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:	11,941,038 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
DRFN	Desert Research Foundation for Namibia
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
ESMP	Environmental and Social Management Plan
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, Family 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
NIE	National Implementing Entity
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 less than 425mm per annum. Increasing temperatures and rainfall variability have led to more frequent occurrences of floods and droughts resulting in negative effects for populations and ecosystems. The climate change (CC) impacts that both Angola and Namibia are experiencing are significant and include changing weather patterns, drops/rises in water levels, and increased frequency of extreme weather events such as droughts and floods, whose socio-economic repercussions are making communities even more vulnerable.
2. Climate projections for Angola based on IPCC models and Representative Concentration Pathway (RCP 8.5) indicate that mean annual temperature is expected to increase between 1.2 and 3.2°C by 2060, and between 1.7 and 5.1°C by 2090, with warming 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 rainfall levels 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 and mean annual precipitation will fall by -38.9mm. Annual accumulated cooling degrees of temperature above 18°C are expected to rise by 1,129.3°C by 2020 and total annual hot days of temperature above 35°C by 45.8 days. Overall, rainfall is projected to decrease over much of Namibia with temperatures projected to increase by 2-5 °C, over this century. Rates of warming will be lowest in the south-west and highest in the north-east[5].
4. The projected changes in climate related to temperature and rainfall, especially in Southern Angola and Northern Namibia, will aggravate the situation for human populations and ecosystems in the two areas. In Namibia, these changes will negatively impact water resources, agriculture, biodiversity, health, disaster resilience, tourism and infrastructure, on which the increasing human population depends for their livelihoods[6]. Namibia is also highly dependent on climate-sensitive natural resource-based sectors such as agriculture, fisheries and mining, which 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 of the border use the river to sustain their livelihoods, with activities upstream having consequences downstream. Grasslands, forests, and human activities all benefit from its permanent water resources. Human land use activities such as crop and livestock farming are increasingly placing 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 and 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. Vulnerable populations are barely reached by agriculture extension and social services, which together with the harsh conditions maintains them in a continuous poverty trap.
7. The targeted areas are geographically more coherent than they are with their own national capitals. Population groups across the frontier share the same ethnic background, languages and cultural habits and characteristics. Roads in the area 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 part of the border between Angola and Namibia. This makes the area a hotspot for human settlement. The livelihood of the people in the region of Cubango in Angola is centred around the two rivers, and any efforts towards improvement must be focused on conserving the resources of the two rivers that lead to the Okavango delta in Botswana.
9. 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 forest resources for timber, charcoal and fuelwood energy causing 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. The long-term fate of the Cubango-Okavango Basin (CORB) and its delta depends upon the sustainable management of its water resources. In the northern part of the basin, levels of rainfall are 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

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.

countries of Southern Africa. Floods and drought are disastrous situations that affect populations and markets in the transboundary area. In extreme cases, when floods occur in Northern Namibia, families have to be relocated, and schools and businesses need to be closed down due to the damage the flood may cause. Areas of tourist attraction suffer the same fate, as many people cannot visit them[7]. Communities lose assets and properties, and sometimes their lives. The most vulnerable groups within these communities are children, orphans, women, elder people, and people with chronic diseases such as HIV and AIDS. Overall, the CORB remains one of the least human-impacted river basins on the African continent. It is also ecologically unique. The Okavango Delta in Botswana –one of the world's largest Ramsar sites[8]– is of national, regional and global environmental and biodiversity value and importance. It has been recently added to the list of UNESCO's World Heritage Sites.

11. As dry periods become longer and droughts occur more frequently with irregular and uneven distribution of rainfall, migrations among pastoral groups will be inevitable as transhumants search for water and rangeland within the transboundary area. And although transhumance is a well-known strategy of pastoral communities to cope with droughts, it negatively impacts peoples' livelihoods as well as both countries' economies. It often induces tribal or population cluster conflicts over NR use including scarce water and pastures; and has been known to lead to 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.
12. Due to the same changing conditions, subsistence agriculture is negatively impacted by 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 migration of male members of communities in search of better grazing or employment opportunities[9].
13. In either case, small-scale subsistence farmers and pastoralists remain vulnerable to climate-induced effects. The abilities of these communities, and especially of their most vulnerable groups, to cope with droughts have been greatly weakened over the years due to the aggravated impacts of such events, which have become more frequent as well as severe. As a result, communities have no alternative options but to resort to overexploitation of NR using unsustainable methods. Lack of inadequate extension services further worsens their vulnerability to drought risks.
14. 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, which brings food stocks to critically low levels, jeopardizing their survival during dry spells or flooding when food resources are limited. Especially critical are grain stocks towards the end of season, before next harvest starts.
15. As the populations in the area suffer from impacts induced by CC, most notably in the form of prolonged dry spells, long periods of drought conditions, and floods, prospects will not improve without interventions to build resilience to CC impacts. Deliberate efforts aimed at enhancing the resilience of communities and ecosystems to such impacts are imperative. A unified cross-border approach will not only help the populations to adapt to changing conditions but also encompass a key contribution to avoid further natural resource (NR) degradation such as encroachment of the protected areas. Sustainable utilisation and ecosystem services provision of agricultural soils, surface and groundwater resources, forests and other terrestrial ecosystems will be achieved.
16. Angola's 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; 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 are undertaking various interventions to adapt to CC, including NR-based concrete adaptation actions, capacity building and awareness-raising targeting vulnerable communities and other stakeholders among others.
17. 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) 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/transboundary region by building organizational and technical capacity for climate-resilient production and water management and by improving food security through the promotion of climate-resilient and diversified practices and crops, in response to CC impacts among rural and vulnerable communities.
18. 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 it will 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

[7] 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.

[8] 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.

[9] 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

proposed project will feed into and enrich these documents with field experiences so that maximum adaptation actions are achieved and undertaken.

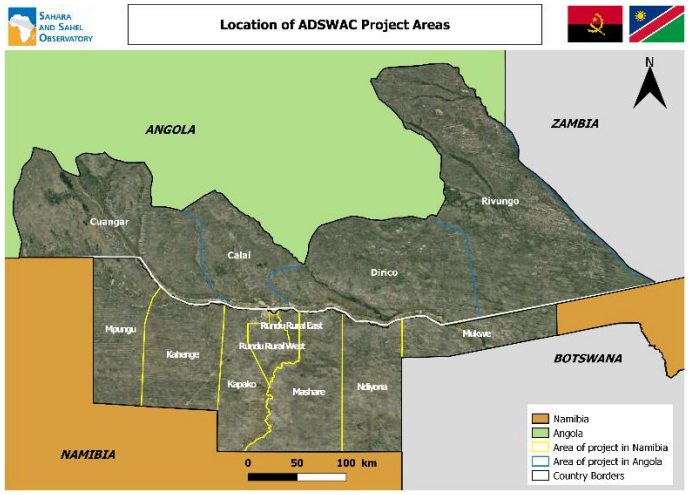
19. Globally, the proposed project will contribute to the attainment of the targets for the Sustainable Development Goals (SDGs) targets of the two countries. This will be possible through the wide partnerships (at regional scale) that the project has proposed to put in place with other regional players 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[10], but for many other development goals targets such as SDG 13[11], 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[12] and SDG 6a[13] and 6b[14], SDG115, SDG2[16] and SDG5[17].

1.2 Description of the Project sites

20. 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*



21. These sites are considered to be the most vulnerable and prone to drought (and floods) and to CC impacts, which led to their selection for 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 to 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 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 other resources (e.g., fish) on which communities depend for alternative livelihoods.

[10] Ensure availability and sustainable management of water and sanitation for all
[11] 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
[12] 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"
[13] "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".
[14] "Support and strengthen the participation of local communities in improving water and sanitation management"
[15] End poverty in all its forms everywhere
[16] End hunger, achieve food security and improved nutrition and promote sustainable agriculture
[17] Achieve gender equality and empower all women and girls

1.3 Geographical Location and Area

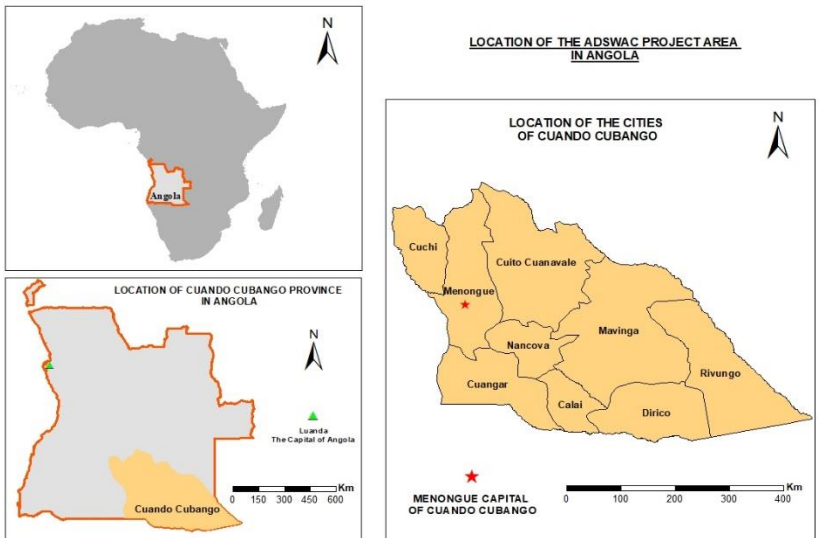


Figure 3: Location of Cuando Cubango province and other provinces in Angola

22. 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 and very close to the town of Dirico, where Angola and Namibia connect[18]. The capital of the Cuando Cubango province is Menongue, a city 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, mainly due to the distance from the capital and limited attention to rural development.

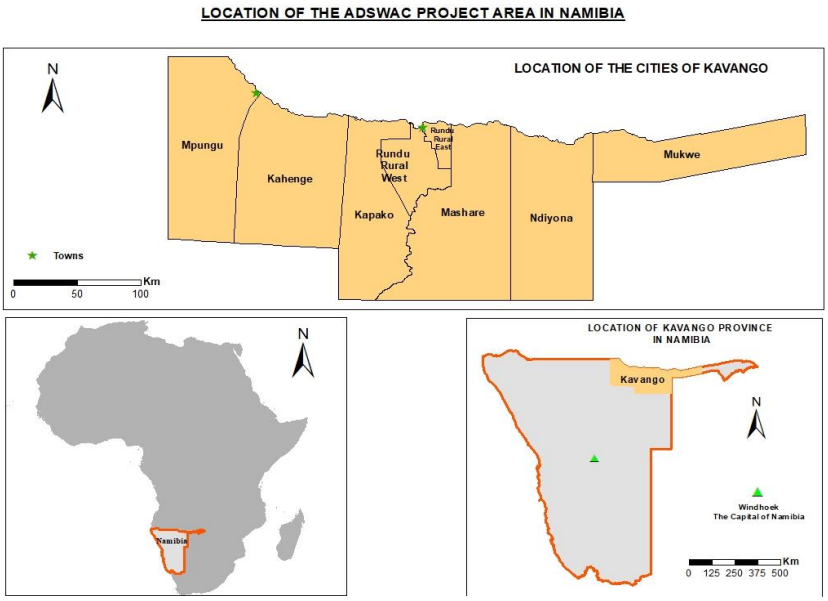


Figure 4: Location of Kavango regions in Namibia and neighbouring countries

23. ***In Namibia***, the project will be implemented in ***Kavango East and Kavango West***, in communities along the river. Kavango covers an overall 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 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, Ohangwena and Oshikoto to the west and Otjozondjupa to the south[19] (*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)[20,21]. The boundaries of constituencies and tribal representatives differ in many areas.

24. Considering that Cuando Cubango province and the Kavango regions share a common border, there are 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 the sustainable wellbeing of the populations and ecosystems across the two countries. The proposed project intends to build the resilience of communities to CC in the two project sites.

1.4 Climate

25. 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 the country. 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 to run through the Province to converge in the extreme Southeast, where the Cuando

[18] https://worldpopulationreview.com/country-locations/where-is-angola
[19] https://www.britannica.com/place/Kavango-area-Namibia
[20] National Statistics Agency, 2011. Census Regional Profile – Kavango region.
[21] National Statistics Agency, 2006. Kavango region – a digest of information on key aspects.

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, with April and October considered 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 being frequently afflicted by drought.

26. ***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.

1.5 Agriculture

27. ***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 agricultural system is rainfed subsistence family farming. The main cultivated crops are sorghum, millet and corn. There is some small-scale horticulture, and some fruit trees such as Citrus, Guava, Mango, Banana, and Papaya, for which there is potential to scale up. Diversification of crops is also recommended, with suggested introduction of Cassava, Macunde beans and sweet potatoes. The soils in the area 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, and highly vulnerable price volatility, inducing forced migration. In terms of livestock production, ***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 cattle, goats, pigs or poultry. Rains negatively affect crop yields as prolonged droughts impede soil water availability for crop growth. In such cases, irrigation systems are used to support the production of sorghum and vegetables. Millet and sorghum grown in this area provide food for consumption for up to half of the year on average. During the other half of the year consumption needs are met through food purchases from nearby markets. Agricultural productivity is very low, remaining only a precarious means of subsistence and far from providing HHs with additional income. The main difficulty lies in the dispersion of the population, which hinders the organization of peasants, as well as the lack of skills and knowledge transfer options, which should be facilitated either by vocational training providers (government and donor funded) or improved extension services, for which capacities are limited.

28. 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 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 lack of strong organization and support to enable communities to work towards surplus production. 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, and extreme high temperatures. Unreliable water supply is a barrier, 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. This is related to absent management systems, increasing herd sizes and 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. Most communities reveal that adequate water supply systems to improve soil fertility, 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 term 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.

1.6 Hydrology and Water Resources

29. ***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 and 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 neighbourhoods, 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. Rivers are also an important source of water for livestock and human consumption. In many areas, there are no proper sanitation facilities and open defecation is common practice. Water points exist in most locations, but due to the distances between communities and the inaccessibility, many water point committees face challenges in maintenance and repair.
30. ***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 due to population growth. 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, installed by the government and managed by local water point committees. The distribution of pipelines often supplies adjacent water points (water reservoirs). Although most pumps are driven by combustion engines or solar powered systems, they are limited by quantity of water, depth of boreholes and associated costs. Overall, the main challenge is 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 has access to drinking water at river and inland water points (herded to water point on daily basis).
31. 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 increasing 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 and other trash. 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 are inadequate in others.

1.7 Biodiversity

32. In Angola, Cuando Cubango province boasts of two national parks and the transnational Kavango Zambezi Trans frontier 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 savannah with shrubs and trees in the North; savannah 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.
33. 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 routes[22]. Human-wildlife conflict, especially along wildlife corridors, are reportedly experienced from elephants; whereas hippos and crocodiles pose a less significant challenge. The areas prone to natural plagues (birds, insects and pests) are not mentioned as a significant threat.

1.8 Forest resources

34. 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. While large-scale coal production is not felt in the coastal and river towns (probably due to the lack of a market), it is so in Menongue, Cuito Canavale and Cushi, supplying coal to the Luanda market. Generally, there is no type of forest management plan for the municipalities on the waterfront. There is evidence of devastating and uncontrolled deforestation between the years 2016 - 2018 where 116 companies were licensed to do logging. The municipalities most affected 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 has been 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). The tree species are in principle able to regenerate, but due to frequent burning, the trees do not have time to fully grow. Such species take approx. 60 years to reach the desired size for exploration. Currently, only 20 companies are licensed for controlled logging.
35. In Namibia within the Okavango region, the vegetation cover in the Basin is dominated by woodlands, grasslands, savannahs and shrub lands. 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, to the more open Thorn bush savannahs

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

in the Kalahari. Although some controversial activities that have been reported about forests in the media are linked to Chinese companies, tree felling is strictly controlled by the Directorate of Forestry. 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 occurs through management of community forests.

36. 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 shrub lands. Kavango contains 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.

1.9 Fires

37. **In Angola**, widespread fires contribute to the degradation of the soil, with a negative impact on the production of honey, reducing the possibility of beekeeping due to the absence of flowers combined with the smoke from the fires. Fires have several objectives and reasons: for hunters to facilitate hunting, for small farmers to prepare the fields, for drivers to improve visibility and passage, smoking accidents, among others. Firewalls (plugs) are rarely made, so fires often spread 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 due to frequent anthropogenic fires. Much of Cuando Cubango and parts of Moxico are mosaics of open woodland separated along sharp margins from dense woodland and forest[23]. Grasses and shrubs were mostly absent in the recently burned areas, and bare soil was common.

38. **In Namibia,** within the Kavango regions, one of the common environmental problem among others are wild fires. Wild fires are sometimes accidental but are most frequently caused by careless community members that do not consider the impacts fires can have, especially during prolonged droughts. Although it is illegal to practice slash and burn during crop farming, uncontrolled burning is allowed. The Director of Forestry is responsible for controlling wild fires, but fire control systems and equipment in place are weak, ineffective and inadequate to contain the fires.

39. Overall, although fire is an important ecological factor for vegetation management, if not controlled it has shown to cause undesirable effects including, soil erosion and siltation of 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 lead to violence. The situation is even more delicate 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.

1.10 Population and indigenous peoples

40. **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 favour men. 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 groups of non-Bantu origin, referred to as the Khoisan. Eight (8) languages are spoken, such as: Nganguela, Cuangar, Xambiu, Dirico, Mbucusso, Camussequele, Umbundo and Quioco are spoken in Calai. In Cuangar Municipality, 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 constitute 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 Kwehe and Mpungu Ikung are related groups in northern Namibia and Botswana.

41. **In Namibia**, according to the national statistics agency, the population of Kavango province is about 446,703 people as per population census of 2011. In Kavango, according to 2013 population census, women were 56.5% and 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[24]. Rukavango-speaking people constitute by far the largest language group in Kavango (79.4% of the population), and San constitute just 0.4% of the region's population (NSA 2013: 171).

42. Overall, the San are considered a minority group and have been subject to discrimination. Many San groups have inhabited the same lands for many years and have developed a close relationship with the land and NR. The San of Angola appear 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 highly vulnerable. The lack of information is partly attributed to the limited infrastructure and remoteness of areas in southern Angola where indigenous people reside. State and civil society engagement with indigenous people is limited as well.

[23] Link.springer.com
[24] Siyabona Africa (Pty)Ltd, 2019. Private Tours and Safari. http://www.siyabona.com/place/Kavango.html
[24] Link.springer.com
[24] http://www.travelnewsnamibia.com/uncategorized/people-kavango-zambezi/

43. A summary of population groups in Angola and Namibia is seen in table 1 below in the target regions and province.

Table 1: Overview population groups in the target Regions and Province

Population group		Kavango Regions	Cuando Cubango
Total population		223,352	700,000
Target beneficiaries (direct and indirect)		73,000	103,000
Age structure	0-14	95,981	324,800
	15-64	116,445	355,600
	65 years and over	10,962	19,600
Breakdown by gender	Women (53.1% and 51,3%)	118,591	355,600
	Men (46.9% and 48,7%)	104,761	341,600
Indigenous People in Kavango – 0.4% of households in the Kavango regions, 0,1% of Cuando Cubango Province		893	573

1.11 Livelihoods and cross border trade

44. **In Angola**, despite the progress that has been made, the harsh reality determined by strong social and economic needs still makes Cuando Cubango one of the Provinces with the highest poverty rate, having the second highest index of poverty in the country. The southern region of Angola is a largely agro-pastoral zone where local communities are engaged in rain-fed subsistence crop farming (millet and sorghum) and livestock production[25]. 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 border crossing from Angola to Namibia. 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.

45. **In Namibia**, the main livelihoods in Kavango region are: subsistence farming, harvesting of natural indigenous products, contributions from family members' incomes, pensions for the elder people, social grants and sale of livestock. Subsistence farming at village and family levels provide occasional surplus 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, and indigenous products such as the Marula, devil claw, nuts and beans. Thatch grass is sold to companies building upmarket thatch roofed structures in developed areas, especially in private homes and tourism establishments. Contributions by employed family members are vital and often provided at request for 'project' specific reasons such as filed cultivation. State pension for the elder, usually from 60yrs onwards, is about N$1,200 per month. The social grants provided to the vulnerable, disabled, orphans are also important for livelihoods among communities in Kavango region. Livestock constitutes traditional wealth and is only sacrificed under special circumstances, which is a reason why sale of livestock is not a common livelihood. There is also tourism with numerous upmarket lodges along the Kavango river, but this has not had a big economic impact except some small levies payable to traditional authorities. Overall, people in Kavango earn their living by practicing different activities like small scale agriculture, arts and craft, sale of livestock, and forestry, all done on subsistence level and ensuring communities remain poor.

46. A **baseline survey**, conducted in the target areas in Cuando Cubango and the Kavango Regions during full proposal development, provided more details on the socio-economic conditions and on the livelihoods of populations in the target area. Key observations are as follow:

47. Assets

- HHs' homes are limited to mud houses, most with thatch roofs.
- HHs have limited assets, most have a mobile phone, although network is limited to non-existent, and radio, no transportation means other than ox carts and some fishing boats, no energy sources (generators or solar panels).

<u>Production</u>

- Most families have some access to arable land for staple crops or vegetables. Sizes average between ½ ha and 3 ha. Main crops are rainy season sorghum, millet and corn. Only a very small proportion of farmers has more than 1 staple harvest per year.
- Some families have vegetable gardens, though not all. Vegetable production varies, some produce a few months a year, others all year round. Most of the production is for household consumption.
- Most families own cattle for the households, not for surplus sale. Other small animals are varied, with about 50% of interviewed families owning goats or poultry. Pigs are rare, with only few families owning them.
- Most families sell some surplus products on the market. Access to markets is difficult due to inexistence of roads and limited means of transportation, so most families walk to the markets. Market information is accessed by word of mouth and rarely by other means.

<u>Income and expenditure</u>

- The vast majority of households' highlight that their income is insufficient to cover daily expenses and other costs. Coping methods are mainly reducing food intake in the difficult seasons, although most families report not having enough grain for consumption all year round.
- Food, housing and health care are priority expenses, followed by children's education and social events. Only some families (10%) access loans, mainly from local money lenders and family.

<u>Access to water:</u>

[25] https://www.lac.org.na/projects/lead/Pdf/scraping_two_chap9.pdf
[25] Government of Angola, 2017. Droughts in Angola 2012 – 2016. Post Disaster Needs Assessment

- Most families in the target area's source of water is the river. A few families report buying water from local suppliers, a few communities have boreholes or wells.
- Most families on the Namibian side of the border, access water within a walking distance of 30 minutes. On the Angolan side, over half of the families reports to walk more than 1hour to access water. All families reported collecting water on a daily basis.
- Families who report buying water on occasion, all do so in the dry season.
- All families report to experience water scarcity in their agriculture production. Most report 2018 to have had very high scarcity, 2019 medium to high.
- The few families who report being able to buy water for production, do so in the dry season.

Access to climate information

- All families report accessing rainfall and hazard information through word of mouth. In Namibia, some families mention radio or TV.

Major livelihood challenges

- Nearly all families report natural disasters (droughts, floods) as the number 1 concern for their livelihoods' vulnerability (in Angola all, in Namibia most), followed by lack of markets and market mechanisms (Namibia mainly).
- All families report having faced extreme natural disasters, mostly droughts and storms. Drought is conceived to have severe impacts on subsistence crops, livestock loss and cash crops. Floods are conceived to have severe impacts on subsistence crops, and loss of human and animal life.

1.12 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 become even shorter. In addition, there is an increase in drought years with poor to no harvests recorded.
49. The Agriculture sector is vulnerable to prolonged periods of droughts, increased variability of the rain regime, floods, and extreme temperatures, all having negative impacts on food security, livelihoods and the adaptability of vulnerable communities. 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 delayed planting, low crop yields, crop losses, post-harvest losses, pests and diseases.
50. **In Namibia**, CC has manifested in the 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, and 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. Unreliable water supply results from technical failure to maintain and repair water supply infrastructure. Dryland cropping that involves growing of traditional crops has been delayed due to the above listed impacts, 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 further limiting livelihoods of communities. In this way, communities have lost livelihood safety nets and wealth with increased poverty.
51. Namibia is one of the driest countries in sub-Saharan Africa and 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 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. **Future climate projections for the target area** in the Cubango-Okavango River Basin (CORB) show wide variations of plausible climate conditions over the next decade. Despite the variations, there is largely a consensus on temperature increase, rainfall variability and an increase in consecutive dry days[26]. As such, models agree on a temperature rising faster than global averages (2.5°C compared to 1.5°C global). The South-western region of the SADC Region is marked as a CC hotspot by the IPCC SR1.5, indicating increased evapotranspiration caused by the higher temperatures, a significant decrease in precipitation of 10-20%, and increases in the number of consecutive dry days[27]. It is expected that populations and ecosystems in the CORB will be faced with an increased frequency of droughts, longer dry spells, and a reduced duration of the rainy season, up to 20 days in Southern Angola[28]. As rainfall is expected in shorter periods, an increased frequency in floods can be equally expected. Additionally, IPCC's special report on Land indicates the Southern African region, mainly South-west, at high risk of desertification, especially if unsustainable land management persists[29].

[26] World Bank, 2019, The Cubango-Okavango River Basin Multi-Sector Investment Opportunities Analysis.
[27] IPCC, 2018, Special Report on 1.5°C, Executive Summary
[28] Pröpper et. Al, 2015, The Future Okavango
[29] IPCC, 2019, Special Report on Climate Change and Land, Chapter 3: Desertification

53. 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 have also reduced water availability and access due to drying up ground water recharge as well as land degradation (vegetation and soil degradation). Communities, individuals, and 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.
54. As CC has no borders, and taking into account the geographic context, biophysical impacts from CC are the same on both sides of the border between Southern Angola and Northern Namibia. Socio-economic conditions are equally similar, with the populations depending on subsistence agriculture and nature-based livelihoods, and sharing the same cultural backgrounds and languages. Geographically and socio-economically, the target areas are more coherent with each other than that they are with their respective capitals. Challenges are similar, with high vulnerability to climate variability, and limited capacities of agricultural extension services, among other services. Livelihoods involve small-scale trade across the border, considering that poor infrastructure gives little prospect for national trade. The populations across the border not only trade among each other, but share the same resources such as the river, which forms the border between the two countries. Pastoralists, farmers and fishermen cross the border in search for pasture, arable land, markets, and employment, among others. As such, CC impacts such as drought, prolonged dry spells, and increased frequency of extremes in general, require a coordinated, cross-border approach for adaptation. Although some regional bodies that coordinate shared resource exist, such as OKACOM and KAZA, they are focused at national level and on the conservation and management of natural resources. On-the-ground coordination among local authorities, communities and other local actors across the border is lacking. Adaptation planning and joint responses to CC impacts and natural disasters across the border is equally missing.

2. Project Objectives

55. 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.
56. The project targets to consolidate synergies and adopt innovative and resilient food security actions and interventions from the selected SADC region countries including Namibia and Angola. The project specifically intended to strengthen drought resilience through the **specific objectives** 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.
57. 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).
58. In **Cuando Cubango Province of 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;
59. The project will take place in communities within approximately 40km of the municipal capitals of Cuangar, Dirico and Calai. Logistics are difficult but possible within this radius but become impractical further afield given the lack of roads and the very low population density. Meanwhile in Rivungo, the project will take place in five locations in the southern part of the municipality, some 200kms from the municipal capital. This serves to create a contiguous geographical area near the southern border and the corresponding sites in Namibia. Around 20 communities have been identified, and the process will continue in the initial phases of the project. There was universal interest in participating in the project.
60. In **Kavango East & West Regions of 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.
61. The project locations are village-based communities in the proximity of the Kavango river as it has the highest population density and access to a reliable source of water. Communities further away from the river will be considered subject to the availability of a reliable source of underground water. Tentatively 20 representative villages have been identified, with the final selection of 40 village-based project sites with project implementation in close consultation with the traditional authorities as the custodians of land. Each rural community accommodates a school, with the communities practicing subsistence agriculture supported by various other means of livelihoods, such as fishing, livestock rearing and micro trade.

3. Project Components and Financing

Table 2: 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	515,330
		1.1.2. Climate change awareness and sensitization of communities	Angola Namibia	493,880
	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	514,155
Subtotal Component 1				1,523,365
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.** Capacities of extension services and institutions needs are assessed and strengthened	Angola Namibia	395,530
		2.1.2. Communities are organized to adopt and mainstream to climate resilience practices (160 POs and 160 WUAs)	Angola Namibia	683,450
	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 are disseminated through extension services;	Angola Namibia	658,460
Subtotal Component 2				1,737,440
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	2,639,200
		3.1.2. Production is diversified and adapted to climate change impacts	Angola Namibia	1,356,080
		3.1.3. Sustainable fisheries are supported	Angola Namibia	362,600
		3.1.4. Improved livestock production is supported	Angola Namibia	741,350
	3.2. Resilience of populations' livelihoods is increased and sustained through Income Generating Activities (IGAs)	**3.2.1.** Production of 6,500 targeted farmers (50% women) is diversified (crop diversification, beekeeping, fishing)	Angola Namibia	1,760,820
Subtotal Component 3				6,860,050
4. Project/Programme Execution cost (9,2%)				920,183
5. Total Project/Programme Cost (1 - 4)				11,041,038
6. Project/Programme Cycle Management Fee OSS (8,5%)				900,000
Amount of Financing Requested				**11,941,038**

4. Project Calendar

Milestones	Expected Dates
Start of Project/Programme Implementation	November 2021
Mid-term Review (if planned)	May 2024
Project/Programme Closing	November 2026
Terminal Evaluation	May 2027

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

62. Component one aims at addressing the gaps in capacities regarding CC adaptation at various levels in Northern Namibia and Southern Angola. The communities are considered having insufficient or inadequate knowledge on CC and their capacity to cope with CC impacts is limited. In response, the proposed project will raise and institutionalize awareness at community-level and build capacities of sub-national, national and regional structures.

63. 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 in strict collaboration with ADSWAC project staff and the Ministries of Education, Agriculture and Environment in the respective countries, as well as their sub-national counterparts and Traditional Authorities (TAs).
64. 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 Establishment of institutional capacities to manage the CCACs

65. CCACs will be the prime responsibility of the EEs, 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.
66. CCACs and their respective teams will be, within the scope of the current project, responsible for training community leaders and other stakeholders in climate-resilient rural development and CC awareness (A1.1.1.2) will be used for capacity building of local authorities, coordinating CC awareness campaigns in communities and schools (A1.1.2.2 and A1.1.2.3), and for leading local participatory climate vulnerability assessments (CVAs) and adaptation planning (A1.1.1.5). CCACs will act as local Project Management Units (PMU), responding to the national PMUs.

Activity 1.1.1.2 Rehabilitation or construction of the Climate Change Action Centres (CCACs) to coordinate CC action in the municipalities/regions

67. 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 provide the overview coordination with and monitor the other centres and ensure cross-border collaboration. This activity includes the physical establishment of these 6 CCACs, as well as equipping the CCACs. Where feasible, the project will use existing infrastructure from local authorities for establishing the CCACs, in other places dormant infrastructure may be rehabilitated, or new buildings constructed where necessary. This will be prioritized for finalization during the first two quarters of project implementation. CCACs will serve as meeting places for the project, and for other climate and environment related activities by local governments and other stakeholders such as NGOs, development partners and CBOs, within and beyond the scope of the ADSWAC project. Meeting places will be rented out to a variety of sector-relevant actors and projects, allowing for income generation to support maintenance of the CCACs.
68. The Lead CCAC in Calai (on the border with Namibia) will serve as the regional centre and as the offices of the Regional PMU. This will be a new construction, for which the exact location and details will be identified during the start-up phase of the project, in cooperation with local authorities. Once funding is secured, the location will be identified, detailed drawings developed, and licenses obtained, building on the EEs' experiences with constructions of colleges, health centres and environmental centres. As a minimal, the lead CCAC will consist of: (i) office spaces for at least 15 people; (ii) a meeting room that can hold at least 50 people; (iii) space for a library; (iv) toilets and showers; (v) an outside area with meeting spaces, handwashing and toilet facilities (for women and men separate), and a large kitchen. The structure will be built on a land with the dimension of approximately. 2 hectares, built with good construction materials which are accessible locally (cement, bricks, IBR roof sheets, windows and doors in wood or aluminium depending on the availability in the area). The drawings of the structure will take into consideration the natural light and ventilation. Sanitary structures will be gender divided. The out-door kitchen will be semi-open and it´s dimension will have the capacity to produce meals for a minimum of 50 persons at a time and to hold cooking demonstrations.
69. The 5 remaining CCACs will be established either in existing buildings that need rehabilitation, or will be provided by local authorities. The identification of these locations will be conducted together with the local authorities, once funding is secured. These CCACs will have at a minimum: (i) office spaces for 10 people; (ii) a meeting room for at least 25 people; (iii) a library space; (iv) an outside area with meeting space / dining hall for a minimum of 50 people, a kitchen, toilets and a shower facility (separated for women and men).

Activity 1.1.1.3 identify and agree on land for setting up 6 CCACs demonstration plots

70. CCACs will act as resource centres for the municipalities/regions. This will include books, posters, leaflets and information about model gardens, irrigation systems, firewood saving stoves, rainwater harvesting, seed banks, and other locally appropriate climate-resilient technologies, as well as more general information on CC and CC adaptation planning. As such, the CCACs will establish and maintain model fields for showcasing climate-resilient practices. The land for these fields will be identified and allocated in cooperation with local and traditional authorities, who will allocate communal land. Where possible, and ideally, these 6 model fields will be adjacent to or in the near proximity of the CCACs. The fields will be fenced in, and will be maintained by CCAC staff in cooperation with the local communities.
71. Activities in model fields will include; training and experience on how to cultivate new crop varieties, introduce and practice new types of irrigation and water retention systems, filtration and purification for potable water, organic fertilizer and pesticides, and seed and grain storing methods. Model fields will include a nursery with different tree varieties cultivated and planted. In connection to the fields, examples of firewood saving stove, improved latrines and other locally relevant demonstrations will be made. A typical model field will be on an area of between 0,5 and 1 hectare.

Activity 1.1.1.4 Build capacity of sub-national and local authorities and entities on climate change adaptation planning and implementation

72. There is an urgent need in the target areas for communities to better understand local CC impacts, rain and drought patterns and establish solid adaptation solutions. Equally, there is a need for increased understanding of CC adaptation and practices in climate-resilient development planning at the local community and government levels. In response, 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 and gender-responsive Community Adaptation Action Plans (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 1.1.1.5 Develop Community Adaptation Action Plans (CAAPs)

73. Participatory analysis of vulnerability and adaptation to CC (PAVACC)30, will be conducted in collaboration with meteorological services, agricultural extension services, the civil protection unit, CBOs, local government, and local NGOs where applicable, leading to CAAPs. 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 PAVACC includes the following main steps: (1) assessment of the current situation and vulnerability of village resources to threats; (2) analysis of vulnerability by gender groups; (3) development of climate change action plans and (4) implementation and participatory monitoring and evaluation of activities of the action plan.
74. Following the CVA, a CAAP Committee of men and women will be created in the rural community to coordinate the implementation and participatory monitoring and evaluation of the activities in the action plan. Members of the committee will record actual activities conducted during each year of the action plan. Factors that prevent the achievement of any planned activity will also be recorded. This information helps the rural communities and other stakeholders to anticipate potential problems, and take appropriate corrective measures.
75. In particular, the risks from climate change impacts such as droughts, floods and precipitation variability will be addressed through consideration of the following factors: (a) Drought awareness and adaptation solutions, (b) Flood risk awareness, risk predication and early warning information; (c) Location of dwellings and field location relative to waterways; (d) Crop/variety cycle and planting dates in relation to changing precipitation patterns and high seasonal risk.
76. 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. A total of 160 CAAPs are anticipated to be developed under the ADSWAC project.
77. Considering the nature of the communities (rural subsistence farmers), it can be assumed that the CAAPs will emphasize climate-proofing existing livelihoods or developing small-scale climate-resilient alternative livelihoods. As such, it can be expected that the small grants to be provided – aligned with the CAAPs – will be provided for (a) small investments in the agricultural value chains (start-up kits for new productions, post-harvest equipment for storage or processing, nursery or seed bank tools and equipment), and (b) investments in tools and equipment for establishing alternative and new IGAs, such as beekeeping, sustainable NTFP harvesting, processing and storage, developing productions in fodder, natural fertilizers and pesticides, etc.
78. By design, these interventions will be decided by the communities, POs and farmers themselves, in accordance with the USP policy under the ESMP. Considering the nature of the communities (rural subsistence farmers), it can be assumed that the CAAPs will emphasize climate-proofing existing livelihoods or developing small-scale climate-resilient alternative livelihoods.

Output 1.1.2 Climate change awareness and sensitization to the communities

Activity 1.1.2.1 Development of a communication strategy for CC information and dissemination

79. During the start-up phase of the project, a communication strategy will be developed by the regional PMU, including (a) communication to participating communities and schools, as well as (b) dissemination of results and lessons learned to key stakeholders and the wider public. The community strategy (a) will be adopted and further detailed by the 6 CCACs, who will lead the implementation of these activities, and aligned with existing materials from the Green School Programme and other environmental communication materials. The dissemination strategy will be developed and managed by the PMUs, who will have key staff assigned for communication with partners and key stakeholders. Knowledge generated under the project will be widely shared with, among others, globally, national and sub-national authorities, universities and research centres[31].

Activity 1.1.2.2 Climate change awareness campaigns in communities

80. 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 (A1.1.1.5). Along with CC information, the CCACs, in cooperation with Environment, Water 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. The local radio stations will be mobilized to broadcast the campaigns, while the community action teams will carry out awareness actions at community-level. A total of 16 campaigns per community are planned.

Activity 1.1.2.3 Climate change awareness campaigns in schools and school gardens

81. 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

[30] 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.
[31] This activity is further described in section II.H Learning and Knowledge Management

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 Agriculture, 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). The activity will be facilitated in Angola by the Teacher Training College for Cuando Cubango, which is managed by ADPP (EE) in service of the GoA, and in which teachers in training conduct internship periods in local primary schools in the target areas. Cross-border exchanges will be organized for these young teachers, allowing for peer learning.

82. The GSP covers the following main topics: (a) learning about the environment in general and climate change in particular; (b) maintaining a clean and healthy environment at the institutions; (c) tree planting exercises; (d) promoting tree cultivation in the community, including operating nurseries, distributing seedlings in the community, and assisting families in nurturing them to viable trees; (e) holding open days for the community on locally and seasonally relevant topics such as the disadvantages of slash and burn farming, methods of conserving water and soil, or environmental questions in general; (f) using nature as a classroom to foster a love of nature in school children. Where suitable water facilities are available for irrigation, school gardens will provide models for host communities to produce high nutritional value produce to supplement diets, depending on rainfall and irrigation, with the intent to connect theoretical learning with practical applications.

83. The activity will engage with parent teacher associations (Angola), school boards (Namibia) and NEEN. The school gardens integration into government programmes and where possible school feeding programmes will be part of the exit strategy. This will be discussed in principle during the start-up of the project with sub-national authorities, the Provincial/Regional Departments of Education and with Teacher Parent Associations and School Boards. This will provide support for the implementation of the activity, contribute to long-term sustainability and serve as a model to government for scale up elsewhere in the country. The school gardens, as appropriate, will be integrated with the FFS and the demonstrations and curricula will be similar to those in Activities in Components 2 and 3.

