasing impacts of CC, most notably droughts and prolonged drought spells.

Awareness and ownership of adaptation and climate risk reduction processes of the target populations are enhanced (USD 1,190,000)

159. Awareness on CC and its impacts is very low, and there is lacking correct understanding and interpretation of CC messages and data. Provincial, Regional and municipality level authorities have no, or very limited staff, capacity or financial means to mainstream CC information to its populations. Among the sectors that are underdeveloped are the Education sector, as is the reach of the services from the departments of Environment. In Angola, curriculums in schools don't include sufficient CC education. Local authorities have limited capacities and knowledge on CC impacts, assessing vulnerabilities and developing appropriate adaptation interventions. Such limited knowledge and information among sectors, provincial, regional, municipality, other local authorities and communities has led to poor planning, response and adaptation of vulnerable communities to droughts and other climate risks and disasters in the two countries.

160. The ADSWAC project will support the development, strengthening and institutionalization of CC awareness and adaptation capacities through the establishment of CCACs that will be strategically located in the target areas, and which will be permanent structures for coordinating awareness raising, capacity building, adaptation planning and learning and knowledge management. The project will also support the capacity development of the CCAC staff, local authorities and communities in CC awareness raising, vulnerability assessment and participatory planning for CC adaptation interventions. CCA interventions will be formalized in CAAPs, which will guide communities to ably undertake drought adaptation actions. The project will raise awareness, aiming to reach all communities through a combination of CC education in schools, through the GSP, which will develop curricula, and which will reach students, teachers and parents, and mobilize participants to start environmental clubs within their schools and communities. Awareness will further be raised by community awareness campaigns, face-to-face and through mass media.

Capacity at sub-national, national and regional level to adapt to climate change risks and variability in the agriculture and water sectors is enhanced (USD 740,000)

161. Population groups at both sides of the border face the same challenges of limited capacity to adapt to droughts, climate risks and variability yet have similar socio-economic situations, access the same NR and their declining services, and experience impacts of CC equally, especially affecting their agricultural production, and the interrelated food security. The border populations share cultures, habits, productions and income options, and they share markets, especially food-related markets. There is limited interchange of experiences between, nor coordination of interventions that can address issues that affect population groups across the borders, other than OKACOM which oversees transboundary water management. CC impacts have no borders, and certain phenomena require a coordinated response, such as increasing transhumance and increased frequency and severity of wildfires as results of decreasing precipitation and drought periods. Such inadequate capacity at sub-national, national, regional and local community

levels continuously impedes efforts to develop coordinated and effective drought adaptation responses and actions especially for vulnerable populations within the cross border region.

162. The ADSWAC project will establish a regional coordination mechanism, which will serve to address drought adaptation issues that require regional coordination, including collective approaches to manage wildfires, reduce transhumance and conflicts arising from it, and facilitate and coordinate the development of cross-border trade to increase resilience against droughts and other CC risks and disasters. Relevant sectors and population groups will be engaged and involved to address specific issues. The regional mechanism will also serve for learning and knowledge management. It will also serve for better coordination of interventions initiated by government institutions, communities, as well as development partners

Community-based and farmer-based organizations for production and water management have been established and strengthened (USD 800,000)

163. Smallholder farmers and communities face challenges of reducing agricultural outputs as CC impacts increase in frequency and magnitude. They have limited access to new technologies and inadequate access to new information on CRA practices and inputs. Extension services in the region are insufficiently capacitated, understaffed and lack financial means, resulting in farmers not being reached. Access to technologies such as irrigation, water infrastructure, processing equipment and storage is limited. This inhibits capacity for food processing and storage, which is a constraint in lean periods that are magnified under CC. Smallholders have no or limited access to credits or grants, nor have capacities to manage those. The inadequate technical, technological and financial capacity within communities and extension services and absence of technical community structures greatly hinder coordinated development of knowledge and dissemination of information about drought adaptation actions, planning and management or response especially by the most vulnerable among subsistence farmers in the targeted project sites across the two countries.

164. The ADSWAC project develop and strengthen the linkage and community based structures and extension services to guide drought adaptation by establishing 160 POs and 160 WUAs, which will build organizational and technical capacities by providing farmers with benefits of collective gains from aggregating input purchases, organized processing and storage and collective marketing of produce. Farmers will also benefit from the administrative and legal capacity to access credits, and an organizational structure that allows for efficient extension services. WUAs established and/or strengthened will facilitate better management and conservation of water resources, its related infrastructure and the messaging around the safe use of water. Additional to these tangible benefits, the establishment of the community structures will enhance social cohesion and social capital, and it gives a solid foundation for the sustainability of concrete adaptation interventions under Component 3.

Smallholder farmers (50% women) have been trained and technically supported to adopt and mainstream climate-resilient agriculture practices (USD 720,000)

165. Smallholder farmers and farming communities have inadequate access to information on CRA practices and adaptation options in agricultural systems. Extension services are understaffed and have limited capacity in CCA related agricultural options. As precipitation decreases and weather patterns in the area change, there is an ever-increasing need for adopting water-efficient and climate-resilient practices.

166. The ADSWAC project will build the drought adaptive capacities among smallholder farmers by supporting the extension workers in the targeted provinces and regions in Angola and Namibia, to train farmers and PO members in the application of CRA practices. To mainstream the uptake of new practices and technologies, the project will support the establishment of FFS. These will allow for demonstrations of new technologies and for participants to see the benefits in terms of productivity as well as reduced loss of production in dry periods.

Resilience of populations and ecosystems is improved through concrete adaptation measures (USD 6,495,000)

167. Severe droughts and prolonged dry spells seriously undermine crop and livestock production affecting yields and incomes of smallholder farmers and pastoralists thereby reducing their resilience to CC. Smallholder farmers and pastoralists currently engage in inappropriate drought adaptation technologies due to limited technological options and knowledge hence causing low crop and livestock food production levels that lead to food insecurity and low incomes. Increasing drought affects the amount of water available for crop and animal production, the quality of rangelands and the productivity of soils for crop production.

168. The ADSWAC project will increase resilience of smallholder farmers, pastoralists and ecosystems through the introduction of concrete and innovative adaptation interventions, such as: establishment and improvement of water infrastructure, including rainwater harvesting; the promotion of solar-water pumps and small-scale irrigation systems; the adoption of improved soil and land management. The project will also support such subistsnce farmers to adopt and under take on-farm drought adaptation actions such as cropping practices that increase on-farm resilience; increased use of drought-resistant seeds and crops; diversification of production through horticulture, new crops, and the promotion of short-cycle livestock production; the development of alternative sources of income; the introduction of processing and storage equipment and practices; and improved linkages to markets.

K. Project Sustainability

169. The ADSWAC project is focused on developing and promoting activities that bring sustainable benefits in various aspects, including technical capacities, knowledge and awareness, increased production and resilience of agricultural systems, enhanced social capital and improved organizational and institutional capacities at community- as well as at government level. The sustainability of these benefits was considered from the onset of the project idea and the identification of the concept and will be achieved through the central involvement of communities, farmers, local leaders, TAs, and sub-national and national authorities, who have been consulted throughout the process, which will continue during project implementation and whose capacities will be built by the project. Having built the project on the understanding, knowledge, needs identified, and preferences of these stakeholders gives the project's sustainability a solid foundation.