Activity 1.1.2.4 Dissemination of project results, best practices and lessons learned in sub-national, national and international forums and through online campaigns (website, social media)

84. The GoA and GoN, in partnership with the ADSWAC project, will seek to communicate all relevant findings, conclusions and recommendations globally, in-country and to neighbouring 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. Lessons learned will be shared with sister organizations of the EEs in the HPP network, notably including Botswana, Malawi, Zambia, Zimbabwe and others in southern Africa who face similar climate related challenges. OSS, as the RIE, will share lessons learned and project results across its network of members and partners[32].

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

85. At national level, mainstreaming of information gathered and lessons learned will be channelled 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 two meetings per year, 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 municipalities and regional governments regarding possible adaptation interventions to be implemented across 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 establish synergy with existing transboundary systems and meetings, such as those of OKACOM and of KAZA, with the intent to organize meetings of the mechanism back-to-back with already existing meetings. Overall, the mechanism will be led and maintained by the CCAC in Calai within and beyond the ADSWAC project.

86. 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 1.2.1.2 Organize coordination meetings between the 6 CCACs for knowledge and information sharing

87. The project will organize regular meetings between the 6 CCACs, to share information, knowledge, challenges and lessons learned. These meetings of the key staff of the CCACs will take place at least twice a year, starting from the 2nd year of project implementation, and will take place in Calai and Rundu alternately, to allow for field visits on both sides of the border. The meetings will allow for strengthening the cooperation and communication during and beyond the scope of the ADSWAC project. Project

[32] This activity is further described in section II.H Learning and Knowledge Management

vehicles will be used for transporting staff of the CCACs, but equally for other community members who meet during and after the project duration.

Activity 1.2.1.3 Sensitize and provide conflict management trainings for cattle herders, crop farmers, fishermen and local authorities near transhumance corridors

88. 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. Additionally, the project will sensitize and provide conflict management trainings to fishermen and local authorities across the border, to address conflicts regarding fishery resources arising across the river.

Activity 1.2.1.4 Strengthen Early Warning and Climate Information channels

89. Risks from CC impacts such as droughts, floods and precipitation variability are addressed through existing early warning and climate information systems. The project will identify the existing early warning systems and facilitate the transmission of information to the communities. This will be led by the CCACs, as central resource keepers, and reach the communities through the POs and WUAs. Traditional knowledge on early warnings will equally be integrated in the information channels.

COMPONENT 2: Organizational and Technical Learning for Production and Water Management

90. 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 (MoAs) 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: Capacities of extension services and institutions' needs are assessed and strengthened

Activity 2.1.1.1 Conduct baseline and capacity needs' assessment of all actors

91. During the first two quarters of implementation, the project will conduct a baseline survey and detailed capacity needs' assessments of all actors in the project, including farmers, fishermen, communities, and traditional and local authorities. The data gathered hereby, will inform activities all throughout the project, and will allow for measuring change at the end of the project. This activity will be led and managed by the M&E experts of the project, who will collect, process and analyse data, to equally inform the M&E framework that is established at the start of the project.

Activity 2.1.1.2 Develop a training plan and modules for all topics

92. Informed by the baseline assessments, by the project document, and building on existing evidence, a detailed training plan for the project will be developed, including the development of all modules to be used by field staff. The training plan will include plans and modules for all trainings and capacity building related activities of the project, including crop farming, small livestock rearing, fishery, water management, IGAs, and post-harvest practices.

Activity 2.1.1.3 Establish partnerships and Memorandums of Understanding (MOUs) with sub-national extension services

93. The ADSWAC project will work to establish a 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, as will the Lead Farmers. 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 local agriculture development increase, get absorbed. FIs and government extension workers will work in direct collaboration and coordination to reach the targeted smallholders. MoUs will be initially established to cover the 5-year project, with an annual review and reflection, in which adaptations could be made if required by either of the parties.

Activity 2.1.1.4 Train the extension agents and farming instructors to ensure farmer trainings

94. 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 2.1.1.5 Conduct regular farmer field days and FFS trainings using a Technical Orientation Manual

95. 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.

Activity 2.1.1.6 Conduct Knowledge, Attitude and Practices (KAP) Surveys

96. Aligned with the baseline study and final report, the project will conduct KAP surveys to measure Knowledge, Attitude and Practices of the targeted population, including changes thereof. The KAP surveys will employ both quantitative and qualitative methods using questionnaires and focus group discussions among others. Accordingly, a set of variables for behaviour change will be developed, subsequently used for the design of questionnaires and focus groups. This activity will be led by the M&E expert in the PMU, who will oversee design of the surveys, training of enumerators, data gathering, processing and storage, and formulation of reports.

Output 2.1.2: Communities are organized to adopt and mainstream climate-resilience practices (160 POs and 160 WUAs)

Activity 2.1.2.1 Identification and establishment of 160 Producer Organizations (POs) and 160 Water User Associations (WUAs)

97. The EEs, in cooperation with sub-national agriculture departments, traditional and local authorities, will facilitate the process of formation of 160 POs (associations/clubs) (120 in Angola, 40 in Namibia), 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).
98. Each PO will consist of 30 to 40 farmer members, depending on geographic proximity and population density. Farmers will be recruited on the criteria of (i) willingness to participate in the project and learn new practices and methods and (ii) having access to arable land. Each PO will have 3 or 4 Lead Farmers, early adopters, who will provide support to 8-10 other farmers during and beyond the project and who will be key contact points for both Farming Instructors and Agricultural extension workers. 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 methodology that supports POs and smallholders, and which has been implemented in over 330 projects across Sub-Saharan Africa, Asia and Latin America and has reached over 200,000 smallholders to date. The FCM is based on establishing local structures such as POs, promoting peer-learning and strengthened social cohesion as methods to transfer and maintain knowledge on farming practices and other practices at the local level.
99. 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 (120 in Angola, 40 in Namibia). Where applicable, WUAs will build upon existing water point committees, which will then be strengthened in their technical and 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' Water Departments and traditional authorities.

Activity 2.1.2.2 Strengthening and building capacities of POs and WUAs, including managerial capacities

100. 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. Trainings and support will be facilitated by project staff (Farming Instructors), who are trained in the methodology and who will reside within the target area for the duration of the project, to facilitate easy access for POs.
101. 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. Trainings will be focused within the 1st year of the project, with further coaching of the WUAs during the 2nd year. After two years of project implementation, the WUAs will be functioning independently, having continuous access to local government services and project staff.

Activity 2.1.2.3 Support POs in adapting agricultural value chains to a changing climate (production systems, management of low-cost storage and processing equipment, business skills and facilitating links to the market)

102. 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) 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.

103. 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. Trainings will be provided by the EE staff (Farming Instructors) and specific expertise will be recruited as appropriate.

104. 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, horticulture produce, 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.

Activity 2.1.2.4 Support WUAs to manage water points and promote accompanying hygiene messages around safe water storage and use, and water demand messages (Develop the technical capacity of the WUAs in community outreach, establish guidelines for usage, establishment and management of water infrastructure)

105. 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-system, 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.

106. 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, as well as in local language, 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.). Additional to systems for production and consumption, the WUAs will be trained in the establishment of drinking troughs to support herders' cattle.

107. 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 behaviour change communication. The importance of managing water demand will be emphasized, in order to use water responsibly and efficiently, especially during periods of scarcity.

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

Output 2.2.1 160 model plots (Farmer Field Schools) for climate-resilient and water-efficient agriculture practices (Conservation Agriculture (CA) and Agroforestry Systems (AFS)) are established;

Activity 2.2.1.1 Select and agree on the demonstration plots

108. 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. A total of 160 demo-plots will be established at PO level, while 6 larger demonstration sites will be established at the CCACs. Where applicable, dormant sites from previous projects will be reactivated.

Activity 2.2.1.2 Train and sensitise the lead farmers/focal points in each of 160 community/producer organizations

109. For each of the POs, which will consist of 30-40 members, 4 to 5 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 2.2.1.3 Organize with the support of the extension services sensitization sessions to farmers to encourage them to apply new resilient practices

110. 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).

111. Conservation Agriculture aims to combine profitable agricultural production with environmental concerns. The guiding principles involve minimum or even zero mechanical disturbance of the soil: keeping the soil covered at all times, either by a growing crop or a dead mulch of crop residues; and diversified crop rotation. This is effective in reducing land degradation and increases the water use efficiency and soil nutrients. Simple contour cropping practices can reduce water erosion and the practice of cultivation on the margins of streams and river courses can be changed through community education on environmental impact. CA has many benefits over conventional farming. The emphasis on minimizing soil disturbance and keeping soil covered at all times, allows the increase in soil moisture content retention for longer periods, increases soil fertility, improves soil texture and facilitates deeper rooting of crops. The practice lowers crop vulnerability to drought by reducing water requirements by up to 30 percent. In extreme wet conditions, CA facilitates rain water infiltration, reducing soil erosion of top fertile soils and downstream flooding.
112. Introduction of Agroforestry Systems 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. AFS practices will include consortia of annual agricultural crops with leguminous species, fruit species, silvicultural practices, AFS home gardens and protective systems. Farmers will be encouraged to apply some minimum AFS practices on their individual lands, according to local conditions, demand and farmers' preferences. Horticulture will be promoted as a key component of diversification of production and nutrition. Horticulture production sites will be established in the vicinity of water, allowing for production all year round.

Activity 2.2.1.4 Set up the demonstration plots and procure inputs for their establishment and management

113. Initially, there are 2 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 and 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. They will be set up on a low-cost basis so they become easily replicable by other farmers.

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

114. 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

115. 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. Emphasis will be on small scale solutions involving community labour rather than hiring contractors to create larger infrastructure. Small scale solutions contribute to long term sustainability as they can be more easily maintained by the community, and are also more easily replicable at local level
116. The individual water-related investments are not identified at this stage, considering that the ADSWAC project will operate in approximately 160 communities in the Angolan-Namibian border area, where communities and farmers may face different agro-ecological and biophysical conditions. Taking those differences into account, and considering the importance of local involvement, ownership and decision-making, context-specific interventions for water infrastructure will be required.
117. For the validation of these water solutions, procedures are as follows: (i) Initial local assessment and identification of water solutions through a participatory process with community members and community-based organization; (ii) A brief description of the Water Solution proposed for a specific geographical area is presented to the national Project Management Unit (PMU); (iii) The PMU, with cooperation from the contracted water resource expert, will reject or validate the Water Solution identified; (iv) In case of rejection, detailed explanation will be provided to the proponents, and guidance will be provided on alternatives; (v) In case of

validation, project staff will lead the establishment of the Water Solution, and will monitor the operationalization and the impacts thereof on a regular basis.

Activity 3.1.1.2 Provide inputs to farmers to implement infrastructure for production, water capture and retention systems at farmers' fields

118. Following the identification and validation of water solutions, the project will establish the selected infrastructure on-site. These sub-projects will adhere to the guidelines established by the ESMP for ADSWAC, and its guidelines on Unidentified Sub-Projects. Local service providers and masons will be contracted as needed. 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.
119. Where applicable, dormant infrastructure from previous government or NGO-led projects will be reactivated. 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. Pavement cisterns and other water capture, retention and infiltration systems, and their benefits for production, will be showcased on the demonstration plots, for farmers to adopt in their own fields as preferred. Farmers will be assisted by ADPP and DAPP farming instructors and Government extension workers for the establishment of ponds and other systems. POs will be capacitated in O&M of those under Activity 2.1.2.4.

Activity 3.1.1.3 Promote solar powered water pumps and small-scale irrigation systems

120. 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. An irrigation kit comes with a pump mechanism powered by a solar panel, a suction pipe, hose for water distribution, and irrigation sprinklers or can feed a drip irrigation system. The systems will be promoted through the POs, and each common plot will be provided with 1 irrigation system. 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. As irrigation systems are established, the project will encourage farmers to invest in their individual systems, facilitating access to existing credit institutions and links with service providers.
121. 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. Water capture, retention and infiltration systems, and their benefits for production, will be showcased on the demonstration plots, for farmers to adopt in their own fields as preferred. Farmers will be assisted by ADPP and DAPP farming instructors and Government extension workers for the establishment of ponds and other systems. POs will be capacitated in O&M of those (A2.1.2.4).

Activity 3.1.1.4 Establish models for water collection for human consumption

122. The project will establish model collection systems for 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. Affordable and proven models such as calabash cisterns will be adapted to locally available materials and promoted. Specific attention will be paid to sensitization around water purification and safe water use.

Activity 3.1.1.5 Conduct community campaigns for safe water use and water demand management

123. 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. The first topic includes 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. The second topic will support communities to reduce water intake and water use, which will contribute to water availability during dry periods and droughts. WUAs will be supported by project staff in the development and implementation of the campaigns.

Output 3.1.2 Agricultural resilient practices are adopted and promoted

Activity 3.1.2.1 Promote improved soil management

124. 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).
125. Shallow depressions have proven to be a suitable technique for capturing and holding rainwater in the field for a longer time so that more of the water can percolate into soil hence it protects against runoff and soil erosion. Micro-doses of compost can be a low-cost way to facilitate early crop establishment. On some soils, the "Zai" technique is effective involving the digging of holes during the dry season at the sites were a millet or sorghum will be planted and placing a handful of manure or compost in each hole. When the rains start, seeds are planted in each hole thus prepared. Both the "Zai" and micro-doses have a "pop-up" effect. They promote strong early growth, especially root growth, which results in the establishment of plants that are more resistant to rainfall irregularities that may occur later in the season.

Activity 3.1.2.2 Promote cropping practices resilient to climate change

126. 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 Establish nurseries and seed banks by communities

127. Each PO will establish a tree nursery, with a focus on fruit tree propagation and promotion. 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. Seed management committees will ensure that recipients repay the same amount and quality of seeds received with an additional 50 percent interest. Seed and grain storage will be provided by the project. As not all seeds are easy to multiply, the supply of seeds will also be further facilitated through the establishment of PPPs between POs, entrepreneurs and private sector seed suppliers.

Activity 3.1.2.4 Increase the use of a range of drought-resistant crops and seeds

128. 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.

Activity 3.1.2.5 Promote horticulture and horticulture production sites

129. 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 will receive trainings from project staff in vegetable production on practices and techniques which 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.

Output 3.1.3 Improved and sustainable fisheries are supported

Activity 3.1.3.1 Facilitate access to fishing sites

130. Where applicable, the communities around the river need to have access to the public and existing fishing sites where fishing is conducted. The project will support and facilitate meetings to bring together the targeted communities along the river to understand sustainable fishing. The project will develop a register on information about the amount and kind of fishing as well as understanding the fishing mode and site pressure for fishing.

Activity 3.1.3.2 Train and sensitize on sustainable fishing methods and techniques

131. Throughout the project, regular trainings will be provided to the identified fishermen and women in sustainable fishing methods and techniques. Trainings will be provided by Fisheries' administrations from Angola, Namibia and ADSWAC project staff. Topics of the trainings will include, among others, sustainable fishing methods, boat maintenance, net construction, net selectivity, sustainable use and maintenance of post-harvest equipment, etc. The training and sensitization will provide the benefits in terms of increased livelihoods and advanced identification of quality fish and products as by-products.

Activity 3.1.3.3 Equip fishermen and processors with materials and tools

132. The project will equip the fishermen and processors with adequate equipment and materials to conduct fishing and fish processing in a sustainable way by providing inputs such as nets, fish preparation, sun-drying and smoking equipment. The focus will be on improving the quality of traditional preservation methods through the dissemination of improved drying racks and smoking kilns. Where applicable, the project will promote innovations such as: the use of ice along the fish value chain; solar dryers; collective and individual storage facilities.

Output 3.1.4: Improved livestock production is supported

Activity 3.1.4.1 Facilitate farmers' access to veterinary services

133. The project will seek to enable access to veterinary services for cattle farmers in the region. 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. This activity will be delivered by the EEs and the MoAs, in collaboration with the POs.

Activity 3.1.4.2 Promote short-cycle livestock production

134. Aligned with the diversification of production and income to increase resilience (Outcome 3.2), and integrated with the improved production of cereals and legumes (A 3.1.2.2), 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). This activity will reach the farmers through the POs, and will be facilitated by project staff and extension workers.

Activity 3.1.4.3 Improve the production of fodder for livestock

135. 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 needs 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.

Outcome 3.2: Resilience of populations' livelihoods is increased and sustained through Income Generating Activities

Output 3.2.1: Production of 6,500 targeted farmers (50% women) is diversified (crop diversification, beekeeping, indigenous fruits)

Activity 3.2.1.1 Develop and promote non-agricultural sources of income such as beekeeping, wild indigenous fruits and microenterprise development

136. The most important aspect of diversification, will be the development of non-agricultural sources of income such as beekeeping and microenterprise development. Aside 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. Trainings in these topics, on demand, will be provided by specialists, extension workers and project staff, facilitated through and in cooperation with POs. Where possible, preference will be given to youth interested to develop small enterprises.

Activity 3.2.1.2 Facilitate the establishment saving groups among farmers

137. 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 and gender equality. Agricultural loans to HHs (men and women) will be provided for self-selected cohesive solidarity groups within POs. The criteria for selection will be agreed through prior consultation with the PO leaders and traditional community leaders.

Activity 3.2.1.3 Facilitate access to micro credits for farmers and POs to adopt new IGAs

138. In line with the CAAPs developed by communities (A1.1.1.5), small grants will be available for POs with strong business ideas, to facilitate acquisition of materials. Where applicable, business ideas will be encouraged to take into account the demands of tourism clusters. 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. Although concrete decisions will be made by POs, communities and farmers, it can be expected that the small grants will be provided for (a) small investments in the agricultural value chains (start-up kits for new productions, post-harvest equipment for storage or processing, nursery or seed bank tools and equipment), and (b) investments in tools and equipment for establishing alternative and new IGAs, such as beekeeping, sustainable NTFP harvesting, processing and storage, developing productions in fodder, natural fertilizers and pesticides, etc. IGAs selected will be evaluated for their potential environmental and/or social impacts, according to the USP policy as included in the ESMP.

Activity 3.2.1.4 Introduce low-cost storage and processing equipment

139. 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 rain season with short season plant varieties in the expectation that at least one or all sowings will produce a crop. This will require 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 them before storage, use or marketing. Methods promoted will be low-cost and low-tech, being affordable for communities/farmers, allowing for replication without need for further external funding. As such, storage and processing tools, facilities and equipment will include the following, among others: (a) improved models of traditional grain silos (local materials); (b) use of recycled drums, etc.; (c) small-scale processing/ storage equipment such as handheld mills, small containers, etc. Larger mills can be provided if POs decide on that as IGAs and receiving small grants accordingly. Empty existing rooms will be upgraded or community huts from local materials established, for storage or use of larger equipment where applicable.

Activity 3.2.1.5 Develop public-private partnerships (PPPs) to improve links to the markets

140. 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. PPP decisions will be conducted in a participatory manner with farmers and local companies, based on demands and interests of both parties. The ADSWAC project will

facilitate this throughout the project, by organizing meetings between producers and private sector actors, providing networking services, facilitating negotiations and establishing of contracts and/or agreements that are beneficial for both parties, and in which the rights of the farmers are secured. Farmer Unions and local agriculture departments will be consulted where applicable.

141. 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.
142. Private sector partners relevant in the target area mostly consist of Okavango-tourism related local businesses, such as hotels and local supermarkets. Recent value chain and market analyses33 in the tourism hotspot located within the project target area (Kavango Tourism Cluster) shows the considerable potential for local produce to enter the market, where now produce is imported from South Africa with high transport costs. Especially for vegetables, soft greens and herbs, fruits, chicken and eggs, there is high potential, which is in line with the production practices promoted under the project (A3.1.2.5 and 3.1.4.2). Equally, tourists may have interest in other products generated as climate-resilient income generating activities (honey, wild fruits, etc.). Farmers being organized in POs will be better equipped to respond to these market demands, as well as to negotiate good prices and contracts with private sector actors in the area. The project will facilitate these interests from both sides to come together in a participatory manner to decide which products to market. The Agro-Marketing Trade Agency (AMTA) in Rundu, which is providing marketing services as well as cool storage facilities, will be engaged where relevant. A minimum of 5 cross-border PPPs will be established under the ADSWAC project.

Activity 3.2.1.6 Organize exchange visits between POs across the border to facilitate experience sharing

143. The project will organize and implement exchange visits between PO members from Angola to Namibia and vice versa. 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. Such exchange visits will be organized from the second and third year of the project, as first lessons learned through the project will become apparent. The project will provide transport and other visit-related costs to farmers who travel across the border. POs will self-select those members that are most appropriate to share experiences as well as learn from others. Where necessary, the project will provide translators to facilitate communication. PO members will, where possible, use the project cars for traveling across the border.

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

144. 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.
145. 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 established and strengthened in creating common understanding and synergies of the impacts of CC and the ways forward. Through this engagement and involvement, including teachers and students and communities, local adaptation planning will be promoted and enhanced. 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 mechanisms 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.
146. 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 number of the population has had or will have access to higher technical education. Capacities created and strengthened will stay at the communities, and experience shows that they will be passed on to other direct and indirect beneficiaries (ripple effects in the community).
147. 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.
148. 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

[33] CRIDF, 2017, Climate-Resilient Livelihoods in the KAZA TFCA: Value chain analysis and proposed partnerships

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 among others.

149. 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 and 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.
150. 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.
151. Seventh, the ADSWAC project will introduce access to credit and small start-up capital for the IGAs, which is novel to the area. Through the legal structures of the POs, the formal foundation is furthermore laid out for future access to credit. Credits and small grants accessed through the project will be accompanied by village saving loan systems, facilitated by the project, in which community members create a savings' pool that allows them to access fast credits in times of distress among the members. The Village Saving Loans Association (VLSA) model has been successful in other countries in the region, yet is novel to the target area.
152. Eight, another innovative introduction of the ADSWAC project is the activity that will establish linkages between weather forecasting and climate information services and the communities, which will be facilitated through the CCACs. This will enhance the agriculture related interventions, allowing for communities, farmers and producer groups to better plan their planting seasons, especially in combination with the awareness, knowledge and technical trainings provided by the project. The vast majority of families in the area currently receives information through word of mouth.
153. Ninth, the project will facilitate the establishment of Public-Private-Partnerships (PPPs). These may not be innovative conceptually, but are novel to most of the communities participating in the ADSWAC project. The PPPs will build on existing value chain assessments and investment opportunity studies conducted in the Okavango river basin and the KAZA TFCA, mainly targeting the tourism industry that has developed around the conservation areas.
154. 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

155. 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. It will deliver multiple co-benefits, socio-economically and environmentally. The table below provides an overview of the key elements, which is further detailed below.

Table 3: ADSWAC Economic, Social and Environmental Benefits[34]

Outcomes	Economic Benefits	Social Benefits	Environmental Benefits
Outcome 1.1 Enhanced awareness and ownership of adaptation and climate risk reduction processes	• Enhanced awareness of 140,000 community members (50% women) on CC leads to better decisions for maintained production and protection of assets	• Enhanced livelihoods, food security, and income through better-informed decision-making in 160 CAAPs	• Increased understanding by 140,000 people (50% women) 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 of 140,000 people as a result of better adaptation plans (160 CAAPs); • Reduced losses in infrastructure and production from better planning in 160 communities; • 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 (through participation in 160 CAAPs developed); • Strengthened cohesion and integration between stakeholders;	• 160 local adaptation plans, encompassing 140,000 community members, 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 160 POs provides 6,500 farmers' access to credit; • Enhanced organizational capacities in 160 POs for access to markets;	• Strengthened cohesion and integration between community members (160 communities) and farmers (6,500 farmers); • Improved collaboration among the farmers through the POs; • 160 POs and 160 WUAs serve as informal safety nets; • Improved collaboration among and in the 160 communities through the WUAs;	• 160 POs' business and production plans based on environmentally friendly practices, reduces pressure on ecosystems; • 160 WUAs' capacities to manage water improves management, and reduced impacts from coping practices; • Improved control over pollution and contamination of rivers in 160 communities;

34 Benefits are further quantified in the project's Results Framework (Part III, Section E, page 69)

Outcome 2.2 Smallholder farmers (50% women) have been trained and technically supported to adopt and mainstream climate-resilient agriculture practices	• Improved capacities of 40 extension workers, 34 Farming Instructors and 700 lead farmers supports increase in production and HH economy (of 6,500 HHs); • Improved capacities of extension workers and lead farmers conduct to reduction in potential losses;	• Improved services from 40 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 among 6,500 farmers; • CRA practices (such as AFS) potentially contribute to reforestation; • CA, EOA and AFS practices contribute to improved agroecosystems;
Outcome 3.1 Resilience of populations and ecosystems is improved through concrete adaptation measures	• Increased agricultural production generating economic surplus for 6,500 farmers; • Diversification of income options strengthens HH economy (1,500 HHs gaining at least 1 additional income stream); • Reduction in agricultural production losses; • Ability to produce food all-year-round improves income of 6,500 HHs;	• Improved life quality through improved food and nutrition security for 6,500 HHs; • Enhanced resilience through diversification of income; • Improved quality of life through increased income; • Improved access to food all year round for 160 communities; • Improved overall health of communities;	• Improved food security in 160 communities 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;
Outcome 3.2 Resilience of populations' livelihoods is increased and sustained through IGAs	• Diversification of income options strengthens HH economy (1,500 HHs gaining at least 1 additional income stream); • 160 village loan associations provide increased access to credits • New businesses developed provide for further income generation and local economic development	• Enhanced resilience through diversification of income of 6,500 HHs; • Improved quality of life through increased income;	• Reduced pressure on ecosystems, as existing resources are more sustainably utilized; • Increased income opportunities in 160 communities reduce the need for negative coping practices

At socio-economic level

156. 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. It is estimated that farmers participating in the project will increase their yields of cereals, legumes and vegetables by at least 30%. At least 60% of farmers are estimated to have diversified their production systems by the end of the project. This will contribute to improved food and nutrition security of farming families, an estimated increase of 70% in food secure HHs is estimated, while diversified production combined with nutrition awareness will lead to more a diversified diet and its consequent positive effects on overall health.
157. 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. At least 50% of targeted HHs will gain an additional climate-resilient income stream, while overall at least 60% of targeted farmers will have an average increase of income higher than 20%.
158. 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.
159. The project will also have also positive benefits on less tangible social and psychological constructs such as personal pride, recognition, dignity, self-worth, etc. Additionally, the project builds social capital and increases social coherence among farmers and communities, by the establishment and strengthening of POs and WUAs.
160. 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.
161. Altogether, the project will improve the quality of life, and dignity and self-respect of targeted populations through improved social and economic conditions.

Gender

162. 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. The ADSWAC project will

secure equitable distribution of benefits to vulnerable communities, including marginalized groups. To achieve this, the project will, among others: (i) ensure equitable participation in the development of CCACs and CAAPs; (ii) organize consultative workshops and training sessions specifically dedicated to women and other vulnerable groups; (iii) ensure that planning of activities (timetables, locations, resources) take into account women's needs, preferences and constraints; (iv) ensure equitable participation in the new organizations (POs, WUAs); and (v) set and achieve specific targets for participation of vulnerable groups, including women, within the project's detailed work plans. The ADSWAC project team will assure that these actions are adhered to, under the supervision of OSS. Project staff, as well as local partners, will be sensitized and trained to ensure the right capacities are in place. The project will also focus on engaging and targeting women and youth groups and associations that will be represented within all the activities.

163. Despite the fact that the local culture in the targeted areas of the project does not recognize the importance of women's role in community development, they are primarily, and many times solely, responsible for the household, including for the income, provision of food, and caring for the children and elderly. Inequality limits women's ability to adapt to the impacts of CC. This vulnerability is exacerbated by viewing women as victims, rather than key actors who have critical knowledge of their society, economy, and environment, as well as practical skills, which, when recognised and used, can be highly effective in risk reduction and adaptation.
164. 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. ADSWAC intends to address existing inequalities through awareness raising, induce mind-set change and provide equal opportunities to all genders by empowering the most vulnerable groups. 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.
165. It is clear that the impacts of CC undermine sustainable development, and to fully understand the impact of this, gender-disaggregated data collection and analysis must be implemented, as detailed in the Gender Assessment and Action Plan (GAAP) (Annexed).
166. During the consultation process of the project, the communities were coordinated accordingly and tended to be organized with most of the responsibilities assumed by women, so it was possible to include them in the group of respondents making it possible to have gender representation in the project design. These responsibilities go to the traditional authorities as in the case of Queens and Sobas Mulheres as well as female leaders of peasant associations and to align with the AF's and OSS' Gender policies.

At the environmental level

167. 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 GSP will have awareness sessions with a broader environmental outlook than CC alone. 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. All this will be institutionalized through the established CCACs, who will provide for the pursuit of incremental and lasting improvements, also at environmental level.
168. 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. Creating awareness on improved rangeland and herd management, will also reduce the impact of livestock on the ecosystems. Food and nutrition security in the face of CC of 6.500 HHs will be improved, which will reduce the need for HHs and communities to fall back on environmentally negative coping practices such as unsustainable management and exploitation of forest resources and indigenous products, which lead to environmental degradation.
169. Rainwater harvesting, improved access to water introduced and promoted will lead to an improved and more efficient use of water resources. Agriculture practices, including CA and improved irrigation efficiency, will also lead to more efficient utilization of water resources. Overall, this will lead to a reduction in water extracted from the river or aquifers compared to business as usual. This is further strengthened by the work of the WUAs, who will target water demand management, also at HH-level, for a broader audience. Considering the exceptional value of the entire river basin's ecosystem, actions happening in the project's target area will also have positive impacts downstream.
170. All these are anticipated benefits of the project interventions. However, to mitigate negative impacts of the interventions in compliance with AF ESP, the Environmental and Social Management Plan was developed, including Environmental Impact Assessments, as further described in sections II.L, III.C and Annex 2 "*ESIA and ESRMP for the ADSWAC Project*".

D. Cost-Effectiveness

171. A Cost-Effectiveness Analysis (CEA) was conducted by an independent consultant. The full study is annexed to the full proposal, below is a summary of the main findings:

Alignment of Components with the Needs of the Region

172. The design of the ADSWAC Project is appropriate in the sense that it is designed to respond to the real needs of the population in a Region that has deep vulnerabilities, poverty and deprivation. In fact, direct and specific interventions in building resilience, especially on the Angolan side, are few and far between the logistical difficulties of implementation and the high management costs. This condition has almost excluded communities on the Angolan side from being covered by projects on local development, climate change adaptation and disaster risk reduction, preferring to operate in the neighbouring provinces of Cunene, Namibe and Huila.
173. The ADSWAC Project's intervention, therefore, besides being fundamentally part of national and international policies and strategies, also represents a possibility of change for the communities, considering that it is one of the few Projects to be implemented

in the Region, which aims to build the resilience of communities to climate change by acting with a univocal and harmonious approach in two different countries. Therefore, the ADSWAC Project is in line with the interventions, policies and programmatic and strategic projects of the Region, especially in relation to the defined priority activities and because it aims to build the resilience of communities. Therefore, the costs of the intervention are focused on building capacity, knowledge and opportunities in highly vulnerable communities, subject to severe deprivation that will certainly have immediate effects as a result of the ADSWAC project activities, as well as a long-term impact on people's own lives, the environment and socio-economic development.

174. The ADSWAC Project will directly benefit 42,500 people (200,000 indirectly) living in the Region through the establishment of 160 community groups for the management of water points, 160 community groups for the management of productive components, 38 Green Schools, local and regional public institutions in Angola and Namibia, private companies and national and international networks related to climate change adaptation, disaster risk reduction and environmental protection. This is supported through the development of the 3 components, all with a different focus but closely interlinked with each other.

Comparison with similar interventions in the Region

175. The relevance of the ADSWAC project intervention and its alignment with local needs is also evident when comparing it with eight other projects implemented in the area or in similar contexts. It should be noted that of the projects identified for comparison, most are financed by the GEF fund, but that in this region, no intervention is implemented and focused directly on Cuando Cubango and on building the resilience of communities in this province. Usually, Cuando Cubango province is involved in implementation together with other provinces (ex. GEF Project ID: 5230 and GEF Project ID: 5331) and few communities are covered, close to the border with Cunene or the Provincial Capital Menongue. In fact, most of the Projects identified have Namibia and the Angolan provinces of Huambo, Benguela, Cabinda, Cunene, Huila and Namibe as their areas of operation.

176. The detailed comparison can be found in the attached CEA document CEA - Comparison of Similar Projects annexed). However, in Table 4 below, a comparison is made between the ADSWAC Project and similar Projects, mainly with GEF funding, implemented in the same Region, which had/will have as objective the building of socio-economic and climate resilience of communities.

177. The analysis carried out in the Table 4 below also shows that in the comparison between the ADSWAC Project and 8 other GEF Projects implemented in Angola and Namibia in the same scope, both costs for direct beneficiaries and costs for indirect beneficiaries, are placed among the lowest investments, although a significant number of people were reached.

Table 4: Resume of Comparison of Similar Projects

	Summary Table	Total Project	Direct Beneficiary Number	Cost per direct beneficiary
	ADSWAC Project	11.941.038,00	42.500	280,97
1	GEF Project ID: 5432	25.325.000,00	25.000	1.013,00
2	GEF Project ID: 4720	12.250.000,00	3.000	4.083,33
3	GEF Project ID: 5230	11.520.000,00	72.000	160,00
4	GEF Project ID: 5331	13.164.095,00	6.000	2.194,02
5	GEF Project ID: 5640	65.169.105,00	25.000	2.606,76
6	GEF Project ID 10565	70.742.180,00		
7	GEF Project ID: 5177	28.050.000,00	100.000	280,50
8	GEF Project ID: 5343	40.500.000,00	25.000	1.620,00

178. In summary, the following comments can be deduced:

- Components consistent with the analysis of the region's needs - The components of the different interventions have as a central point the construction of the resilience of communities and institutions to climate change, thus indicating to be in line with national and international policies and strategies and responding to a recognised need of the Region;
- Number and costs per direct and indirect beneficiary realistic and in line with other Projects developed in the Region - Although considering the differences that exist between the ADSWAC Project and other Projects developed in the region or similar areas, which do not always allow for a specific calculation, and reflecting the differences in budgets and activities, it is estimated that in proportion to the costs and the number of direct and indirect beneficiaries, they are adequate and realistic. This identifies optimal efficiency in the use of funds and costs per beneficiary in relation to the other Projects with which the ADSWAC Project has been compared.
- Management costs consistent with the needs and reality of the Region - Another element which stands out in the comparison of costs between the ADSWAC Project and the other Projects is that in the ADSWAC Project the management costs are slightly higher (10% of the budget) than the average percentage of management costs for the other Projects (5%). Nevertheless, this discrepancy is justified considering the contextual and infrastructural difficulties of the region, where the reality of Cuando Cubango province is indeed consistent. The high management costs have been the first barrier for Cuando Cubango Province and the Region to benefit from other direct interventions. In fact, infrastructure, logistics and management difficulties at the local level, as well as weak local human resources, influence the calculation of management costs for the ADSWAC Project. However, budget allocation and calculation of management costs are indeed consistent and realistic with the context and represent a necessary condition for implementation of the interventions.

Description of alternative options to the measures proposed in the project and cost comparison to these other possible interventions

179. As previously indicated, the ADSWAC Project as well as other GEF projects implemented, or being implemented, define and represent appropriate and possible interventions to achieve climate and socio-economic resilience building of communities in the Okavango Region or transboundary between Angola and Namibia. These interventions and proposed actions are very similar in that they are based on environmental education and protection, community capacity building, associations, public-private cooperation/partnership, community-based income activities and institutional strengthening.

180. The CEA analysis was addressed at the level of Components and Outputs, considering that the nature of the ADSWAC Project is based for most of the activities on trainings and strengthening of climate resilience capacities of communities. In this regard, it was critical to identify alternative interventions, with a different cost, that would achieve in the same region, of such a complex nature, the same Outputs results.
181. Therefore, it was logical and necessary in the CEA analysis, especially for Components 1 and 2, to consider not properly alternative intervention activities, but an alternative approach and methodology of action. Thus, it was considered that the ADSWAC Project activities in the field would be carried out in the technical aspects by a group of consultants or local experts with specific experience in environmental issues and community empowerment that would carry out all the training and products of information and communication materials at the local level.
182. The basic cost of a local consultant in the region was calculated based on market research, which produced the average of 500 USD/day, which includes fee, accommodation and per diem. However, other costs remain in charge by the ADSWAC Project. Thus, in this case supposing that the ADSWAC Project (for the Outputs 1 and 2) must contract at least 5 national consultants, for at least 100 days per year for 5 years, to carry out the activities of training and production of training materials, the cost would result in USD 1,250,000, not counting the other logistical and construction expenses (ex. cost of the CCAs).
183. With reference to most of the activities for the achievement of Outputs 1 and 2, the CEA analysis has shown that there are few activities that are alternative to those of the project and all of them are mainly very expensive and not always sustainable, because they are not concentrated at a local level, involving communities.
184. Instead, as far as Output 3 is concerned, the alternatives of intervention have been analysed according to the choice of systems to increase the availability of water and irrigation and to increase the livelihood and socioeconomic capacity of the households.
185. For the systems to increase the availability of water and irrigation, the costs of solar systems, chosen by the ADSWAC Project, were compared with the costs and installation of alternative systems that still provide water to communities. The solar system is found to be more expensive than diesel-powered pump systems and cheaper than wind power system. Taking into account also durability, operating costs and sustainability, the solar system chosen by the ADSWAC Project is the most cost-effectiveness, although initial investments are higher.
186. On the other hand, in relation to the interventions on household performance, an analysis comparing the different investment possibilities has been carried out, as described in the specific paragraph (Cost Effectiveness Analysis of Sub-Projects of Agricultural Production and others).

Table 5: Resume of alternative options and cost comparison to alternative interventions for Outputs

Programme Components	Expected Outcomes	Expected Outputs	Project Strategy	Alternative Options for the Same Outputs	Detailed (If applicable)
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; 515,330 USD	The methodology of intervention proposed by the project is: 5 Annual Capacity building/training reports 1 training manual 90 (assuming same staff trained multiple times, but may be some changes in personnel at least 36 women) 16 trainings conducted (4 dedicated to women) 6 CCACs rehabilitated and built	1. Contracting private companies and consultants to conduct meetings and trainings in the communities.	1. Advantages: The training would definitely have more quality to would ensure the creation of high-quality products. Disadvantages: High consulting costs would ensure more create training and meetings, but would be more expensive (cost of one national consultant has a cost of 500 USD/day in this region - being 5000 USD x 100 days of work). It is also less sustainable because although it achieves community strengthening, it does not sufficiently strengthen local authorities. 2. Advantages: Savings in construction, rehabilitation and equipping costs. Trials could be done directly in the community field (300USD/day/person + salary) Disadvantages: Substantially increase costs for training logistics, per diem, and transportation of materials. Also does not create a sense of community and sharing of experiences by depending only on community camps and not CCAC staff.
		1.1.2. Climate change awareness and sensitization of communities 493,880 USD	The methodology of intervention proposed by the project is: At least 16 campaigns in 70% of targeted communities and schools Students of 38 schools reached with the GSP (19 in A; 19 in N) (50% girls/women)4 brochures, 4 publications (documents) on lessons	1. Contract an external consulting firm to conduct trainings and meetings. 2. Implementation of the work at the level of the municipality level instead of the schools to ensure the participation of the authorities.	1. Advantages: The training would definitely have more quality to would ensure the creation of high-quality products. Disadvantages: High consulting costs would ensure more create training and meetings, but would be more expensive (cost of one national consultant has a cost of 500 USD/day in this region - being 5000 USD x 100 days of work). It is also less sustainable because although it achieves community strengthening, it does not sufficiently strengthen local authorities. 2. Advantages: There would be involvement of other communities and greater coverage of the area. Disadvantages: The project would not be

			and best practices from project interventions		decentralized and would have moved away from the communities. Municipal management costs are higher and the availability of the implementation of the activity depends on the willingness of local authorities.
	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 centers and networks to respond to extreme weather events have been established, reinforced and supported in their operation; 514,155 USD	The methodology of intervention proposed by the project is: At least 80% of targeted institutions at sub-national, national and regional level actively participate in the implementation of the project in climate responsive agriculture and water management	1. Contracting private companies and consultants to conduct meetings and trainings in the communities.	1. Advantages: The training would definitely have more quality to would ensure the creation of high-quality products. Disadvantages: High consulting costs would ensure more create training and meetings, but would be more expensive (cost of one national consultant has a cost of 500 USD/day in this region - being 5000 USD x 100 days of work). It is also less sustainable because although it achieves community strengthening, it does not sufficiently strengthen local authorities.
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.** Capacities of extension services and institutions needs are assessed and strengthened 395,530 USD	The methodology proposed by the project is the most effective: 40 extension agents (20 in each country) (10 women) and 34 Farming instructors (8 women) trained. 4 farmer field day for years for PO	1. Contracting private companies and consultants to conduct meetings and trainings in the communities	1. Advantages: The training would definitely have more quality to would ensure the creation of high-quality products. Disadvantages: High consulting costs would ensure more create training and meetings, but would be more expensive (cost of one national consultant has a cost of 500 USD/day in this region - being 5000 USD x 100 days of work). It is also less sustainable because although it achieves community strengthening, it does not sufficiently strengthen local authorities.
		2.1.2. Communities are organized to adopt and mainstream to climate resilience practices (160 POs and 160 WUAs) 683,450 USD	The methodology proposed by the project is the most effective: 160 POs established and supported (120 in A; 40 in N) 160 WUAs functional (120 in A; 40 in N)	1.Another solution for organizing Producer Organizations could have been to create a vertical structure organized from the Province. 2. For the management of the water points, instead of forming communities, one could have invested in strengthening the state/local enterprise or in private management that would carry out continuous monitoring of the water points.	1. Advantages: The intervention on producer organizations could have had a more uniform approach and could possibly be replicated in other areas in the future. Disadvantages: High management costs for the centralization of the intervention at different levels. Non-involvement of communities 2. Advantages: Maintenance costs could have been borne by the public sector. Disadvantages: Operating costs, more expensive construction, would have been less sustainable because communities would not have internalized water work
	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; 658,460 USD	The methodology proposed by the project is the most effective: 160 model plots/FFS established (120 in A; 40 in N)	1.Another solution for organizing Producer Organizations could have been to create a vertical structure organized from the Province.	1. Advantages: The intervention on producer organizations could have had a more uniform approach and could possibly be replicated in other areas in the future. Disadvantages: High management costs for the centralization of the intervention at different levels. Non-involvement of communities
3. Improving resilience of ecosystems and livelihoods through the implementation	**3.1.** Resilience of populations and ecosystems improved through	**3.1.1.** Target farmers' and populations' access to and use of water during the dry	The methodology proposed by the project is the most effective: 160 model water capture and retention systems at farmers'	Another solution would have been to use diesel motor pumps. The same would have had a lower initial price, but	The analysis shows that the solar system is the most expensive, but besides being the most environmentally sustainable, it is also the best in terms of financial sustainability (see the comparative study done). wind systems guarantee the same environmental

of community adaptation actions to improve food security in response to climate change and variability	concrete adaptation measures	season are increased 2,639,200 USD	fields established (120 in A; 40 in N) 160 solar powered water pumps and small-scale irrigation systems provided (120 in A; 40 in N)	a much more expensive management price. Moreover, considering the isolation of the communities in question, there would always have been difficulties in managing the supply of fuel. Even from the analysis of possible investments, the one linked to production with solar motor pumps is the most sustainable.	sustainability, but the basic system price is estimated at around USD 25,000, with a considerably higher investment need. In addition to an initial in-depth study to evaluate the presence of sufficient winds to the wind systems, guarantee the same environmental sustainability, but the basic system price is estimated at around USD 25,000, with a considerably higher investment need. In addition to an initial in-depth study to evaluate the presence of sufficient winds to the system
		3.1.2. Production is diversified and adapted to climate change impacts 1,356,080 USD	The methodology proposed by the project is the most effective: At least 6,000 farmers (3,000 women) practicing/adopted CA practices (4,500 in A; 1,500 in N) 160 POs undertaking cropping practices resilient to climate change (120 in A; 40 in N)	1. Diversification of production is done through a private company that does the training in the selected individual households available.	1. Advantages: The intervention on producer organizations could have had a more uniform approach and could possibly be replicated in other areas in the future. Disadvantages: High management costs for the centralization of the intervention at different levels. Non-involvement of communities"
		3.1.3. Sustainable fisheries are supported 362,600 USD	The methodology proposed by the project is the most effective. 500 fisherwomen/men that have participated in trainings on sustainable fishing methods (250 in each country) (100 women)	Another solution would have been that of not using the PO s as a channel for the diversification of production and using a private company that would carry out training in individual families. Again, the price would have been much higher. Even from the analysis of possible investments between the development of fishing and aquaculture, fishing is the most profitable (as well as being closer to the traditions of the communities) question, there would always have been difficulties in managing the supply of fuel.	Fishing is the most effective investment, being the cheapest and the one that allows for greater sustainability. Considering the same number of beneficiaries (500). For the fishing activity the price is 362 600.00 USD, for the aquaculture production, the same number of beneficiaries the price is 1 637 400,00 USD
		3.1.4. Improved livestock production is supported 741,350 USD	The methodology proposed by the project is the most effective. At least 70% of farmers accessing veterinary services and 60 % of targeted farmers vaccinate short-cycle livestock	1. Establish pasture-raised farms that provide veterinary services and animal health monitoring.	1. Advantages: You would be able to better control animal health and animal production. Disadvantage: Very high costs for establishment, management and access to services. Communities benefit only indirectly.

	3.2. Resilience of populations' livelihoods is increased and sustained through Income Generating Activities (IGAs)	**3.2.1.** Production of 6,500 targeted farmers (50% women) is diversified (crop diversification, beekeeping, fishing) 1,760,820 USD	The methodology proposed by the project is the most effective. At least 40% of targeted farmers (of which 50% women) engaged in nonagricultural sources of income A least 40% of farmers (50% women) are accessing micro-credits for farmers to adopt new IGAs	In this case, the project leaves the identification of possible income-generating activities open to basic study. Also in this case it seems to us the best decision, in order to be able to carry out activities in line with the needs. a comparison study of the possible activities was carried out.	The analysis of possible investment projects was carried out in a dedicated section. All the projects showed good sustainability, with detachment for projects related to horticultural production with drop by drop, fishing, beekeeping etc …

Table 6 Resume of alternative options and cost comparison for Hydraulic System (under Outputs 3.1.1)

	Type of system (including logistic costs)	N° Beneficiary	Unitary Cost USD	Total Cost USD	Internal rate of return (IRR) 10 years	Internal rate of return (IRR) 5 years	Analysis of the comparison of alternatives
Project ADSWAC	Solar system + Electro pump + drip irrigation system	160	16,495	2,639,200	36%	24%	The analysis shows that the solar system is the most expensive, but besides being the most environmentally sustainable, it is also the best in terms of financial sustainability (see the comparative study done). wind systems guarantee the same environmental sustainability, but the basic system price is estimated at around USD 25,000, with a considerably higher investment need. In addition to an initial in-depth study to evaluate the presence of sufficient winds to the wind systems guarantee the same environmental sustainability, but the basic system price is estimated at around USD 25,000, with a considerably higher investment need. In addition to an initial in-depth study to evaluate the presence of sufficient winds to the system
1. Alternative	Motor pump + furrow irrigation	160	10,495	1,679,200	31%	18%	
2. Alternative	Motor pump + drip irrigation system+ drip irrigation system	160	12,495	1,999,200	31%	18%	
3. Alternative	Eolic pump + drip irrigation system	160	34,495	5,519,200			

Table 7 Resume of alternative options and cost comparison for Fishery (under Outputs 3.1.3)

	Type of system (including logistic costs)	N° Beneficiary	Unitary Cost USD	Total Cost USD	Internal rate of return (IRR) 10 years	Internal rate of return (IRR) 5 years	Analysis of the comparison of alternatives
Project ADSWAC	Fishing	500,00	725,20	362 600,00	62%	54%	Fishing is the most effective investment, being the cheapest and the one that allows for greater sustainability. Considering the same number of beneficiary (500). For the fishing activity the price is 362 600.00 USD, for the aquaculture production, the same number of beneficiaries the price is 1 637 400,00 USD
1. Alternative	Aquaculture	500,00	4 000,00	1 637 400,00	49%	40%	

Analysis 1 - Long-term comparison of effectiveness of the project with other projects and without any intervention

187. The ADSWAC Project is compared to the two most similar GEF funded Projects and to an extreme situation where no intervention is made in the area in order to try to analyse the real benefits of the 5 and 10 year action. Thus, the ADSWAC project investment per beneficiary in each year (USD 189.58) is a little higher than that made in the GEF Angola project (USD 109), but much lower than that made in the GEF Namibia project (USD 1,407.41) and much lower than the investment the state had to make to guarantee humanitarian aid (USD 850).
188. At the end of the Project, to the direct beneficiaries (42,500) are also added 200,000 indirect beneficiaries who will benefit from the actions implemented by the Project, ahead of an investment of 33.22 USD per person. Thus, the effectiveness of the invested costs will have a wider impact on the improvement of the life of the communities in the Region that can better deal with climate change.
189. The Angolan and Namibian governments are also assured that investing in the sustainability of the action with an economic investment, as well as being fair, ethical and moral, will make it possible to build resilience and, over the years, reduce the costs

invested in relation to the effectiveness of the intervention. Thus, from a 10-year perspective, the ADSWAC project will save over USD 50,000,000.

Key activities and cost-effectiveness of Component 1

190. The ADSWAC Project will therefore establish a total of 6 CCACs, of which 4 will be in Angola and 2 in Namibia. There will be 1 main CCAC, in Calai (Angola) built from scratch and costing USD 125,000, which will oversee coordination and monitoring of the other centres and ensure cross-border collaboration. The other CCACs will work on rehabilitated infrastructure at a cost per infrastructure of USD 35,000. The CCACs will benefit from around 75,000 people at the end of the ADSWAC project. If the total cost of Component 1 is divided by the number of beneficiaries, the result is an average expenditure per beneficiary of USD 22 showing a high efficiency of the component in relation to the specific cost per beneficiary. The costs invested in these activities are effective because they build sustainability and allow local authorities to continue the Project's results, as well as to monitor communities, managing CCACs independently after 5 years of Project implementation.

Key activities and cost-effectiveness of components 2 and 3

191. The activities of Component 2 and Component 3 are closely interlinked, in particular those related to the water sector, capacity building and management. In relation to training activities both for Components 2 and 3 and across the whole ADSWAC project, it should be noted that the figures established are in line with the normal costs applied for training and capacity building carried out at different levels.
192. The cost effectiveness of training activities in these Components of the ADSWAC Project is represented by the increase and improvement of agricultural production and animal husbandry in the communities, the reduction of food insecurity, the better management of drinking water and use of the agricultural sector, as well as environmental protection measures and adaptation to climate change by communities, associations and stakeholders. The costs invested in capacity building are highly effective in building long-term resilience in the region.

Cost Effectiveness Analysis of Hydraulic Infrastructures

193. The investment in hydraulic infrastructure in the region represents the sine qua non measure to build resilience to climate change, so besides being fundamental in the ADSWAC Project it is appropriate and coherent for the context of climate risk in the region and the results to be achieved. In general, it can be sustained that when applicable, hand drills are the most cost-effective option, but at the same time they are feasible in limited areas alongside rivers. In many cases, due to the experience many projects have carried out, it would be efficient to drill family boreholes, so that each family would be responsible for its own boreholes, thus ensuring a longer duration.
194. Also, the pavement cisterns, which are being introduced in the Angolan context in recent years, are a viable option for areas where it is not possible to obtain water from rivers and collect rainwater. Here too, looking at the experience in Brazil, they work best when management is familiar rather than community based.

Cost Effectiveness Analysis of Sub-Projects of Agricultural Production and others

195. Within the specific framework of Component 3, another key activity is represented by the Agricultural and Local Development Sub-Projects. An analysis of the costs and effectiveness of different sub-project proposals with various intervention options has been made. In the CE study annexed, the Internal Rate of Return (IRR) that they will have over time was calculated. In this case, the IRR was calculated over a period of 5 and 10 years. Through this analysis, the main production development models typical of the area and/or proposed for the ADSWAC Project were compared.
196. The projects were calculated with the same annual depreciation (10% year) for ease of calculation. All projects identified the IRR with very positive figures, which identifies a strong economic and financial strength. The IRR was calculated net of maintenance and depreciation costs, and after 10 years the communities will have the necessary funds to purchase new equipment. The annual depreciation rate applied in the analysis was 10%.
197. Sub-projects related to aquaculture, beekeeping and fisheries have identified a higher IRR relative to others. For fruit farming the choice of using solar systems instead of motor pumps results in a lower management cost with respect to a higher quality of final production, in addition to the environmental benefits linked to pollution. The latter have not been calculated in an economical way, being sufficient the economic convenience and the confrontation of the IRR of the 3 options. For animal husbandry it is evident that family poultry farming has a better result compared to others.

Financial analysis of the Sub-Projects of Agricultural Production and others

198. Based on the proposals for the sub-project's typology presented above, a financial investment plan was also calculated to support future intervention decisions. Therefore, it is assumed that the Sub-projects are financed from a financial entity (e.g., banks) and that the following "typical" conditions are applied the financing of 5 years, the fair rate of 7.5% and a "scarcity" period of 1 Year. For each sub-project type, the sustainability and (monthly) debt repayment plan required by local financial institutions is calculated.
199. Once a local study of socio-economic and market needs is carried out to have a realistic investment plan to implement interventions consistent with the context of climate change adaptation and disaster risk reduction, as financial projections sustainability and long-term gains are assured. All Sub-Projects therefore identified positive Cash Flow and economic and financial sustainability.

Conclusions and Recommendations

200. The ADSWAC project is well structured and meets the needs of the environment and communities. The ADSWAC project is also a novelty in the cross-border region for some planned interventions such as CACCs, networking, solar panelled water points, climate adapted agriculture, ECAs, GAS, etc. Considering that populations live cyclically and periodically affected by disasters, the investments made in the area by the ADSWAC Project interventions represent a concrete possibility to change the vulnerability conditions in which they find themselves, improving livelihoods, income, relationship, and interaction with the environment and thus the future itself.

201. In conclusion of the cost-effectiveness analysis, several recommendations for the ADSWAC Project are presented that can further improve its effectiveness, such as Sustainability of CACCs, Evaluating the creation of a single structure for water management, Maintenance of Water Points and Borehole with Solar Panels,

E. Consistency with development strategies

202. 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 8: 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).

Table 9: Consistency with Angola National 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*).

Table 10: Consistency with Namibia National 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 priorities: (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.

Table 11: Relevant Sub-national strategic points of the policy and corresponding ADSWAC outputs

Policy/Strategy	Relevant strategic points of the policy and *corresponding ADSWAC outputs*
Cuando Cubango Development Plan 2013-2017 (Ang)	A key development priority identified is: (a)" *to develop Agriculture, Silviculture, Livestock and Fisheries*", with specific focus, among others, on capacity building of families on improved practices, water provision for production, small livestock, and increasing honey production. ADSWAC activities under Outputs 3.1.1 address access to water, while under Outputs 2.1.1, 2.1.2, 2.2.1, 3.1.1, 3.1.2, 3.1.3 and 3.1.4 the agricultural sector's resilience is supported. IGAs, including honey, are supported under Output 3.2.1; Other priorities include the environmental sensitization and education of local populations, and strengthening of professional capacities, which are addressed in the awareness and capacity building activities of ADSWAC (Component 1, Component 2).
Kavango East & West Regions (Nam)	Sub-national development strategies are completely aligned with the Namibia's NDP5. As such, ADSWAC contributes to priorities: (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.

F. Alignment with national technical standards

203. 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.
204. 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 have been carried out during the environmental and social impact study in the development phase of the full proposal.
205. Activities will also be screened, their impacts assessed and based on the magnitude of the impacts, an Environmental Impact Assessment (EIA) or Review in accordance with EIA procedures and guidelines of the respective countries as well as the Adaptation Fund will be undertaken. Based on the outcomes, mitigation measures will then be proposed.
206. The national technical standards alignment for both countries is described in a set of tables below and stipulate coherence between the planned activities of the ADSWAC Project with the national, sub-national development strategies, poverty and national programs of action geared towards adaptation. The detailed evaluation concluded that the activities proposed by the ADSWAC project are fully compatible with the laws and regulations pertaining to the country's political (long-term Vision, Gender policy, National Climate Change Policy, National Disaster Risk Management Plans, National Environment Management Act); Legal and technical framework (Country programming framework, Resettlement Policy Framework, Decrees for water management, new technologies, agriculture and building inter alia). These activities include: Water management, Disaster Risk Management, supporting of EWS information dissemination, soil management, fishing and transhumance. Controls will be put in place to ensure that the project will not exacerbate inequities, harm marginalized and indigenous populations and will not harm the environment. In order to finalize the project design, a number of stakeholder consultations were conducted to verify the interest and commitment of the project and to better define the activities and strategies for each component of the project.
207. The project is based on a participatory approach, with representation from all bodies such as the TAs, local authorities and government representatives as well and National government representatives who will be members of the RPSC and NPSC among others. During the development of the CAAPS which will include interventions based on the project sites such as setting up of the irrigation schemes and shallow wells, the participatory approach mentioned above will be used to inform them. These CAAPs will further then be presented to the local governments, TAs and all relevant stakeholders for endorsement, information purposes and approval. Based on these approvals, the project will receive either guidance or the required authorizations, clearances, licenses inter alia. In addition, this will be supported by undertaking the baseline study to identify and propose the appropriate approach.

Table 12: Alignment with Country Policies

Country	Key policies	
Angola	Water Management	Water Resource Management Under Changing Climate
		Angola Water Partnership
		Water Governance- Influencing Policy in Angola
	Agriculture Management	Agricultural Economy and Policy
		Angola Country Programming Framework: 2013-2017
		Resettlement Policy Framework: Smallholder Agriculture Development and Commercialization: 2015
	Disaster Risk Management/Reduction	Sendai Framework for Disaster Risk Reduction 2015- 2030
	Climate Change Adaptation	Climate Change Adaptation
Namibia	Water Management	National Policy on Climate Change
	Environment	Environmental Management Act No 7
		Environmental Law and Policy
		Nature conservation legislations
	Agriculture Management	Namibia Agriculture Policy: 2015
		Communal Land Reform Act
		Agricultural (Commercial) Land Reform Act, 1995
		Livestock improvement act 25 of 1977
		Drought Policy
	Disaster Risk Management/Reduction	National Disaster Risk Management policy
		National Disaster Risk Management Plan: 2011
	Early Warning System	National Early Warning and Food Information System
	Climate Change Adaptation	Namibia Climate Change Strategy
		FANRPAN climate-smart agriculture policy brief
	Gender	National Gender Policy: 2010/2020

Table 13: Alignment with Country technical standards

	National Regulations and Technical Standards		Related to
	Angola	**Namibia**	
Water management, Solar powered water pumps and small-scale irrigation systems	National plan for Energy and Water Sector	Water Resources Management Act, 2013 (No. 11 of 2013)	Regulations on the use of watercourses and on groundwater and surface water withdrawals for agricultural purposes are useful for the development of water solutions (activities 3.1.1.1, 3.1.1.2), irrigation setups (Activity 3.1.1.3), and the development of rainwater collection models for human consumption (Activity 3.1.1.4) will be done conducted in full compliance to the national standards in place regarding water, water supply, the use of river water, and clearance of (private and customary) lands for rainwater collection. This will assure the conservation of safeguards in place in the countries for free flow of waters, protection against pollution, water quality conservation and protection of river biodiversity. Equally, this will be useful for the capacity building of WUAs trained for managing safe water storage and use, and for the establishment of water infrastructure (Activity 2.1.1.4).
	Decree that approves the Strategic Plan of New Technologies (88/13 of 14 June, to promote the use the sustainable energy	Water Resources Management Act, 2013 (No. 11 of 2013) Water Cooperation Act 12 of 1997	
	Law No. 6/02 on Water use		
	Presidential Decree No. 82/14 approving the Regulation of General Use of Water Resources	Water Cooperation Act 12 of 1997 Water Research Act, 1971	
	Presidential Decree No. 83/14 approving the Regulation of Public Supply of Water and Water Disposal Sanitation		
	Presidential Decree No. 141/12 approving the Regulation for the prevention and control of National water pollution	General Regulations made in terms of the Communal Land Reform Act	
	Decree-Law No. 3/00 on the Ministry for Energy and Water	General Regulations made in terms of the Communal Land Reform Act Directive relating to Regional Councils and Local Authority Councils (G.N. No. 104 of 2020)	
	LONG-TERM DEVELOPMENT STRATEGY FOR ANGOLA (2025)		
	National Biodiversity Strategy and Action Plan (Resolution n. º 42/06 of 26 of July);	Directive relating to Regional Councils and Local Authority Councils (G.N. No. 104 of 2020)	
	Development Plan of the Agriculture Sector (2018 - 2022)	Comprehensive CA Program for Namibia 2015-2019	
Agriculture, Water efficient and adaptable livestock breeds and crop varieties	Development Plan of the Agriculture Sector (2018 - 2022) Decree No. 15/18 of 25 January) on animal breeds and crop varieties;	Namibia Agricultural Policy (MAWF, 2015)	The establishment of model plots (Activities 2.2.2.1 and 2.2.2.4), the promotion of climate-resilient agricultural practices and inputs (Activities 3.1.2.3, 3.1.2.4, 3.1.2.5) and the promotion of short-cycle livestock production and their fodder (Activities 3.1.4.2 and 3.1.4.3) are subject to the regulations on livestock breeds and crop varieties, including policies on water supply in agriculture, biosafety laws and national acts on seeds and livestock breads, among others. This will promote compliance with national strategies and policies, as well as increases in yields and resilience of production and livelihoods.
		National Policy on Climate Change for Namibia	
	Executive Decree 574/17	National Water policy 2003	
	Executive Decree No. 388/17	Water Act 12 of 1997	
	Executive Decree No. 388/17 Executive Decree No. 387/17	Water Supply Sanitation Policy	
		Livestock improvement Amendment Act 25 of 1993	
	Executive Decree No. 386/17	Seed and Seed Act 2017	
	Decree that approves the Biosafety Regulation (Decree No. 62/11 of 14 April)	Seed and Seed Varieties Act 23 of 2018	
	Decree that approves the Biosafety Regulation (Decree No. 62/11 of 14 April) Presidential Decree No. 9/16	Plant Breeder & Farmer Right Bill 2006	
		Act 11 of 2007	
Building	Presidential Decree No. 117/20	The Local Authority Act No. 103 of 1977 (SANS 0400 supporting codes)	Regulations on construction and building standards will be useful for the establishment and rehabilitation of CCACs (Activities 1.1.1.2, 1.1.1.3 and 1.1.1.4), for the inputs provided to farmers for implementing water management infrastructure (Activity 3.1.1.2), the establishment of nurseries and seed banks (Activity 3.1.2.3), improving access to fishing sites and veterinary services (Activities 3.1.3.1 and 3.1.4.1), and the introduction of low-cost storage and processing equipment (Activity 3.2.2.4).
	Decree-Law No. 47344, of 25 November 1966	Standards Act 18 of 2005	
	Presidential Decree No. 280/11 approving the Regulation of the Urban Development Plan of Sequele the Province of Luanda.	Municipality of Windhoek building regulations	
	Decree No. 13/07	MRLGHRD Strategic Plan for the Period 2009 – 2014	
	Presidential Decree No. 140/20	The Town and Regional Planners Act (Act No. 9 of 1996)	

G. Synergies and complementarities

Synergies and avoided duplication

208. 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.
209. 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.
210. 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 14: 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*[35] *– 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;

GEF Programs

211. Additional to the projects specific to the CORB, there are two GEF Programs in the pipeline, which will have Child Projects in Southern Angola and Northern Namibia. These Programs are (i) the *Global Wildlife Program Phase II*, implemented by the World Bank and executed by FAO and UNDP in Angola and Namibia respectively; and (ii) *Impact Program on Dryland Sustainable Landscapes*, implemented by FAO. Both GEF Programs are still under development, the second one being further behind and likely not to start before the ADSWAC project.
212. Although the project sites are not identical, and hence there will be no duplication of efforts, the identified Child Projects under the programmes are targeting the same broader geographical areas of Southern Angola and Northern Namibia with projects targeting similar objectives, with the exception of the Global Wildlife Program in Namibia.
213. Meetings have taken place with national representatives of the executing entities of these GEF programs, to seek synergies between the FAO-led initiatives and the ADSWAC project. Agreements were made to proactively share information between the PMUs of the respective projects that will be set up, in order to assure lessons learned in one project will feed into the implementation of others. Concretely, annual reports and mid-term evaluations will be exchanges and regular meetings will be organized to exchange information, aligned with technical meetings organized by the MOE (Angola) and MEFT (Namibia).

Table 15: ADSWAC alignment with GEF Programs

Project	Objectives	Synergies
Global Wildlife Program Phase 2 [36]		
"Strengthening Climate Resilience and Biodiversity Management in Angola's Conservation Area" (*GEF - implemented by WB – $14,834,862*)	**Overall Objective:** The project aims to enhance the ability of the targeted TFCAs and surrounding communities to strengthen resilience to climate change, support economic local development and conserve biodiversity; **Relevant specific Objectives:** (i) strengthen the resilience of local communities to climate change and improve land use planning in local municipalities; (iii) strengthen the capacity of national climate change and conservation institutions to integrate and implement climate change adaptation and biodiversity management measures.	ADSWAC addresses objectives (i) and (iii) by strengthening the adaptive capacities of communities and local institutions. Coordination will happen with the MOE and the FAO PMU, to assure lessons learned are shared both ways, and there is no duplication of interventions.
Impact Program on Dryland Sustainable Landscapes [37]		
"**Land and natural resource degradation neutrality and community vulnerability reduction in selected Miombo and Mopane Ecoregions of Angola**" (*GEF - implemented by FAO - $37,359,600*)	**Overall Objective**: The project will address the main barriers behind dryland degradation that are common to the countries sharing the Okavango and Cunene basins; **Relevant Results:** (2.ii) the upscaling of best practices on SLM/SFM for the sustainable intensification of productive land, making use of agro-ecological approaches, crop diversification, community-based forestry and sustainable rangeland management; and (iii), processing and marketing of climate-resilient diversified crops to promote integrated livelihood systems based on economic diversification.	ADSWAC addresses result (2.ii) by strengthening the adaptive capacities of communities and the promotion of CRA practices and diversified livelihoods among farmers. Coordination will happen with the MOE and the FAO PMU, to assure lessons learned are shared both ways, and there is no duplication of interventions
"**Integrated landscape management to reverse degradation and support the sustainable use of natural resources in the Mopane-Miombo belt**" (*GEF - implemented by FAO - $144,830,000*)	**Overall Objective**: The project will address the main barriers behind dryland degradation in the Mopane ecosystem of northern Namibia; **Relevant Results:** (2) establishment / strengthening of diversified commodity value chains and local food systems, targeting poor women and young people, and thereby achieve more resilient livelihoods based on the sustainable use of a variety of climate-adapted crops	ADSWAC addresses result (2) by promoting CRA practices and diversified livelihoods among farmers. Coordination will happen with MEFT and the FAO PMU, to assure lessons learned are shared both ways, and there is no duplication of interventions

[35] $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*)
[36] The Child Project in Namibia is targeting another geographic area and is focused on protected area management
[37] Projects are still under development, objectives and funding amounts are tentative

Building on previous and existing initiatives

214. 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 16: 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.

215. 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

216. Within the design of the ADSWAC project a knowledge management and learning section is included under Component 1 and defined as "Activity A1.1.2.4 Dissemination of project results, best practices and lessons learned in sub-national, national and international forums and through online campaigns (website, social media)". Hence, learning and knowledge management is included within the project framework.

217. 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 also be generated. Accordingly, this knowledge gained will be processed and tailored for information sharing for specific audiences, which includes regional, national, sub-national and local audiences and stakeholders.

218. The project will support the generation and documentation of case studies, good practices, challenges and lessons learnt. 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.

219. 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 learnt 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.

220. For the knowledge generation, learning and dissemination strategy, the following constrains and proposed actions are taken into account:

Table 17: Knowledge generation, learning and dissemination strategy constrains and proposed actions

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.

221. 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 are affected by similar CC impacts and share, 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.

222. 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.

223. Additional to concrete documentation and knowledge and learning that will be generated through the project, ADSWAC's component 1 is focused on awareness generation and capacity building in CC and CCA, on training and capacity building in climate-resilient agriculture and water management under Component 2, and capacity building in climate-resilient alternative livelihood development under Component 3. In the tables below, knowledge-related activities are summarized, as well as the responsible parties and time-frame (table 14), an overview of the training plan for the project (table 15), and an overview of the Training of Trainers (ToT) (table 16).

Table 18: Knowledge Management Plan

Knowledge Activities	Learning Objectives / Outputs	Responsible	Time-frame
Knowledge Management strategy is implemented	Assure knowledge generation and dissemination is managed	OSS, Regional PMU (Coordinator, M&E Team)	Throughout the project
Project Launch(es) and Closure(s)	Information about the ADSWAC project is disseminated	OSS, EEs	Project Launch
Six Climate Change Action Centres are established	Establish local centres of knowledge and action for climate change adaptation	EEs	Year 1
Increasing local knowledge on climate change adaptation	Increase knowledge and capacities to assess climate vulnerability and adaptation planning	EEs, CCACs	Throughout the project
Development of CAAPs	Consolidate local adaptation planning in strategic documents	EEs, CCACs	Throughout the project
Awareness raising campaigns in schools	Increase knowledge of climate change among children and young adults	CCACs	Throughout the project
Awareness raising campaigns in communities	Increase knowledge of climate change among communities	CCACs	Throughout the project
Knowledge and capacity building on specific adaptation practices (agriculture practices)	Theoretical knowledge and practical capacities on climate-resilient agriculture practices	EEs	Throughout the project
Knowledge and capacity building on drought management strategies	Theoretical knowledge and practical capacities on drought-resilient water practices	EEs	Throughout the project
Lessons learned are documented	Analyse, understand and document successful adaptation practices	OSS, Regional PMU (M&E Teams)	Ongoing process, summarized in Mid-term review, Annual Reports, Final Evaluation
Case studies are documented	Data collection and knowledge gathering on local adaptation practices	National PMUs (M&E Teams)	In quarterly reports
Knowledge generated is shared with sub-national, national and regional authorities	Assure knowledge generated informs future policies and programmes	RPMU, EEs, OSS	Annual reports shared with authorities RPSC Meetings
Case studies are published online and in national media	Reach wider public with knowledge adaptation practices	EEs, national PMUs	2x year
Reports are shared on the website(s) and through social media channels	Reach wider public with knowledge adaptation practices	EEs	Annually
Knowledge generated and lessons learned are shared among networks of IE and EEs	Assure lessons learned and knowledge generated is being used in design and development of other CC programmes	OSS, EEs	Throughout the project Annual newsletters
Knowledge generated and lessons learned are shared in regional and international forums	Assure lessons learned and knowledge generated is shared among international and regional stakeholders	OSS, EE representatives	COPs, Adaptation Futures' conference, other relevant conferences and meetings
Universities and research centres are engaged to conduct studies	Facilitate research and development for national academia	EEs, national PMUs, Research Entities	Continuous, after year 1 of implementation
Knowledge generated is shared with universities	Reach academic sector with lessons learned and data gathered	EEs	Annually

Table 19:: Training Plan

Component	Specific Training Theme/Activity	Stakeholders	Training Methods	Responsible Persons	Timeline (Years)				
					1	2	3	4	5
COMPONENT 1: Strengthening awareness, knowledge and capacity to adapt to climate change and variability at community, district, national and regional level	*Activity 1.1.1.4 Build capacity of sub-national and local authorities and entities on climate change adaptation planning and implementation*	·District/County/Sub national level government ·Executing Entities	▪ Workshops and trainings	▪ ADPP, DAPP (EEs) ▪ Environment Departments					
	Activity 1.1.2.2 Climate change awareness campaigns in communities	·All community members ·Village councils ·Executing Entities	▪ Campaigns	▪ ADPP, DAPP (EEs)					
	Activity 1.1.2.3 Climate change awareness campaigns in schools and school gardens	·School children and youth ·School teachers and headmasters ·Executing Entities	▪ Campaigns ▪ Practical demonstrations	▪ ADPP, DAPP (EEs) ▪ Teacher Trainings Colleges					
	Activity 1.2.1.4. Sensitize and provide conflict management trainings for cattle herders, crop farmers and local authorities near transhumance corridors.	·Farmers and Pastoralists ·Extensionists ·Local authorities ·Executing Entities	▪ Workshops and trainings ▪ Campaigns	▪ ADPP, DAPP (EEs) ▪ Agriculture Departments					

COMPONENT 2: Organizational and technical learning for production and water management	*Activity 2.1.1.2 Development of a training plan and training modules for all topics*	·Farmers ·POs ·Extensionists ·Local authorities ·Executing Entities	▪ Workshops and trainings	▪ DAPP(REE) ▪ ADPP, DAPP (EEs) ▪ Agriculture and Water Departments					
	Activity 2.1.1.4 Train the extension agents to ensure farmer trainings	·Extensionists ·Agriculture Departments ·Sub-national authorities ·Executing Entities	▪ Workshops and trainings ▪ Practical demonstrations	▪ ADPP, DAPP (EEs) ▪ Agriculture and Water Departments					
	Activity 2.1.1.5 Conduct regular farmer field days and FFS using a Technical Orientation Manual	·Farmers ·Extensionists ·POs ·Executing Entities	▪ Workshops and trainings ▪ Practical demonstrations	▪ ADPP, DAPP (EEs) ▪ Extensionists					
	Activity 2.1.1.2 Strengthening and building capacities of 160 POs and 160 WUAs including managerial capacities	·Executing Entities ·Extensionists ·Local authorities ·POs ·Farmers ·WUAs ·Communities	▪ Workshops and trainings	▪ ADPP, DAPP (EEs)					
	Activity 2.1.1.3 Build capacities and support POs in adapting production systems (production systems, management of low-cost storage and processing equipment, business skills and establishment of links to the market)	·Farmers ·POs ·Extensionists ·Local authorities ·Executing Entities	▪ Workshops and trainings ▪ Practical demonstrations	▪ ADPP, DAPP (EEs)					
	Activity 2.1.1.4 Support WUAs to manage water points and promote accompanying hygiene messages around safe water storage and use, and water demand messages (Develop the technical capacity of the WUAs in community outreach, establish guidelines for usage, establishment and management of water infrastructure)	·WUAs ·WUA members ·Extensionists ·Local authorities ·Executing Entities	▪ Workshops and trainings ▪ Practical demonstrations	▪ ADPP, DAPP (EEs) ▪ Water Departments					
	Activity 2.2.1.2 Train and sensitize the lead farmers/focal points in each of 160 community/producer organizations	·Lead Farmers ·Extensionists ·Executing Entities	▪ Workshops and trainings ▪ Practical demonstrations	▪ ADPP, DAPP (EEs) ▪ Extensionists					
	Activity 2.2.1.3 Organize with the support of the extension services sensitization sessions to farmers to encourage them to apply new resilient practices	·Farmers ·POs ·Extensionists ·Agriculture Departments ·Executing Entities	▪ Workshops and trainings ▪ Practical demonstrations	▪ ADPP, DAPP (EEs) ▪ Extensionists					
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	*Activity 3.1.1.3 Train and sensitize on sustainable fishing methods and techniques*	·Fishermen/women ·POs ·Communities	▪ Workshops and trainings ▪ Practical demonstrations	▪ ADPP, DAPP (EEs) ▪ Extensionists ▪ Fishery Departments					
	Activity 3.2.1.1 Develop and promote non-agricultural sources of income such as beekeeping, fishing, wild indigenous fruits and microenterprise development	·Farmers ·POs ·Extensionists ·Local authorities ·Private sector	▪ Training workshops ▪ Practical demonstrations	▪ ADPP, DAPP (EEs) ▪ Environment Departments					

Table 20: Topics for the training of trainers (ToT)

Objective of the training	Topics of the ToT and Module	Number of Trainings	Persons to be trained to become a trainer	Persons to be trained by ToTs
To impart knowledge to stakeholders on climate change, current and future risks and potential adaptation measures	- Climate Change basics - Regional, national and local manifestations of climate change - Environmental studies and natural resource management - Mitigation of drought and flood impacts - Disadvantages of slash-and-burning farming and deforestation - Climate-smart living	- One initial training session per CCAC for defined target groups (school teachers, extension agents and field staff - Quarterly follow-up training based on development in projects	EEs' staff, extensionists of the Departments of Forestry and Environment, Teachers and teachers in training, Students (young adults)	Local communities (men, women and youth), and school children
To impart knowledge and skills in understanding and assessing local climate change vulnerability, developing adaptation	- Climate Change basics - Regional, national and local manifestations of climate change - Mitigation of drought and flood impacts - Climate-resilient livelihoods	- One initial training event in implementation phase - Quarterly follow-up trainings	EEs' staff, CCAC Staff members, extension staff of the Departments of Forestry and Environment	Local and traditional authorities, meteorological services, agricultural extension services, the civil

measures and developing CAAPs	- PAVACC Methodology (Participatory analysis of vulnerability and adaptation to CC)			protection unit, CBOs, local government, NGOs
To impart knowledge and skills to stakeholders in adaptation of agricultural systems towards climate change impacts	- In-field water harvesting technologies - Irrigation and water balance - Water and soil conservation measures - Sustainable Land Management - Drought-resilient crops and crop varieties - Adapted farm planning - Irrigation agriculture and management	- Initial training workshop for extension workers and project staff - Continuous trainings all throughout the project	EEs' staff members, Ministries and Extension staff at local government, Community Development Officers, Local leaders, Lead Farmers and POs	Local communities (men, women and youth), crop farmers in project sites
To impart knowledge and skills to stakeholders in resilient crop, and short-cycle livestock management technologies.	- Resilient Cropping and livestock systems in drought prone areas (Crop varieties, Conservation agriculture, horticulture, agroforestry systems, improved livestock management, etc.)	- Initial training workshop for extension workers and project staff - Continuous trainings all throughout the project	EEs' staff members, Ministries and Extension staff at local government, Community Development Officers, Local leaders, Lead Farmers and POs	Local communities (men, women and youth), crop farmers in project sites
To impart knowledge and skills to stakeholders in drought risk management through engaging in resilient alternative Income generating activities, value addition and marketing.	- Income Generating Activities (e.g., Apiculture, Fishing, Wild fruit harvesting, etc.) - Processing and storage technologies - Value addition and marketing	- Initial training workshop for extension workers and project staff - Continuous trainings all throughout the project	EEs' staff members, Ministries and Extension staff at local government, Community Development Officers, Local leaders, Lead Farmers and POs	Local communities (men, women and youth), crop farmers in project sites
To impart knowledge and skills to stakeholders in improved water management to adapt towards climate change impacts.	- Drought risk management - Water infrastructure and management - Water captures and retention systems at farmers' fields - Models for water collection for human consumption - Water demand management - Irrigation systems	- Initial training workshop for extension workers and project staff - Continuous trainings all throughout the project	EEs' staff members, Ministries and Extension staff at local government, Water Development Officers, Local leaders, and WUAs	Local communities (men, women and youth), crop farmers

I. Consultative process

Pre-concept Stage

224. 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.