170. To assure that structures being established, as well as interventions being implemented, will continue beyond the scope and the duration of the project, a special emphasis is placed on building technical and organizational capacities in the institutions involved. Project components and activities were built upon national and sub-national strategies and priorities, and will be integrated in national and sub-national programmes. Additionally, the project will establish and institutionalize linkages between communities, representative of traditional leadership and local government officials, as well as a cross-sectoral and cross-border platform that will monitor the continuation of the ADSCWAC project's achievements, among others.

171. A detailed exit strategy will be discussed with stakeholders and developed throughout the project but will hinge on basic principles that were taken into account. In that sense, the design of the project has considered the sustainability of all project interventions in all aspects including environmental, economic, technical, social and institutional sustainability, as follows:

Institutional Sustainability:

172. The project design has secured that the project will be implemented in close collaboration with existing government and CBO structures and programmes, which will facilitate continuity. In complement, the project will train and involve local staff such as extension workers, community agents and district-level officials in the project's methodologies, technologies and practices.

173. As such, at Regional level the project will be executed in close cooperation with OKACOM. The lead EEs, members of the same network of organizations, have been present in the intervention areas since over 20 years and have permanent presence on the ground, strengthening continuation of regional coordination. At national level, the key ministries have had and will have key roles in the project's design, development and implementation. In Angola, these are the Ministry of Agriculture and Fisheries (MAF), the Ministry of Culture, Tourism and the Environment (MCTE), the Ministry of Water & Energy (MWE), the Ministry of Health (MoH), and the Ministry of Social Action, Family and promotion of Women (MSAFW). In Namibia, these are the Ministry of Agriculture, Water and Land Reform (MAWLR) the Ministry of Environment, Forestry and Tourism (MEFT), and the Ministry of Urban and Rural Development (MURD).

174. The participatory methodology of the development of CAAPs, built upon the findings from participatory CVAs, will strengthen the ownership of local authorities of the project's achievements. The CAAPs themselves will give a formal and documented foundation for the continuation of concrete CCA activities.

175. In Angola, EDA, the municipal division of the Institute of Agrarian Development, will include implementation of all activities related to agriculture in its operation. Water activities will be integrated within the National Institute of Water Resources (INRH) and the Office for the Administration of the Cunene River Basin (GABHIC), while activities will be supported at local level by the Municipal Departments of Water and Energy (DMEA). Schools will be important in ensuring the long-term institutional sustainability of project activities, directors and teachers will be trained on CC adaptation and mitigation measures, and schools will be equipped with manuals for teachers and information materials for students. Due to the scarcity of available infrastructure in the target area, the central CCAC in Calai will be constructed as part of the project. This will include workshop and office space, shaded areas and space for the creation of a model garden and display of low-cost low-tech water solutions for replication. The CCAC will be operated in collaboration with the local administration and will be transferred to their ownership at the end of the project, with the expectation that it will continue to promote CC adaptation and mitigation measures.

176. In Namibia, the project outputs and results, will be integrated with the Regional Agricultural Extension Services of the MAWF and their national and regional programmes to support smallholders. The extension services are an integral part of the project execution team and will continue the support to the farmers beyond the lifespan of this project. They will do so with technical trainings and mentoring of farmers and POs, and assisting with emergency situations such as pests and plagues, or livestock diseases. Additionally, they will provide continued support to smallholders with providing services to farmers, such ploughing of fields, and technical support with the O&M of solar and irrigation technologies. The extension services will strengthen their capacities by the achievements of the ADSWAC project, as well as by the GCF-funded CRAVE project (Climate Resilient Agriculture in the three Vulnerable Extreme regions) which also operates in Kavango East and West regions and which, among others, will increase capacities of extension workers in CRA, and in provision of services to farmers in solar energy and solar water pumping.

177. Finally and in order to ensure the sustainability of the CCACs, which are novel to the two countries, initial intentions were formulated by Okacom national representatives to integrate CCACs into Okacom operations. These representatives are housed in the ministires MAWLR (Namibia) and MCTE (Angola).

Social Sustainability

178. The project will establish and strengthen POs, will work in close relation with local development committees and community leaders, will reinforce WUAs, and CCACs will be established and operationalized. All these CBOs will be trained and sensitized to maintain and continue the project's activities beyond the scope of the projects. Trainings will focus not only on technical capacities, but also on organizational management related capacities, including planning, organizing and holding meetings, conflict resolution, among others. A special emphasis will be placed on the participation of women in all management committees that will be established by the project. These CBOs will be supported in their establishment and will also be mentored and coached throughout the project's lifespan.

179. Community members of benefiting communities, and members of the different CBOs are actively engaged from the start of the project, and will participate in all phases of the project, from inception, planning of activities, to monitoring and evaluation. This will generate the ownership and agency needed for the activities to be sustainable and impactful. The long-term perspectives of the structures will be anchored within plans that go beyond the scope and duration of the ADSWAC project. Notably the CAAPs, as mentioned above, will be a tool for the continuation of activities at community-level, while POs will have business plans and WUAs operational plans. The WUAs are integrated in existing national frameworks, and respond to mandates defined in policies and Acts. In Angola this is formulated in the *Water Law*, and a set of *Presidential Decrees*, defining a "*Community Water Management Model*", as managed by the Ministry of Energy and Water. In Namibia, local water committees such as WUAs are entrusted with the responsibility of managing and controlling the supply of water in rural areas, defined in the *"Water Resource Management Act 11 of 2013 (GG 5367)*";

Environmental Sustainability

180. The project will ensure environmental sustainability through strengthening the resilience of smallholder farmers through adoption of SLM practices, and small-scale adaptive infrastructure to be developed. This will on the one hand, allow to cope with CC-related crisis situations and on the other hand avoid overexploitation of NR, which will be reinforced through the awareness campaigns at community- and school-level.

181. As regards to the project implementation, an Environmental and Social Management Framework (ESMF) will be developed and will act as a guide on handling environmental and social issues. For activities that are anticipated to have significant social and environmental impacts, an independent Environmental and Social Impact Assessments (ESIAs) will be undertaken and approval sought from relevant Environmental Authorities depending on the laws of each of the focal countries. The ESMF has an environmental and social monitoring plan that will guide periodic monitoring and evaluation to track changes that could have adverse environmental and social impacts and ensure adequate mitigation.

Economic and Financial Sustainability

182. The economic sustainability at community-level will be secured through strengthening the CBOs involved in the project, both existing and new ones, to strengthen their technical capacities, which will include the setup and management of simple payment and financial management systems. Additionally, the financial sustainability is reinforced by the additional income that will be generated through the activities promoted by the ADSWAC project.

183. **Climate Change Action Centres:** CCACs' functioning will be funded by the project for its duration, including staff and money for outreach campaigns and small demonstrations at the centres themselves. CCACs will be directly integrated in the functioning of the municipality administrations and the Regional Councils. The actual buildings and spaces to host the CCACs will be provided by these authorities during and beyond the project. Intentionally, the staff's salaries and budget for campaigns and demonstrations will be integrated in the local government's budgets after the lifespan of the ADSWAC project. Through ongoing decentralizations processes, these administrations will have greater autonomy to allocate resources to the CCACs in alignment with national policies of the relevant Ministries. Additionally, intentions were formulated by national Okacom representatives to continue to include CCACs in its future programs

184. **Green School Programme:** The GSP is integrated within the functioning of the MoED's and the MEFT (in Namibia). The curricula developed under the project will be validated by the MoED's and integrated in national curricula of teacher training programs (in Angola), securing that teachers continue and scale-up activities. At school-level, small GSP committees will be organized, consisting of teachers and members of PTAs, School Boards and NEEN (in Namibia). Without any tangible operating costs, these committees will continue to exist beyond the project, supported by the teachers who have it in their curricula.