225. After submission of the pre-concept, discussions continued with stakeholders, 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.

Concept Note Stage

226. 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.

227. 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 as seen in table 17 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;

228. 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[38].

[38] 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 21: 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;

229. 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 pandemic COVID-19 situation at that time, these meetings have not been realized during concept note phase. However, during the full proposal development stage further consultations were made with the Khoisan group in the project's target area, as is further described below.

230. These consultations focused on discussions with Indigenous Peoples and communities' representatives on the project activities and related risks. These consultancies were conducted in the local language so that everyone attending will have the same opportunity of understanding and expressing his or her objection if any. Then, the consent of indigenous people was received to ensure their commitment and involvement in the project. The project grievance mechanism was also presented and promoted during these consultations. It should be also noted that other vulnerable groups such as women, youth and elderly were effectively integrated into the consultative process.

Consultation Workshops

231. 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 Blue Jeans platform, which took place the 15th of April, 2020.

232. 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[39]. 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) needing further assessment and consultations, and has been considered during the development of the full proposal.

233. At **national level, in Namibia**, a set of phone calls 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) the importance to build on, or revitalize, dormant projects instead of starting up new ones; (ii) including the existing POs or associations in the project; (iii) involvement of other organized agricultural associations: the Namibia Association for Horticultural Producers (NAHOP) and the Namibia National Farmers Union (NNFU); (iv) regarding CC

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

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 website38. 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.

234. At **regional level**, OSS hosted a virtual workshop on the 15th of April, through the Blue Jeans 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, expertise and its role as RIE, 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 necessity to make sure to align with other interventions in the area, and to build on existing work and achievements; (ii) the relevance to include Botswana in further phases of the project; (iii) the mainstreaming of gender ambitions 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).

Full Proposal Stage

235. After approval of the Concept Note in early October 2020, a new series of consultation processes was initiated. This included consultations at various levels: (a) consultations with communities, including Indigenous Peoples, and including narrowing down of project intervention areas, and conducting baseline surveys; (b) sub-national consultation workshops in the Regions and Provinces, organized in cooperation with local authorities and with a wide spectrum of participants; (c) national-level consultation workshops, with participation of key stakeholders of relevant ministries, development partners and NGOs, among others; and (d) a regional validation workshop with participants from all levels. Alongside the workshops and community sessions, individuals of relevant institutions were consulted on a rolling basis. The AF's Gender Policy was taken into account during the organization and implementation of the consultations at the different levels. During community consultations, women in a variety of positions were consulted and interviewed (Queens, TAs, Women Group representatives, and women community members, whereas the workshops at sub-national, national and regional level had ample representation of women, who provided their contributions and inputs to the proposed project. Their inputs have contributed to the development of the full proposal, as well as to the design and development of the Gender Assessment and Action Plan, annexed to the proposal.

236. The consultation meetings and workshops were facilitated with the objective to create awareness about the project, generate understanding of the intended activities, present budget outlines, and gather inputs and recommendations from stakeholders at the different levels. The consultative process was conducted under the leadership of the EEs in their respective countries, in cooperation with the designated AF focal points, entities and other relevant authorities, and took place between the start of November 2020 until mid-January 2021. An overview of stakeholders consulted during Full Proposal development process is seen in table 18 below.

Table 22: Overview of stakeholders consulted during Full Proposal development

Location / Level	Institutions, Organizations and population groups consulted
Regional Level	OKACOM Secretariat (regional, Botswana office); OKACOM representation Angola; OKACOM representation Namibia; CRIDF; KAZA secretariat
Angola, National level	Ministry of Tourism, Culture and the Environment, Ministry of Agriculture & Forestry; Ministry of Water & Energy; Ministry of Families and Social Action; Ministry of Education; GABHIC; UNDP; FAO
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 Administrations in Cuangar, Calai, Dirico and Rivungo municipalities; Local NGOs; Communities in Cuangar, Calai, Dirico and Rivungo municipalities;
Namibia, National level	Ministry of Urban and Rural Development; Ministry of Agriculture, Water and Forestry; Ministry of Environment, Forestry and Tourism; the Office of the President; Namibia Desert Research Foundation; Environmental Investment Fund; Ministry of Gender, Poverty Eradication and Social Welfare; GIZ; NNF; NEEN;
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, Forestry and Tourism; Environmental Education; Agriculture, Water and Forestry; Health; Gender, Poverty Eradication and Social Welfare; National Youth Council of Namibia; Local OKACOM representation; NEEN; GIZ; Farmers' Unions; Constituency Councils; Traditional Authorities; Communities and farmers;

Consultation Workshops –national

237. In **Namibia**, the main national-level consultation workshop took place on November 4th in the capital Windhoek, and had participation of the MEFT, MAWLR, MURD, the Ministry of Gender, Poverty Eradication and Social Welfare (MGPESW), GIZ, NNF and NEEN. Stakeholders provided inputs, among others, on (a) project locations, (b) proposed activities, including suggestion of additional activities; (c) needs and expectations of participant communities; (d) the role of stakeholders in the project; (e) comments on implementation arrangements; (f) concerns, risks, and mitigation measures; and (g) any other business.

238. Overall, the project was welcomed and endorsed by stakeholders. The following key recommendations were noted, considered and included in the design of the full proposal: (i) Close cooperation with TAs is essential, especially in the identification and mobilization of the most vulnerable population groups; (ii) ADSWAC should integrate dormant projects and project sites; (iii)

integration of the school gardens in the operations of the POs; (iv) drip irrigation equipment to individual farmers can be sourced and facilitated through the CRAVE project (GCF funded, EIF managed) and their local offices in the Kavango Regions; (v) Tree cultivation to be integrated in project activities (nurseries, AFS, fruit tree promotion); (vi) the role of demonstration plots and lead farmers was emphasized; (vii) cash constraints should be addressed (micro-finance and village saving loans); (viii) Importance of local stakeholder cooperation throughout the project cycle was emphasized; and (ix) mobilization of youth should be targeted (mainly through IGAs, and through the GSP).

239. In **Angola**, the main national-level workshop took place on November 30th 2020 through video-conference, due to Covid-19 related restrictions. The participants included MCTE, MAF, GABHIC, UNDP, FAO, Cuando Cubango Provincial Directorates of Agriculture, Fisheries, and Education, and Municipal Administrations of Cuangar and Calai. Stakeholders provided inputs, among others, on (a) objectives; (b) results framework; (c) locations and beneficiaries; (d) implementation arrangements; (e) risks and mitigation; and (f) next steps.

240. Overall, the project was welcomed and endorsed by all stakeholders. There was unanimity on the relevance and necessity of the project, improving food security in a changing climate. A few recommendations were made to improve the project, including: (i) focus on water management is of highest importance to overcome increasing irregularity of rains. Not the lack of water is the problem, lack of management and capture systems; (ii) agricultural diversification has huge potential in the target area, including improved fisheries; (iii) simple land use change should include digging irrigation ditches, swales, and farm ponds to make better use of water on-farm; (iv) CA is widely unknown as an agriculture practice and demonstration plots are important; (v) create better cross-border cooperation; (vi) importance of documenting CVAs and CAAPs to do wider mapping of climate vulnerabilities; (vii) FAO-GEF programs near the target area have potential for synergies; (viii) participation of youth should be emphasized; and (ix) suggested to share data gathered widely with the academic community and national level ministries.

Consultation Workshops – local

241. In **Namibia,** two day-long workshops were organized in the respective target regions, Kavango West and Kavango East. In Kavango West, the workshop took place on November 19th in Nkurenkuru, and in Kavango East on November 20th in the Mashare Agricultural Development Institute. Participants included: Offices of the Governors; Regional Councils; Traditional Authorities (TAs); sub-national departments of the following ministries: MEFT, MAWLR, MURD, MGPESW; local farmers' unions; the Youth Forum, the CRAVE project (EIF-GCF); GIZ, NNF and NEEN; and a varied group of community representatives (women and men). Stakeholders provided inputs, among others, on (a) project locations, (b) proposed activities, including suggestion of additional activities; (c) needs and expectations of participant communities; (d) the role of stakeholders in the project; (e) comments on implementation arrangements; (f) concerns, risks, and mitigation measures; and (g) any other business.

242. The ADSWAC proposal was overall well received and support was in principle granted by all representatives of various stakeholder's present. Various comments and contributions by workshop participants were provided, including the following key recommendations, which were included in the project design: (i) Youth participation should be emphasized (through IGAs and access to micro-grants and credits, through education programme); (ii) Gender-balance should be provided, focus on women alone was not recommended; (iii) support farmers to move from subsistence farming alone towards farming as a business; (iv) seed supply should be emphasized (through seed banks, and PPPs); (v) Early Warning Systems are not reaching local communities (included in CCAC functioning); (vi) education of youth and children in the GSP should not only be theoretical (link with school gardens and demonstration plots); (vii) importance of water solutions and mainstreaming of CA was emphasized; (viii) empowerment of community members, and change of mindset, through exposure to innovative solutions should be facilitated (model plots, exchange programmes, etc.); (ix) affordability of new technologies for HHs is essential; (x) dormant projects should be considered to be revitalized; and (xi) sustainability of interventions should be emphasized through trainings and coaching of communities. Following the national and local consultation workshops in Namibia, the Endorsement letter for the project was signed and delivered.

243. In **Angola**, four consultations workshops were organized in the targeted municipalities Calai, Cuangar, Dirico and Rivungo. Meetings took place between November 28th and December 14th, were organized at local administrative offices, and took between 2 and 4 hours each. Stakeholders consulted included, among others: Municipal and communal administrators; School headmasters; community councillors; local directorates of MAF, MTCE, and GABHIC; Farmers' Association representatives; Agriculture technicians and extension workers; and community representatives (women and men). Meetings included presentations of (a) the main activities of the project; (b) climate rationale for the project; (c) budget outline; (d) implementation arrangements; and (e) next steps. The introductory presentations were followed by open discussions on the project, in which inputs and recommendations were gathered to the project, potential additional activities, and concerns and considerations.

244. Overall, the project was received with great satisfaction, local administrations committed to support its implementation, communal administrators assumed the responsibility for identification and mobilization of smallholders, and priority intervention areas were identified. The following key recommendations, which were included in the project design, were recorded: (i) water management and water use should be a crucial activity in the project to manage the cyclical droughts communities are facing (WUAs); (ii) CA, AFS and other cultivation methods are widely unknown, agriculture development is not taking place, and farmers need to access knowledge on these improved practices (demonstration plots, lead farmers, trainings, inputs, etc.); (iii) support to animal care is recommended (vaccinations, disease prevention, fodder production); (iv) fresh vegetables are mainly bought from central towns, and local production should be promoted (communal vegetable plots); and (v) there are high numbers of illiteracy and literacy classes are recommended (to be included in the PO trainings, self-organized by farmers and field staff residing in the area).

Baseline Surveys

245. The local consultation process was accompanied with a simple baseline survey to gather data on the conditions of communities and HHs in the targeted areas. A total of 60 surveys was conducted across the two countries, and data was gathered and processed into reports, which has informed the project design and which data are included in the full proposal, mainly in the first section (project context).

FPIC Process

246. The target area of Northern Namibia and Southern Angola is home to one indigenous population group, the Khoisan (also called San), a hunter-gatherer population group. According to the AF ESP and the OSS E&S standards, the FPIC process was initiated. This started during the development of the CN in January-April 2020 and, despite difficulties with travel and meeting restrictions in light of Covid-19, continued throughout the development stage of the project, notably in Angola, where the Indigenous Peoples inhabit land that is targeted by the ADSWAC project.
247. The main objective of this procedure is to ensure that all beneficiaries are well informed about the project activities, impacts, proposed mitigation measures and the grievance mechanism. The exchanges have also concerned the appropriate mitigation measures and alternatives to project design to minimize impacts and appropriate compensation that will be determined with the full and effective participation of affected indigenous peoples, including indigenous women, youth, the elders and disabled people. These consultations were also important for preparing the Environmental and Social Management Plan (ESMP) which is also attached to this proposal.
248. The consultation process used several methodologies. These included key informant interviews, focused group discussions and reconnaissance surveys. The main consultation outcomes and findings are presented in the specific reports which described the proceedings of the consultations and the discussions including list of participants and various stakeholders to the several meetings.
249. In **Namibia**, through stakeholder mapping and thorough consultations, it was noted that the San territories are not included in the direct target areas of the project. The San reside more to the East, in Kavango East towards the Zambezi Region, which are areas not directly addressed by the project, with some exceptions such as Wiwi village, which is West of the target area. It was however noted in the consultations that took place, that various of the San community members migrate to the more populated zones within the target area, in search for employment. As outcome of this process, it was agreed to: (i) ensure equal access for the San members to the project structures (POs, WUAs), trainings, workshops and sensitizations; (ii) ensure San representation in stakeholder meetings, steering meeting, etc; (iii) ensure that the GSP reaches the San school in Wiwi (outside the direct target area); and (iv) consult and discuss the possibility with TAs to establish a PO and a WUA in Wiwi community, even if outside the project area.
250. Consultations with San leaders have and will be continued throughout the project. National-level San representatives, housed at the Office of the President, Department of Marginalized communities, were equally consulted and after consultations provided a support letter to the project (attached in Annex II).
251. In **Angola**, where a part of the Khoisan population moves around within the project area, a mapping of the Khoisan communities was conducted in cooperation with local administrations, identifying the locations, and facilitating exchanges with Khoisan leaders. The Khoisan families that could be participants in the ADSWAC project are located in Dirico municipality, in Luiana Commune. They are estimated to comprise of an estimated 37 different families, though they move around throughout the region. The Dirico Municipal Administration provided information on the location of the Khoisan group that has been circulating and located in the community of Sakapundu, on the north bank of the Cuito River, in the Xamavera Commune. As for the other 3 municipalities: in the Rivungo municipality a group of Khoisans reside in the vicinity of Chatoma – Bwabwata, which is far from the project area. In Cuangar and Cuito municipalities, the Khoisans are occasionally moving in areas very far away from the project's target sites. In this regard, consultations were conducted with the Khoisan group in Dirico which could be directly impacted by the project's activities. However, should Khoisan groups move into Cuangar, Calai or Rivungo, within the project areas, they will also be engaged in the project activities as beneficiaries, should they so wish.
252. During full proposal development, consultations were conducted at community-level in November-December 2020, which included the FPIC process with the Indigenous Peoples. Khoisan living in the municipalities of Dirico will be residing/moving within the project target areas, and as such a set of direct consultation with the Khoisan community in Dirico was carried out with the representation of 38 persons out of a population group from approximately 37 families, together with their leader, Mr. Augusto Kamati Luvengo. As part of the consultations, the project's activities, the project logic, implementation arrangements and methodologies were discussed. Equally, the principles for a grievance mechanism that is accessible by indigenous peoples was presented and agreed on with the representatives of the indigenous peoples. At the time of the project team's visit, a group of Khoisan was in the community because some of its members do temporary labour in the fields. Those were invited for the consultation meetings, while the others were on the south bank of the Cuito River foraging. The consulted members are part of the same group and the same families, and were sensitized to communicate and inform the rest of the group about the main outcomes of the consultations, including the grievance mechanism. It was clarified during those consultation meetings that the project's activities will not impede in any way on the Khoisan's traditional territories, nor disturb their traditional way of life. Specific arrangements, such as exemptions from paying water fees for non-permanent users of water points, will be made, as it is traditional practice in the areas. Some of the Khoisan group expressed interest in participating in the activities, and accordingly they will be included in the PO and WUA that will be established in the Sakapundu community. After consultation meetings with the group of 38 Khoisan representatives, Mr. Luvengo, in his capacity as representative of the Khoisan families in Dirico municipality, has provided his consent, which is recorded with his consent letter (attached in Annex II).
253. As the FPIC and consultation process is a continuous activity throughout the project cycle, efforts will continue to engage the communities and Khoisan, and apply the FPIC process.
254. In **both countries**, the free, prior and informed consent regarding certain activities at community level can only be obtained during the implementation of the project, given that the project includes USPs at proposal stage (water solutions and new Income Generating Activities). As such, the FPIC process and consultations and discussions with the indigenous community will continue throughout the project, not only to inform and agree on the interventions, but equally to collect traditional knowledge from the group. As part of the activities under Component 1, such as adaptation action planning, and regional meetings, the indigenous communities will be represented by their respective leaders, and appropriate translation will be secured. Under Components 2 and 3, which will work through POs and WUAs, the intention is to include the indigenous communities in Angola (Luiana commune) and Namibia (Wiwi village) in the activities, but this will still need to go through the appropriate procedures with local and traditional authorities and can only be confirmed in the start-up phase of the project, hence also the need for continuation of the FPIC process. Wide stakeholder

consultation will continue throughout project implementation, with a range of stakeholders including national, local and traditional authorities, civil society, local communities and indigenous peoples. As such, the project commits to adhere to the FPIC process all throughout the project cycle.

255. The consultation with the members of this Khoisan group was based on the main results of a survey on the location and conditions of their way of life and concerns. The Sakapundu community, is the community where the Khoisan population frequently resides within the project site, is the focal point. They were identified by the TAs and local authorities towards attending the meetings. The FPIC process was applied to ensure that they were represented based on the fact that they tend to be mobile as hunters and gatherers. The project will ensure the consultation process is continuous and application of the FPIC process to all activities in terms of meetings and gatherings is respected.

Consultation Workshop - Regional

256. Following the consultative workshops organized at local and national level to gather national and project site-specific information that supported the elaboration of the draft full proposal for the project, and aware of the challenges associated with face-to-face meetings due to the COVID-19 Pandemic, as required for regional project development, a remote regional workshop was organized using the Zoom videoconference platform. The workshop was an opportunity to bring together local and national partners from both countries, regional partners, as well as other related stakeholders in order to establish a joint reflection on the ADSWAC project and obtain final in puts into the full proposal prior to submission to the Adaptation Fund. The regional workshop was held on Tuesday January 12th 2021 at 12:00 am UTC (1:00 pm Tunis and Luanda times, 2:00pm Windhoek time), for a 3 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 were made in accordance with the workshop agenda provided to the participants prior to the workshop. 53 participants attended the workshop, representing a wide variety of stakeholders from regional, national, sub-national and local level, including the main line ministries [36].

257. In a sequence of 5 technical sessions, a lot of time was dedicated to discussions, Q&A, and engagement from the participants. The following key recommendations and comments were made: (i) the project shall aim for recruiting locally and create job opportunities; (ii) it is important to assure that the project and farmers obtain licenses from OKACOM for using river water for production; (iii) communities and local business owners should have access to funding; (iv) there is a need for projects in other parts of the targeted province and regions; (v) the supply of quality seeds, as well as local production of seeds, is of high importance; (vi) budget allocations, which favour Angola, need to be better explained and justified; (viii) budget shall be allocated where participation of extension workers and other local government staff is expected, to avoid stressing the budgets of local authorities more; (ix) conflicts exist between Angolans and Namibians in the border area which need to be considered, it is recommended to work very closely with sub-national authorities, who have already forums for discussing these issues, and (x) the importance of making local CVAs is highly recommendable. The comments made were addressed and questions clarified during the discussions. All recommendations were taken into account, and where applicable they were addressed in the project document.

258. The meeting was closed by closing remarks that expressed support and commend the project. Closing remarks were made by the Governor's office of Kavango East, and by the Ministry of Environment, Forestry and Tourism in Namibia, the Ministry of Culture, Tourism and Environment in Angola, highlighting appreciation for the consultative process that has taken place. Overall, the project was welcomed by the participants. Following the workshop, the endorsement letter from Angola was signed and delivered.

J. Full cost of adaptation reasoning

259. 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 are for a vast majority reliant on NR for their livelihoods. The majority of their challenges are further placed under pressure through increasing impacts of CC, most notably droughts, prolonged drought spells, and increasing irregularities in precipitation patterns.

Component 1: Strengthening awareness, knowledge and capacity to adapt to climate change and variability at community, district, national and regional level (USD 1,523,365)

Baseline Scenario

260. 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. 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.

261. Population groups at both sides of the border face the same challenges, 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, and not CC specifically. 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.

262. While the governments of Angola and Namibia are taking initiatives for national and sub-national adaptation planning, local communities remain underserved, especially in the targeted Province (A) and Regions (N). It can be expected to take years if not longer for communities within the target areas to be reached with sufficient knowledge and awareness for populations undertake the necessary actions to adapt to the changing conditions. Asides from, and even more than, lack of understanding of CC and its impacts, the constituencies and municipalities and their populations lack information on suitable and effective adaptation options.

263. Although OKACOM, in cooperation with a variety of development partners (USAID, UK AID, EU), takes various initiatives to support communities' livelihoods in the CORB, capacities remain limited to reach sufficient people, a strong focus is around the

Okavango Delta in Botswana, and initiatives are focused on transboundary water management and environmental conservation. Many CC-related impacts and risks remain unaddressed, especially though cross-border efforts.

Additionality (with AF Funds)

264. With support of the AF, the ADSWAC project will improve the development, strengthening and institutionalization of CC awareness and adaptation capacities through the establishment of CCACs that will be strategically established 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 support the capacity development of the CCAC staff, local authorities and communities in CC awareness raising, vulnerability assessment and participatory planning of CCA interventions. CCA interventions will be formalized in CAAPs, which will guide communities in their adaptation processes and transformation. 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. Initiatives will be focused not only on theoretical understanding, but on practical solutions, showcasing examples in a participatory manner and continuous CCA developments at the centres.

265. The ADSWAC project will establish a regional coordination mechanism, which will serve to address issues that require regional coordination, including collective approaches to manage wildfires, reduce transhumance and conflicts arising from it, coordinate river-fishing activities, and the development of cross-border trade to increase resilience. 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, aligned with existing OKACOM structures. It will also serve for better coordination of interventions initiated by government institutions, communities, as well as development partners. The 6 CCACs will additionally become a local network of CCA action, further strengthening coordination and experience sharing across the border.

Component 2: Organizational and technical learning for climate-resilient production and water management (USD 1,737,440)

Baseline Scenario

266. 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, insufficient and inadequate access to new information, trainings or extension services that focus on CRA practices and inputs. Extension services in the target areas are understaffed and have limited capacity in CCA related agricultural options and lack financial means, resulting in farmers not being reached. As dry seasons extend, and weather patterns in the area become increasingly irregular, there is an ever-increasing need for adopting water-efficient and climate-resilient practices. Access to technologies such as irrigation, water infrastructure, processing equipment and storage is highly limited, inhibiting capacity for food processing and storage, which is a constraint in lean periods, which are magnified under CC. Smallholders have no or limited access to credits or grants, nor have sufficient capacities to manage those. Communities and farmers are not organized to collectively tackle the challenges ahead. While challenges across the border are similar, to a large extent resources are shared, and interventions on one side of the border have impacts on the other side of the border, there is very limited coordination and experience sharing which could benefit the population groups on both sides.

267. Although initiatives are taken, especially on the Namibian side of the border, to mainstream efficient irrigation systems and Conservation Agriculture, the reach remains limited. Agriculture is not the first government priority in either one of the countries, which economies are depending and focused around resource extraction. In the target area, contrary to some other areas in the countries, populations' livelihoods are heavily dependent on small-scale agriculture for subsistence and for earning small surplus incomes. As continues land degradation persists, it can be assumed that the situation will worsen if nothing is done to adapt to new conditions.

Additionality (with AF Funds)

268. With support of AF funding, the ADSWAC project will establish 160 POs and 160 WUAs, which will respectively build their capacities in organizational and technical capacities. These organizations will provide farmers with benefits such as the collective gains from aggregating input purchases, organized processing and storage and collective marketing of produce. They 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 serve for 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. Moreover, by enhancing organizational structures, extension of new practices is facilitated and become more efficient.

269. The project will build capacities of extension workers in the targeted province and regions in Angola and Namibia, those of lead farmers, and through them 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. Joint planning for capacity building, tackling of challenges and cooperation will further strengthen the uptake of new technologies across the border,

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 (USD 6,860,050)

Baseline Scenario

270. Inappropriate and limited drought adaptation technologies and knowledge are causing low crop and livestock food production levels leading to food insecurity and low incomes. Severe droughts and prolonged dry spells seriously undermine crop and livestock production affecting yields and incomes of smallholder farmers and pastoralists. It affects the amount of water available for crop and animal production, the quality of rangelands and the productivity of soils for crop production. Access to water for production is

a key limiting factor for maintaining and improving production, which is further stressed under CC. Diversification of crop and other productions is very limited. The majority of farmers and communities depend on single staple crops (millet or sorghum), while some have minimal cash crop or vegetable productions. Livestock production is also limited, with most families owning some cattle but not many heads of small livestock such as poultry or goats. Access to inputs such as seeds and seedlings is limited, seeds are mainly imported and bought at high prices. Agricultural markets are underdeveloped and hard to reach for most communities.

271. Communities along the river often switch to fishing activities in the non-agriculture seasons for diversification, but fishing is not organized, and equipment or facilities for fishing or post-harvest treatment hardly exist. Although there is high potential for additional productions and income options (agricultural and non-agricultural), access to inputs, credits or small grants is nearly inexistent, as is know-how or technology. Among other resources, the river is a shared resource for populations across the border and limited coordination and communication channels exist among communities and local authorities, often leading to conflicts over fishing resources.
272. Projections indicate that the target areas will be hit hard with droughts and prolonged dry spells, higher than average temperature increases, placing the ecosystems as a whole at risk of desertification. Land degradation persists, not only resulting from biophysical processes, but equally as a result from unsustainable land management practices. Although some initiatives are undertaken, mainly on the Namibian side with among others the GCF-funded CRAVE project, they only reach small proportions of the population. While policy and strategy documents indicate that smallholder agriculture will be supported, state budgets both nationally but more so sub-nationally are inadequate to support far-reaching climate-resilient developments in the sector. Smallholders and farming communities lack direct incentives such as access to credits, capacity building to develop and adapt by themselves, and equally lack motivation and positive examples that can inspire action. More so than for elders, this undermines the interest and motivation of youth to engage in CCA related activities or new productions.
273. Private sector involvement and development is equally limited, due to hard-to-access markets and undeveloped value chains. Although the growing tourism sector (Pre-Covid-19) indicates there is potential for further developments, as much of produce for the tourism business is still imported from South Africa, and local businesses indicate interest in buying more local. Agricultural markets along the border are shared, and cross-border trade supports the livelihoods of local communities. Considering the poor infrastructure and limited attention for rural development in both countries, it is unlikely this can be replaced by national markets. The tourism industry, more developed in Namibia than in Angola, offers opportunities for further economic development of the areas, yet limited action is taken to capitalize on this.

Additionality (with AF Funds)

274. AF funding to the ADSWAC project will allow for 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 practices; the adoption of cropping practices that increase on-farm resilience; an 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 development of sustainable fisheries; the introduction of processing and storage equipment and practices; and improved linkages to markets and establishment of PPPs. Cross-border PPPs promoted by the project, and linked to tourism clusters in Namibia, will provide further development of agricultural markets, allowing for climate-resilient value chain development and for contributing to strengthening the long-term resilience of the targeted communities.
275. The funding will provide for coaching of the farmers, provision of inputs, tools and materials, and for the provision of micro-credits and grants to develop new climate-resilient productions and income streams. Through the networks established by the project, communities (POs, WUAs, CCACs) will be capacitated to take charge of their own CCA and climate-resilient development, hence the investments will catalyse long-term CCA capabilities.

K. Project Sustainability

276. 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.
277. 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.
278. 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:

279. The project design has secured that the project will be implemented in close collaboration with existing governments 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.

280. 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).
281. 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.
282. 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.
283. 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.

Social Sustainability

284. 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 CBOs will be trained and sensitized to maintain and continue the project's activities beyond the scope of the project. 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.
285. 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.

Environmental Sustainability

286. 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.
287. 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

288. 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.
289. **Climate Change Action Centres'** 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.

290. Although no formal commitment or agreements have been made at this stage, the project builds upon successful experiences of the EEs and other development actors in the target countries, in which new centres (health centres, among others) were established and later handed over and included in the sub-national government functioning. Additionally, the CCACs will establish productions and other income streams to support their financial sustainability. These will include among others: (i) the production of vegetables, tubers, fruit trees and seedlings for the local markets; and (b) the rent of meeting rooms to other development actors in the environmental management and agricultural development sectors. During consultations, the need for these centres was emphasized by various stakeholders, of which some (FAO, UNDP, OKACOM, among others) have expressed their interest in using the CCACs in future projects. These income streams will allow for maintenance of buildings, sites, and equipment, and where possible for salaries of the staff.
291. In Angola, these centres are currently staffed by public servants, and the centres are being supplied by municipal government. Vehicles purchased be the project are in use by the same servants. In Namibia, the vehicles are also still being used for test and treat activities, yet one centre established, stopped operating during the Covid-19 crisis and has to be re-started. The EEs have long-standing cooperation with national and local governments, among others operating 15 teacher training schools and vocational training centres, which are included in the state budget.
292. Additionally, the project builds upon experiences of other successful projects, in which the salaries of the human resources of new setups progressively and gradually are absorbed by the civil service, being hired directly by the State. Examples of these projects include UNICEF's (for the children's education sector and for the health sector), FAO's (for the agricultural sector) and UNDP's (for the environmental sector - National Parks). The staff working on these projects were gradually included (during the projects or at the end of the projects) in the State staff, depending directly on the Ministries (for example the National Parks guards, hired by the Minister of the Environment) or on the local administrations (for example ADECO - Community Health Agents - hired by the Municipal Administrations). Recognizing the importance of addressing the sustainability of the CCACs, detailed plans for continuation of the centres will need to be made during the first years of project implementation, in collaboration with sub-national governments.
293. Since the installation of the CCACs, they will serve as demonstration areas, they will have an area destined for production. The production will be directed mainly to the production of vegetables, tubers and fruit trees. The outputs produced in these centres will be sold resulting in financial inputs to the CCACs, thus paying part of the costs of human resources and local management of the CCACs. These products can also be directed to local markets (often informal markets) and to the "School Feeding with local products" Program (Program initiated by UNICEF and FAO and currently managed by the Ministry of Education and Local Administrations). Therefore, the productions may have a destination both for private markets and to sustain Government Programs (financed through the General State Budget and/or the Municipal Budget of the Municipalities affected by the project). In addition, the CCACs will rent out its meeting rooms to other actors in the environment and agriculture sectors. Willingness to make use of the CCACs in future projects has been expressed by, among others, FAO, UNDP and OKACOM. These financial inputs will assist in the management of the CCACs
294. **Green School Programme** 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.
295. **POs and farmers** in 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.
296. **Water User Associations** 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. Financial management systems of the water infrastructure are built on existing models and systems in both Angola and Namibia, where community members pay a small fee for the use of water, which allows for having funds available for maintenance and repair of infrastructure. WUAs will be the managers of these systems, and their capacities will be built accordingly. In Angola, this is defined by the "*Modelo de Gestão Comunitária de Água (MoGeCA)*" (Ministry of Water & Energy, UNICEF) which covers the principles for community management of water, including cost recovery and sustainability and describes the roles of all stakeholders in the processes. In Namibia, a similar model is used by Water Point Committees, who collect small fees from community households. The Committee then pays into NAMWATER, the national water provider. These Water Point Committees will be integrated with the WUAs, who will have a broader scope of responsibilities.
297. 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.

298. 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:

299. 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.

300. 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

301. 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. The initial results of screening are presented in the table below.

Table 23: 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** *(The risk screening process that will be applied is considering the adherence of the activities with the national laws and technical standards)*	
Access and Equity		**X** *(OSS in accordance with its practices and adherence to the AF, makes available to all direct and indirect beneficiaries of the project a grievance redress mechanism that will inform conflict situations and will ensure access and equity to all project participants and beneficiaries)*
Marginalized and Vulnerable Groups	**X** *(All activities' implementation will be decided in common with consultation of all concerned project participants and beneficiaries especially communities directly affected such as PLWDs)*	
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.)*	
Gender Equity and Women's Empowerment	**X** *(The project has been developed with a special focus on women and youth groups)*	
Core Labour Rights	**X**	
Indigenous Peoples		**X** *(Consent letters signed by the representatives of the indigenous people has been delivered and further detailed analysis will be conducted using the FPIC process prescribed 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**	
Conservation of Biological Diversity		**X** *(Capacity building and exchange visits to strengthen the efficient management of natural resources, including flora and fauna will be undertaken and deliberate efforts will be undertaken 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** *(Climate Change vulnerability study has been conducted during the preparation of the Full Proposal. Proposed project activities 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**	
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 3.1.1.5).*	
Physical and Cultural Heritage	**X**	
Lands and Soil Conservation	**X**	

302. Based on the environmental and social risks assessment and their related potential impacts, mitigation measures have been proposed mainly for the moderate and significant impacts. These measures were identified according to the project activities and the countries specificities. During the consultative process and the various assessments related to ecosystem and natural resources, population, economic activities and infrastructures, the project potential impacts were presented and discussed while giving the opportunity to the participants and other resource persons to propose mitigation measures that were then evaluated and adapted to fit to the project specificities and budget. In addition, OSS expertise with the support of ADPP and DAPP based on the information and data collected was able to inform the most suitable mitigation measures for the identified risks (further described in the ESMP). Where risks and potential impacts were identified and if these are unavoidable, suitable mitigation measures will be properly planned to adequately compensate for residual impacts and to provide for restoration.
303. The principles, which directly apply to the ADSWAC project, are:

Principle 1: Compliance with the law: Screening result: **No risk**

304. Explanation: All issues relating to compliance with the law have been checked in Part II, Section F and described thoroughly. It is noted that the project activities are in line with national regulations and laws. Land ownership is a crucial issue in the area for the establishment of the demonstration plots and water solutions. During the extensive consultations with national and regional stakeholders, it was highlighted that the involvement and support of the local and traditional authorities is pertinent to address this barrier. Principle 6 related to Indigenous Peoples describe how issues of consent are considered regarding working in and around people's homes.
305. During the development of the ESMP, some activities/ sub-projects under output 3.1.1 (water solutions), and output 3.2.2 (Income-Generating Activities) are categorized as unidentified, and therefore they may require EIA depending on the size and the location of their implementation to determine their impacts. The risk screening process (as described) that will be applied should take into account the adherence of these activities with the national laws and technical standards.

Principle 2: Access and equity: Screening result: **Moderate risk** resulting from activities under Output 2.12 and Output 3.2.2.

306. Explanation: The community consultations in particular identified that there is a potential risk in terms of access and equity without mitigation measures. Given that the beneficiaries are rural people and marginalized poor families who are not often integrated in the local politics and decision-making processes, there could be a risk of insufficient access of the project resources by these people. In addition, some activities of the project such as the identification and establishment of new Producer Organizations (POs) and Water Users Associations (WUAs) for organizing communities and livelihood improvement (output 3.2.2) are not intended to provide a benefit for all, but target those livelihoods in need as well as the livelihoods which are involved in land restoration activities, transforming exploitive agriculture, fishing, livestock and IGAs. This particularly concerns the ability of indigenous people, women and youth, as presented below in Principle 3, 5 and 7 to benefit from the project. There will be potential, without risk avoidance or reduction measures, for the target beneficiaries to benefit inequitably, or for some groups to be excluded altogether.
307. As outcome of the consultation process, it has been suggested to develop selection criteria to be agreed with all the stakeholders. This approach will ensure that the project provides basic services (potable water, sustainable livelihoods, solar energy, accurate climate information and effective knowledge), fair and equitable access to all beneficiaries including the most marginalized and vulnerable groups.
308. The process of identifying project beneficiaries involves (i) the formulation of selection criteria and priorities and (ii) consultations with local and traditional authorities as well as potential communities. Selection criteria will consider practicality and feasibility, exclusion from other previous development initiatives, existing of dormant projects with potential to be revived, potential synergies with other current development initiatives, and the presence of committed youth. The selection of project sites and communities will involve participatory consultations with, in Namibia: The Offices of the Governors, the Regional Councils together with affiliated Community Development Committees and the respective Traditional Authorities and in Angola: The Municipal administrations in collaboration with the traditional authorities. Based on recommendations aligned to selection criteria targeted communities will be consulted and based on their potential and commitment a final selection considering the achievement of project outcomes/results will be made; and this again is subject to committed support and approval by the Traditional and local authorities.
309. Communities and beneficiaries will be comprehensively sensitized to enhance priorities of the most vulnerable groups while ensuring their participation into decision making and equal access to the project benefits. In addition, and as usual, OSS in accordance with its practices, makes available to all direct and indirect beneficiaries of the project a grievance mechanism that will inform about conflict situations and will ensure access and equity.

Principle 3: Marginalized and vulnerable groups: Screening result: **Potential risk** resulting from activities under Output 2.1.2 and component 3.

310. Explanation: The community consultations held in the formulation of this proposal highlighted that indigenous people, women, youth and people living with HIV/AIDS and other disabilities are the main marginalized and vulnerable groups in the area. It is probable that project activities will exclude these marginalized/vulnerable groups, thus preventing them from accessing benefits – both in terms of resources and capacity building. To mitigate this risk, these vulnerable/marginalized groups such as women, youth and indigenous peoples have been intensively consulted during the design of the project and will be further consulted during the implementation of the project. A gender study has been established for a better understanding of the social construction and the FPIC process has been conducted to ensure the involvement of the indigenous people. As a result, the project components were designed to encourage the participation of marginalized and vulnerable groups in the decision-making processes (POs and WUAs) at the local and specific activities are targeting women and youth. In fact, during the several consultation workshops, representatives from the several target groups were invited to take part in some activities design.
311. During the first steps of project implementation, additional assessment (e.g., land right) will be carried out, to avoid exclusion of marginalized groups and to minimize potential impacts related to the project activities. In order to avoid the exclusion of these communities all activities implementation must be decided in common with consultation of all concerned communities including the small grant scheme under output 3.2.2.

Principle 4: Human rights: Screening result: **No risk**

312. The proposed project respects and adheres to all relevant conventions on human rights, national and local laws and both countries are also part of various human rights treaties.
313. Explanation: 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.

Principle 5: Gender equality and women's empowerment: Screening result: **Low Risk** resulting from activities under Output 2.1.2 and component 3 with mitigation measures as the project has built-in targets and indicators for the inclusion of women in its results framework.

314. Explanation: As highlighted in the Gender Assessment and Action Plan, women throughout both countries face numerous challenges that either are more severe than those faced by men, or that men don't face, including access to land, finance, vulnerability to drought and climate change and the ability to recover quickly from lack of potable water.
315. Women are less likely to have the ownership of the land they till and have less land tenure security than men. While women can often use land for free for subsistence farming, as soon as their production generates revenue, they usually need to pay a rent. There is a risk that some of the activities under Component 3 would increase gender inequality, because they suppose that the beneficiary of the activity is the owner of the land, so this may exclude most women. In addition, activities that generate revenue may put women in a situation that they need to cede part of the revenue or need to pay rent, while this was not the case before the activity.
316. In addition, the women will also be engaged in activities that support the project such as tree seedlings production in tree nurseries and seeds banks under output 3.1.2. The project thus is targeting women, and single-headed households to ensure their income and living conditions. The project will also conduct gender-based activities to enhance the participation of all gender to have access to water. Targets have been set for coverage of women in all the project's interventions related to training, capacity building, and sensitization activities. This will ensure that women will have equal access to information and acquisition of equipment under Output 3.1.1 about access and use of water.
317. From the pre-concept note, the project has ensured inclusion of gender equality and women empowerment issues with activities sensitive to gender equality particularly equal rights, responsibilities, opportunities and access of women and youth to resources allocated to improve their resilience to the current and future climate change effects. All consultative and participatory processes strived to include representation of women groups of the community and analyze relevant gender-disaggregated data.
318. The project has been developed with a special 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. A series of measures (e.g., involvement in consultation process, selection criteria) has been developed to ensure that both, men and women, have access to project benefits and small grant scheme, taking into account that, traditionally, women have less access to control of economic resources. Gender equality is also a prerequisite in the implementation of activities in the field as Lead Farmers and in FFS as well as access and maintenance of water solutions.
319. Finally, it is planned (i) to carry out communication and sensitization of populations on the gender issue to ensure gender equality in income-generating activities, (ii) to strengthen the representation of women and youth in the various consultation workshops, and (iii) make available a grievance mechanism that can be used by women and youth to lodge complaints about being affected by certain project activities.

Principle 6: Core labour rights: Screening result: **Potential risk** resulting from activities under component 3

320. Explanation: The project will use some community labour to do unskilled construction tasks. However, without appropriate risk mitigation measures, there is a possibility that there could be exploitation of people providing their labour to the project. Noting that the risk is low, OSS will legally oblige (through Agreements of Cooperation) its' executing partners to uphold international labour standards, and both countries have ratified and transposed into law all eight fundamental conventions of the International Labour Organization.
321. Activities under component 3 will involve labour works for implementation of concrete adaptation actions where communities will provide the local labour force. However, in doing so local communities might be exposed to the risk of minor accidents while executing some water solution constructions, tree planting and ecological restoration activities.

322. In addition, there is a risk of late or unpaid salaries or remuneration non- compliant with the countries' labour legislations and laws. During the consultations where national and regional stakeholders have been involved, the core labour rights have been highlighted to ensure that labour legislations are adhered to. Consequently, children's labour will be forbidden as well as remuneration inequity between men and women. It is also planned to (i) Sensitize workers and populations to the risks related to the undertaken activities, (ii) ensure that all of the labour involved will be daily wages according to best common practices in the districts and villages, and (iii) follow-up the worksites by the national executing entities including schedules, activities progress, respect of the labour and safety rights of workers and conformity with national labour codes.

Principle 7: Indigenous people: Screening result: **High Risk**

323. Explanation: The project is fully compliant with the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and has put in place a process to obtain the Free, Prior and Informed Consent (FPIC) from the indigenous peoples present in the territories targeted by the project. The FPIC is described by the consultative process which was undertaken and is an ongoing process with considerations towards the status (nomad or sedentary), language and social structure of the indigenous people and the risks that may occur will be addressed accordingly.

324. The main risks that could be raised are related to the ways they use water resources. Therefore, a detailed analysis will be carried out by local and national agencies to understand the traditional use of natural resources especially regarding to water. This will be the major project challenge and to cope with this, the participatory approach will be applied. They will be involved at all stages of the project implementation to allow a better ownership of the project outcomes. The Indigenous Peoples (IPs) that have migrated to urban centres in search for employment report facing discrimination, exclusion and marginalization.

325. During the development phase of the full proposal and in particular during the consultations with local communities, a special approach was put in place by OSS to take into account the indigenous people in the region. In fact, the FPIC process has been deployed since the beginning of the series of consultations that began since the approval of the Concept Note in order to keep the momentum created during the previous phase. It should be noted that due to the project submission date and the timeframe agreed with the countries, the consultations were conducted during the rainy season. Yet, during this period a significant number of the Khoisan people leave the project area and migrate to the north searching for better conditions more adapted to their way of life. Indigenous people living within the targeted project area are hunters and gatherers and sometimes do temporary labour on farms. They generally do not have cattle, nor practice agriculture. As per water resources, their needs are basic and natural due to their migratory nature and adapted capacity to live within the arid region. The locations where the project will establish model plots, promote climate-resilient agriculture, water management and livelihoods, will not impede in any way on the areas where the Khoisans are hunting and foraging. The payment system for using water planned for in the ADSWAC project is based on a model used all over Angola. The WUAs consist of residents who are expected to be the permanent users of the water point and thus also co-responsible for the operation and maintenance. The model for indigenous people (who are nomads in this region) will be taken into account when the statutes for the WUA are made, making sure that special privileges are given to nomads who are not frequent or permanent users of the water point. This is traditional practice in all areas in Angola where there are nomad indigenous people, given the small population and the relatively little amount of water they use. As such, they are not responsible for operation and maintenance costs.

326. The project will promote the participation of indigenous people through the traditional authorities. In addition, the project will promote the cultural and ancestral knowledge of the indigenous people in providing climate information in output 1.1.2. The project will also foster native species and seeds with ecological and nutritional value and will provide inputs to the development of the productive technological packages and establishment of seedbanks under output 3.1.2. The project will actively seek the inclusion of IPs in the project, intentionally supporting the establishment and coaching of Producer Organizations and Water User Associations in one indigenous community in Angola (Luiana). The Khoisan people do not reside fixed at one location throughout the year, they migrate seasonally, hence this does not apply to all IPs. However, in the community identified in Dirico municipality, where currently Khoisan families are residing, the project will encourage them to participate in the POs and WUAs, motivating them to practice small-scale agriculture, as this was requested by their leader. It would contribute to the populations' food security, health as well as the opportunity for the children to frequent school. In order to ensure a full involvement of the Khoisan people, the FPIC process shall be maintained throughout the lifespan of the project.

Principle 8: Involuntary resettlement: Screening result: **Potential risk** resulting from activities under Output 2.2.1

327. Explanation: The project activities will not lead to involuntary resettlement (in the sense of eviction or people involuntarily leaving their homes) or even losing their land use rights and will not include community resettlement activities. However, the demonstration plots may occupy spaces and may temporarily affect private lands or related activities. The choice of these areas will include strict criteria to be agreed with traditional and local authorities that stipulate no population resettlement through giving priority to communal-owned lands. The rainwater harvesting facilities in public buildings have already been discussed with the local authorities. These are public buildings and/or public spaces and as such there is no risk of eviction from them. Likewise, the household level water facilities will not lead to waste, runoff or any other externalities that could realistically lead to eviction or involuntary resettlement. However, there is a risk that construction work could cause damage or temporary inconvenience to people living in the areas (both beneficiaries and non-beneficiaries) and as such the risk cannot be assessed since they are Unidentified Sub-Projects (USP) at this stage. The process described under *Part III.C* will be applied.

Principle 9: Protection of Natural Habitats: Screening result: **Potential risk** resulting from activities under component 3

328. Explanation: Within the target area, there are no formal reserves/protected areas. However, in the vicinity of the target area, Cuando Cubango province in Angola is home to two national parks, while in Namibia, the Kavango Regions are home to the wild and undeveloped Khaudum Game Park.

329. The surrounding area is also regarded as highly important as being upstream to some of the world's most important biodiversity hotspots i.e., two of the world's largest Ramsar sites are located in Botswana and in Namibia, adjacent to the Okavango Delta. This area has regional and global environmental and biodiversity value and importance. The Okavango Delta has been inscribed as a

World Heritage Site under the UNESCO Convention in June 2014. The Ramsar Sites lie in the heart of the extensive network of transboundary parks and community conserved areas that make up the globally important Kavango Zambezi Trans frontier Conservation Area (KAZA TFCA). The KAZA-TFCA, which supports large herds of elephant and buffalo, rare and endangered species such as roan and sable antelope, constitutes important corridors for animal movement within the greater region.

330. The potential and indirect risks related to the protection of ecosystems and to the natural habitats may occur because they border around the project's target areas in the municipalities and peri-urban areas. The Cuando Cubango river which causes flooding in the project area, will have minimal construction in or around its banks. The materials or waste products which may go into the river and its surroundings shall not obstruct the volume or direction of the river flow. The Water harvesting structures used in the demonstration plots for agriculture using irrigation techniques under activity 3.1.1.3 will not adversely affect in any way the flora and fauna in the project site.
331. The potential risk related to the solar-pumped boreholes, water harvesting and storage infrastructure such as simplified water tanks and micro-irrigation systems may result in the interference with the flora and fauna. The possibility and presence of a labour force and construction equipment when necessary could have a minor impact on the target sites. The project will otherwise be actively improving or otherwise protecting natural ecosystem services through outcomes 2.1 and 3.1 of the project.
332. Also, the presence of labour and construction equipment, could have an impact on the fauna and flora on certain intervention sites. Not forgetting water capture and retention systems under activity 3.1.1.2 could have an impact too as such the risk cannot be assessed since they are Unidentified Sub-Projects (USP) at this stage. Besides, the implementation of water points, solar-pumped boreholes, and other activities of buildings that requires concrete actions on the ground may result in the vegetation and wildlife habitats provisional or definitive destruction in the implantation site and can create tensions with farmers living around. To address this, the project will ensure the application of the USP process described in *Part III.C* to ensure that the appropriate regulations and standards will be adhered to I promote preservation of natural habitats

Principle 10: Conservation of biological diversity: Screening result: **Potential risk**

333. Explanation: Although the target area is not in the Delta itself, the upstream activity is relevant and there is a potential risk. In fact, the Cubango Okavango River Basin (CORB) is recognized as being internationally important for its biodiversity. The area is rich fauna and flora diversity and in the Okavango delta alone 1,300 species of plants, 71 species of fish, 33 species of amphibians, 64 species of reptiles, 444 species of birds and 122 mammal species have been recorded. The biodiversity of the CORB is under pressure and is changing. Some Red Listed species classified by IUCN are decreasing in number.
334. The protection of ecosystems and their biological diversity is an essential objective of the project. However, the ecosystems or biodiversity located in the spatially populated areas where the project will be implemented, the clearance of vegetation for water harvesting and storage sites construction may represent a form of disturbance for fish habitats and wildlife. This will provide opportunities to promote planning for biodiversity conservation activities and eco-tourism, such as reforestation and capacity building to strengthen the efficient management of natural resources.
335. The project will only utilize indigenous species, hereby mitigating any risk of species invasion. The project will not be exposed to any risks related to conservation and biodiversity and care will be taken to not endanger any flora and fauna habitats particularly the endangered species. The crop varieties introduced in the communities will be selected to be non-invasive or of influence on local genetic resources in the communities. The implementation of solar-pumped boreholes, water harvesting and storage infrastructure can result in the vegetation and wildlife habitats destabilization in the implantation sites.
336. As part of the implementation of some activities, new agricultural practices, may represent a form of disturbance for the flora and can affect the biological diversity. However, the project plans to promote cropping practices resilient to climate change by increasing the usage of a range of native drought-resistant crops and indigenous seeds under activity 3.1.2.4. this will also be facilitated by improving the capacity of the communities to create seed banks in activity 3.1.2.3.
337. To mitigate the risks mentioned above, follow-up and monitoring of the implementation of activities related to the protection and management of ecosystems will be undertaken. In fact, pre-surveys of the proposed areas will be conducted to avoid sensitive habitats that have high diversity of flora and fauna. Promotion of awareness sessions, capacity building and exchange visits to strengthen the efficient management of natural resources, including aquatic species and animals will also be undertaken.

Principle 11: Climate change: Screening result: **No risk**

338. Explanation: As the project is geared towards mainly adaptation interventions, the component 1 is dedicated to strengthening awareness, knowledge and capacity to adapt to climate change and variability at community, district, national and regional level. Component 2, aims at increasing technical learning for production and water management and finally, component 3 is anchored at improving resilience of ecosystems and livelihoods through the implementation of community adaptation actions to improve food security in response to climate change and variability. A potential change of the land use due to the field clearing to construct innovative water harvesting and storage infrastructure (e.g., simplified water tanks) under component 3 may generate low sequestration decrease. So, it is intended to promote reforestation to offset these lands. Some of the water solutions to be installed will require small pumps using solar energy abundantly available in the project areas under activity 3.1.1.3.
339. Without effective design or management, these could be modified to use diesel generator driven pumps in the long run, which can lead to emissions. In the areas targeted by the project, reliable solar energy is available, meaning that diesel generators will not be necessary based on the consultations. A potential change of the land use due to the field clearing to construct innovative water harvesting and storage infrastructure and buildings of centres may generate sequestration decrease. So, it is intended to promote reforestation to offset these lands.
340. In addition, the project will facilitate the transmission of information to the communities and info on EWS Information sharing and alert dissemination under activity 1214
341. Concurrently, the project will create awareness, strengthen technical capacities and provide support on climate interventions and information provided at the CCACs.

Principle 12: Pollution prevention and resource efficiency: Screening result: **Potential Risk**

342. Explanation: the project will not have major impacts on the natural resources in the intervention sites. However, the water solution construction under output 3.1.2 in the project could have a temporary impact while using plastics, PVC piping and a small amount of concrete. This can generate some small-scale and localized waste, which will be collected according to standard waste disposal methods. The project's activities (associated with the household level and public rainwater harvesting) will generate little or no waste in the day-to-day course of their operation. Routine maintenance may generate very small amounts of localised waste (such as when plastic pipes are replaced, for example).
343. The project activities moreover advocate the prevention of air, water, and soil pollution through awareness raising at all levels such as strengthen the capacities of the WUAs in monitoring the access and the use of water under activity 2.1.2.4 and 3.1.1.5
344. The new water solutions introduced by the project may increase the demand of water from the river especially during the dry season experienced in the project sites. This new pressure tends to mount the water availability for farming, livestock use as well as potability for human consumption. To address this, the project will create water points that can be used for irrigation and livestock rearing as well as support the reduction of human wildlife conflicts from animals seeking water. To ensure that the conflicts that may arise are addressed, the project will support transhumance conflict resolution measures in activity 1.2.1.4.
345. For resource efficiency, the project will ensure the users will appropriately utilize locally available resources and make sure to always consider the sustainability of resource use. In addition, the project will contribute to the energy efficiency through the interventions on alternatives energy sources such as solar for water pumping under activity 3.1.1.3 and efficient use of water through the small irrigation techniques and the water storage constructions establishments under activity 2.1.2.4. This will also be supported by capacity building the WUAs to manage water resources.
346. The project intends to promote efficient use of natural resources and to help farmers to adopt new agricultural practices such as improved soil management, use of a range of drought-resistant crops and seeds, cropping practices resilient to climate change emphasized under output 3.1.2. The use of chemical fertilizers and pest control will not be encouraged or supported by the project, but instead manure, compost and organic pest control remedies will be promoted.

Principle 13: Public Health: Screening result: **No risk**

347. Explanation: Community consultations and data gathered during the project's formulation emphasized that public health continues to be a serious problem in Cuando Cubango with high rates of water-borne disease. Water storage constructions may lead to water- or vector-borne diseases (such as cholera and Malaria) increase, so, it is mandatory to raise awareness and support mechanisms to implement disease awareness and management programme for Malaria and Bilharzia. If the project did not take proactive measures to promote and ensure high quality drinking water, there could be public health through the rainwater harvesting units providing poor quality or contaminated water.
348. With regards to the safety in maintaining the reservoirs, and dams (in particular risk of falling of man or cattle) and transhumance conflicts, security will be ensured at the reservoirs by providing adequate protective equipment (e.g., protective mesh). Health problems related to tank water quality or the infestation of insects near the water points could occur. Thus, it is planned that under output 3.1.1 to (i) avoid collecting the first runoff that is often heavily loaded or provide a decanter for tanks to improve the water quality, (ii) train communities that tank water is not consumed by the population without adequate treatment (after boiling or treatment), (iii) Provide family sanitary kits (filters) for potable water, and (iv) promote improved hygiene and sanitation messaging through community campaigns
349. Taking into account the spatial organization of populations and the prevalence of HIV/AIDS in the project areas, it is planned to prevent and control spread and occurrence of it among the project populous and local communities mainly the most vulnerable groups (women, youth, people living with disabilities) by organizing sensitization sessions, distributing prevention kits and by limiting the utilization of labour force from other areas.

Principle 14: Physical and cultural heritage: Screening result: **Potential Risk**

350. Explanation: This area has regional and global environmental and biodiversity value and importance. The Okavango Delta has been inscribed as a World Heritage Site under the UNESCO Convention in June 2014. The Ramsar Sites lie in the heart of the extensive network of transboundary parks and community conserved areas that make up the globally important Kavango Zambezi Trans frontier Conservation Area (KAZA TFCA).
351. The project will enhance and promote the protection of physical and cultural heritage. It will utilize and install rainwater harvesting facilities in public buildings. In fact, participatory workshops have been conducted to identify areas of physical and cultural heritage to ensure the preservation of traditional and ancestral knowledge.
352. In regard to cultural heritage, the new agricultural practices and water solutions may experience some resistance from the local and indigenous peoples. During the FPIC process, the project secured the adherence and inclusion of the TAs and local authorities to facilitate the popularization of the practices proposed in the project areas. Consultation is an ongoing process and will continue during the implementation of the project to adapt these practices to the reality on the ground.

Principle 15: Land and soil conservation: Screening result: **No risks**

353. Explanation: One of the main objectives is to promote the conservation of soil and land resources. This is evidenced in output 3.1.2 on adoption and promotion of agricultural resilient practices especially through the improvement of soil management, cropping practices, use of a range of drought-resistant crops and seeds and horticultural practices.
354. Livelihood diversification through the promotion of several IGAs will help reduce pressure and over exploitation of soils within the project sites. However, there is a potential risk of soil erosion and where applicable, it will be recommended to install specific measures to combat erosion such as intercropping, use of plant sediment binding grasses trees and shrubs on the exposed landscapes. Also, the use of gabions inter alia could be where applicable. Sensitization and awareness sessions under output 1.1.2 with the beneficiaries, workers and the local population will be undertaken to strengthen the effective management of soil under activity 3.1.2.1.

PART. III IMPLEMENTATION ARRANGEMENTS

A. Project management arrangements

Implementing Entity

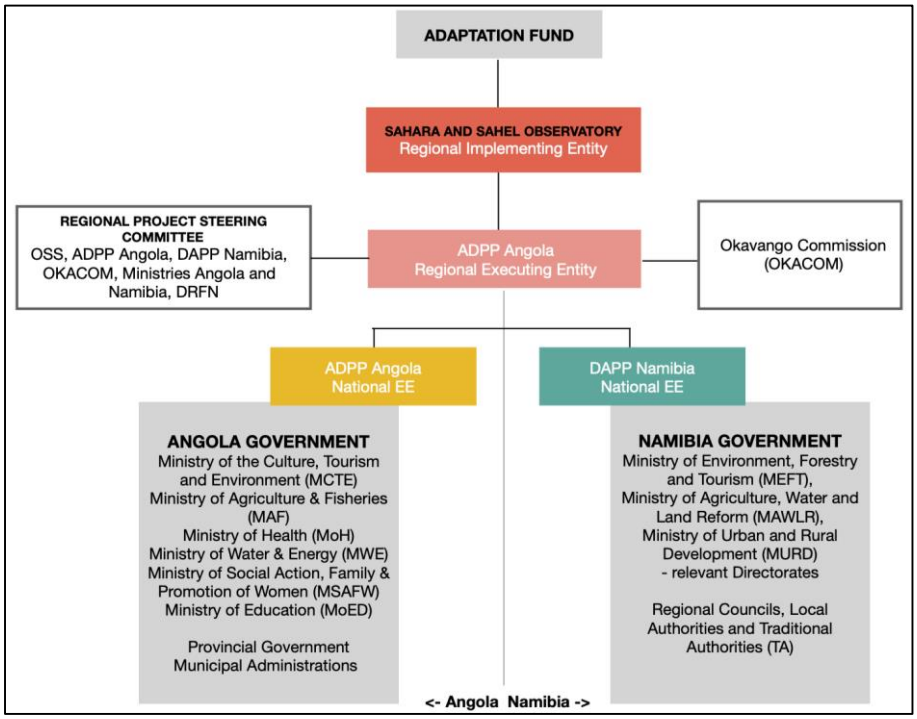
355. The project will be implemented by the Sahara and Sahel Observatory (OSS) who will serve as the Regional Implementing Entity (RIE). OSS will be in charge of all financial, monitoring and reporting aspects to the Adaptation Fund. The OSS will also provide administrative and management support to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

Executing Entities

356. 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.

357. 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



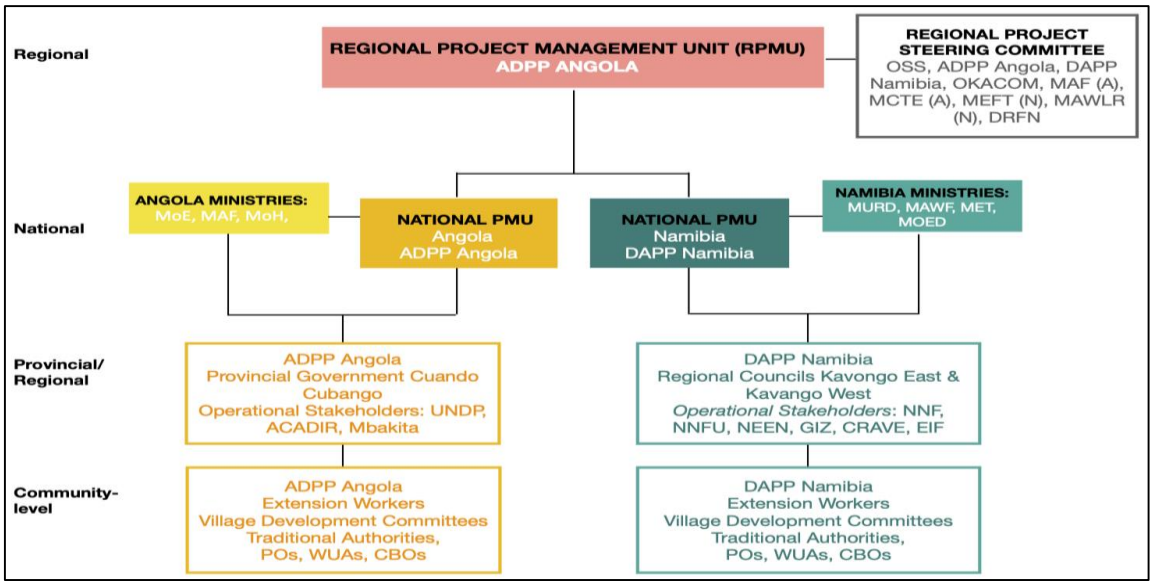
Project Execution – at Regional Level

358. 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.

359. 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.

360. 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. The office in Calai is right on the border with Namibia, which will facilitate the cooperation with DAPP. 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



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

Table 24: 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) National EE in Angola	• 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;
5	Development Aid from People to People Namibia (DAPP)	• 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;

	National EE in Namibia	• 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

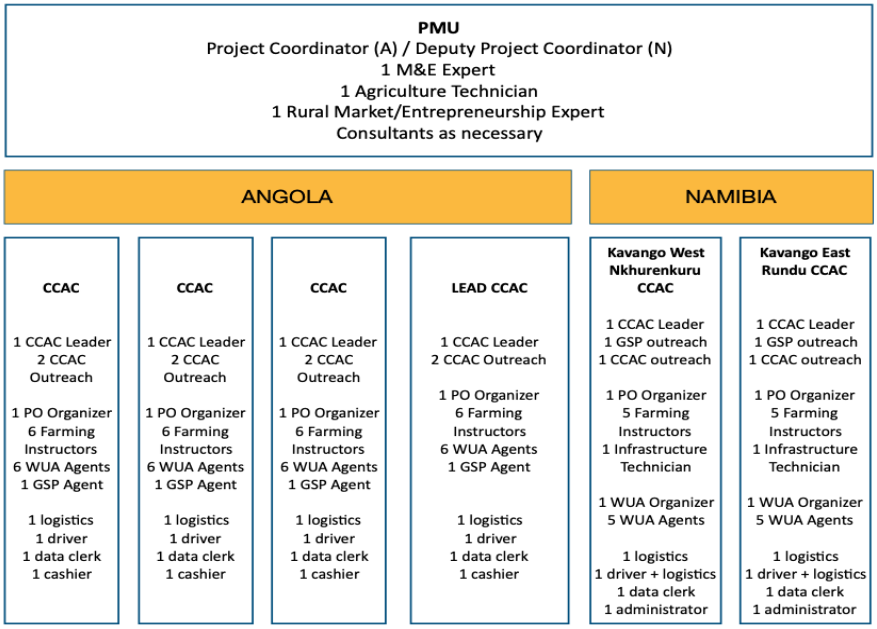
362. **In Angola**, ADPP will lead the execution of activities from the PMU. A project coordinator will be appointed to manage and coordinate all activities at country-level. She/he will be located in the project office in the target area where he works with a project team that will include an M&E officer, 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.

363. Besides, the ADSWAC project will seek the earliest possible involvement by other national institutions in the sharing experiences as potential national stakeholders, including the possibility of collaboration on the activities in the target countries which shall create synergies with other potential projects funded by the Adaptation Fund as well as build their capacities on climate-related projects. Accordingly, one of the targeted countries, namely Namibia has its National Implementing Entity (accredited to the AF and re-accreditation process ongoing), Desert Research Foundation of Namibia (DRFN). The institution is focused on maintaining a healthy natural environment that supports the livelihoods of the Namibian people. As part of the contributors to this project development process, DRFN will be invited to be a member of the Regional Project Steering Committee, to allow better alignment and cooperation between AF-funded projects in Namibia. DRFN will also be invited to support the component related to capacity building within the Project interventions based on their experience to conduct such activities.

Project execution - organization at Project Level

364. 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

365. 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:
366. **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 centre 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;
367. **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;
368. **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;
369. **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.

Project execution – Key staff roles and responsibilities

Table 25: Roles and responsibilities of ADSWAC Key Staff

Staff	#	Role and responsibilities
Project Coordinator	1	○ Overall strategy and direction; ○ Coordination at regional level; ○ Stakeholder engagement at regional and national level; ○ Oversight management, M&E, consolidation of reporting, learning and documenting
Deputy Project Coordinator	1	○ Overall strategy and direction; ○ Stakeholder engagement at national level; ○ Coordination at national level (Namibia); ○ Oversight management, M&E, consolidation of reporting, learning and documenting at national level

M&E Expert	1	○ Overall responsibility for M&E implementation; ○ Coordination at national level (Angola); ○ Coordinate data collection and analysis; ○ Responsible for identification of emerging issues; ○ Secure reporting to OSS; ○ Communication and dissemination strategizing
Agriculture Technician	1	○ Overall coordination and oversight of agriculture component and activities; ○ Provide guidance and technical assistance to PO organizers and farming instructors; ○ Coordination of agriculture-related stakeholders
Rural Market / Entrepreneurship Developer	1	○ Coordinate formalization of POs/Associations/cooperatives; ○ Support development of PO business plans; ○ Provide guidance to PO organizers and Farming Instructors in business plan development; ○ Support establishment and development of non-agricultural enterprises
Consultants and technicians	/	○ Will be recruited and hired as needed. Will include: - Agriculture and business development technicians; - Environmental technicians; - Capacity building professionals
CCAC Leaders	6	○ Coordination of CCACs; ○ Capacity building, climate vulnerability assessments and local adaptation planning; ○ Community engagement; ○ Coordination with stakeholders at municipality level
WUA Organizers (*Namibia*)	2	○ Overall coordination of water activities; ○ Training and management of community water association leaders; ○ Provide technical expertise in water management; ○ Coordinate with stakeholders and water experts
GSP Agents	6	○ Overall coordination of Green School Programme; ○ Development of GSP manuals and tools; ○ Coordinate green school leaders and agents; ○ Stakeholder engagement with school administration and Ministry of Education
Farming Organizers	6	○ Coordinate execution of agriculture activities in the field; ○ Day-to-day management and coordination of Farming Instructors; ○ Coordination with Agriculture extension workers; ○ Provide technical expertise in CRA practices
Field Staff		○ Locally recruited, based in target areas and communities. ○ Will include: - 10 CCAC community agents; - 34 WUA Agents; ○ 34 Farming Instructors;
Support Staff		○ Conduct administrative and logistical tasks. ○ Will include: - Administrators; - Data clerks; - Accountants/Cashiers; - Logistics officers; ○ Drivers

B. Financial and Project Risk Management

370. Due to the fact that the project is multinational in nature, it can be anticipated that there may be financial and/or project management risks during its implementation.

371. Although the political context between countries is different at national level, the geographical areas addressed on both sides of the border are very similar in nature. In that sense, the challenges/risks that may be faced are rather similar. Overall, the anticipated financial and project management risks and the mitigation measures are summarized in the table 22 below:

Table 26: Main financial and project risks and mitigation measures

Risk	Country	Rating	Risk Mitigation Measure
The Covid-19 virus or other pandemic outbreaks hinder the implementation of activities	Angola, Namibia	Medium	- Follow up closely on and adhere to any national regulations regarding hygienic measures, permitted behaviour in terms of meetings and travel restrictions; - Continue having good contingency plans in place for potential new outbreaks of the virus, including guidelines for project staff, access to and use of hygiene provisions, etc.; - Assure continuous communication with staff in the field regarding the situation; - Hold meetings virtually when the situation requires;
Low collaboration amongst the relevant technical institutions	Angola Namibia	Medium	- The involved institutions have been identified, consulted and engaged and will be further involved in project development; - Institutions will be engaged and brought together during early stages of project implementation, during progress reviews, and other vital moments;
Lack of political will to implement the project at local or national level	Angola Namibia	Low	- Authorities have demonstrated commitment to the projects; - Continuous consultations, involvement and reporting with relevant institutions during the entire project cycle; - The EEs have been working in the targeted areas for over 20 years, and are trusted organizations amongst government and local leaders;
GoA or GoN departments that are involved are understaffed and can't reach the requirements	Angola Namibia	Medium	- Agreements are made with the respective departments on their scope of activities. MoUs will be signed with the agriculture extension services; - GoA and GoN departments will be consulted and involved in the planning phases of specific activities and activity clusters; - As applicable, project staff will attend to some departments' responsibilities;

Insufficient resources locally to duplicate models (rainwater harvesting, solar irrigation technology)	Angola Namibia	Medium	- Where possible, low-cost models will be promoted (in situ systems, farm ponds, etc.); - POs will be formalized institutions, and access to credit will be facilitated for investing in technologies;
Language difference between the countries affects the communication and implementation	Angola Namibia	High	- Build on the EEs' experience in cross-border projects and communication as members of the same network; - Translation will be provided during meetings that involve participants from both sides of the border; - Project manuals, documents and tools will be translated in English and Portuguese; - Although national languages are different, local languages spoken are similar across the border; - Assure that field staff speak the local languages as well as the respective national languages;
Insufficient interest in the project among the target population and local governments	Angola Namibia	Low	- Local leaders and CBOs are backing the project, and will be continuously involved; - The EEs have built a good reputation with the stakeholders; - Sensitization at community-level and with community leaders is inherent to the project's approach;
Insufficient interest in the project among youth	Angola Namibia	Medium	- Emphasize youth involvement, especially women, in all activities;
Established POs, WUAs or CCACs collapse	Angola Namibia	Low	- Technical and management training and mentorship of organizations. - Ensure community structures have viable constitutions, organizational structures and sufficient extension support within and beyond the project;
Conflicts between transhumance pastoralists and smallholder farmers, and among fishermen across the border	Angola Namibia	Low	-Involvement of traditional leaders in planning, implementation, monitoring and evaluation processes of the project -Mass sensitization on the relevance of the project at the project initiation stage; - Adherence to all local formal and informal regulations; - Trainings provided in conflict management;
Greater awareness and increased capacities don't lead to positive change	Angola Namibia	Low	- Project methodologies and capacity building sessions selected are the result of many experiences in similar target areas; - Close monitoring of results and progress on indicators to be able to adjust in good time; - Promote flexibility among staff to adjust to new approached when necessary; - Contrast traditional/cultural practices to new technologies and approaches;
Poor monitoring and evaluation and delayed delivery of outputs	Angola Namibia	Low	-The project will develop a detailed participatory M&E framework with the key project partners -Regular follow-ups and timely continuous monitoring and evaluation
Project financial management	Angola Namibia	Low	-Strengthen the project financial management and accountability systems through using the proper and approved procedures- in compliance with Adaptation Fund and OSS regulations and standards. -Separation of roles in financial management will strictly be enforced and adhered to.

C. Environmental and Social Risk Management, in line with the ESP of the AF

Environmental and Social Management Plan

372. During the development of the Project full proposal a first and global environmental and social impacts and risks assessment has been developed according to the national standards (the two beneficiary countries). Approval letters are provided by national environment authorities. The ADSWAC project environmental and social risks analysis indicated limited significant environmental or social impacts as per the Environmental and Social Policy of the Adaptation Fund as seen in table 23 below. The impacts levels evaluated were considered to be low or medium risks. Thus, the project is classified under Category B of risks. This indicated that that the project activities have small-scale impacts, limited to the project area and easily mitigated through good environmental and social management practices. Besides, the project will undertake environmental and social impact assessment reviews as applicable (depending on the scale of the project activities to be undertaken).

373. For the screening that was conducted to identify specific Environmental and Social Risks, each activity of the project underwent screening against the 15 Environmental and Social Principles of the AF. The screening of the activities underwent different phases which included rating of risks based on the assumptions that the management measures and plans specified in the respective column below are implemented and effective in mitigating the risk. The methodology applied is further specified in the ESMP, annexed to this proposal.

374. Based on this screening, the following principles were identified as having social and environmental risks with moderate and high significance: **Access and Equity** (moderate risk) and **Indigenous Peoples** (high risk), and mitigation measures were defined as described in the table (27) below, and further detailed in the ESMP, annexed to the proposal.

Table 27: Summary of Potential Impacts and Mitigation measures of the ADSWAC Project in line with the AF 15 Principles

E&S principles Checklist and risk rating	Potential impacts	Mitigation Measures
Conformity with the law *(no risk)*	The fully identified project activities will not generate risks. Only some activities/ sub-projects under output 3.1.1 (water solutions) and output 3.2.2 (IGAs) are categorized as unidentified, and therefore they may require EIA depending on the size and the location of their implementation to determine their impacts and to comply with national standards and laws.	• The fully identified project activities do not generate risks related to conformity with the law so there are no mitigation measures to plan. • The assessment of the risks related to the USPs will be ensured according to the Unidentified Sub-Projects (USP) methodology of Impact Assessment and Risk Management detailed above
Access and Equity *(moderate risk)*	Women and youth are characterized by poor access to land and related resources over agricultural production and finance. These findings imply that there is limited capacity to cope due to high levels of poverty and dependency among the women and youth and may limit their opportunities to benefit from projects outcomes requiring access to land.	• Project beneficiaries will be selected through few phases, including (1) screening of potential beneficiaries during the community consultation meetings, (2) recommendations by the municipalities and the final beneficiaries will be selected as a result of (3) face-to-face meeting and visit to the farm of the beneficiary in order to assess her/his skills of farming and readiness to accept the project terms.