185. **POs and farmers:** the project will raise income levels of farmers, women and youth groups with IGAs, improved crop and livestock production and will organize farmers in cooperatives and link them to markets to be able to sell their products. In addition, the project will support farmers to add value to their animal and crop products so that they can be able to fetch higher market prices as well as prolonging their shelf lives. All these will help the farmers and pastoralists to enhance their incomes, improve their livelihoods and ensure economic sustainability. Based on the EEs' experiences with the model for strengthening POs, the positive experience of working together in a group is critical with regards to: infrastructure development and O&M (shared cost), bargaining powers with input supply and marketing, joint learning, sharing of expertise and support of one another, enhancing community structures facilitating organisation and executing strategic plans, etc. Once the benefit thereof is experienced, the system, even if adapted, will be adopted and maintained along generational phases. By the end of the project cycle, POs will have achieved financial independence and independence from external support.

186. **Water User Associations:** the WUAs who will be responsible for the O&M of the water infrastructure (wells, boreholes, water points) introduced by the project will be supported with trainings in organizational management, which

will include the setup of a payment-system for the use of water and/or technologies. The fees collected will be managed by the WUAs to have a financial reserve for repairs or replacement of technologies when necessary.

187. Additionally, the EEs are permanent organizations that will continue to work in the target areas. Their track record in mobilizing funding and resources for similar projects is varied and strong, and they will continue to seek for additional funding to assist target populations in adapting to CC and in climate-resilient development. This will be further strengthened by the collaboration with local Ministries and regional bodies and programs such as OKACOM, who have a specific mandate for CORB. The CORB Fund for climate-resilient communities that is being setup under OKACOM may have an important role in the replication and scaling up of ADSWAC project's activities.

188. Considering the dynamic political, social and economic environment of the countries and in the region, it can be assumed that other critical interventions will be identified and necessitated in the years to come. Such intervention can then be built on or integrated in the existing framework and structures which again support the sustainability of this project.

Technical Sustainability:

189. The project includes the introduction of new technologies, such as the development and establishment of water infrastructure and irrigation systems, land preparation, pest control, processing and storage, and introduction of new crops and cultivars. The project will conduct the necessary capacity building activities to secure technical capacities are in place for the O&M of these. To support the POs' and WUAs' work, O&M manuals will be developed and regularly updated for the different technologies. Seeds and planting materials can be saved by smallholder farmers from the crops introduced. Training in seed selection and management of seed stocks will ensure the sustainability of this intervention.

190. The project will secure that the focal points of the respective CBOs (POs, WUAs) are linked to both government extension workers and private sector entities that can provide technical assistance or provide spare parts or replacements where needed.

L. Environmental and Social Impacts and Risks

191. At the design stage of the proposed project, a preliminary E&S impacts and risks assessment was conducted in order to ensure that the project complies with the 15 principles of the AF's Environmental and Social Policy (ESP). The AF- ESP requires that projects comply and respect the laws, people's rights, gender equity, heritage, biodiversity and environment management. At the Full Proposal development stage, the identification of Risks and Impacts will be conducted while ensuring the following points: (i) the formalization of USP approach; (ii) a comprehensive risks identification and impact assessment; (iii) the compliance with the ESP and GP for implementation of the project, taking into account the regional dimension; (iv) the adequate allocation of resources for mitigation measures; (v) the project management structure includes an external oversight/advisory component on environmental and social safeguarding. The initial results of screening are presented in the table below.

Table 111: A preliminary E&S assessment of the potential impacts and risks of the proposed project

Checklist of E&S principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
Compliance with the Law		**X** (*Further consultations and detailed assessments will be done during the development of Environmental and social impact framework (ESMF) for the Project at full proposal stage.* *The final project design will be compliant with all relevant regional and national laws after extensive consultations with national and regional stakeholders as well as development of the detailed EMSF for the project at the countries levels.*)
Access and Equity		**X** (*During the full proposal development an E&S assessment will be ensured as well as identification of selection criteria of target beneficiaries. The project activities will be accessed equally and equitably by the target communities without discrimination*.)
Marginalized and Vulnerable Groups		**X** (*During the project full proposal development, the E&S assessment and the consultations with the communities deep discussion will be conducted to identify the best approach to reach the marginalized and vulnerable groups especially; women, youth, orphans, disabled, female and child headed HHs, and HIV affected groups to make sure they will be targeted by the project activities*).
Human Rights	**X** *(The project activities are not discriminatory by tribe, age and gender or, level of education. The project design relied on the consultative approach involving various stakeholders. No activities are*	

	identified whose execution is not in line with the established international human rights. Project objectives promote basic human rights for fair and equitable access to resources to enhance their resilience to climate change in the beneficiary countries.)	
Gender Equity and Women's Empowerment		**X** *(Further detailed gender analysis will be done at full proposal level to ensure that all gender aspects are fully incorporated into the proposal. The project has a special on focus on women and youth groups especially for capacity building, leadership in POs, WUA committees and FFS to ensure that they fully participate and benefit from the project. Also, Participation of women will be encouraged in the field as Lead Farmers and in FFS as well as access to micro-credits for farming and other enterprises.*)
Core Labour Rights		**X** *(The Project will ensure that Labor laws are considered in activity implementation especially during construction of water capture and retention systems at farmers' fields, modeling collection systems for rooftop rainwater at public sites, installation of small-scale irrigation systems and other concrete adaptation actions under component 3 of the proposed project. During the E&S assessment a special focus on National labor laws in force will be ensured. The respective country laws and regulations will be followed and children's work will be forbidden as well as remuneration inequity between men and women.)*
Indigenous Peoples		**X** *(Given the presence of indigenous peoples and minorities in the project areas special attention will be paid to FPIC process. At full proposal development stage, a wide and targeted stakeholder consultations will be undertaken to elicit the participation and inclusion of both minority and majority indigenous peoples in the project.)*
Involuntary Resettlement	**X** (*The project will work with communities in their locations and on voluntary basis. Therefore, no resettlements or even displacement to new locations is expected. Also during the consultation process the traditional authorities has expressed their willingness to provide some community lands for demonstration plots*)	
Protection of Natural Habitats		**X** (*Further assessment to identify the project risks on natural habitat is required, though a E&S assessment will be conducted in the full proposal development stage. The proposed project will be undertaking agricultural landscape management measures such as: Introduction of tree and shrub species will be included in the AFS systems, short season, adapted varieties of cereals and legumes; commercialization of harvesting of wild fruits, crop rotation, improved planning of planting seasons, and the introduction of intercropping techniques, including CA, AFS as well as promotion of improved practices for better soil management*)Degraded areas will be restored with natural vegetation and trees that were cleared from the area.
Conservation of Biological Diversity		**X** *(Further consultations and assessments will be required during the development of Environmental and social impact framework (ESMF) for the proposed project. At full proposal design stage, deliberate efforts taken to ensure that interventions are compliant with all relevant national and international laws on conservation of biological diversity. It is important to highlight that no invasive plant species will be planted.)*
Climate Change	**X** (*No further assessment required Project activities proposed are aimed to enhance the resilience of ecosystems and populations to Climate*	

	change focusing on drought effects in the cross-border area.)	
Pollution Prevention and Resource Efficiency		**X** (*Minor risks related to potential water contamination of water reservoir through introduction of impurities, wastewater and solid waste is possible. Accordingly, a further assessment is required and an ESMF will be developed with the necessary mitigation measures and monitoring mechanism.* *Project activities will not generate pollution and loss of resources. It will contribute to sustainable land management, efficient water use and prevention of water pollution.*)
Public Health	**X** (*The project interventions will among others also focus on sensitization campaigns in all targeted communities on safe water use and hygiene (A 3.1.1.6). This will include information dissemination based on WASH projects, to promote that water such as rainwater or river water is used correctly, accompanied with hygiene and sanitation messages.* *Communities will also be sensitized on the need to reduce water intake and water use, which will contribute to water availability during dry periods and droughts. These efforts lead to avoidance of waterborne diseases and other epidemics hence contributing to public health)*	
Physical and Cultural Heritage		**X** *(Further detailed E&S and gender analysis will be done at full project proposal development stage in order to incorporate gender aspects including culture and other heritage within the cross-border area. The project will promote local knowledge and train communities to handle the new technologies without affecting cultural heritage. As regards to physical heritage the project will not implement activities that will target specific physical assets in the project sites*.)
Lands and Soil Conservation		**X** *(Further assessment on soil and land will be ensured during the full proposal. The project component 3, Activity 3.1.2.1 3 aims at improving soil management including training and undertaking techniques for capturing and holding rainwater in the field for a longer time so that more of the water can infiltrate into soil hence it protects against runoff and soil erosion. Therefore, no damages to soil, vegetation and land resources are expected to occur.)*

PART III IMPLEMENTATION ARRANGEMENTS

A. Project management arrangements

Implementing Entity

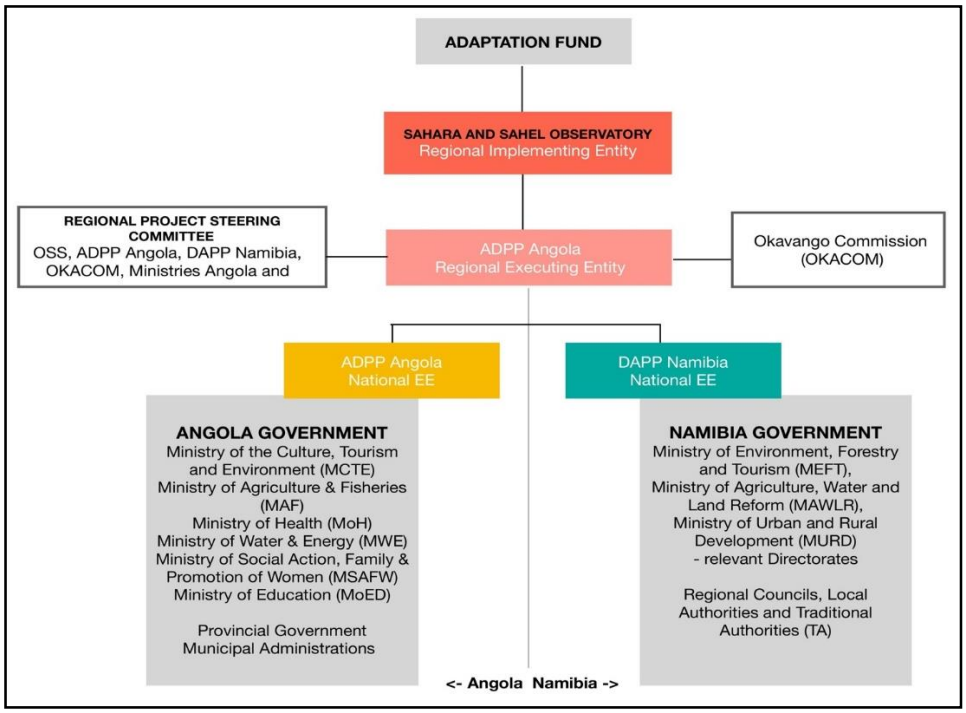
192. The project will be implemented by the Sahara and Sahel Observatory (OSS) who will serve as the Regional Implementing Entity (RIE). OSS will be in charge of all financial, monitoring and reporting aspects to the Adaptation Fund. The OSS will also provide administrative and management support to the executing entities and will be responsible for reporting project related information to the Adaptation Fund.

Executing Entities

193. The project execution will involve stakeholders at the regional, national and local level. The project will be executed by a consortium of partners, led by ADPP Angola (ADPP), in cooperation with DAPP Namibia (DAPP). Both organizations are members of the Federation of Associations connected to the International Humana People to People movement (HPP), a network of 30 sister organizations operating in 45 countries, among which 9 SADC countries. Its member organizations have been implementing development projects for over 30 years in the sectors of Agriculture, CC, Education, Health and Community Development.

194. ADPP and DAPP will execute the activities in their respective countries and in straight collaboration with national line Ministries and their sub-national counterparts. ADPP will lead the consortium and oversee the activities in both countries. The organogram below depicts the institutional arrangements for the project:

Figure 5: ADSWAC Institutional Arrangements:



Project Execution – at Regional Level:

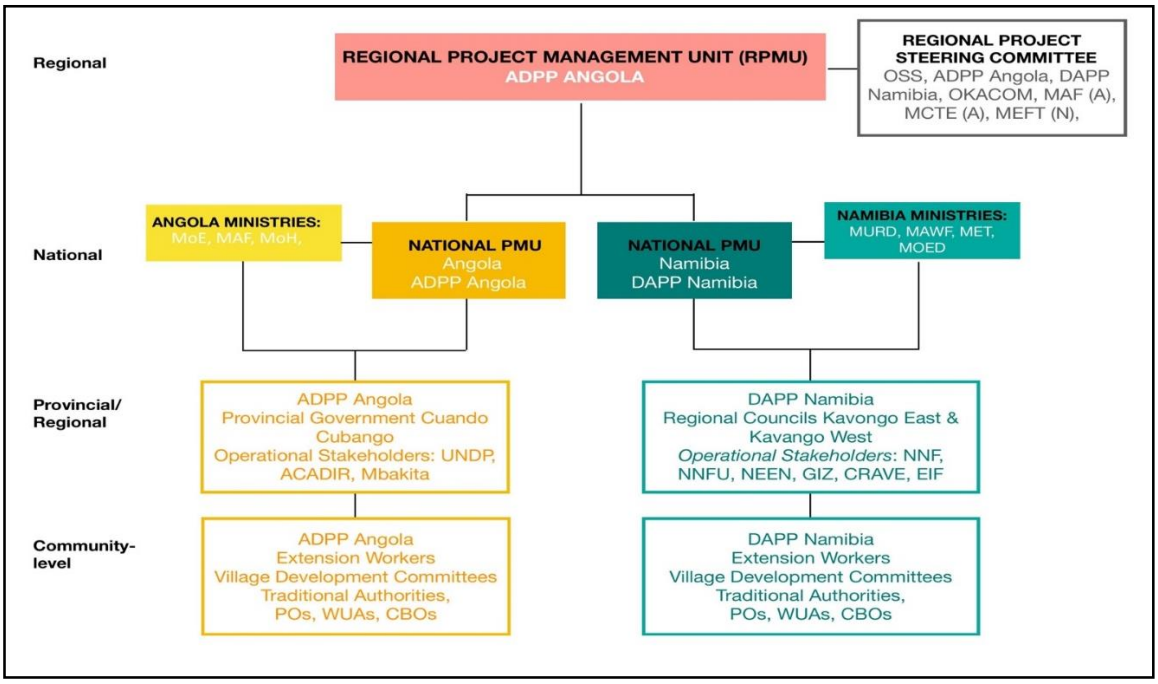
195. Project Execution will take place through a Regional Project Steering Committee (RPSC), which will have the role of overseeing and coordinating the project's planning and implementation. It will be structured to strengthen trans boundary coordination mechanisms. It will be comprised of representatives of all stakeholders. The RPSC will meet at least twice a year to: (a) Provide guidance to the Project Coordination Unit (PCU) to ensure project implementation is in accordance with the project document; (b) Review any proposed revisions to the project results framework and implementation arrangements; (c) Review project progress and achievement of planned results as presented in six-monthly Project Progress Reports and Project Implementation Reviews (PIRs); (d) Advise on issues and problems arising during project implementation; (e) Facilitate cooperation between all project partners and facilitate collaboration between the Project and other relevant programmes, projects and initiatives in the two countries.