	Rural people (pastoralists, fishers and smallholder farmers) and marginalized poor families targeted by the project are not often integrated in the local politics and decision-making processes. This may limit their opportunities to be part of the decision-making bodies such as the WUAs and POs and to benefit the project outcomes.	• To ensure the equal participation of women, youth, elderly and other potentially vulnerable groups, dedicated consultations and working groups with these groups will be organized to provide ample space for the consideration of the specific needs of these stakeholder groups. • Close monitoring of the project beneficiaries to assure equal access of men; women, youth and the most vulnerable; • A grievance redress mechanism would support community members and stakeholders to submit any complaint.
Marginalized and vulnerable groups *(potential risk)*	Lack of land ownership may affect negatively some vulnerable groups	Marginalized people who do not have land will be given priority for access to other project activities such as IGAs, fishing, etc. The project will also closely monitor the targeting of all project beneficiaries to ensure equal access of men, women youth and the most vulnerable.
	Some project activities could increase inequalities and hamper the livelihoods of project beneficiaries	• Benefit from the project activities will be based on a set of agreed community selection criteria to avoid exclusion and inequity • The proposed activities do not require full time labour. Full time labour of communities can be directed to other activities including agricultural crop farming in other areas. • KAP will be conducted at the local level to collect feedback from the population including marginalized groups • Grievance mechanism
	Insufficient knowledge and access/use of technological devices such as mobile phones or lack of good cellular connectivity specially required for climate information.	To avoid the exclusion of marginalized and vulnerable communities in order to disseminate and broadcast the information in local radio channels and traditional practices such as speakers to reach them. Visual learning and awareness materials will be included to avoid exclusion of illiterate groups.
Human rights *(no risk)*	The project activities do not generate risks related to human rights.	• The project activities do not generate risks related to human rights so there are no mitigation measures to plan. • Grievance mechanism
Gender Equality and Women's empowerment *(low risk)*	Women's status and representation may limit their meaningful participation in project activities and benefiting it outcomes	• Ensure the presence of women and young people in workshops and trainings; • A Gender Assessment Action Plan have been developed to ensure that women are meaningfully engaged in project activities and realize an equitable share of project benefits • Communication and sensitization of the population on the gender issue to ensure gender parity in USPs; • Grievance mechanism.
	The majority of those involved and benefiting from the project's field agricultural activities will be men who are mostly land owners	Women will be specifically targeted to benefit from activities primarily animal raising loans and the agro-processing activities. This will enhance their access to finance and enable them to generate income, contributing directly to their financial empowerment.
Core Labour Rights *(potential risk)*	Construction/Rehabilitation planned under the project may lead to accidents and occupational hazards during the project preparation and implementation. In rural areas where the presence of the state is not very strong, late or unpaid salaries or remuneration non-compliant with the countries labour legislations and laws may occurs as well as Children's labour. 375.	• Sensitize workers and populations to the risks related to the undertaken activities; • Design and implement safety measures and emergency plans to contain accidents risks and ensure the application of safety standards by companies (equipment, signs, training, etc.); • Provide workers with protective clothing (nose and mouth masks, ear muffs, overalls, industrial boots and gloves) and helmets as applicable • Salaries in line with the best common practices in the districts and villages • Close follow-up and monitoring of the worksites by the national executing entities including schedules, activities progress, respect of the labour and safety rights of workers and conformity with national labour codes.
Indigenous People (*high risk*)	Although indigenous people have formal right to participate, they have no influence over national issues and rarely consulted on issues affecting them directly and therefore special consideration of empowering.	• Involvement of indigenous people representatives at all project stages (development, implementation, monitoring and decision-making process) • Ongoing consultation process to adapt the project activity (USP) to their needs.
	Changes in San and Khoisan lifestyle due to the type of activities promoted in the project	• The implementation of the activities under Component 3 that involve indigenous peoples will align with the seasonal calendar of the indigenous peoples.
Involuntary Resettlement (potential risk)	The construction of water solution and demonstration plots will occupy spaces and may affect private lands or related activities.	• The choice of these areas will include strict criteria to be agreed with traditional and local authorities that stipulate no population resettlement through giving priority to communal-owned lands. • Sensitization and awareness sessions will be organized to explain the potential impact of such an activity and its added value.
Protection of natural habitats *(potential risk)*	The presence of labour and construction equipment, if this is necessary for carrying out the works or activities planned by the project such as boat loading sites could have an impact on the fauna and flora of certain intervention sites. The implementation of water solution may result in the vegetation and wildlife habitats destabilization in the implantation site.	• Follow-up of the implementation of all activities related to the protection and management of ecosystems and natural habitats; • Establishment of E&S Impact Assessment Studies; • Sensitization sessions to local populations on good environmental practices and the protection of natural habitats.
Conservation of biological diversity *(potential risk)*	The promoted drought resilient species and seeds may represent a form of disturbance for the flora. Vegetation clearance for water harvesting and storage sites construction may represent a form of disturbance for fish habitats and wildlife.	• Organize consultations meetings with forest officer and communities to agree on the suitable seeds • Species introduced in the communities are not alien to the area. • Follow-up and monitor the implementation of all activities related to the protection and management of ecosystems; • Minimize vegetation clearance as Low as Reasonably Practical (ALARP); • Avoid cutting large trees with a diameter >20cm; • Promote planning for activities of biodiversity conservation such as Compensatory reforestation;

		• Pre-survey the proposed construction site areas to avoid sensitive habitats that have high diversity of indigenous plants • Promote awareness sessions, capacity building and peer learning to strengthen the efficient management of natural resources, including aquatic species, animals and forests.
Climate change *(potential risk)*	The project activities do not generate risks related to climate change.	• The project activities do not generate risks related to climate change so there are no mitigation measures to plan; • A small positive impact is expected from the use of solar energy for water pumping and irrigation, reducing the use of diesel pumps; • Agriculture practices mainstreamed can be expected to have a positive impact as carbon sequestering.
Pollution prevention and resource efficiency *(potential risk)*	Potential contamination of water reservoir through introduction of impurities, wastewater and solid waste.	• Conduct regular water quality monitoring and maintenance of the water supply system as well as ensure the monitoring of water quality by chemical analysis; • Awareness improvement on water Resource management and conservation through consultation workshops;
	Over exploitation of water resource	Irrigation system installed, fully monitored and schedule controlled
Public Health *(no risk)*	Water storage constructions may lead to water- or vector-borne diseases (such as cholera or Malaria) increase, and the proliferation of insects near the water points	• Raise awareness and support mechanisms to prevent and control spread of water related diseases such as Malaria and Bilharzia among the program workers and local communities • Implement disease awareness and management programme for Malaria and Bilharzia • Provide family sanitary kits (filters and disinfectants) • Conduct community campaigns on safe water use, and improved hygiene and sanitation practices;
	The presence of workers at construction sites near the project beneficiary villages could increase the risk of spread of sexually transmitted diseases (STD) especially that most vulnerable members of communities	• Prevent and control spread of HIV/AIDS among the program workers and local communities, by organizing sensitization sessions and distributing prevention kits. • Recruitment of the project labour force among the targeted area
	Risk of persons safety in maintaining the tanks or dams (in particular risk of fall of man or cattle	Ensure security at the reservoirs especially at the dams' area by providing adequate protective equipment (e.g., protective mesh).
Physical and Cultural Heritage *(potential risk)*	The new agricultural practices and water solutions may affect local and indigenous people's knowledge	Awareness raising sessions with to local populations on the project activities.
Soil and land conservation *(no risk)*	• Some activities such as agriculture and construction may lead to soil erosion and compaction	• Instruction of sustainable soil and water conservation measure • Refreshment of the deteriorate land • Raise the local population awareness to strengthen the effective management of soil and land

Unidentified Sub-Projects (USP)

Methodology of Impact Assessment and Risk Management

Compliance with Adaptation Fund policies

376. All activities implemented under the USP modality will adhere to the AF Policies to which the ADSWAC project is subject. These policies are: The Adaptation Fund Environmental and Social Policy (AF ESP), revised in March 2016, which sets out the requirements for Implementing Entities (IEs) to assess and manage environmental and social risks in project implementation. The AF ESP defines the E&S Principles that AF projects abide by. The AF ESP defines that IEs shall adopt measures to avoid, or where avoidance is impossible to minimize or mitigate those risks during implementation. In line with this, that the current Policy on USPs was developed.
377. Any USP identified and implemented in the ADSWAC project will, without exception, comply with the E&S Principles defined in the AF ESP. The Adaptation Fund Gender Policy and Action Plan (AF GP), approved in March 2016, which defines the objectives and principles that AF funded projects shall comply with in order to secure the uphold of women's rights as universal human rights, and in order to attain the goal of gender equality and the equal treatment of women and men. Any USP identified and implemented in the ADSWAC project will, without exception, comply with the Main Principles defined in the AF GP.
378. The USP Policy for ADSWAC is furthermore informed and guided by the AF Guidance Document, published February 2019, "Further Compliance with the Environmental and Social Policy and the Gender Policy of the Fund: Update of the Project/Programme Performance Report and guidance for unidentified sub-projects" (AFB/B.32-33/7)

Compliance with OSS Environmental and Social Safeguards

379. The Environmental and Social Safeguards (ESS) of the ADSWAC project, and inherently for the USPs, are assured through OSS policies and procedures which are based on the International Finance Corporation (IFC) Environmental and Social Sustainability Framework. This ensures that potential risks and impacts are iteratively identified, mitigated and monitored throughout the life-cycle of the Project.
380. The Environment and Social risk management is completed through two main stages: (a) Preliminary Risk Screening with respect to the ten Performance Standards (PS) prescribed in OSS E&S policy that all projects should comply with. This phase is implemented during project preparation and leads to a categorization of the project according to its risk level; (b) On-going Risk Screening of the project interventions during the implementation phase. Activity-wise risk management is governed by OSS' risk management procedure which is in line with the internationally recognized standards, and more specifically the ISO 31000:2009, Risk management — Principles and guidelines

381. Operational procedures will be implemented to ensure a continuous screening of all project activities and interventions for the identification of arising risks and impacts.

Adherence to National Technical standards

382. Equally to the compliance with the AF ESP and GP, with OSS ESS, and in line with these, the ADSWAC project is compliant with national laws, and adheres to all National Technical Standards that are applicable to the project. As such, all activities implemented as USPs will comply with these laws and standards.
383. All national laws and technical standards that are applicable to the ADSWAC project are identified in the Funding Proposal as presented to the AF. The laws and standards that are relevant for the USPs are listed above in Section 3. Any USP identified and implemented in the ADSWAC project will, without exception, comply with the identified national laws and technical standards of Angola and Namibia.

Unidentified Sub-Projects (USPs) in the ADSWAC Project

384. The current USP Policy applies to the two activity clusters that were identified as being USPs, and of which the detailed scale, scope and location are not yet identified at the time of full proposal development.
385. The USP Policy will therefore be applied to the following activities clusters of the ADSWAC Project: (a) Small-scale infrastructure investments aiming to provide access to water; (b) Promotion of non-agricultural Income Generating Activities (IGAs); (c) Establishment of nurseries and seed banks; (d) Establishment of 160 demonstration plots; (e) Disbursement of micro-credit facilities to communities.
386. Once the IGAs have been identified and based on the approach, a specific Environmental, Social and Gender assessment will be conducted to evaluate the risks and impacts related to each activity. According to the country national regulation and standards on undertaking an assessment such as an EIA, the activity proponent shall bear the cost related to this expertise putting into consideration that the project IGAs are considered environmentally friendly and comply to the OSS and AF safeguards

Procedures for identification and validation of USPs

387. Overall, in the ESMP for the ADSWAC project, procedures are defined in case significant risks are identified. As such, when impacts or risks are determined significant, activity-wide E&S assessment will be conducted which, in turn, will lead to the identification of activity-specific E&S management measures that need to be incorporated into the project. Identification, treatment and monitoring of identified risk and mitigation measures for the ADSWAC project will be managed using a Risk Register. The process will be governed by the *Risk Management Procedure of the AF and OSS.* Specifically, local procedures will be established for the identification and validation of USPs to be implemented under the ADSWAC project.
388. For each sub-project, ESIA will be carried out to predict and assess the potential environmental and social impacts and design appropriate mitigation, management and monitoring measures. The process will be in compliance with national standards, AF and OSS Policies and will include the following steps:
    - **Screening:** It is a tool for predicting, understanding and assessing potential sub-project/activity impacts. In other words, it aims to determine if a sub-project/ activity is likely to have significant environmental and social effects. Basing on the 15 principles of the AF, the purpose of Screening is to determine whether or not an EIA is required;
    - **Scoping:** If a full ESIA is required, scoping establishes the studies that will be required as part of the ESIA process including the identification of data availability and gaps. It determines the appropriate spatial and temporal scopes for the assessment and suggests suitable survey and research methodologies;
    - **Impact Prediction and Evaluation**: is the heart of the ESIA and involves analysing the impacts identified in the scoping to determine their nature, temporal and spatial scale, extent and effect. Impact analysis requires input from relevant experts, including ecologists, biologists, sociologists and economists. Once the potential impacts are fully understood, it is necessary to judge the significance of each impact, to determine whether it is acceptable, requires mitigation or is unacceptable. Consultations with local stakeholders is vital at this stage, and particular attention should be given to vulnerable and disadvantaged communities and risks arising from involuntary resettlement. Successfully identifying and addressing significant impacts at this stage can be key to obtaining both a formal and informal license to operate;
    - **Mitigation:** aims to eliminate or reduce negative sub-project/activity impacts through suggesting appropriate measures;
    - **Social and Environmental Management Plan (SEMP) and monitoring:** Also called an Environmental Action Plan (EAP), it defines resources, roles and responsibilities required to manage sub-project/activity impacts and implement mitigation measures. The SEMP forms a link between the ESIA and the Social and Environmental Management System/entity. The central elements of a SEMP should include a detailed description of the activities planned to mitigate impacts, a time line and identification of resources to ensure the SEMP can be delivered, and a communication plan that indicates how progress in the implementation of the SEMP will be disclosed. The SEMP should also define monitoring requirements or indicators to determine whether mitigation is successful;

Evaluation: Also called The Environmental Impact Statement (EIS), is the physical report on the ESIA process and findings. The EIS should provide a clear review of potential impacts and how they have been or will be mitigated. The report often forms the basis of public consultation activities and is the document that is presented to regulatory authorities as the basis for decision making.

Project-level Grievance Mechanism

389. During project preparation, consultations and studies were carried out to take into account the needs of local populations and to prevent environmental and social risks that could be linked to the implementation of the planned activities. In order to prevent and manage potential grievances that may arise during and after its implementation, the project will establish a grievance mechanism.

This mechanism provides an access point for individuals, communities and other relevant stakeholders to submit complaints. It will also record and process all complaints relating to the project's activities, results or impacts.

390. The proposed mechanism is intended to be rapid, effective, participatory and accessible to all stakeholders, to prevent or resolve conflicts through negotiation, dialogue, joint investigation, etc. It will handle complaints related to the compliance of the project activities and impacts with environmental and social safeguards as well as fiduciary and legal aspects (grant agreements, contracts, etc.) in line with 5 key principles seen in table 24.

Table 28: Key principles of the Grievance Mechanism

Principle	Implementing Measure
Security and confidentiality	• Protect the anonymity of complainants if required; • Ensure confidentiality in the event of sensitive complaints; • Limit the number of people with access to sensitive information;
Accessibility and context	• Widely disseminate the mechanism to target groups (taking into account restrictions, such as language, geographical, gender etc.); • Clearly explain procedures; • Diversify possibilities for filing complaints; • Assist people with special access challenges;
Predictability	• Respond promptly to all complainants; • Present a clear process, with deadlines for each step;
Impartiality	• Ensure impartiality of those involved in investigations; • Ensure no person with a direct interest in the outcome of the investigations is involved in the handling of the complaints concerned;
Transparency	• Inform the parties concerned about the progress and the results of a complaint in process;

Organization and Functioning of the Complaint Mechanism

391. The mechanism is being extended to all institutional stakeholders. The system will be closely linked to the OSS grievance mechanism, especially for the handling of major sensitive complaints. If necessary, complainants may also refer the matter to the Ad hoc Complaint Handing Mechanism (ACHM) of the Adaptation Fund. The complaint form by OSS will be made publicly accessible, electronically and in written forms. (Attached below)

Organizational framework

392. Complaint management will be integrated into the project activities. The tasks and responsibility of the project team are well defined as seen in table 25. The management of the mechanism will be supported by OSS environmental and social committee, national experts from the concerned countries and from committed civil society/local communities' representatives, who will be available and trained to implement the mechanism.

Table 29: Organizational Framework of the ADSWAC Grievance Mechanism

Actors	Number/Composition	Role
Complaint Management Committee (CMC)	• OSS Environmental and Social Committee (ESC) (4 members) • Project Coordinator • M&E Expert of the project	• Complaint handling • Proposal of responses and complaint resolution measures • Follow-up and supervision of the complaints
Regional Project Management Unit (RPMU)	• Project Coordinator • M&E Expert • Representative from ADPP National HQ • Other Regional Stakeholders as required	• Receipt and registration of complaints • Transmission of complaints to CMC • Convening the CMC, including provision of logistics
National PMUs Angola and Namibia	• Project Coordinator (Angola) or Deputy Project Coordinator (Namibia) • M&E Expert • Representative from ADPP or DAPP National HQ • Other National Stakeholders as required	• Receipt and registration of complaints • Transmission of complaints to the RPMU • Receipt of complaints responses • Facilitation of contacts with local leaders as required
Local complaint management units (LCMUs)	• Local technical services • For Angola: Municipal Department of Water, Municipal Department of Agriculture / Agrarian Development Station (EDA); Municipal Department of the Environment); • For Namibia: Directorate of Agricultural production, Extension and Engineering Directorate of Water Resources Management (Water Affairs and Rural Water Supply); Directorate of Forestry, Directorate of Environmental Affairs; • Local authorities (Village Committees, Regional/Provincial Councils) • For Angola: Local councillor (*regidor*); Municipal Administrator; Provincial Governor; • For Namibia: Regional Councils (Office of the Governor); • Customary Authorities	• Transmission of complaints to the PMU • Receipt of complaints responses • Handling of complaints at first instance

	• For Angola: Traditional leader (soba) • For Namibia: Traditional Authorities & customary, community or traditional courts	
Commission of inquiry	• As required, not to exceed 5 people; 1 member of OSS ESC, 1 National officer, 1 local service agent relevant to the complaint	• Consideration of sensitive issues or issues requiring specific expertise
Project Field Staff	• Depending on the case and the scope	• Called upon to clarify and manage non-sensitive complaints through dialogue and negotiation while informing the PMU
Project participants	• Two representatives of the site concerned	• Participation in necessary investigations and examinations; • Clarification for a better understanding of the facts • Testimonials

Functioning:

393. At Implementing Entity (IE) - level, project grievance mechanism will be coordinated by the OSS ESC. As an IE, OSS will use its grievance mechanism to manage complaints that arises during the preparation, execution and after the project completion. Affected communities or other stakeholders who will be affected by the project may file complaints directly to the OSS or through the RPMU. Grievances may also be sent to the Ad hoc Complaint Handing Mechanism (ACHM) of the Adaptation Fund.
At Regional level, the RPMU is the focal point for all project- related complaints. If the complaint is minor or not related to the project, it will be dealt with at the regional level by the relevant competent services concerned, as stated in the table above.
At National level, the PMU is the focal point for all project- related complaints. If the complaint is minor or not related to the project, it will be dealt with at the local or national level by the relevant competent services concerned, as stated in the table above.
At the local level**,** complaints can be addressed in different ways to local authorities or customary authorities, as outlined in the table above. They will be received in different forms appropriate to the complainant's local context: local radio, WhatsApp messaging, telephone, word of mouth, exchanges at markets, or messages to PMUs or Fields Staff during workshops or missions.
394. The RPMU, national PMUs and Project Field Staff are committed to respond quickly and appropriately to the complaint. When the complaint cannot be handled at the local level, the national PMUs will support the complainants to fill in a complaint form to be submitted to the OSS Environmental & Social Committee. The PMUs should advise complainants to provide comprehensive information to facilitate the assessment and handling of the complaint. A report is made and sent to the CMC, who registers the complaints and starts its processing.

Complaint Handing Process:

395. **Filing a complaint**: Anyone or communities affected by project activities can fill in their complaint or claim in several forms and in several ways. In accordance with the principle of accessibility and depending on the context, the method of filing complaints will be diversified. *i) At the national or regional level*, complaints will be addressed directly to the OSS or to the Adaptation Fund via the contacts presented above and via social networks. *ii) At the local level*, complaints can be addressed to local authorities or customary authorities as per the table above which will refer them to LCMUs. Complainants can also fill in their complaint directly with LCMUs or PMUs. Contacts of local complaint management units and PMUs will be made public at the beginning of the project execution.
The mechanism will use all possible means and channels (traditional and modern) to receive complaints or claims (anonymous or not). These will include, among others: Telephone call, the phone is widely spread in the target area; Word of mouth, crier, and exchanges in local markets; Broadcasting through local and community radio stations; Self-referral to the CMC during supervision missions; Facts noted during meetings or a field visit; Facts observed in performance and financial reports and project evaluations; Social networks (WhatsApp, etc.), web page of the project, email address of the project, the OSS website; Mail via complaint boxes in the localities concerned by the project.
396. **Receipt and registration of complaints:** this is ensured by the PMU which is responsible for receiving all complaints related to the project activities and impacts. Complaints received will be recorded upon receipt and the traceability procedure will be established. They are generally classified into 2 groups: (a) Non-sensitive complaints related to the implementation process, including choices, methods, results achieved; and (b) Sensitive complaints generally concern personal misconduct such as corruption, sexual abuse, discrimination.
The PMU will send a formal acknowledgment (by email or letter) within a maximum of one week. In this, the recipient will be informed of the next steps and if necessary, he/she will be asked to provide clarifications or additional information for a better understanding of the problem.
397. **Complaint handling:** involves verifying the eligibility of the complaint to the mechanism and ensuring that the complaint is related to the project's activities or commitments. The aim will be to establish the link between the facts denounced and the project's activities and impacts. The eligibility assessment will also determine whether the case should be dealt with under the Project-specific grievance mechanism or referred to other mechanisms (whistleblowing, etc.).
In the case of unfounded complaints**,** it is essential to conduct the necessary investigations to preserve the project reputation. This task is the responsibility of the regional and the national PMUs. Unfounded complains include among others those that have a lack of necessary information or are the result of rumours or malicious persons, which may harm the proper conduct of the project. Public complaints or accusations broadcasted to a wider audience that are considered unfounded complaints, will be addressed at IE and national PMU level, and may be followed by a formal statement.
In the *case of* well-founded complaints, two kind of responses can be applied: (i) direct response and action by the CMC to resolve the complaint; and (ii) broad and thorough audit is required, and joint investigations, dialogues, and negotiations could be conducted

to reach a substantial resolution. This may involve extending the team to national and local services, as well as additional time. For sensitive cases, the CMC may use an investigation to reach an appropriate resolution based on expert advice.

398. Following the audit and investigations, a contextually appropriate and formal explanatory response is given to the complainant. It should include the procedures to be followed by the PMU to manage the complaint or propose the appropriate bodies to be contacted for cases that does not fall into the Project management unit's responsibilities. If agreed with the complainant, the proposed responses are implemented by the Complaints Management Committee (CMC), the latter will monitor the whole process of the complaint treatments in all cases.

- ***Implementation of measures**:* if the CMC and the complainant agree to implement the proposed response, a plan will be developed involving all stakeholders. The CMC should document all discussions and choices available.
- ***Monitoring of the complaints:*** It is necessary to track the number of complaints by the identity of the complainants, background, period, theme and final outcome.
- ***Closing the grievance:*** The procedure will be closed if the mediation is satisfactory to the parties and leads to an agreement. The satisfactory resolution and lessons learned should be documented.
- *Publication of complaint result*: all well-founded complaints will be made publicly available by different communication means. The publication will include the type of complaint, its origin and impact, the treatment procedure and its results, including the complainant level of satisfaction.

D. Monitoring and Evaluation Arrangements and Budgeted M&E Plan

399. The ADSWAC project's Monitoring and Evaluation (M&E) arrangements will aim at providing a regular overview of the progress of implementation of activities in terms of input delivery, work schedules and planned and achieved output/targets. It will involve routine data collection and information gathering, analysis and reporting to partners and stakeholders. The evaluation component will represent a systemic and objective assessment of the project components or activities in terms of their design, implementation and results. The project evaluation will deal with strategic issues such as project relevance, effectiveness and efficiency, as well as impact and sustainability. Monitoring, evaluation and reporting will be conducted according to the AF's methodologies for reporting on core impact indicators, and other AF guidelines.

400. The PMU, housed at ADPP, will be the ultimate responsible for M&E, including the organization of project evaluations, the approval of annual work plans and budget checking, and the monitoring of project progress. The PMU will be in charge of identifying issues and proposing corrective actions that will facilitate the delivery of project's results in time and support coordination and networking with other related initiatives and institutions within the country and the region. During implementation, the PMU and its coordination with DAPP Namibia, will take care that areas and/or issues of common interest are addressed in a cost-effective manner. The PMU will recruit an M&E Expert to have overall responsibility, and who will coordinate data collection with the national and local teams.

401. On the ground, the project coordinator and deputy project coordinator, the CCAC Leaders, and PO Organizers will meet monthly to monitor and evaluate progress of activities, and to plan the activities for the following month. The project coordinator(s) will collect main monthly indicators on the activities and report them to the M&E Expert and the PMU. The M&E Expert, PMU representatives and key staff from the national headquarters of the EEs will conduct semi-annual monitoring visits to project sites.

402. An over-arching M&E framework and plan will be established, which will include monitoring by executing entities, partners and others, of processes, outcomes and impact. The framework will be based on the Results Framework, and will collect and combine M&E data from implementing partners. The M&E plan includes detailed action plans for: (a) a baseline study, (b) quarterly progress reports, (c) a mid-term evaluation, and (d) a final impact evaluation.

403. Strong systems for financial accountability and audit will support the performance management component in assessing efficiency of the project. Financial reporting will be done according to contractual agreements and will include quarterly and annual reports, which are accompanied with financial reports. Annual audits will be carried out and reports shared with OSS and the AF.

M&E Entities

404. The M&E system to be developed under the ADSWAC project will be managed by different entities in order to have maximum information and data interpretation for optimal monitoring. Entities and roles and responsibilities are depicted in the table 26 below:

Table 30: Roles and Responsibilities for M&E Management

Entity	Roles and responsibilities
Regional Project Steering Committee (RPSC)	- Review and validation of annual work and budget plans; - Supervision, coordination, and decision-making related to the implementation of the program and the annual work plan and budget; - Continuous consultations with key stakeholders; - Review and validation of annual progress reports;
OSS	- Review and approval of annual work plan & budget; - Review and approval of annual progress and completion reports; - Monitoring of the recommendations' implementation; - Orientation and/or management decision-making.
Project Management Unit (*led by ADPP Angola*)	- Development of the project's operations plan and the annual work plan and budget; - Follow-up of the project's operations plan and the annual work plan and budget execution; - Development of data collection, treatment, analysis and dissemination tools; - Coordination of collection, treatment, analysis and dissemination of data and information; - Preparation and consolidation of quarterly activity reports, annual progress reports, and project completion report; - Dissemination of project evaluation and monitoring reports; - Implementation of decisions and corrective actions;

National EEs (ADPP Angola, DAPP Namibia)	- Participation to the validation of project annual work plan and budget; - Monitoring of the project implementation at national level; - Gathering, treatment, analysis and management of project data; - Monitoring and specific studies activities supervision; - Preparation and transmission of quarterly reports and annual progress reports to PMU; - Contribution to the diffusion of project's monitoring and evaluation reports; - Implementation of recommendations and decisions at national and local level;

Baseline Study

405. The baseline survey will measure the living conditions, income, climate vulnerability, gender gaps, production, market potential for climate-resilient livelihood options, and other socio-ecological data relevant for the project, according to the ADSWAC project's Results Framework. Data from a representative sample of the targeted population will be collected. The survey will be conducted annually to measure progress and adjust as needed.

Planning

406. Operational planning will be based on the logical framework and the ADSWAC work plan that covers the 5 years' duration of the project. Annual work plans and budgets will be drawn up each year. It will represent the prediction of activities to be implemented and the according financial resources needed during the year to achieve the expected results of the project. The annual work plans and budgets will be prepared by the PMU in collaboration with the national Executing Entities and their national project units. Once developed, the plans are submitted to the RPSC for review and consideration. Once validated by the RPSC, the work plans and budgets will be shared with OSS for no-objection.

Project Launch

407. A project inception workshop will be organized in the first quarter of the project. This workshop will involve diverse stakeholders from both Angola and Namibia's side and from the entire project chain (local communities, sub-national and national, governmental and civil society). It will be critical for engagement and creating ownership of the project from the start of implementation. The form of the workshop will be dictated by the then-prevailing situation with regards to COVID-19.

408. Among other things, the workshop will cover the following topics/issues: (i) explain objectives and expected results of the ADSWAC project; (ii) sharing the first annual work plan; (iii) explain roles & responsibilities of the project team and decision making-structures; and (iv) share plans for the Region Project Steering Committee meetings; among others.

Quarterly Monitoring & Evaluation Meetings

409. During project implementation and according to the implementation plans, a quarterly monitoring report will be developed by the EEs' national project units and shared with the PMU who will integrate it in a regional report, which will be submitted to OSS for review and follow up. This report will include an update of execution of activities during the quarter, results generate in short-term and early lessons and best practices, which will inform recommendations for further planning of the project. Additionally, it will include technical and financial monitoring updates.

410. Additionally, every quarter representatives of the PMU, including the M&E Expert and Project Coordinators will travel to the national headquarters of lead entity ADPP, in Luanda, to report on activities, results and discuss challenges and solutions.

Annual Monitoring

411. The annual progress report will be developed on the basis of the 4 quarterly reports and will consist of an annual review of the implementation status. This will include an update on the annual work plan and its implementation, guided by a set of outputs and targets and the corresponding verification of achievements compared to the Results Framework. The annual report will also cover the monitoring of financial and technical project progress, and the work plan for the next year. Based on the content a Project Performance Report will be compiled by OSS and submitted to the AF for follow up.

412. Annual monitoring meetings will be conducted by ADPP headquarter staff to the project sites. During these visits, they will visit the installations, meet the field teams, review monthly indicators, reports, and activities, and will interview representatives of the participating communities and local authorities.

Mid-term Review

413. The mid-term review will identify progress made toward the achievement of the results and will determine the necessary correction and mitigation action if necessary. It will focus on the effectiveness, efficiency, and timeliness of project implementation. The mid-term review will focus on issues requiring decisions and actions, and will present the first lessons learned from designing the project, its implementation, and management. The purpose of the mid- term exercise is to determine progress towards achieving the project outcomes on the one hand and will identify weaknesses of project implementation, on the other hand. Elements that may not be very successful at this stage will be modified for improvement in a participatory manner during RPSC meetings.

414. The mid-term review will take place after two and a half years after project start. It will be conducted by an external consultant hired by OSS. The Terms of Reference of this mission will be developed according to international standards and in due time. The results of this review will be considered as recommendations for better implementation during the second part of the project.

Final Project Evaluation

415. At project's end, there will be another external evaluation. This evaluation will be conducted three months prior to the RPSC meeting and will be undertaken in accordance with OSS's and the AF's regulations and guidelines.

416. The main objective of this evaluation is to assess the ADSWAC project's results against the targets that were set in the Results Framework, hence the delivery of the project's results as originally planned (and potentially reviewed after the mid-term evaluation). The final evaluation will focus on the project's impacts and the sustainability of results, including the contribution to awareness, capacity development and the achievement of the AF's overall goals. Similar as with the mid-term review, the ToR for the evaluation will be prepared by OSS in due time and based on the guidance of the RSPC. The results of the final evaluation will be presented during a project closure workshop and will also provide recommendations for future projects, and for replication and scaling up of the project.

Final Report

417. During the last three months the project team will prepare the final project report. This comprehensive report will summarize the results achieved (objectives, outcomes, results), the lessons learned, the challenges encountered and the areas where results may not have been achieved or areas where other results were achieved than expected. The final report will be presented during the project closure workshop and will also include recommendations for the implementation and sustainability of future projects.

Monitoring of the ESMP

418. ***Implementing Entity:*** The E&S committee of the OSS, the Implementing Entity, will be responsible for ensuring the implementation of the ESMP and the application of the methodology described here above. Besides, for the USPs, this committee will be in charge of deciding whether ESIA studies are necessary or not when risks happen and this according to its Environmental and Social principles as well as those of the AF. Additionally, National Environmental Authorities may be involved to deliver conformity certificates (if applicable) and/or just for seeking opinion and comments. Finally, OSS will ensure the effective implementation of the mitigation measures identified in the ESMP during its supervision missions. Nevertheless, it could organize specific assignments to assess the complaints submitted by local communities.

419. ***Regional Project Management Unit (led by ADPP Angola):*** The regional monitoring of the project activities will be carried out by ADPP. This RPMU will be responsible for the supervision of the EEs (ADPP Angola, DAPP Namibia) activities related to monitoring the ESMP at local level. On a quarterly basis, the RPMU will gather the reports from the EEs, who will rely on a bottom-up feedback system based also on community inputs. In order to ensure a relevant monitoring regular field visits to inspect and verify on the one hand the efficiency of the mitigation measures and on the other hand to check the extent of the foreseen impacts. Given that the project is regional, the impacts may also be regional and the limited competencies of the EEs could make the monitoring of these impacts inadequately implemented. The RPMU will be responsible of taking into account the regional dimension in order to identify these impacts and ensure that each EE makes the necessary follow-up. Also, the PMU will take the measures to ensure that the regional dimension is taken into account in the assessment of the USPs if required. If the monitoring is not adequately ensured, the RPMU will inform the EEs and the RIE to take the necessary measures in a concerted manner. In addition, the RPMU and the RIE will carry out regular field missions for close monitoring of risks, impacts and mitigation measures, especially those with a regional connotation. In this context, the involvement of all implementing and executing entities is necessary to ensure adequate monitoring of mitigation measures at the local, national and regional levels. Their involvement mainly necessary for monitoring the cross-border impacts that are the most difficult to follow. A yearly monitoring reports will be developed by the PMU and submitted to OSS.

420. ***National EEs (ADPP Angola, DAPP Namibia):*** The EE will be responsible for coordinating and monitoring environmental and social indicators. The EE will be also in charge of analysing data, managing local information systems and supervising the baseline establishment at project starting phase. As regards to the unidentified sub-projects the EE will be responsible for conducting the ESIA according to the AF policy and will then work closely with local authorities to develop the relevant ESMPs for each intervention sites that also complied with the national standards and laws Finally, the EE will prepare quarterly based reports and submit them to the PMU.

421. ***Local Communities:*** The ESIA monitoring will also include a community-based component. In fact, the project plans to carry out training and capacity building sessions for the benefit of local agents and communities, in data collection and monitoring. During all the consultative workshops and meetings related to activities execution, capacity building and training the representatives of ethnic groups and indigenous people will be involved in an active way. They will be informed about the activity risks and will be involved in the implementation and monitoring of mitigation measures.

Table 31:Roles and Responsibilities of EM Program

Actor Involved	Responsibility/Role
Implementing Entity (OSS)	OSS will be committed to adherence to AF standards and ESP principles and will implement mitigation measures as part of the ESMP.
Regional Project Management Unit (led by ADPP Angola)	Monitor and disseminate the ESIA / ESMP, in particular its grievance mechanism, among relevant stakeholders and beneficiaries. Ensure that the implementation of the project complies with applicable national and standard regulatory frameworks. And monitor the implementation of ESMP activities and evaluate the effectiveness of the mitigation measures put in place.
National EEs (ADPP Angola, DAPP Namibia)	Each EE will ensure the day-to-day implementation of the project and ensure regular monitoring, identifying any new potential risks for society and / or the environment during the project implementation, so that measures of support and appropriate attenuation can be implemented to be adopted on time.
Local Communities/ Project Partners	Provide information on potential new social / environmental risks that may arise during the implementation of the project; Assist in the implementation and monitoring of mitigation measures based on their expertise.

M&E Budget

Table 32: M&E Budget

Type of activity	Responsible parties	Budget (USD)	Timeframe																			
			Y1				Y2				Y3				Y4				Y5			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Project Implementation Manual	REE	20,000																				
Baseline studies (within Q1)	EEs (ADPP, DAPP)	60,000																				
Design of project M&E system, and monitoring of outputs	REE and EEs	15,000 (EEs) + 20,000 (REE)																				

Quarterly M&E Meetings and reports	M&E Officers, PMU staff and key management staff of the EEs	35,000																					
Quarterly Field visits for measuring the project results for each target and reporting on activities	M&E Officer, Focal points of the EEs	101,400																					
Annual Field visits for joint review of the project results, progress and activities	OSS, Focal points of the EEs	100,000 (OSS) + 35,400 (EEs)																					
Annual monitoring reports	PMUs at Regional and National Levels M&E Officers	30,000																					
Annual audit	EEs – external	20,000																					
Annual RSPC meetings, including workshop on results and M&E systems	RSPC members, PMUs, M&E Officers	14,500																					
Mid-term evaluation	Implementing entity OSS - External Evaluators	20,000																					
Final Project report	OSS and focal points of EEs	30,000 (OSS) + 30,000(EEs)																					
Final project audit	OSS - External Auditor	20,000																					
Final project evaluation	OSS - External Evaluator	20,000																					
Total Cost		**571,300**																					

Legend

Ongoing

Milestone/ Deliverable

E. Results Framework, including Milestones, Targets and Indicators

Table 33: ADSWAC Results Framework

Result	Indicators	Baseline	Milestones (After 3 years)	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
Impact							
To enhance adaptation capacity and resilience of communities to climate change impacts and variability in the transboundary region between Angola and Namibia	• Number of direct beneficiaries of CC adaptation measures (disaggregated by sex)[40] • Number of indirect beneficiaries of CC adaptation measures (disaggregated by sex)[40] • Increased income, or avoided decrease in income[40]	• 0 • 0 • 0	• At least 3,250 HHs (2,400 in A[41]; 850 in N) (50% women) directly benefiting from concrete adaptation measures with tangible benefits • • At least 70,000 people (50% women) are members of communities benefiting from adaptation measures (40,000 in A; 30,000 in N) • 1,500 HHs (50% women) with average >20% increase in income (all sources) as measured by revenue from all sales and number of durable household assets as proxy indicators of wealth (livestock, motorcycle, durable household items, house construction materials, generator etc)	• At least 6,500 HHs (4,800 in A; 1,700 in N) (50% women) directly benefiting from concrete adaptation measures • At least 140,000 people (50% women) are members of communities benefiting from adaptation measures (80,000 in A; 60,000 in N) • 3,900 HHs (50% women) with average >20% increase in income (all sources) as measured by revenue from all sales and number of durable household assets as proxy indicators of wealth (livestock, motorcycle, durable household items, house construction materials, generator etc)	• Baseline, mid-term and end of project survey • External evaluation	OSS, ADPP, DAPP In cooperation with Focal Ministries of Agriculture, Water, Environment and Education	(assumptions) • There are no exceptional natural disaster events such as drought, floods or pest attacks. • There are no major macro-economic shocks (high inflation, currency devaluation) • Adequate bio-security (covid-19) to enable project implementation • There are no community-level conflicts/clashes over water and other scarce resources access and utilization (risks) • Lack or Inadequate human resources • Lack of human capacity from community leaders, local administration and municipality/provincial government.
Objectives							
1. To enhance local, sub-national and regional capacities to adapt and respond to climate change	• 1.1 Percentage of the targeted population aware of the adverse impacts on climate change foreseen and the adequate responses	• 0	• At least 45% of the target population (50% women) is aware of the adverse impacts on climate change foreseen and the adequate responses	• At least 90% of the target population (50% women) is aware of the adverse impacts on climate change foreseen and the adequate responses	• Baseline, mid-term and end of project survey	OSS, ADPP, DAPP In cooperation with Focal Ministries of Agriculture, Water, Environment and Education	

[40] AF Core Indicator
[41] A=Angola; N=Namibia

risks in the cross-border area of Angola and Namibia;	(disaggregated by sex) • 1.2 Knowledge, Dissemination and communication[40] • 1.3 Adopted Early Warning Systems[40]	Small percentage of the target population information and knowledgeable in drought management issues and interventions Most smallholder farmers and pastoralists do not utilize EWS in their seasonal calendars thus have suffered crop and livestock losses during drought	• At least 30% of the targeted actors participating in regional information sharing platforms • At least 70% of targeted smallholder farmers and pastoralists access and integrate EW information into seasonal calendars	• At least 80% of the targeted actors participating in regional information sharing platforms • At least 70% of targeted smallholder farmers and pastoralists access and integrate EW information into seasonal calendars	• Baseline, mid-term and end of project knowledge, Attitudes and Practices (KAP) survey • External evaluation • Project implementation reports • Field visits • M&E reports • Interviews with farmers and community leaders		
2. To strengthen organizational and technical capacities for climate-resilient production and water management	• 2.1 Number of community-based organizations with increased capacities for climate-resilient water management and agriculture production; • 2.2 The capacities to extend climate-resilient agriculture production practices have increased • 2.3 Drought resilience improvement[40]	*(to be determined in the baseline study)* Inadequate capacity of institutions, farmers, and pastoralists to undertake drought adaptation measures	• 320 organizations (240 in A; 120 in N) established, and members trained in climate-resilient water management and agriculture production • 160 POs (120 in A; 40 in N) have gained access to model plots for CRA and CRA extension services • At least 90% of targeted farmers and pastoralists trained	• 320 organizations (240 in A; 120 in N) established and members trained in climate-resilient water management and agriculture production • 160 POs (120 in A; 40 in N) have gained access to model plots for CRA and CRA extension services • At least 90% of targeted farmers and pastoralists trained			

3. to improve food security in response to climate change impacts in rural and vulnerable communities in Cuando Cubango Province and the Regions of Kavango East and Kavango West;	• 3.1 Proportion of food secure households (HHs). (*Definition of food secure HHs is those with enough food to eat during a year, adequate diversity of diet and carry over food stocks from agriculture and non-farm income*.) (*disaggregated by sex*) • 3.2 Number of HHs with average >20% increased income (all sources) as measured by revenue from all sales and number of durable household assets as proxy indicators of wealth (livestock, motorcycle, durable household items, house construction materials, generator etc) (disaggregated by sex)[40]	*(to be determined in the baseline study)*	• At least 30% increase in the number of targeted HHs (50% women) that are food secure • 1,500 HHs (50% women) with average >20% increase in income.	• At least a 70% increase in the number of targeted HHs (50% women) that are food secure • 3,900 HHs (50% women) with average >20% increase in income.			
Component 1: Strengthening awareness, knowledge and capacity to adapt to climate change and variability at community-, district-, national and regional level							
Outcome 1.1 Awareness and ownership of adaptation and climate risk reduction processes of the target populations are enhanced	• # of operational CCACs coordinating regions/municipalities • # of schools are integrated in the Green Schools Programme (GSP) • # of Community Adaptation Action	There is inadequate capacity among institutions and small-scale farmers to undertake climate change adaptation measures	• 6 functional/ operational CCACs (4 in A; 2 in N) coordinating regions/municipalities • 20 schools integrated in the GSP (10 in A; 10 in N) • 100 draft Community Adaptation Action Plans	• 6 functional/ operational CCACs (4 in A; 2 in N) coordinating regions/municipalities • 40 schools integrated in the GSP (20 in A; 20 in N) • 140 Community Adaptation Action Plans (CAAPs) established (105 in A; 35 in N)	• Project implementation reports • Field visits • M&E reports • Interviews with small scale farmers and community leaders	OSS, ADPP, DAPP and Focal Ministries of Agriculture, Water, Environment and Education	• CCACs and Authorities and other institutions are functional • Small-scale farmers are willing to participate in CC and risk reduction awareness activities • There is Political will and support for CC and risk reduction activities

	Plans (CAAPs) developed		(CAAPs) established (75 in A; 25in N)		• KAP Surveys		
Output 1.1.1 Communities and local and district level stakeholders in the target area have participated in climate change adaptation and risk reduction awareness activities	• Capacity building/training reports • Training manuals developed • # of stakeholders trained (disaggregated by sex) • # of trainings conducted	Inadequate knowledge and skills climate change adaptation and risk reduction Inadequate planning on CCA at community-level Limited information on successful cases studies and documentations of lessons learned from implementation of drought management projects in the region	• 2 Annual Capacity building/training reports • 1 training manual • 30 (5 per municipality district) staff trained (at least 12 women) • 16 trainings conducted (4 dedicated to women)	• 5 Annual Capacity building/training reports • 1 training manual • 90 (assuming same staff trained multiple times, but may be some changes in personnel) (at least 36 women) • 16 trainings conducted (4 dedicated to women)	• Project implementation reports • Field visits • M&E reports • Interviews with small scale farmers and community leaders	OSS, ADPP, DAPP and Focal Ministries of Agriculture, Focal Ministries of Agriculture, Water, Environment and Education	Timely release of project funds Cooperation among partners and partner countries runs smoothly No major disruptions (environmental, economic, political) Barriers of cultural and traditional nature are sufficiently taken into account during activity design and planning
Output 1.1.2 Climate change awareness and sensitization to communities	• # of awareness campaigns in communities and schools • # of students reached with the GSP (disaggregated by sex) • # of knowledge products e.g., documents on lessons and best practices from project interventions e.g., annual reports, leaf • # of case studies and lessons learnt documented, packaged and shared with key stakeholders for up scaling and informing project interventions		• At least 8 campaigns in 70% of targeted communities and schools • Students of 30 schools reached with the GSP (15 in A; 15 in N) (50% girls/women) • 2 brochures, 2 publications (documents) on lessons and best practices from project interventions • At least 4 case studies /lessons learned shared	• At least 16 campaigns in 70% of targeted communities and schools • Students of 38 schools reached with the GSP (19 in A; 19 in N) (50% girls/women)4 brochures, 4 publications (documents) on lessons and best practices from project interventions • At least 8 case studies/lessons learned shared	• Project implementation reports • Field visits • M&E reports • Interviews with small scale farmers and community leaders		
Outcome 1.2 Capacity at sub-national, national and regional level to adapt to	• Proportion of institutions at sub-national, national and regional level with enhanced	Institutional capacity for coordinated climate responsive agriculture and	At least 40% of targeted institutions at sub-national, national and regional level actively participate in the implementation of the project	At least 80% of targeted institutions at sub-national, national and regional level actively participate in the implementation of the	• Project implementation reports • Field visits	OSS, ADPP, DAPP and Focal Ministries of Agriculture, Ministries of Water	Willingness to participate in climate regional, national and local level climate responsive capacity building in the

climate change risks and variability in the agriculture and water sectors is enhanced	capacity in food security and water security management	water management that reinforce food and water security experiences capacity and human resource constraints	in climate responsive agriculture and water management	project in climate responsive agriculture and water management	• M&E reports • Interviews with small scale farmers and community leaders • KAP Surveys		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	• # of transboundary mechanisms established • # of meetings of transboundary mechanism that have taken place • # of coordination meetings among 6 CCACs that have taken place • Proportion of targeted farmers and pastoralists reached with conflict management trainings regarding transhumance (disaggregated by sex) • # of farmers that have accessed climate information (disaggregated by sex)	Cross-border centres/ networks to respond to extreme weather events are either weak, dysfunctional or lacking	• 1 transboundary mechanism established • At least 3 meetings of transboundary mechanism have taken place • At least 3 meetings • At least 30% of targeted farmers and pastoralists reached with trainings (750 women; 1,250 men) • At least 2,000 farmers have accessed climate information (1,500 in A; 500 in N) (50% women)	• 1 transboundary mechanism established and operational • At least 8 meetings of transboundary mechanism have taken place • At least 8 meetings At least 60% of targeted farmers and pastoralists reached with trainings (1,500 women; 2,500 men) • At least 5,000 farmers have accessed climate information (3,750 in A; 1,250 in N) (50% women)	• Project implementation reports • Field visits • M&E reports • Meeting minutes • Interviews with small scale farmers and community leaders	OSS, ADPP, DAPP and Focal Ministries of Agriculture, Ministries of Water	Timely release of project funds Cooperation among partners and partner countries runs smoothly No major disruptions (environmental, economic, political) Barriers of cultural and traditional nature are sufficiently taken into account during activity design and planning
Component 2: Organizational and technical learning for production and water management							
Outcome 2.1: Community-based and farmer-based organizations for	• # of Producer Organizations (POs) established and operational	Agricultural production is vulnerable to climate change due limited CC	• 160 POs established (120 in A; 40 in N)	• 160 POs are operational (120 in A; 40 in N)	• Project implementation reports • Field visits	OSS, ADPP, DAPP and Focal Ministries of Agriculture, Ministries of Water	Willingness to participate in local level climate responsive capacity building in the agriculture and water sectors.

production and water management have been established and strengthened	• # of Water User Associations (WUAs) in the target areas that are operational • Proportion of targeted farmers with increased knowledge and skills in opportunities for agriculture and water management (disaggregated by sex) • Proportion of farmers engaged in productive agriculture and water management (disaggregated by sex)	adaptive production systems, low-income/limited alternative sources of income for small-scale farmers. These challenges impede small-scale farmers from collective bargaining for credit and decision making	• 80 Water User Associations (WUAs) are operational in the target area representing 45 % of target population (60 in A; 20 in N) • At least 40% of targeted farmers have increased knowledge and skills in opportunities for agriculture and water management (50% women) • At least 30% of farmers engaged in productive agriculture and water management (50% women)	• 160 Water User Associations (WUAs) are operational in the target area representing 95 % of target population (120 in A; 40 in N) • At least 90% of targeted farmers have increased knowledge and skills in opportunities for agriculture and water management (50% women) • At least 80% of farmers engaged in productive agriculture and water management (50% women)	• M&E reports • Interviews with small scale farmers and community leaders • KAP Surveys		
Output 2.1.1: Capacities of extension services and institutions needs are strengthened	• # of partnership agreements or MOUs developed with subnational extension services • # of training plans developed • # of extension agents and Farming instructors trained in CRA practices (disaggregated by sex) • # of Farmer Field days conducted • Change in Knowledge, Attitudes and Practices	No outstanding POs; Small-scale farmers cannot easily engage in climate responsive agricultural production due to lack of collective bargaining for credit and limited decision making	• 1 partnership agreements/ MOU per country • 1 training plan developed • 20 extension agents (10 in each country) (5 women) and 34 Farming instructors (8 women) trained • At least 4 Farmer Field days per PO per year conducted • N/A	• 1 partnership agreements/ MOU per country • 1 training plan developed • 40 extension agents (20 in each country) (10 women) and 34 Farming instructors (8 women) trained • At least 4 Farmer Field days per PO per year conducted • There is significant change in Knowledge, Attitudes and Practices	• Project implementation reports • Field visits • M&E reports • Interviews with small scale farmers and community leaders • KAP Surveys	OSS, ADPP, DAPP and Focal Ministries of Agriculture, Ministries of Water	Timely release of project funds No major disruptions (environmental, economic, political)

Output 2.1.2: Communities are organized to adopt and mainstream climate-resilient practices	• # of POs established • # of POs participating/engaged in climate resilient agricultural (CRA) production • # of POs governance structures supported • # of POs trained (storage facilities, business, and climate adaptive agriculture) • # of WUAs established • # of legal and functional WUAs in place • # of WUAs participating/engaged in climate resilient water management • # of WUAs trained (field level water management, water infrastructure, usage, equitable access etc.)	No outstanding and adequate and efficient water management structure at community level yet be crucial in managing the impacts of CC in the targeted areas, where water scarcity will be a key adaptation challenge.	• 160 POs established and supported (120 in A; 40 in N) • 160 POs participating/ engaged in CRA production (120 in A; 40 in N) • 160 POs governance structures supported (120 in A; 40 in N) • 160 POs (120 in A; 40 in N) are participating in trainings (storage facilities, business, and climate adaptive agriculture) • 160 WUAs established/ supported (120 in A; 40 in N) • At least 80 functional WUAs in place (60 in A; 20 in N) • At least 80 WUAs participating/engaged in climate resilient water management (60 in A; 20 in N) • 160 WUAs trained (field level water management, water infrastructure, usage, equitable access etc. (120 in A; 40 in N)	• 160 POs established and supported (120 in A; 40 in N) • 160 POs participating/ engaged in CRA production (120 in A; 40 in N) • 160 POs governance structures supported (120 in A; 40 in N) • 160 POs (120 in A; 40 in N) have completed training programmes (storage facilities, business, and climate adaptive agriculture) • 160 WUAs established/ supported (120 in A; 40 in N) • 160 WUAs functional (120 in A; 40 in N) • 160 WUAs participating/engaged in climate resilient water management (120 in A; 40 in N) • 160 WUAs are fully operational in all trained aspects (120 in A; 40 in N)	• Project implementation reports • Field visits • M&E reports • Interviews with small scale farmers and community leaders	OSS, ADPP, DAPP and Focal Ministries of Agriculture, Ministries of Water	Timely release of project funds No major disruptions (environmental, economic, political)

Outcome 2.2 10,000 Smallholder farmers (50% women) have been trained and technically supported to adopt and mainstream climate-resilient agriculture practices	• Proportion of smallholder farmers undertaking climate resilient agricultural practices (disaggregated by sex) • Proportion of extension services engaged in dissemination of climate resilient agricultural practices	Due to limited budget and capacities, there are currently insufficient government extension agents to reach all farmers in the targeted municipalities.	• At least 50% of smallholder farmers trained and supported of which 50% are women • At least 70% of extension staff engaged in training smallholder farmers.	• At least 90% of smallholder farmers trained and supported of which 50% are women • At least 90% of extension staff engaged in training smallholder farmers.	• Project implementation reports • Field visits • M&E reports • Interviews with small scale farmers and community leaders • KAP Surveys	OSS, ADPP, DAPP and Focal Ministries of Agriculture, Ministries of Water	Willingness to participate in local level climate responsive activities in the agriculture and water sectors.
Output 2.2.1 160 model plots (Farmer Field Schools) for climate-resilient and water-efficient agriculture practices (Conservation Agriculture and Agroforestry Systems) are established	• # of model field plots established • # of lead farmers trained (disaggregated by sex) • Proportion of targeted farmers applying new resilient practices (disaggregated by sex) • # of model plots supported with inputs	Community based Model plots (Farmer Field Schools) need to be identified and supported to facilitate filed based learning and adoption of climate-resilient and water-efficient agriculture practices.	• 160 model plots/FFS established (120 in A; 40 in N) • At least 500 lead farmers trained, of which 50% are women (375 in A; 125 in N) • At least 40% of targeted farmers (50% women) applying new resilient practices • 160 model plots (120 in A; 40 in N) supported with inputs	• 160 model plots/FFS established (120 in A; 40 in N) • 700 lead farmers trained, of which 50% are women (525 in A; 175 in N) • At least 80% of targeted farmers (50% women) applying new resilient practices • 160 model plots (120 in A; 40 in N) supported with inputs	• Project implementation reports • Field visits • M&E reports • Interviews with small scale farmers and community leaders	OSS, ADPP, DAPP and Focal Ministries of Agriculture, Ministries of Water	Timely release of project funds No major disruptions (environmental, economic, political)
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							
Outcome 3.1: Resilience of populations and ecosystems is improved through concrete adaptation measures	• Percentage of targeted farmers accessing and using efficient water for production technologies (disaggregated by sex) • Percentage of targeted farmers	There are limited opportunities and options for undertaking drought adaptation actions farmers by small-scale farmers	• At least 30% of targeted farmers (50% women) accessing and using efficient water for production technologies • At least 25% of targeted farmers (50% women) have diversified their farming	• At least 60% of targeted farmers (50% women) accessing and using efficient water for production technologies • At least 60% of targeted farmers (50% women) have diversified their	• Baseline, mid-term and end of project survey and external evaluation • Project implement	OSS, ADPP, DAPP and Focal Ministries of Agriculture, Ministries of Water	Willingness to participate at local level in climate responsive activities in the agriculture and water sectors.

	with diversification of farming systems to include at least one legume or vegetable crop (disaggregated by sex) • # of farmers that have increased production of cereals, legumes and vegetables by at least 30% (disaggregated by sex) • % increase in the number of small animals owned by targeted smallholder farmers (disaggregated by sex)		systems to include at least one legume or vegetable crop • 1,500 farmers (750 women) have increased their crop production by at least 30%; (1,125 in A; 375 in N) 15% increase in the number of cereals, legume and vegetable crops grown by targeted farmers • 20% increase in the number of small animals owned by targeted smallholder farmers (50% women)	farming systems to include at least one legume or vegetable crop • 4,500 farmers (2,250 women) have increased their crop production by at least 30%; (3,375 in A; 1,125 in N) 30% increase in the number of cereals, legume and vegetable crops grown by targeted farmers • 40% increase in the number of small animals owned by targeted smallholder farmers (50% women)	ation reports • Field visits • M&E reports • Interviews with small scale farmers and community leaders • KAP Surveys		
Output 3.1.1: Target farmers and population access and use of water during the dry season are increased	• # of model water capture and retention systems at farmers' fields established • # of model water collection facilities for human consumption established • # of solar powered water pumps and small-scale irrigation systems provided • # of community campaigns for safe water use and water demand management • Proportion of farmers undertaking safe water use and	Farmers are constrained by limited access to safe water, and high-water losses due to limited technologies for water storage especially during drought.	• 80 model water capture and retention systems at farmers' fields established (60 in A; 20 in N) • 6 model water collection facilities for human consumption per country • 80 solar powered water pumps and small-scale irrigation systems provided (60 in A; 20 in N) • At least 5 community campaigns for safe water use and water demand management are conducted in 70% of targeted communities • At least 30% of targeted farmers undertaking safe water use and water demand management	• 160 model water capture and retention systems at farmers' fields established (120 in A; 40 in N) 6. model water collection facilities for human consumption per country 7. 160 solar powered water pumps and small-scale irrigation systems provided (120 in A; 40 in N) • At least 10 community campaigns for safe water use and water demand management are conducted in 70% of targeted communities • At least 60% of targeted farmers undertaking safe water use and water demand management	• Project implementation reports • Field visits • M&E reports • Interviews with small scale farmers and community leaders	OSS, ADPP, DAPP and Focal Ministries of Agriculture, Ministries of Water	Timely release of project funds No major disruptions (environmental, economic, political) Cooperation among partners and partner countries runs smoothly

	water demand management						
Output 3.1.2: Climate resilient agriculture practices are promoted and adopted	• # of farmers practicing/adopted CA practices (disaggregated by sex) • # of POs undertaking cropping practices resilient to climate change • Proportion of farmers using of a range of drought-resistant crops and seeds • # of seed collection and multiplication centres developed • # of horticulture and horticulture production communal plots established		• A least 3,000 farmers (1,500 women) practicing/adopted CA practices (2,250 in A; 750 in N) • 160 POs undertaking cropping practices resilient to climate change (120 in A; 40 in N) • At least 20% of farmers using of a range of drought-resistant crops and seeds • 80 seed collection and multiplication schemes developed (60 in A; 20 in N) • 60 horticulture and horticulture production communal plots established (45 in A; 15 in N)	• At least 6,000 farmers (3,000 women) practicing/adopted CA practices (4,500 in A; 1,500 in N) • 160 POs undertaking cropping practices resilient to climate change (120 in A; 40 in N) • At least 40% of farmers using of a range of drought-resistant crops and seeds • 160 seed collection and multiplication schemes developed and functional (120 in A; 40 in N) • 120 horticulture and horticulture production communal plots established (90 in A; 30 in N)	• Project implementation reports • Field visits • M&E reports • Interviews with small scale farmers and community leaders	OSS, ADPP, DAPP and Focal Ministries of Agriculture, Ministries of Water	
Output 3.1.3 Sustainable fisheries are supported	• Extent to which community members have gained access to fishing sites • # of fisherwomen/men that have participated in trainings on sustainable fishing methods (disaggregated by sex) • Proportion of targeted HHs that has gained access to improved equipment and materials		• Community members have gained access to fishing sites • 250 fisherwomen/men that have participated in trainings on sustainable fishing methods (125 in each country) (50 women) • 15% increase among target HHs has gained access to improved equipment and materials	• Community members have gained access to fishing sites • 500 fisherwomen/men that have participated in trainings on sustainable fishing methods (250 in each country) (100 women) • 30% increase among target HHs has gained access to improved equipment and materials	• Project implementation reports • Field visits • M&E reports • Interviews with small scale farmers and community leaders	OSS, ADPP, DAPP and Focal Ministries of Agriculture, Ministries of Water	

Output 3.1.4: Improved livestock production is supported	• Proportion of farmers accessing veterinary services and % of targeted farmers that vaccinate short-cycle livestock • # of farmers engaged in short-cycle livestock production (disaggregated by sex) • Proportion of farmers supported in production of fodder for short-cycle livestock (disaggregated by sex) • # of sensitization campaigns to prevent potential conflicts arising from transhumance	Limited access to veterinary services resulting from low capacity Poor quality of varieties of animal feeds Conflicts amongst neighbouring communities due to transhumance	• At least 30% of farmers accessing veterinary services and 20 % of targeted farmers vaccinate short-cycle livestock • At least 30% of all PO member farmers (50% women) are engaged in short-cycle livestock production • At least 20% of targeted farmers (50% women) supported in production of fodder for short-cycle livestock • 10 sensitization campaigns to prevent potential conflicts arising from transhumance per country	• At least 70% of farmers accessing veterinary services and 60 % of targeted farmers vaccinate short-cycle livestock • At least 60% of all PO member farmers (50% women engaged in short-cycle livestock production • At least 40% of targeted farmers (50% women) supported in production of fodder for short-cycle livestock • 20 sensitization campaigns to prevent potential conflicts arising from transhumance per country	• Project implementation reports • Field visits • M&E reports • Interviews with small scale farmers and community leaders	OSS, ADPP, DAPP and Focal Ministries of Agriculture, Ministries of Water	
Outcome 3.2: Resilience of populations' livelihoods is increased and sustained through climate-resilient Income Generating Activities (IGAs)	• Percentage of targeted HHs that has gained at least 1 additional climate-resilient income stream (disaggregated by sex) • Percentage of targeted HHs that has gained access to village loans or formal micro-credits (disaggregated by sex)	There are limited opportunities and options for alternative income generation by farmers and communities	• 25% of targeted HHs (50% women) have at least 1 additional income stream • 30% of targeted HHs (50% women) is accessing village loans or formal micro-credits	• 50% of targeted HHs (50% women) have at least 1 additional income stream • 75% of targeted HHs (50% women) is accessing village loans or formal micro-credits	• Baseline, mid-term and end of project survey and external evaluation • Project implementation reports • Field visits • M&E reports • Interviews with small scale farmers and community leaders	OSS, ADPP, DAPP and Focal Ministries of Agriculture, Ministries of Water	Willingness to participate at local level in climate responsive activities in the agriculture and water sectors.

Output 3.2.1: Income generating options of 6,500 farmers are diversified	• Proportion of targeted farmers engaged in non-agricultural sources of income such as beekeeping, fishing, wild fruits and microenterprise development (disaggregated by sex) • # of saving groups among farmers • Proportion of farmers accessing micro-credits for farmers to adopt new income-generating activities (IGAs) (disaggregated by sex) • Proportion of farmers practicing post-harvest techniques, processing and good storage practices. (disaggregated by sex) • # of public-private partnerships (PPPs) to improve links to the markets • # of farmer exchange visits between POs across the border to facilitate experience sharing	Inadequate opportunities and resources especially for farmers and women groups to increase agricultural production and undertake alternative sources of income /IGAs	• At least 20% of targeted farmers (of which 50% women) engaged in non-agricultural sources of income • 80 saving groups among farmers (60 in A; 20 in N) • A least 20% of farmers (50% women) are accessing micro-credits for farmers to adopt new IGAs • A least 30% of farmers (50% women) practicing post-harvest techniques, processing and good storage practices. • 3 PPPs to improve links to the markets • 10 farmer exchange visits between POs across the border to facilitate experience sharing	• At least 40% of targeted farmers (of which 50% women) engaged in non-agricultural sources of income • 160 saving groups among farmers (120 in A; 40 in N) • A least 40% of farmers (50% women) are accessing micro-credits for farmers to adopt new IGAs • A least 60% of farmers (50% women) practicing post-harvest techniques, processing and good storage practices. • 6 PPPs to improve links to the markets • 20 farmer exchange visits between POs across the border to facilitate experience sharing	• Project implementation reports • Field visits • M&E reports • Interviews with small scale farmers and community leaders	OSS, ADPP, DAPP and Focal Ministries of Agriculture, Ministries of Water	Timely release of project funds No major disruptions (environmental, economic, political)

F. Project Alignment with the Results Framework of the AF

Alignment with AF Results Framework:

Table 34: ADSWAC Results Framework alignment with AF Results Framework

Project Objective(s)[42]	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
1. 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;	1.1 Percentage of the targeted population aware of the adverse impacts on climate change foreseen and the adequate responses 1.2 Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased	**AF Outcome 3:** Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level **AF Outcome 2:** Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses 2.1. Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased	1,523,365
2. To strengthen organizational and technical capacities for climate-resilient production and water management;	2.1 Number of community-based organizations with increased capacities for climate-resilient water management and agriculture production; 2.2. Number of Smallholder farmers with increased technical capacities to adopt and mainstream climate-resilient agriculture practice	**AF Outcome 4:** Increased adaptive capacity within relevant development sector services and infrastructure assets	4.1. Responsiveness of development sector services to evolving needs from changing and variable climate	1,078,980
3. to improve food security in response to climate change impacts in rural and vulnerable communities in Cuando Cubango Province and the Regions of Kavango East and Kavango West;	3.1 Number of farming households that have improved their food security 3.2 Percentage of targeted farming households that have increased their annual income through climate-resilient alternative livelihoods	**AF Outcome 6:** Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.1 Percentage of households and communities having more secure access to livelihood assets 6.2 Percentage of targeted population with sustained climate-resilient alternative livelihoods	6,860,050
Project Outcome(s)	**Project Outcome Indicator(s)**	**Fund Output**	**Fund Output Indicator**	**Grant Amount (USD)**
1.1 Enhanced awareness and ownership of adaptation and climate risk reduction processes of the targeted populations	1.1.1 # of CCACs established and operational 1.1.2 # of schools integrated in the Green Schools Programme 1.1.3 # of Community Adaptation Action Plans (CAAPs) developed	**AF Output 3.2:** Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	3.2.1 No. of technical committees/associations formed to ensure transfer of knowledge 3.2.2 No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders	1,009,210
1.2 Enhanced capacity at sub-national, national and regional level to adapt to climate change risks and variability	1.2.1 Proportion of targeted institutions at sub-national, national and regional level with enhanced capacity in food security and water security management	**AF Output 2.1:** Strengthened capacity of national and sub-national centres and networks to respond rapidly to extreme weather events	2.1.2 No. of targeted institutions with increased capacity to minimize exposure to climate variability risks (by type, sector and scale)	514,155

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

in the agriculture and water sectors				
2.1 Community-based and farmer-based organizations for production and water management have been established and strengthened	2.1.1 # of Producer Organizations (POs) established and operational 2.1.2 # of Water User Associations (WUAs) in the target areas that are operational	**AF Output 4:** Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	4.1.1. No. and type of development sector services modified to respond to new conditions resulting from climate variability and change (by sector and scale)	1,737,440
2.2 Smallholder farmers (50% women) have been trained and technically supported to adopt and mainstream climate-resilient agriculture practices	2.2.1 Proportion of smallholder farmers undertaking climate resilient agricultural practices 2.2.2 Proportion of extension services engaged in dissemination of climate resilient agricultural practices			
3.1 Improved resilience and food security of targeted smallholder farmers' households	3.1.1 Percentage of targeted farmers accessing and using efficient water for production technologies 3.1.2 Percentage of targeted farmers with diversification of farming systems to include at least one legume or vegetable crop 3.1.3 # of farmers that have increased production of cereals, legumes and vegetables by at least 30% 3.1.4 % increase in the number of small animals owned by targeted smallholder farmers	**AF Output 6:** Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.1.No. and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community livelihood strategies	5,099,230
3.2 Resilience of populations' livelihoods is increased and sustained through climate-resilient Income Generating Activities (IGAs)	3.2.1 Percentage of targeted HHs that has gained at least 1 additional climate-resilient income stream		6.2.1. Type of income sources for households generated under climate change scenario	1,760,820

Adaptation Fund Core indicators for the project:

275. The ADSWAC project will contribute to the achievement of four Adaption Fund Core Indicators. Progress towards the targets of these indicators will be monitored for the project as per table 33 below, in line with the "*Methodologies for reporting Adaptation Fund core impact indicators*".

Table 35: Core indicators for the project

Adaptation Fund Core Impact Indicator: "Number of Beneficiaries"		
	Baseline	Target at project approval
Direct beneficiaries supported by the project	0	42,500
Female direct beneficiaries	0	23,000
Youth direct beneficiaries	0	5,950
Indirect beneficiaries supported by the project	0	140,000
Female indirect beneficiaries	0	74,000

Youth indirect beneficiaries	0	18,000
Adaptation Fund Core Impact Indicator: "Early Warning Systems"		
	Baseline	Target at project approval
Adopted Early Warning Systems *(Category targeted – 1, 2, 3, 4; and absolute number)* *(1) risk knowledge,* *(2) monitoring and warning service,* *(3) dissemination and communication,* *(4) response capability.*	Most smallholder farmers and pastoralists do not utilize EWS in their seasonal calendars thus have suffered crop and livestock losses during drought.	At least 70% of targeted smallholder farmers and pastoralists access and integrate EW information into seasonal calendars.
Drought resilience improvement	Inadequate capacity of institutions, farmers, and pastoralists to undertake drought adaptation measures	At least 90% of targeted farmers and pastoralists trained
Drought adaptation actions undertaken	There are limited opportunities and options for undertaking drought adaptation actions for farmers and pastoralists	At least 70% of targeted smallholder farmers and pastoralists have alternatives
Knowledge, Dissemination and communication	Small percentage of the target population information and knowledgeable in drought management issues and interventions	At least 80% of the targeted actors participating in regional information sharing platforms (i.e., 771,212 persons).
Hazard	Droughts, floods	Droughts, floods
Geographical coverage *(km2)*	N/A	N/A
Number of municipalities *(number)* *(report for each project component)*	0	15 (for the 3 components)
Adaptation Fund Core Impact Indicator: "Assets Produced, Developed, Improved, or Strengthened"		
	Baseline	Target at project approval
Sector (Component 3) Drought and climate change adaptation actions	/	/
Targeted Asset 1) Health and Social Infrastructure *(developed/improved)* i) *IGAs* ii) *Provision of Small competitive grants* 2) Physical asset *(produced/improved/strengthened)* *i) Innovative water harvesting and storage infrastructure produced* *ii) Mini-irrigation and delivery system produced* *iii) Water wells improved* **iv)** *Groundwater sources improved* **v)** *Agrosilvopastoral system improved* **vi)** *Climate smart agricultural infrastructure*	/	/
Changes in Asset *(Quantitative or qualitative depending on the asset)* **1)** Health and Social Infrastructure *(developed/improved)*	/	/
i) *IGAs developed and credits provided*	0	160 Groups (POs) (approx.6,500 persons; 50% for women and youth; 976.600 USD)
2) Physical asset *(produced/improved/strengthened)*		
i) Innovative water harvesting and storage infrastructure produced	0	166 model systems developed (160 with POs, 6 with CCACs)
ii) Mini-irrigation and delivery system produced	0	166 model systems developed (160 with POs, 6 with CCACs)
iii) Water wells improved	0	50 systems developed
iv) Groundwater sources improved	0	N/A
v) Agrosilvopastoral system improved	0	166 seed banks and nurseries established
vi) Climate smart agricultural infrastructure produced	0	166 units developed
Adaptation Fund Core Impact Indicator: "Household Income, or avoided decease in income"		
	Baseline	Target at project approval
Household income targets: i) Total number of households	/	/

ii) Number of households with increase in income iii) Income Source		
Number of households i) Total number of households targeted with trainings and adaptation action (Component 2 and 3) ii) Number of Households with average >20% increased income (all sources) as measured by revenue from all sales and number of durable household assets as proxy indicators of wealth (livestock, motorcycle, durable household items, house construction materials, generator etc)	0 0	6,500 households targeted 3,900 Households with average >20% increased income (all sources)
Income Source: i) Number of households that have gained at least one additional income stream	Households have limited income from surplus farm produce in some seasons	3,250 HHs have gained at least 1 additional income stream

G. Detailed Budget

Table 36: ADSWAC Detailed Budget

Components/Outcome/Output/Activity	Budget notes activities	Total Budget	Regional	Angola	Namibia	Explanation
Component 1: Strengthening awareness, knowledge and capacity to adapt to climate change and variability at community-, district-, national and regional level		**1,523,365**	**464,265**	**612,260**	**446,840**	
Outcome 1.1 Enhanced Awareness and ownership of adaptation and climate risk reduction processes of the target population are enhanced		**1,009,210**	**181,470**	**496,750**	**330,990**	
Output 1.1.1 Communities and populations in the targeted areas have participated in climate change adaptation and risk reduction awareness activities		**515,330**	**96,200**	**241,530**	**177,600**	
A1.1.1.1 Establishment of Institutional capacities to manage the CCACs	Recruitment of staff for the CCAs, elaboration of sustainability plan at project start, involvement of local authorities in the process.	15,500		11,620	3,880	Cost includes % of staff salaries, advert and travel cost for recruitment, initial training of Apr. 20 staff per Cicak CCAC. Cost of meetings with authorities for elaboration of sustainability plan.
A1.1.1.2 Rehabilitation or construction of the CCACs	Building of one CCACs in Calai, establishment of another 3 in Angola and 2 in Namibia.	288,110	60,000	130,720	97,390	New construction for 1 CCAC and rent/refurbishment or container procurement for other 5 (3 Angola, 2 Namibia), furniture and equipment for CCACs as well as % of staff salaries, project adm cost, and equipment and vehicles. Inputs and fencing for model fields connected to the CCACs.
A1.1.1.3 Identify and agree on land for setting up 6 CCACs demonstration plots	Identification together with local authorities of communal land near by the CCACs which can serve as demonstration plots.	6,200	1,200	3,450	1,550	Cost includes travel costs for project staff during identification, % of staff salaries, adm and operational costs. Includes Implementation of ESMP (USP E&S screening).
A1.1.1.4 Build capacity of sub-national and local authorities and entities on climate change adaptation planning and implementation	Conducting Climate Vulnerability Assessments, development of participatory and gender-responsive Community Adaptation Action Plans, strengthening climate information channels that reach to the community-level. Trainings provided by consultants/experts.	95,260	15,000	42,870	37,390	Fee for consultant/expert for trainings, travel cost for participants. % of; staff salaries, vehicles and equipment costs, adm cost, operational costs.
A1.1.1.5 Develop Community Adaptation Action Plans (CAAPs)	Participatory analysis of vulnerability and adaptation to CC (PAVACC), with meteorological services, agricultural extension services, the civil protection unit, CBOs, local government, and local NGOs. Relevant government and civil society staff will be trained to ensure	110,260	20,000	52,870	37,390	Cost includes % of; staff salaries, vehicles and equipment costs, adm cost, operational costs. Cost for validation meetings in all municipalities/constituencies (catering, travel cost, stationary).

	regular updating of vulnerability information. Validation of plans.					
Output 1.1.2 Climate change awareness and sensitization to the communities		**493,880**	**85,270**	**255,220**	**153,390**	
A1.1.2.1 Development of communication strategy for Cc information and dissemination	Development of the strategy in the startup phase of the project.	2,270	2,270			Cost includes % of; staff salaries, adm cost, operational costs.
A1.1.2.2 Climate change awareness campaigns in target communities	Training of community and church leaders, community-based CC awareness sessions for children and young people, community sensitization campaigns on CC awareness.	111,260		64,270	46,990	Purchase of mobile library/workshop equipment which can be transported in vehicle roof boxes to communities for educational purposes, including posters and books. Small generator, screen, laptop to show films and other. Expenses with quarterly community days, travel costs, refreshments. % of; staff salaries, vehicle and equipment cost, adm cost and operational costs.
A1.1.2.3 Climate change awareness campaigns in schools through the Green School Programme	Initial and Refresher training and meetings for Green School project staff (Angola & Namibia) as well as ADPP TTC and volunteers' teachers' (Angola). ADPP TTC trainees teaching and supporting project activities. Awareness programs in 40 Schools in the project areas carried out by GSP staff. Development and re-production of teacher's manual and action booklet for school clubs, planting of trees in schools as well as school gardens.	290,590	50,000	157,580	83,010	Equipment for Green School staff (laptops, quadbikes, smartphones, uniforms, green schools' manuals, posters, leaflets, material for training of teachers, costs with develop and produce teacher's manual. Initial training of 100 volunteer teachers and ADPP TTC trainees (Angola). Hand tools for tree planting and school gardens, irrigation systems. Travel costs for ADPP TTC trainees for school activities. % of project costs; staff salaries, vehicle and equipment costs, adm costs and operational costs.
A1.1.2.4 Disseminate project results, best practices and lessons learned in sub-national, national and international forums and through online media.	Will include public exhibition in Menongue, sharing of results, best practices, as well as sharing on websites and Facebooks of IE and EEs. Possible participation in regional, national and international forums.	89,760	33,000	33,370	23,390	Info materials to be shared on website and other forums, design and materials of Exhibition at ADPP TTC in Menongue, equipment for photos and filming, % of project costs; staff salaries, adm and operational costs.
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		**514,155**	**282,795**	**115,510**	**115,850**	
Output 1.2.1 National and regional centers and networks to respond to extreme weather events have been established, reinforced and supported in their operation		**514,155**	**282,795**	**115,510**	**115,850**	
A1.2.1.1 Establishment of a transboundary coordination mechanism (authorities as well as civil society) for adaptation and disaster response systems through regional forums with key stakeholders.	Two meetings per year, in which local government and civil society stakeholder will gather to strengthen coordination of CCA initiatives. Individual meetings with specific groups or sectors. Synergy with existing transboundary systems and	114,420	50,000	32,040	32,380	2 Cross border meetings/year with local authorities and other stakeholders in the region (travel cost, accommodation, stationary), 4 other meetings/capacity building sessions/CCAs/year - refreshments, materials for meetings. % of project

	meetings (e.g., OKACOM and KAZA). Mechanism led and maintained by the CCAC in Calai. Capacity building sessions of participants in CCA and DRR management.					costs; staff salaries, vehicles and equipment costs, adm cost, operational costs.
A1.2.1.2 Organize coordination meetings between the 6 CCACs for a better knowledge and information sharing.	Two meetings per year from 2nd year of project implementation, experience sharing between CCACs staff include field visits. Meeting venue alternately between Rundu and Calai.	152,040	101,840	25,100	25,100	Travel costs 2 meetings per year with the participation of approximately 2 staff members from each CCAC (accommodation, per diems), catering for meetings, materials for meetings. % of project costs; salaries, vehicles and project equipment, adm and operational costs
A1.2.1.3 Sensitize and provide conflict management trainings for cattle herders, farmers and local authorities near transhumance corridors	Sensitization campaigns to prevent and address potential conflicts arising from transhumance activities. Meetings between cattle herders (Angolans and Namibians), crop farmers and TAs will be facilitated in order to address conflicts, and conduct trainings in conflict management.	133,275	81,295	25,990	25,990	2 Community sensitization campaigns/country/ year, relevant Training sessions with Pos as well as meetings between cattle herders from the two countries. Travel costs, and % of project costs; staff salaries, vehicles and equipment costs, adm cost, operational costs.
A1.2.1.4 Strengthen Early Warning and climate information channels	Ongoing activity throughout the project. The CCACs teams will identify existing early warning systems and throughout facilitate the transmission of information to the communities through the PO´s and WUA´s.	114,420	49,660	32,380	32,380	Capacity building trainings with cost of external trainer, % of project costs; staff salaries, vehicles and equipment costs, adm cost, operational costs.
Component 2: Organizational and Technical learning for climate resilient production and water management		**1,737,440**	**123,760**	**984,200**	**629,480**	
Outcome 2.1 Community-based and farmer-based organizations for production and water management have been established and strengthened		**1,078,980**	**123,760**	**585,380**	**369,840**	
Output 2.1.1 Capacities of extension services and institutions needs are assessed and strengthened		**395,530**	**53,760**	**219,710**	**122,060**	
A2.1.1.1 Conduct baseline and capacity needs assessment of all actors	To be carried out during the first two quarters of implementation in the project areas.	60,000	20,000	20,000	20,000	Lump sum for questionnaires, food, accommodation for M&E expert and team do the data collection, processing and analyzing, % of project costs; staff salaries, vehicles and equipment costs, adm cost, operational costs.
A2.1.1.2 Development of a training plan and training modules for all topics	Training plan includes plans and modules for all trainings and capacity building related activities of the project.	33,120	13,760	9,680	9,680	Development and Reproduction of training plan and training modules, % of project costs; staff salaries, administration and operational costs. Printing costs. Includes ESMP capacity building
A2.1.1.3 Establishing partnership and Memorandum of Understanding (MOU) with sub-national extension services.	MOU with extension services in Cuando Cubango in Angola and with Regional extension services in Kavango East and West in Namibia. Established for a 5-	10,320		5,160	5,160	Preparation of MOU, Initial meeting in Cuando Cubango, Kavango East and Kavango West, to deliberate for signing, yearly review meetings. Travel costs. % of project costs; staff salaries, administration and operational costs.

	year period with an annual review and reflection.					
A2.1.1.4 Train the extension agents and field instructors to ensure farmer trainings	Initial 5 days training for extension agents and field instructors as well as other relevant implementing project staff. Led by expert agronomist. Regular refresher trainings and meetings for experience sharing.	63,440		44,390	19,050	5 days initial training x 32 staff in Angola and 14 staff in Namibia + extension workers. At least 2 refresher trainings per year - training materials, catering, accommodation, travel costs. % of project costs; staff salaries, administration and operational costs.
A2.1.1.5 Conduct regular farmer field days and FFS using a Technical Orientation Manual	Farmer Field days promoted on the demonstration plots on a variety of topics. Carried out together with extension workers, traditional leaders and lead farmers.	148,650		100,480	48,170	Cost with Community days (inputs for demonstration cooking, tools or other to be demonstrated, refreshments, posters, information materials), travel cost for involvement of authorities, M&E expert travel cost, % of project costs; % staff salary, vehicles and other project equipment, administration and operational costs.
A2.1.1.6 Conduct KAP surveys	KAP survey to be carried out overseen by the M&E expert together with other project start. To measure knowledge, attitudes and practices in target populations and changes.	80,000	20,000	40,000	20,000	Initial and annual survey, including design of survey, training of staff to carry out survey, data collection, analysis, reporting & dissemination of findings. Cost includes travel costs for staff carrying out study, re-production of questionnaires as well as % of salary, administration and operational costs
Output 2.1.2 Communities are organized and adopt and mainstream to climate resilience practices (160 POs and 160 WUAs)	-	**683,450**	**70,000**	**365,670**	**247,780**	
A2.1.2.1 Identification and establishment of new Producer Organizations (POs) and Water User Associations (WUAs)	160 PO´s (120 in Angola and 40 in Namibia) and 160 WUA´s (120 Angola and 40 in Namibia) to be established. Facilitation of the recognition of their legal status. Central bodies for implementation of the ADSWAC project. Each PO to consist of 30 - 40 PO members. 3-4 lead farmers in each PO will be key contact for project staff. WUAs to take responsibility for managing of water points.	171,440	20,000	89,050	62,390	240 Initial meetings in Angola and 80 in Namibia with communities for establishment of PO´s and WUA´s selection of participants. Cost covered by % of project costs; staff salaries, administration and operational costs.
A2.1.2.2 Strengthening and building capacities of 160 Pos and 160 WUAs including managerial capacities	PO´s and WUA´s carry out training sessions on management skills, stock control, bookkeeping, among others. The WUA´s will function during the first two years and thereafter functioning independently.	161,570	20,000	83,660	57,910	Monthly training sessions of PO and WUA members each session estimate cost of 15 usd, includes photocopies and other materials for the sessions. Cost for external trainer as necessary, community days, as well as % of general project costs; staff salaries, equipment, administration and operational costs, travel costs for M&E expert, including ESMP Monitoring.