196. Members of the RPSC will be: ADPP, DAPP, the OKACOM Secretariat, Angolan Ministry representation (MAF, MCTE), Namibian Ministry representation (MAWF, MURD), and representation of the Provincial Government of Cuando Cubango and the Regional councils of Kavango East and Kavango West.

197. The Regional Project Management Unit (PMU) will be housed at ADPP, which will establish a satellite office in the target area (in Calai, Angola) that will receive support from ADPP's national office in Luanda and from its provincial coordinator in Menongue. It will also act as the national PMU for implementation at Angolan national level. The Regional PMU will be responsible for oversight and coordination of DAPP and the national PMU in Namibia, for implementing the

project components and activities in both countries, and for day-to-day coordination and stakeholder engagement. The implementation arrangements are depicted in the following organogram:

Figure 6: ADSWAC Implementation Arrangements



198. The following table gives an overview of the roles and functions of the different entities:

Table 122: Roles and functions of ADSWAC Implementing and Executing Entities and stakeholders

No.	Entities	Role and functions
Overall		
1	Sahara and Sahel Observatory (OSS): Regional Implementing Entity (RIE)	• Oversee overall financial and monitoring aspects of the ADSWAC project; • Reporting of project consolidated results to the Adaptation Fund; • Approval of project annual work plan and budget at the regional level; • Approval of annual financial and technical reports; • Provide administrative and management support to the REE;
Regional Level		
2	Ajuda de Desenvolvimento de Povo para Povo Angola (ADPP): Regional Executing Entity – (REE)	• Project management and execution at the regional level; • Ensure compliance with the project regional dimension; • Provide Technical Advice, guidance, support to the project; • Communication, networking and partnership building; • Supporting DAPP Namibia during operationalization of activities in Namibia; • Stakeholder engagement at regional level; • Monitoring and evaluation at the regional level and M&E data collecting; • Providing technical and financial reports to OSS based on national reports; • Organize Regional Project Steering Committee meetings; • Housed at ADPP National PMU;
3	Regional Project Steering Committee (RPSC)	• Meet twice a year and provide strategic direction for the project at the regional level (Meetings will be organized back-to-back with other technical meetings); • Facilitate cooperation between all project partners and facilitate collaboration between the Project and other relevant programmes, projects and initiatives in the two countries • Advise on issues and problems arising during project implementation;
National Level		
4	Ajuda de Desenvolvimento de Povo para Povo Angola (ADPP)	• Coordinate project management and execution at the national level; • Manage execution of project activities at community-level;

	National EE in Angola	• Ensuring the project activities are implemented according to plan and have a positive impact on the beneficiaries; • Ensure compliance with national technical standards and integration with government programmes; • Consolidation the results from the project sites and link with the RPSC; • Monitoring and evaluation at national level; • Stakeholder engagement at national level;
5	Development Aid from People to People Namibia (DAPP) National EE in Namibia	• Coordinate project management and execution at the national level; • Manage execution of project activities at community-level; • Ensuring the project activities are implemented according to plan and have a positive impact on the beneficiaries; • Ensure compliance with national technical standards and integration with government programmes; • Consolidation the results from the project sites and link with the RPSC; • Monitoring and evaluation at national level; • Stakeholder engagement at national level; • Providing technical and financial reports to ADPP as REE;
6	National Governments (Angola and Namibia Ministries of Environment, Agriculture and Water & Energy)	• Create a conducive environment for the program execution especially by mobilizing technical experts at the national level where needed; • Provide political support and advocacy; • Provide policy guidance; • Ensure local government engagement and participation; • Ensure ownership and sustainability; • Dissemination of project results in national and international forums;
7	Local Governments (Provincial government Cuando Cubango and Regional Councils of Kavango East and Kavango West)	• Create a conducive environment for the program execution especially by mobilizing extension workers and technicians at sub-national level; • Ensure compliance with provincial and regional strategies; • Provide political support and advocacy; • Provide policy guidance; • Ensure ownership and sustainability;

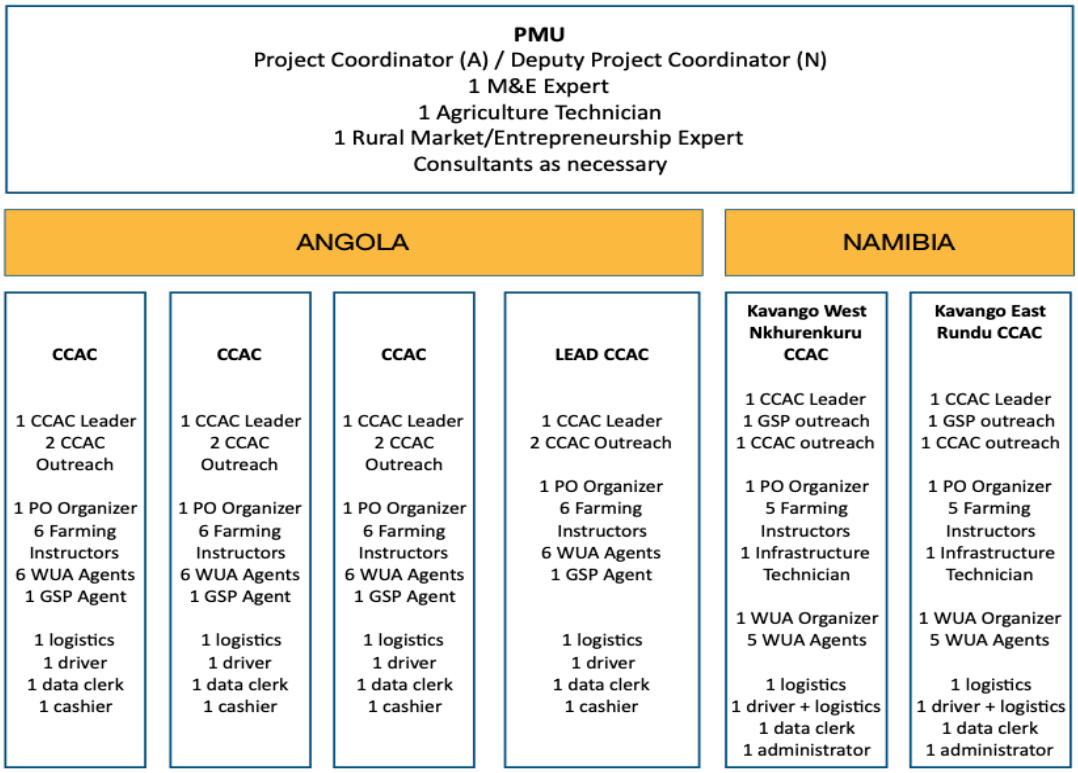
Project execution - organization at National Level:

199. **In Angola**, ADPP will lead the execution of activities from the PMU. A project coordinator will be appointed to manage and coordinate all activities at country-level. She/he will be located in the project office in the target area where he works with a project team that will include an M&E officer, a technician in Agriculture and Environment, consultants recruited for specific tasks, and support staff. The project coordinator will be responsible for engagement and coordination of activities with government partners and other stakeholders. The National Headquarter of ADPP in Luanda and the regional office in Menongue, will offer support in project management, financial management, monitoring and evaluation (M&E), and will assist with specific technical tasks. Staff from the national office will carry out field visits to the project area on a quarterly basis. **In Namibia**, DAPP will lead the execution of activities from a project office based in Rundu. A deputy project coordinator will be appointed to manage and coordinate all activities at country-level. The national coordinator for Namibia, under the oversight of the regional PMU, will work in straight collaboration with the National Headquarter of DAPP in Windhoek, who will offer project management and administrative support, and will assist with specific technical tasks. Staff from the national office will carry out field visits to the project area on a quarterly basis.

Project execution - organization at Project Level

200. ADPP and DAPP will appoint and recruit management and field staff to coordinate the day-to-day implementation of activities. Under the management of the Project Coordinators (PC), this will include 2 Farmers' Clubs Coordinators, 2 Green School coordinators, 2 community water organizers, and 6 CCAC Leaders. These staff will respond to the PC and will lead the organization of the field staff and community agents. The organigram below depicts the organization of the project, including field staff and community agents. All field staff will be based in the communities where they operate and, where possible, will be recruited locally.

Figure 7: ADSWAC Project Execution Staff



Project execution – organization at community-level:

201. Additional to the project management and field staff, the project is built on the active participation of communities, farmers and local organizations. This will be structured through the reinforcement and establishment of CBOs, who will co-lead the activities on the ground and mobilize their members and communities for the participation in the project. The main community-based participants around which the project is built are:

202. **Climate Change Action Centres**: One CCAC in each country will be the lead centre, with the others as satellites. A total of six CCACs will be central in the following activities: (1) CC awareness campaigns in communities; (2) Demonstration sites for low-cost, low-tech solutions such as rainwater harvesting, drip irrigation; (3) Resource center for the whole municipality with books, posters, leaflets and information; (4) Capacity building of authorities in assessing climate vulnerabilities and designing locally-appropriate adaptation interventions; (5) Local participatory climate vulnerability assessments and adaptation planning; (6) Radio and social media campaigns; (7) Facilitate access to climate and weather information for farmers and communities;

203. **Producer Organizations**: a total of 160 POs will be established and/or strengthened. The POs will consist on average of 35 to 40 members each, depending on the geographic context and population density. POs will be the focal organizations for all agriculture-related interventions, and they will have an active role in the execution and management of the following interventions: (1) Establishment of model plots; (2) Trainings for farmers in CRA practices; (3) Seed banks & storage equipment; (4) Nurseries & tree planting; (5) Diversification of production (crop diversification, beekeeping, fishing); (6) Support to improved cattle management; (7) production of small animals; (8) Training in business skills and establishment of links to the market; (9) Credit groups & pass on loans; (10) Nutrition education;

204. **Water User Associations**: an estimated 160 WUAs will be reinforced or established, where applicable. They will be co-responsible for the execution of following activities: (1) Establishment of locally-appropriate rainwater harvesting and storage infrastructure (together with the POs); (2) Management of water infrastructure, including development of management models and manual; (3) Management of irrigation infrastructure; Mobilization of communities to reduce water demand; (4) Carry out campaigns for improved water and sanitation practices; (5) awareness raising on pollution of the river, impact thereof and intervention to address; (6) address/lobby for improved water distribution system at village level from existing water points established by government;

205. **Teachers and schools**: a total of 40 schools will be mobilized to participate in awareness raising and capacity building activities, and will be included in the Green School Programme. One to five teachers per schools will receive trainings to build the capacity of other teachers and students. The main project roles of the teachers and schools are: (1) develop a teachers' manual and a student action booklet; (2) train and sensitize other teachers; (3) carry out CC awareness lessons in schools and communities; (4) establish green patrols; (5) organize environmental and CC clubs at primary and secondary schools; (6) organize tree planting campaigns; (7) Establish school gardens where applicable (subject to water availability) or link to nearby community gardens and crop fields

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SECTIONS RESERVED FOR NEXT STAGE (PROJECT FULL DOCUMENT)

B. Describe the measures for financial and project / programme risk management.

C. Describe the measures for environmental and social risk management, in line with the Environmental and Social Policy of the Adaptation Fund.

D. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan.

E. Include a results framework for the project / programme proposal, including milestones, targets and indicators.

F. Demonstrate how the project / programme aligns with the Results Framework of the Adaptation Fund

Project Objective(s)[31]	**Project Objective Indicato**	**Fund Outcome**	**Fund Outcome Indicator**	**Grant Amount (USD)**
Project Outcome(s)	**Project Outcome Indicator(s)**	**Fund Output**	**Fund Output Indicator**	**Grant Amount (USD)**

G. Include a detailed budget with budget notes, broken down by country as applicable, a budget on the Implementing Entity management fee use, and an explanation and a breakdown of the execution costs.

H. Include a disbursement schedule with time-bound milestones.

[31] The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the overall principle should still apply

PART IV Endorsement by governmentS and certification by the IE

A. Record of endorsement on behalf of the government

ANGOLA *Mr. Lucas Marcolino Miranda* *Office of the Ministry of the Environment -*	Date*: Avril 03rd, 2020*
NAMIBIA *Mr. Teofilus Nghitila* *Executive Director* *Ministry of Environment, Forestry and Tourism*	Date*: May 06th, 2020*

B. Implementing Entity certification

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans under the auspices of OKACOM and subject to the approval by the Adaptation Fund Board, commit to implementing the project in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this regional project.	
Mr. Khatim KHERRAZ – Executive Secretary of the Sahara and Sahel Observatory (OSS) as the Implementing Entity Coordinator *Name & Signature*	
Date: **April 20, 2020**	Tel.: **(+216) 71 206 633** Email: boc@oss.org.tn
Project Contact Person: **Mr. Nabil BEN KHATRA**	
Tel. and Email: **(+216) 71 206 633**; nabil.benkhatra@oss.org.tn	

6. Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

ENDORSEMENT LETTERS

Republic of Angola
Ministry of Environment

03th of April, 2020

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for the Project: "Resilience building as Climate Change Adaptation in Drought-Struck South-Western African Communities"

In my capacity as designated authority for the Adaptation Fund in Angola, I confirm that the above regional project/programme proposal is in accordance with the government's national and regional priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Angola.

Accordingly, I am pleased to endorse the above project/programme proposal with support from the Adaptation Fund. If approved, the project/programme will be implemented by the **Sahara and Sahel Observatory** and executed by ADPP Angola (Ajuda de Desenvolvimento de Povo para Povo – Angola).

Sincerely,

Lucas Miranda
Focal Point to the Adaptation Fund for the Republic of Angola

REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM

Tel: (00 264) 61 284 2111
Fax: (00 264) 61 232 057

Cnr Robert Mugabe &
Dr Kenneth Kaunda Street
Private Bag 13306
Windhoek
Namibia

Enquiries: Mr. P. Muteyauli
E-mail: petrus.muteyauli@met.gov.na

6 May 2020

The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for the project concept "Resilience building as climate change adaptation in drought-struck southwestern African communities: Angola and Namibia."

In my capacity as Executive Director at the Ministry of Environment, Forestry and Tourism and the designated authority for the Adaptation Fund in Namibia, I confirm that the above national project concept proposal is in accordance with the Government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Namibia.

Accordingly, I am pleased to endorse the above project concept proposal with support from the Adaptation Fund. If approved, the project will be implemented by the Sahara and Sahel Observatory (OSS) and executed by the Development Aid from People to People (DAPP) Namibia in straight collaboration with the Ministry of Environment and Tourism, other relevant Ministries and their sub-national counterparts.

Yours sincerely,

Teofilus Nghitila
Executive Director

Ministry of Environment & Tourism
07 -05- 2020
Office of the
PERMANENT SECRETARY
REPUBLIC OF
NAMIBIA

"Stop the poaching of our rhinos"

All official correspondence must be addressed to the Executive Director

Annex 1 – Validation Workshop Report

ADSWAC Project

RESILIENCE BUILDING AS CLIMATE CHANGE ADAPTATION IN DROUGHT-STRUCK SOUTH-WESTERN AFRICAN COMMUNITIES

ANGOLA AND NAMIBIA

A REPORT ON THE REMOTE REGIONAL CONSULTATION WORKSHOP HELD WITH BENEFICIARY COUNTRIES ON THE DRAFT PROJECT CONCEPT NOTE

Background and context

The border between southern Angola in Cuanda Cubango and northern Namibia in Okavango/Kavango constitute a transboundary corridor that is dominated by the hyper-arid, arid and semi-arid drylands depending on the amount of annual precipitation and temperature. This area is characterised by aridity and drought conditions where increasing temperatures and rainfall variability have led increasing occurrences of floods and droughts with resultant negative effects to populations and ecosystems therein. Like different sites in various countries, Angola and Namibia are experiencing significant impacts of climate change, which include changing weather patterns, drops/rises in water levels, and increased frequency of extreme weather events such as floods, as well as droughts, whose social economic impacts make communities very vulnerable. In contributing at the regional level within the framework of the Southern African Development Community (SADC) policy paper on climate change and the SADC climate change adaptation for the water sector strategy that focuses on climate resilience, food security and water management efficiency enhancement, the Ajuda de desenvolvimento de povo para povo (ADPP) Angola and Development Aid from People to People (DAPP) Namibia in partnership with the Angola and Namibia Ministries of Environment, Agriculture and Water & Energy are collaborating to develop a project on building climate resilience of communities in the cross-border area between the two countries- the ***ADSWAC Project***.
The **ADSWAC**[33] project aims to enhance adaptation capacity and resilience of communities to climate change impacts and variability, especially drought, in the transboundary region between Angola and Namibia. More specifically, the ADSWAC project has set specific objectives of:

- Enhancing local, sub-national and regional capacities to adapt and respond to climate change risks in the cross-border area of Angola and Namibia;
- Building organizational and technical capacity for climate-resilient production and water management and;
- Improving food security in response to climate change impacts amongst rural and vulnerable communities in Cuando Cubango Province and the Regions of Kavango East and Kavango West.

To achieve these specific objectives, the ADSWAC project will be based on three main components:

- *Component 1*: Strengthening awareness, knowledge and capacity to adapt to climate change and variability at community-, district-, national and regional level;
- *Component 2*: Organizational and technical learning for climate-resilient production and water management;
- *Component 3*: Improving resilience of ecosystems and livelihoods through the implementation of community adaptation actions to improve food security in response to climate change and variability.

The proposed project will be implemented It will be implemented in the transboundary area between Southern Angola and Northern Namibia. The project will be implemented by Sahara and Sahel Observatory (OSS), which is an accredited Regional Implementing Entity for the Adaptation Fund and executed at the national levels by ADPP Angola (Ajuda de Desenvolvimento de Povo para Povo) and DAPP Namibia (Development Aid from People to People) for the benefit of Angola and Namibia.

Due to current drought and climate challenges in the transboundary area, the two countries have expressed support to undertake the proposed project interventions. The pre-concept note for this project was approved by the Adaptation Fund (AF) in October 2019. After endorsing the pre-concept, the Adaptation Fund requires a project concept that should be developed for submission to the Adaptation Fund Board 35-36 Intersessional Review Cycle, before April 20, 2020. Consultative workshops were organized at national level to gather national and project site-specific information that lead to the elaboration of the draft project concept. Aware of the challenges associated with face to face meetings due to the COVID-19 global Pandemic, as required for regional project development, a remote regional workshop was organized using the “BlueJeans” videoconference platform, The workshop was an opportunity to bring together the national partners from

[33] https://www.adaptation-fund.org/project/angola-and-namibia-resilience-building-as-climate-change-adaptation-in-drought-struck-south-western-african-communities/

both countries, as well as other related stakeholders in order to establish a joint reflection on the ADSWAC project and obtain final in puts into the draft concept prior to submission to the Adaptation Fund. The regional workshop was held on Wednesday, April 15, 2020 at 12:00 am UTC (1:00 pm Tunis and Luanda times, 2:00pm Windhoek time), for a three (03) hours and 30 minutes duration. The workshop was carried out in an interactive manner punctuated by plenary discussions as well as questions and clarifications made by the different presenters at the workshop. Presentations we made in accordance with the workshop agenda (Annex II) provided to the participants prior to the workshop. Overall, presentations focused on the workshop objectives, project overview, Project objectives, the draft concept, regional dimension of the concept as well as the main elements focused on at the concept development stage. Additional information on potential activities and institutional arrangements were agreed upon. Finally, commitment and availability to continue with the proposal development process as well as timely responding to comments raised by the Technical Committee of the Adaptation Fund were sought from the partners and agreed to a successful submission of the concept to the Adaptation Fund.

Participants of the consultative workshop

The workshop participants were drawn from the two focal countries Angola and Namibia as well as the OSS team. The participants included:

- Representatives of national partner institutions for the two executing countries: These are:
  - ADPP Angola
  - DAPP Namibia
  - Ministry of Environment, Forestry and Tourism (MEFT)
  - Ministry of Agriculture, Water and land Reform (MAWLR)
  - Ministry of Environment Angola
  - Ministry of Energy and Water
- Representatives of Climate Resilient Infrastructure Development Facility (CRIDF)
- Representative from Cuando Cubango Province
- Representatives of the Okavango River Basin Commission (OKACOM), Botswana
- Humana Fundación Pueblo Para Pueblo - SPAIN
- Representatives from the Regional Implementing Entity and Partners

Workshop proceedings

The workshop was facilitated by Mr. Nabil Benkhantra from the OSS Executive Secretariat. The Facilitator welcomed participants to the consultative workshop and presented the agenda. The Agenda comprised four technical sessions in addition to the official opening and closure. Based on the agenda, the workshop was estimated to last for about three (3) hours on average. He requested participants for their commitment and active participation in the workshop. Presentations were made by different presenters focusing on the project, concept note, institutional arrangements and budget of the project.

Objectives of the workshop

The workshop objectives and the expected outcomes were presented by The Facilitator. Overall, the objectives focused on validating the information collected during the national level consultations, and secure additional input to ably finalise the Concept note. Specifically, the workshop objectives were to:

- Validate the priority intervention sites in Cuanda Cubango and Kavango East and West in the Cross border area;
- Gather needs and expectations expressed by participants for consideration into the project activities;
- Suggest new activities that meet the specificities of the intervention areas and the needs of the beneficiaries;
- Validate the project logical framework based on components, outcomes and outputs in the pre-concept note;
- Validate the distribution/allocation of the project budget;
- Identify the roles and responsibilities of the various stakeholders especially at national and local levels that will be involved in project implementation
- Identify risks of proposed interventions and their mitigation measures
- Take into account the findings of the workshop to finalize the drafting of the project concept note.

Key outcomes of the workshop

The expected outcomes of this remote regional consultation workshop were the following:

- Validation of the priority intervention sites of the Project activities;
- Integration of the recommendations and comments related to the different sections of the project concept note;
- A common understanding of the project's expectations and the measures to be implemented to adapt to climate change impacts in the region;
- Distribution/allocation of project budget between the different project components.
- Definition of an effective institutional arrangement for the best execution of the project;
- Presentation of the difficulties likely to slow down the project implementation;
- Preliminary identification of the environmental and social project-related risks and their classification according to the AF standards;
- Full consideration of the importance of gender equity.

Findings and discussions

The lead Facilitator Mr. Nabil Benkhantra called upon Ms. Khaoula Jaoui to moderate the discussions to wrap up the workshop presentations. The comments, issues and responses or reactions that ensued are presented in the following Table.

Table : Reactions and discussions to wrap up the workshop

Comment/issue raised	Responses/reactions
The various communities and other stakeholder consulted on the project during the national consultations thank the OSS, ADPP Angola and DAPP Namibia for taking the initiative to develop a project to build their resilience against droughts and climate change.	Stakeholder s need to be committed and patient to the entire process. Stakeholders need to be readily available to provide the required information at every stage whether or not concept and full proposal to ably respond to the reviewers' comments and questions at Adaptation Fund until the project is endorsed.
The stakeholders consulted in Namibia are fully happy with the project and look forward to implementation.	
After listening to the presentation, it is evident that some of the interventions should be undertaken in Botswana. Why was Botswana left out of the project development? How can it be brought on board?	Botswana was initially part of the project development process but later failed to provide an endorsement letter. This action implied that they did not endorse the project and were left out at this stage.
How can neighbouring communities in Botswana benefit from the project?	For the meantime, neighbouring communities in Botswana especially those in the Okavango Delta could benefit from the project through cross learning processes from ADSWAC project implementation. Alternatively, another regional or national project could be developed with OSS for submission to the Adaptation Fund.
Has the concept drafting tem thought about the likely effects of moving people from one area to another at project implementation?	Overall, the project design does not include and does not plan to move people from one area to another. Resettlement of populations is not included in the project design.
Namibia government recently re-organised government Ministries and Departments. Why does the drafting team refer to previous names of Ministries that were changed by government?	The project design team from Namibia should provide the concept drafting team with the updated information regarding new Ministries and government departments for inclusion in the draft concept before submission to the Adaptation Fund.
The budget presented during the workshop proceedings is in U Dollars. Won't the Executing Partners lose out due to fluctuations in the exchange rate.	Fluctuations in exchange rates is a challenge to such projects. However, US dollar accounts are opened by the respective countries and expenditure is usually undertaken in the respective local currencies. This way the losses are minimized.
Representation of stakeholder from Namibia on the proposed Steering Committee is inadequate. How can such an issue be rectified at this point?	Representation of various partners can considered in detail at full proposal development stage considering that there is limited time hold further consultations on such an issues when the concept is due for submission to the Adaptation Fund in the next few days.
The proposed project focus on organizing farmers in associations is a highly welcome. However, the project should not only focus on farmers' organisation for just agricultural production but also market access and marketing their commodities.	The concern was well noted and should be taken into full consideration at full proposal stage.
Establishment of Early Warning Systems to support farmers to plan cropping and protection of crops should be an important intervention for this project	At full proposal stage, comprehensive consultations will be undertaken to identify specific gaps in the existing Early Warning Systems so that targeted interventions are incorporate and implemented under the ADSWAC project.
Selection criteria of project beneficiaries needs critical attention. What will be the selection criteria of project beneficiaries?	Vulnerability, especially the most vulnerable among communities such as women, youth, elderly, disabled and sick should be prioritized. Also beneficiaries that are conversant with local languages to easily understand the project should be considered.
How can populations of small groups that have hitherto depended on wild resources be supported by the project?	Minority/small/indigenous populations such as the Khoisan/San in Southern Angola and Northern Namibia need to specially targeted by the project. Efforts will be made to involve them at full proposal development stage. Participants should send the specific names of such groups to the drafting team. At full proposal stage, a Prior Informed Consent (PIC) will be sought to involve them in project formulation and implementation.

List of participants

Name and Position	Organization/Institution
Regional Partners	
Mrs. Tracy Molefi	The Permanent Okavango River Basin Commission (OKACOM) Botswana
Mr. Phera Ramoeli	The Permanent Okavango River Basin Commission (OKACOM) Botswana
Mr. Casper Bonyongo	The Permanent Okavango River Basin Commission (OKACOM) Botswana
Mrs. Caroline (Brown) Solik	Climate Resilient Infrastructure Development Facility (CRIDF)
Angola	
Mr. Carlos Andrade	Ministry of Energy and Water
Mr. Vicente Pereira	Provincial Government of Cuando Cubango
Mr. Walter Alexandre	Teacher Training College in Cuando Cubango and ADPP Cuando Cubango
Mr. Ernesto Escorcio	Ministry of Environment, Office of Climate Change
Mr. Rikke Viholm	ADPP Angola, Board
Evaristo Waya	ADPP Angola
Paulo Vicente	ADPP Angola
Namibia	
Mrs. Bernadette N. Shalumbu-Shivute	Ministry of Environment, Forestry and Tourism (MEFT)
Mr. Mildred Kambinda	Ministry of Agriculture, Water and Land Reform (MAWLR)
Mr. Francis Chimudzi	Development Aid from People to People (DAPP) Namibia
Mrs. Kirsten Moeller Jensen	DAPP Namibia
Mr. Bryan Gaomab	DAPP Namibia
Mr. Gunther Roeber	DAPP Namibia
Regional Executing Entity and Partners	
Mr. Jesper Wohlert	General Manager - Humana Fundación Pueblo para Pueblo - SPAIN
Mr. David Kerkhofs	Coordinator - Humana Fundación Pueblo para Pueblo - SPAIN
Mr. Lawrence Orikiriza	Consultant – UGANDA - Independent consultant
Regional Implementing Entity (OSS°)	
Mr. Khatim Kherraz	OSS Executive Secretary
Mr. Nabil Ben Khatra	Environment Program Coordinator
Mrs. Khaoula Jaoui	OSS technical team
Mrs. Leila Dridi	
Mr. Samou Kone	
Mrs. Rawia Derbel	
Mr. Aziz Belhamra	
Mrs. Dalila Hicheri	
Mrs. Lilia Benzid	