A2.1.2.3 Support POs in adapting to developing agriculture value chains (production systems, management of low-cost storage and processing equipment, business skills and establishment of links to the markets	PO´s and WUA´s will be trained in short season adapted crops, production diversification, seed banks etc., through training sessions in the PO´s, farmer field days and activities on the demonstration plots.	93,530	10,000	57,510	26,020	Monthly training sessions of PO members each session estimate cost of 15 usd, includes photocopies and other materials for the sessions. Cost for external trainer as necessary, community days, as well as % of general project costs; staff salaries, equipment, administration and operational costs, travel costs for M&E expert
A2.1.2.4 Support WUAs to manage water points and promote accompanying hygiene messages around safe water storage and use, and water demand messages (Develop the technical capacity of the WUAs in community outreach, establish guidelines for usage, establishment and management of water infrastructure).	Capacity building of WUA members in management of the water points installed by the project, development of training manuals. Furthermore, the WUA´s will be trained in hygiene and sanitation practices as well as techniques for purification and storing of water.	256,910	20,000	135,450	101,460	Initial and refresher training of WUA staff, Training manuals, IEC materials, 11 training sessions per year x 120 in Angola and x 40 in Namibia per year to a unit cost of 15 USD, % of project costs; staff salaries, vehicles and other project equipment, administration and operational costs.
Outcome 2.2 6,500 smallholder farmers (50% women) have been technically supported to adopt and mainstream climate-resilient agriculture practices		**658,460**	**0**	**398,820**	**259,640**	
Output 2.2.1 160 model plots (Farmer Field Schools) for climate-resilient and water-efficient agriculture practices (Conservation Agriculture (CA) and Agroforestry Systems (AFS)) are established		**658,460**	**0**	**398,820**	**259,640**	
A2.2.1.1 Select and agree on the demonstration plots (Farmer Field Schools)	One demonstration plot per PO (160 - 120 in Angola and 40 in Namibia), demonstration plots to be selected by the PO´s with involvement of traditional leaders and community members. The demonstration plots will serve as FFS and produce from this field will be shared among members.	36,970		25,670	11,300	Initial meetings with communities and field visits for identification of the demonstration plots. Cost covered by % of project costs; staff salaries, administration and operational costs.
A2.2.1.2 Train and sensitize the lead farmers/focal points in each of 160 community/producer organizations	Training of 4-5 lead farmers per PO in group management, organizational capacities.	86,430		69,600	16,830	Cost of Monthly training sessions with lead farmers (Apr. 600 in Angola and 200 in Namibia) each session estimate cost of 15 usd, includes photocopies and other materials for the sessions. Cost for external trainer as necessary, % of general project costs; staff salaries, equipment, administration and operational costs, travel costs for M&E expert, including ESMP Implementation (Equity and Access).
A2.2.1.3 Organize with the support of the extension services sensitization sessions to farmers to encourage them to apply new resilient practices	Regular training sessions with PO´s on Conservation Agriculture and Agro Forestry Systems.	59,090		42,750	16,340	Cost of Monthly training sessions with PO members each session estimate cost of 15 usd, includes photocopies and other materials for the sessions. Cost for external trainer as necessary, field days, % of general project costs; staff salaries, equipment, administration and operational costs, travel costs for M&E expert, including ESMP Monitoring.

A2.2.1.4 Set up the demonstration plots and procure inputs for their establishment and management	Low-cost set up of 120 demonstration plots in Angola and 40 in Namibia. The demonstration plots will serve as the meeting place for the PO members. Will include inputs like seeds, tools, irrigation system, fencing,	475,970		260,800	215,170	Sign and banner for PO model field, 120 model fields in Angola and 40 in Namibia x 150 USD/PO model field (Total 24.000 usd). 60% first year and 10% in each following year. Fencing for 120 model fields in Angola and 40 in Namibia. (Total 380.000 usd) Hand tool and materials for shadow etc., 500 usd x 120 model fields in Angola and 40 x 250 usd in Namibia. (Total 35.000 usd), % of general project cost; staff salaries, equipment, administration and operational costs, travel cost for PO organizers. Includes Implementation of ESMP (USP E&S screening).
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		**6,860,050**	**402,210**	**4,262,770**	**2,195,070**	
Outcome 3.1 Resilience of populations and ecosystems is improved through concrete adaptation measures		**5,099,230**	**35,000**	**3,398,420**	**1,665,810**	
Output 3.1.1 Target farmers' and populations' access to and use of water during the dry season are increased		**2,639,200**	**20,000**	**1,862,050**	**757,150**	
A3.1.1.1 Select the most viable water solutions for production	Validation of water solutions; initial local assessment of water solutions through a participatory process with community members and community-based organizations. Description of proposed water solution for each of the 160 project locations to be presented to PMU for validation.	238,430	20,000	128,610	89,820	Cost of field visits for identification of water solutions in 160 locations, consultations together with PO´s and WUA´s, cost of external expert (hydrogeologist) as per need), % of project costs staff salary, vehicle and project equipment, administration and operational costs. Includes Implementation of ESMP (USP E&S screening).
A3.1.1.2 Provide inputs to farmers to implement infrastructure for production, water capture and retention systems at farmers' fields.	Implementation of water solutions identified in each location. Including solar pumps and water capture systems.	1,839,440		1,355,820	483,620	Irrigation system including incl tank, solar pump, pipes, fitments. Water source river or improved well. 120 PO model fields in Angola X 8.500 USD and 40 in Namibia x average price of 8.385 USD/model field. % of project costs staff salary, vehicle and project equipment, administration and operational costs.
A3.1.1.3 Promote solar powered water pumps and small-scale irrigation systems	The project will promote solar water pumps systems together with small scale irrigation systems, for PO members with time implement on their own fields. Training sessions and practice on demonstration plots.	241,910		164,670	77,240	Community days, IEC materials, Monthly sessions with PO´s and WUAs, % of project costs staff salary, vehicle and project equipment, administration and operational costs.
A3.1.1.4 Establish models for water collection for human consumption	Rain harvest models to be installed in public places like schools, health centers, CCACs, municipal centers and other. To serve as example for communities to copy in their homes and/or fields.	164,720		109,720	55,000	A minimum of 160 low-cost rain harvest models, % of project costs staff salary, vehicle and project equipment, administration and operational costs.

A3.1.1.5 Conduct community campaigns for safe water use and water demand management	Community sensitization campaigns to be carried out by WUA´s	154,700		103,230	51,470	Community Days, IEC materials, monthly sessions with PO´s and WUA´s, % of project costs staff salary, vehicle and project equipment, administration and operational costs.
Output 3.1.2 Agriculture resilient practices are adopted and promoted		**1,356,080**	**0**	**879,870**	**476,210**	
A3.1.2.1 Promote improved soil management	Promotion of shallow depressions and "Zai" techniques in PO´s. Training sessions and practice on demonstration plots.	258,370		167,900	90,470	Cost of Monthly training sessions with PO members each session estimate cost of 15 usd, includes photocopies and other materials for the sessions. Cost for external trainer as necessary, field practice days, field days, % of general project costs; staff salaries, equipment, administration and operational costs, travel costs for M&E expert.
A3.1.2.2 Promote cropping practices resilient to climate change effects	Promotion of improved cropping practices, training sessions in PO´s, field demonstration and practice on demonstration plots.	242,540		155,790	86,750	Cost of Monthly training sessions with PO members each session estimate cost of 15 usd, includes photocopies and other materials for the sessions. Cost for external trainer as necessary, field days, % of general project costs; staff salaries, equipment, administration and operational costs, travel costs for M&E expert
A3.1.2.3 Establish nurseries and seed banks by communities	Input for establishment of nurseries for production of trees as well as low-cost technologies for seed banks.	138,000		96,600	41,400	Includes all needed equipment and materials for production of a variety of trees. Examples of traditional seed and modern/improved seed bank technologies. Includes Implementation of ESMP (USP E&S screening).
A3.1.2.4 Increase the use of a range of drought-resistant crops and seeds	Input of drought resistant crops and seeds. Training sessions and field days with PO members.	290,310		195,340	94,970	Input, seeds and seedlings, Community field days, Monthly training session with PO members, % of project costs; staff salaries, vehicles and other project equipment, administration and operational costs.
A3.1.2.5 Promote horticulture and horticulture production sites	Establishment of horticulture plots for demonstration and training session on production of horticulture.	426,860		264,240	162,620	Input, seeds for horticulture. Cost of Monthly training sessions with PO members each session estimate cost of 15 usd, includes photocopies and other materials for the sessions. Cost for external trainer as necessary, field days, as well as % of general project costs; staff salaries, equipment, administration and operational costs, travel costs for M&E expert.
Output 3.1.3 Sustainable fisheries are supported		**362,600**	**15,000**	**173,800**	**173,800**	
A3.1.3.1 Facilitate access to the fishing sites	Meeting with communities, authorities and cross border meetings to understand sustainable fishing, promotion of laws and regulations on both side of the borders. Establishment of register on information about amount and kind of fishing.	43,600	15,000	14,300	14,300	Budget line includes costs for; * Mapping of areas and PO members to participate in the activity. * 2 cross border (regional) meetings per year for introduction and update of the output, 1 meeting per year each in Angola and Namibia, in 2nd - 5th year. Cost includes meeting materials, catering and travel cost. Estimated 100 usd/meeting for refreshments and travel. * Register books and other needed materials for development of register. Working hours. Estimated 12 registers (2 in each

						municipality/district). Lumpsum of 300 usd per register.
A3.1.3.2 Train and sensitize relevant PO members on sustainable fishing methods and technics	Training on sustainable fishing methods among targeted fishermen and women participants in the PO's.	84,000		42,000	42,000	Estimated amount of 120 usd x 700 PO members (350 Angola and 350 Namibia) who participate in training sessions. Cost includes development and printing of training/information material, trainer, travel costs.
A3.1.3.3 Equip fishermen and processors with fishing materials and tools	Supply of inputs to equip fishermen/women and processors with adequate equipment and materials to conduct fishing and fish processing.	235,000		117,500	117,500	Includes samples of fishing nets, plastic boxes, fishing lines and fish hooks, drying and smoking facilities for 120 PO´s in Angola and 40 PO´s in Namibia. Include as well the cost of 12 small boats, and the maintenance of the same for 4 years.
Output 3.1.4Improved livestock production is supported		**741,350**	**0**	**482,700**	**258,650**	
A3.1.4.1 Support access to veterinary services for cattle farmers	Facilitate access to veterinary services through MoA´s. Build on existing capacities and create synergies with other actors in the area.	235,300		155,900	79,400	Cost of Monthly training sessions with PO members each session estimate cost of 15 usd, includes photocopies and other materials for the sessions. Meeting with local and provincial authorities. Cost for external trainer as necessary, community days, as well as % of general project costs; staff salaries, equipment, administration and operational costs, travel costs for M&E expert.
A3.1.4.2 Promote short-cycle livestock production	Promotion of poultry, goats, rabbits and pigs. Promoted through the PO´s. Kind of livestock to be identified together with PO members, depending on access to food and other pre-conditions for each kind of livestock.	270,800		170,900	99,900	Cost of Monthly training sessions with PO members each session estimate cost of 15 usd, includes photocopies and other materials for the sessions. Cost for external trainer as necessary, community days, as well as % of general project costs; staff salaries, equipment, administration and operational costs, travel costs for M&E expert.
A3.1.4.3 Improve the production of fodder for livestock	Promotion of fast-growing trees and shrub species. Possibility of insect farming for feeding of poultry.	235,250		155,900	79,350	Input for fodder production in model fields. Cost of Monthly training sessions with PO members each session estimate cost of 15 usd, includes photocopies and other materials for the sessions. Cost for external trainer as necessary, community days, as well as % of general project costs; staff salaries, equipment, administration and operational costs, travel costs for M&E expert.
Outcome 3.2 Resilience of populations livelihoods is increased and sustained through Income Generating Activities (IGAs)		**1,760,820**	**367,210**	**864,350**	**529,260**	
Output 3.2.1Production of 6,500 targeted farmers (50% women) is diversified (crop diversification, beekeeping, fishing)		**1,760,820**	**367,210**	**864,350**	**529,260**	
A3.2.1.1 Develop and promote non-agricultural sources of income such as beekeeping, fishing and microenterprise development	Identification together with PO members on relevant non-agriculture IGA. Definition on trainings and input needed for initiation of such IGA´s.	210,950	20,000	127,800	63,150	Fee of experts as per need, % of project costs; staff salaries, administration and operational costs. Includes Implementation of ESMP (USP E&S screening).

A3.2.1.2 Facilitate saving groups among farmers	Saving groups within the PO´s, formed by women as a priority. 10 - 15 members in each saving group.	202,820	20,000	91,410	91,410	Cost of Monthly training sessions with PO members each session estimate cost of 15 usd, includes photocopies and other materials for the sessions. Cost for external trainer as necessary, community days, as well as % of general project costs; staff salaries, equipment, administration and operational costs, travel costs for M&E expert.
A3.2.1.3 Facilitate access to micro-credits for farmers and POs to adopt new income-generating activities	Small grants for PO´s with strong business ideas. Access to equipment and materials on a credit basis.	765,650	40,000	471,500	254,150	100 USD per community to establish a system for in-kind loans in Angola and 68 USD in Namibia, including purchase of chickens, goats or other, 17.000 USD per municipality/district for income generating activities as suggested by communities - e.g., beekeeping, fish farming, other. % of project costs; staff salary, vehicle and project equipment, administration and operational costs.), Includes Implementation of ESMP (USP E&S screening).
A3.2.1.4 Introduce low-cost storage and train farmers on the processing equipment	Low-cost storage units and made from local materials, or low-cost technologies at HH-level as example for all member in PO´s. Training sessions on storage	176,190		114,640	61,550	Storage models in each PO and CCACs. Cost of Monthly training sessions with PO members each session estimate cost of 15 usd, includes photocopies and other materials for the sessions. Cost for external trainer as necessary, community days, as well as % of general project costs; staff salaries, equipment, administration and operational costs, travel costs for M&E expert
A3.2.1.5 Develop public private partnerships (PPPs) to improve links to the market	Promotion of basic business plans, facilitate throughout the project link to access to credits and linkages to close and distant markets. Meetings between producers and private sector actors, providing network services, facilitate negotiations and establishing of contracts and/or agreements. Consultations with Farmers Unions and local agriculture departments where applicable. Promote regional small-scale trade.	196,000	78,000	59,000	59,000	Meeting cost, % of project costs; staff salaries, administration and operational costs.
A3.2.1.6 Organize exchange visits between POs across the border to facilitate experience sharing	Exchange visits between PO´s in Angola and Namibia and vice versa. Lead farmers from the 2 countries meet to exchange experiences and good practices. Project will provide transport, accommodation and other travel related costs.	209,210	209,210			120 PO´s in Angola expected to carry out 3 experience sharing visits/year (2,3,4 and 5) x 60 USD and 40 PO´s in Namibia. Cost includes food and accommodation and other travel and meeting costs for PO members participating in visit.
Subtotal All Components (A)		**10,120,855**	**990,235**	**5,859,230**	**3,271,390**	
Project Execution Costs 9.5% (B)		**920,183**	**290,500**	**322,823**	**306,860**	
Adm/Office costs		47,000	0	34,000	13,000	National offices cost for Angola and Namibia, covers % of use of facilities, partial communication, office materials. Budget line includes yearly external ADPP and DAPP audit.

Project inception and launch	60,000	20,000	20,000	20,000	Project launch, development of Project Implementation Manuals, TORs, recruitment of project team.
Travel Costs	72,050	40,000	21,450	10,600	Supervision and participation in meetings by ADPP and DAPP national staff, Travel costs (flight tickets, per diem). Includes as well one international travel per year for each organization.
Steering committee/other meetings	54,500	23,500	0	31,000	2 regional steering committee meetings per year including at least 5 persons per country, 2 provincial/regional stakeholder meetings per year, 4 municipal/district meetings per year. Cost includes catering, travel cost for participants, consumables for meetings. Includes implementation of ESMP @USD35,000
Consultants	62,000	62,000	0	0	Consultants for research and consultancies in Angola and Namibia. Budget line managed by ADPP Angola. Estimate 160 days during 5-year project implementation to an average price of 450 usd/day.
HR	624,633	140,000	267,373	217,260	ADPP and DAPP national staff spending LOE time on project activities - monitoring, supervision + 2 Financial managers (1 Angola 100%, 1 Namibia 75%), 2 Project Accountants (1 Angola and 1 Namibia 100% LOE), 2Procurement officers (100% LOE 1st year, 50% LOE 2nd year and 25% 3rd and 4th year). All salary calculations include social security, taxes and legally bound bonuses.) Includes ESMP implementation @ USD101,400
Total Project Costs	**11,041,038**	**1,280,735**	**6,182,053**	**3,578,250**	
Project Implementation Costs 8,5% (C)	**900,000**				
Implementation and Coordination Management Fees: salaries and fees of experts in charge of the project for planning, daily management, M&E, and implementation, as well as equipment and consumables, etc.	490,000				Salaries and management fees
Monitoring and Evaluation: Costs of supervision missions, financial audit, mid-term and final evaluation	190,000				Annual Field visits for joint review of the project results, progress and activities, Mid-term evaluation, Final Project report, Final project audit, Final project evaluation, ESMP Monitoring @USD50,000
Assessment, supervision and travel expenses for monitoring: Participation in steering committee meetings and participation in workshops	150,000				Travel, DSA, printing, consultancies, ESMP Monitoring @USD50,000
Financial management, accounting, administrative follow-up: Financial management monitoring fees in line with the requirements of the Adaptation Fund, financial reports, procurement procedures, accounting, audits, etc. Bank charge related to banking transactions and transfers of funds	70,000				Consultancies, management fee
GRANT AMOUNT (A+B+C)	**11,941,038**				

H. Disbursement Schedule with time-bound milestones

Table 37:ADSWAC Disbursement Schedule

Components	Outcomes	Outputs	Activities	Budget (USD)	Year 1 (USD)	Year 2 (USD)	Year 3 (USD)	Year 4 (USD)	Year 5 (USD)
COMPONENT 1 Strengthening awareness, knowledge and capacity to adapt to climate change and variability at community-, district-, national and regional level	**Outcome 1.1** Enhanced awareness and ownership of adaptation and climate risk reduction processes of the target populations.	***Output 1.1.1*** Communities and populations in the target areas have participated in climate change adaptation and risk reduction awareness activities	**A1.1.1.1** Establishment of Institutional capacities to manage the CCACs	15,500	15,500				
			A1.1.1.2 Rehabilitation or construction of the CCACs	288,110	240,110	20,000	13,000	10,000	5,000
			A1.1.1.3 Identify and agree on land for setting up 6 CCACs demonstration plots	6,200	6,200				
			A1.1.1.4 Build capacity of sub-national and local authorities and entities on climate change adaptation planning and implementation	95,260	48,820	15,480	15,480	15,480	
			A1.1.1.5 Develop Community Adaptation Action Plans (CAAPs)	110,260	35,060	18,800	18,800	18,800	18,800
		Output 1.1.2 Climate change awareness and sensitization to the communities	**A1.1.2.1** Development of communication strategy for CC information and dissemination	2,270	2,270				
			A1.1.2.2 Climate change awareness campaigns in target communities	111,260	22,252	22,252	22,252	22,252	22,252
			A1.1.2.3 Climate change awareness campaigns in schools through the Green School Programme.	290,590	96,590	48,500	48,500	48,500	48,500
			A1.1.2.4 Disseminate project results, best practices and lessons learned in sub-national, national and international forums and through online media	89,760	37,760	13,000	13,000	13,000	13,000
	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	**A1.2.1.1** Establishment of a transboundary coordination mechanism (authorities as well as civil society) for adaptation and disaster response systems through regional forums with key stakeholders	114,420	22,900	22,900	22,900	22,900	22,820
			A.1.2.1.2 Organize coordination meetings between 6 CCACs for a better knowledge and information sharing.	152,040		38,010	38,010	38,010	38,010
			A1.2.1.3 Sensitize and provide conflict management trainings for cattle herders, farmers and local authorities near transhumance corridors	133,275	26,655	26,655	26,655	26,655	26,655
			A1.2.1.4 Strengthen Early Warning and climate information channels.	114,420	22,884	22,884	22,884	22,884	22,884
Subtotal Component 1				**1,523,365**	**577,001**	**248,481**	**241,481**	**238,481**	**217,921**
COMPONENT 2 Organizational and Technical learning for climate resilient production and water management	**Outcome 2.1** Community-based and farmer-based organizations for production and water management have been established	***Output 2.1.1*** Capacities of extension services and institutions needs are assessed and strengthened	**A2.1.1.1** Conduct baseline and capacity needs assessment of all actors	60,000	60,000				
			A2.1.1.2 Development of a training plan and training modules for all topics	33,120	33,120				
			A2.1.1.3 Establishing partnership and Memorandum of Understanding (MOU) with sub-national extension services.	10,320	10,320				
			A2.1.1.4 Train the extension agents and field instructors to ensure farmer trainings	63,440	25,376	9,516	9,516	9,516	9,516
			A2.1.1.5 Conduct regular farmer field days and FFS using a Technical Orientation Manual	148,650	29,730	29,730	29,730	29,730	29,730
			A2.1.1.6 Conduct KAP surveys	80,000	20,000	15,000	15,000	15,000	15,000

	and strengthened	***Output 2.1.2*** Communities are organized and adopt and mainstream to climate resilience practices (160 Pos and 160 WUAs)	**A2.1.2.1** Identification and establishment of new Producer Organizations (POs) and Water User Associations (WUAs)	171,440	171,440				
			A2.1.2.2 Strengthening and building capacities of 160 Pos and 160 WUAs including managerial capacities	161,570	50,000	50,000	25,000	25,000	11,570
			A2.1.2.3 Support POs in adapting to developing agriculture value chains (production systems, management of low-cost storage and processing equipment, business skills and establishment of links to the markets	93,530	18,706	18,706	18,706	18,706	18,706
			A2.1.2.4 Support WUAs to manage water points and promote accompanying hygiene messages around safe water storage and use, and water demand messages	256,910	128,455	128,455			
	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*** 160 model plots (Farmer Field Schools) for climate-resilient and water-efficient agriculture practices, Conservation Agriculture (CA) and Agroforestry Systems (AFS) are established	**A2.2.1.1** Select and agree on the demonstration plots (Farmer Field Schools)	36,970	36,970				
			A2.2.2.2 Training and sensitization of the lead farmers in each of 160 POs	86,430	25,230	15,300	15,300	15,300	15,300
			A2.2.2.3 Organize with the support of the extension services sensitization sessions for farmers to encourage them to apply new resilient practices	59,090	20,450	9,660	9,660	9,660	9,660
			A2.2.2.4 Set up the demonstration plots and procure inputs for their establishment and management	475,970	375,970	100,000			
Subtotal Component 2				**1,737,440**	**1,005,767**	**376,367**	**122,912**	**122,912**	**109,482**
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	**Outcome 3.1** Resilience of populations and ecosystems is improved through concrete adaptation measures	***Output 3.1.1*** Target farmers' and populations' access to and use of water during the dry season are increased	**A3.1.1.1** Select the most viable water solutions for production	238,430	238,430				
			A3.1.1.2 Provide inputs to farmers to implement infrastructure for production, water capture and retention systems at farmers' fields.	1,839,440	844,255	844,255	50,310	50,310	50,310
			A3.1.1.3 Promote solar powered water pumps and small-scale irrigation systems	241,910	84,560	52,450	52,450	52,450	
			A3.1.1.4 Establish models for water collection for human consumption.	164,720		54,910	54,910	54,900	
			A3.1.1.6 Conduct community campaigns for safe water use and water demand management	154,700	77,350	77,350			
		Output 3.1.2 Agriculture resilient practices are adopted and promoted	**A3.1.2.1** Promote improved soil management.	258,370	111,170	36,800	36,800	36,800	36,800
			A3.1.2.2 Promote cropping practices resilient to climate change effects.	242,540	95,340	36,800	36,800	36,800	36,800
			A3.1.2.3 Establish nurseries and seed banks by communities	138,000	69,000	17,250	17,250	17,250	17,250
			A3.1.2.4 Increase the use of drought-resistant crops and seeds.	290,310	110,310	45,000	45,000	45,000	45,000
			A3.1.2.4 Promote horticulture production and horticulture production sites.	426,860	246,860	45,000	45,000	45,000	45,000
			A3.1.3.1 Facilitate access to the fishing sites	43,600		10,900	10,900	10,900	10,900

		Output 3.1.3 Sustainable fisheries are supported	**A3.1.3.2** Train and sensitize relevant PO members on sustainable fishing methods and technics	84,000		21,000	21,000	21,000	21,000
			A3.1.3.3 Equip fishermen and processors with fishing materials and tools	235,000	150,000	25,000	20,000	20,000	20,000
		Output 3.1.4 Improved livestock production is supported	**A3.1.3.1** Support access to veterinary services for cattle farmers	235,300	64,100	42,800	42,800	42,800	42,800
			A3.1.3.2 Promote the production of short-cycle livestock	270,800	71,200	49,900	49,900	49,900	49,900
			A3.1.3.3 Improve the production of fodder for livestock	235,250	64,050	42,800	42,800	42,800	42,800
	Outcome 3.2 Resilience of populations livelihoods is increased and sustained through Income Generating Activities (IGA)	***Output 3.2.1*** Production of 6,500 targeted farmers (50% women) is diversified (crop diversification, beekeeping, fishing)	**A3.2.1.1** Develop and promote non-agricultural sources of income such as beekeeping, fishing and microenterprise development	210,950	70,158	34,778	36,038	34,778	35,198
			A3.2.1.2 Facilitate saving groups among farmers	202,820	62,028	34,778	36,038	34,778	35,198
			A3.2.1.3 Facilitate access to micro-credits for farmers and POs to adopt new income-generating activities	765,650	216,858	136,778	138,038	136,778	137,198
			A3.2.1.4 Introduce low-cost storage and train farmers on the processing equipment	176,190		89,000	29,094	29,048	29,048
			A3.2.1.5 Develop public private partnerships (PPPs) to improve links to the market	196,000	60,653	33,419	34,676	33,416	33,836
			A3.2.1.6 Organize exchange visits between POs across the border to facilitate experience sharing	209,210		51,677	53,771	51,671	52,091
Subtotal Component 3				**6,860,050**	**2,636,322**	**1,782,645**	**853,575**	**846,379**	**741,129**
Subtotal All Components (A)				**10,120,855**	**4,219,090**	**2,407,493**	**1,217,968**	**1,207,772**	**1,068,532**
Adm/Office costs				47,000	18,800	7,050	7,050	7,050	7,050
Travel Costs				92,050	36,000	15,000	14,000	14,000	13,050
Steering committee/other meetings				64,500	13,000	13,000	13,000	13,000	12,500
Consultants				72,000	25,000	25,000	11,000	11,000	
HR				644,633	286,110	158,457	64,982	64,178	70,906
Total Project Execution Costs (B)				**920,183**	**378,910**	**218,507**	**110,032**	**109,228**	**103,506**
Total Project Costs (A+B)				**11,041,038**	**4,598,000**	**2,626,000**	**1,328,000**	**1,317,000**	**1,172,038**
Project Implementation Costs									
Implementation and Coordination Management Fees: salaries and fees of experts in charge of the project for planning, daily management, M&E, and implementation, as well as equipment and consumables, etc.				490,000	147,000	98,000	73,500	73,500	98,000
Monitoring and Evaluation: Costs of supervision missions, financial audit, mid-term and final evaluation				190,000	57,000	38,000	28,500	28,500	38,000
Assessment, supervision and travel expenses for monitoring: Costs of supervision missions, participation in steering committee meetings, mid-term and final evaluation and participation in workshops				150,000	45,000	30,000	22,500	22,500	30,000
Financial management, accounting, administrative follow-up and financial audit: Financial management monitoring fees in line with the requirements of the Adaptation Fund, financial reports, procurement procedures, accounting, audits, etc. Bank charge related to banking transactions and transfers of funds				70,000	21,000	14,000	105,00	105,00	14,000
Total Project Implementation Costs (C)				**900,000**	**270,000**	**180,000**	**135,000**	**135,000**	**180,000**
GRANT AMOUNT (A+B+C)				**11,941,038**	**4,868,000**	**2,806,000**	**1,463,000**	**1,452,000**	**1,352,038**

Table 38: Disbursement summary tab according to AF template

Scheduled Date	Upon Agreement signature (USD)	One Year after Project Start (USD)	Year 3 (USD)	Year 4 (USD)	Year 5 (USD)	Total (USD)
Scheduled Date	November 1st 2021	November 1st 2022	November 1st 2023	November 1st 2024	November 1st 2025	
Project Funds	4,598,000	2,626,000	1,328,000	1,317,000	1,172,038	**11,041,038**
Implementing Entity Fee	270000	180000	135000	135000	180000	**900,000**
Total	**4,868,000**	**2,806,000**	**1,463,000**	**1,452,000**	**1,352,038**	**11,941,038**

Table 39: ADSWAC Activity Calendar[43]

Activities	Year 1				Year 2				Year 3				Year 4				Year 5			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
A1.1.1.1 Establishment of institutional capacities to manage the Climate Change Action Centres																				
A1.1.1.2 Rehabilitation or construction of the CCACs																				
A1.1.1.3 identify and agree on land for setting up 6 CCACs demonstration plots																				
A1.1.1.4 Build capacity of sub-national and local authorities and entities on climate change adaptation planning and implementation																				
A1.1.1.5 Develop Community Adaptation Action Plans (CAAPs)																				
A1.1.2.1 Development of a communication strategy for Cc information and dissemination																				
A1.1.2.2 Organize climate change awareness campaigns in target communities																				
A1.1.2.3 Organize climate change awareness campaigns in schools through the Green School Programme																				
A1.1.2.4 Disseminate project results, best practices and lessons learned in sub-national, national and international forums and through online media																				
A1.2.1.1 Establish a transboundary coordination mechanism for adaptation and disaster response systems through quarterly regional forums with key stakeholders																				
A1.2.1.2 Organize coordination meetings between the 6 CCACs for a better knowledge and information sharing																				
A1.2.1.3 Sensitize and provide conflict management trainings for cattle herders, farmers and local authorities near transhumance corridors																				
A1.2.1.4 Strengthen Early Warning and climate information channels																				
A2.1.1.1 Conduct baseline and capacity needs assessment of all actors																				
A2.1.1.2 Development of a training plan and training modules for all topics																				
A2.1.1.3 Establishing partnership and Memorandum of Understanding (MoU) with the subnational extension services																				
A2.1.1.4 Train the extension agents and field instructors to ensure farmer trainings																				
A2.1.1.5 Conduct regular farmer field days and FFS using a Technical Orientation Manual																				
A2.1.1.6 Conduct KAP surveys																				
A2.1.2.1 Identification and establishment of new POs and WUAs																				
A2.1.2.2 Strengthening capacities of 160 POs and 160 WUAs including managerial capacities																				
A2.1.2.3 Support POs in adapting in developing agriculture value chains																				
A2.1.2.4 Support WUAs to manage water points and promote accompanying hygiene messages around safe water storage and use, and water demand messages																				
A2.2.1.1 Select and agree on the demonstration plots (Farmer Field Schools)																				
A2.2.1.2 Training and sensitization of the lead farmers in each of 160 POs																				
A2.2.1.3 Organize with the support of the extension services sensitization sessions for farmers to encourage them to apply new resilient practices																				
A2.2.1.4 Set up the demonstration plots and procure inputs for their establishment and management																				
A3.1.1.1 Identify and select the most viable water solutions for production																				
A3.1.1.2 Provide inputs to farmers to implement infrastructure for production, water capture and retention systems at farmers' fields																				
A3.1.1.3 Establish models for water collection for human consumption																				
A3.1.1.4 Promote solar powered water pumps and small-scale irrigation systems																				
A3.1.1.5 Conduct community campaigns for safe water use and water demand management																				
A3.1.2.1 Promote improved soil management																				
A3.1.2.2 Promote cropping practices resilient to climate change effects																				
A3.1.2.3 Establish nurseries and seed banks																				
A3.1.2.4 Increase the use of drought-resistant crops and seeds																				
A3.1.2.5 Promote horticulture production																				
A3.1.3.1 Facilitate access to the fishing sites																				
A3.1.3.2 Train and sensitize on sustainable fishing methods and technics																				
A3.1.3.3 Equip fishermen and processors with fishing material and tools																				
A3.1.4.1 Support access to veterinary services for cattle farmers																				
A3.1.4.2 Promote the production of short-cycle livestock																				
A3.1.4.3 Improve the production of fodder for livestock																				
A3.2.1.1 Develop and promote non-agricultural sources of income																				
A3.2.1.2 Facilitate access to micro-credits for farmers and POs to adopt new IGAs																				
A3.2.1.3 Facilitate saving groups among farmers																				
A3.2.1.4 Introduce low-cost storage and train farmers on the processing equipment																				
A3.2.1.5 develop public private partnerships (PPPs) to improve links to the market																				
A2.1.2.6 organize exchange visits between POs across the border to facilitate experience sharing																				

Legend

Ongoing

Milestone/ Deliverable

[43] Suggested timelines under components 2 & 3 are subject to the farming calendar, and requires updating during the project's initiation

PART. IV Endorsement by Governments and Certification by the IE

A. Record of endorsement on behalf of the government[44]

ANGOLA *Mrs. Carla Esperança Narciso Pompilio da Silva Balça* Senior Climate Change Specialist Ministry of Culture, Tourism and Environment	**Date:** *January 12, 2021*
NAMIBIA *Mr. Teofilus Nghitila* Executive Director Ministry of Environment, Forestry and Tourism	**Date:** *December 9, 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. Nabil BEN KHATRA – *Executive Secretary of the Sahara and Sahel Observatory (OSS) as the Implementing Entity Coordinator*

Date: **April 26, 2021**	Tel.: **(+216) 71 206 633** Email: boc@oss.org.tn
Project Contact Person: **Mrs. Khaoula JAOUI**	
Tel. and Email: **(+216) 71 206 633**; khaoula.jaoui@oss.org.tn	

[44] 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.

PART. V ANNEXES

1. Endorsement Letters

REPÚBLICA DE ANGOLA

MINISTÉRIO DA CULTURA, TURISMO E AMBIENTE
Direcção Nacional do Ambiente e Acção Climática

OFÍCIO Nº299 /DNAAC/MCTA/2021

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

Luanda, 12 of January 2021

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

Dear Madam/Sir,

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 proposal with support from the Adaptation Fund. If approved, the project will be implemented by the **Sahara and Sahel Observatory** and executed by ADPP- Ajuda de Desenvolvimento de Povo para Povo Angola.

Yours sincerely,

Carla Pompílio da Silva Balça
NDA/Focal Point

MCTA – Ministério da Cultura, Turismo e Ambiente
Rua do MAT, Complexo Administrativo
" Clássicos de Talatona " Município da Samba, 4 Edifício.
Telefone: 925 000 551/ Email: mcta@mcta.gov.ao
Número Contribuinte: 5000379891

GOVERNO DE ANGOLA | mcta.gov.ao

REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM

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

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

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

9 December 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 proposal "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 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 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, Forestry and Tourism, other relevant Ministries and their sub-national counterparts.

Sincerely,

MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM
09 DEC 2020
Office of the EXECUTIVE DIRECTOR REPUBLIC OF NAMIBIA

Teofilus Nghitila
Executive Director

"Stop the poaching of our rhinos"

All official correspondence must be addressed to the Executive Director

2. Environmental and Social Impact Assessment (ESIA), And Environment and Social Risk Management Plan (ESRMP) for ADSWAC Project (Angola and Namibia)

1.

8. As a requirement for the approval of the ADSWAC project in Angola and Namibia, the Adaptation Fund needs an Environmental and Social Impact Assessment (ESIA) and an Environmental and Social Management Plan (ESMP). The ESIA and ESMP are developed to guarantee that the ADSWAC project promotes positive social and environmental benefits, and equally avoids associated potential risks and adverse social and environmental impact.
9. Consequently, the ESIA and ESMP for ADSWAC were conducted with inputs from (i) the respective countries' National Environmental Authorities (Ministry of Environment (MoE) in Angola, Ministry of Environment, Forestry and Tourism (MEFT) in Namibia), and (ii) the respective Executing Entities (Ajuda de Desenvolvimento de Povo para Povo (ADPP) in Angola, and Development Aid from People to People (DAPP) in Namibia), in direct collaboration with the Sahara and Sahel Observatory (OSS).
10. The screening found that, although the project brings significant benefits to the targeted communities and ecosystems, there are activities that could generate some minor adverse social and environmental impacts. Considering that the Cubango-Okavango River Basin (CORB) is one of the most biodiverse-rich areas in the world, and that the project will involve participation of the Khoisan Indigenous Peoples (in Angola), the screening resulted in an overall social and environmental risk categorization of "Type B". The ESMP is designed to avoid potential negative impact, and where avoidance is impossible, to mitigate and manage these limited potential impacts.
11. The ESIA and ESMP document is structured as follows:
    (i) Overview of the project, including activities and documentation on target areas;
    (ii) Risk Identification and Categorization; and
    (iii) ESMP.

2.1. Project background

12. Angola and Namibia are experiencing severe food and water insecurity due to high drought occurrence. Increasing temperatures and rainfall variability have led to increasing occurrences of floods and droughts, resulting in negative effects on populations and ecosystems. Climate projections indicate mean annual temperatures are projected to increase between 1.2oC and 3.2oC by 2060 (RCP8.5 scenario). Although rainfall models vary, there is broad agreement that precipitation will decrease. The strongest decrease in the respective countries is expected in the border area between Southern Angola and Northern Namibia45.
13. Such projected temperature and rainfall anomalies aggravate the Climate Change (CC) situation for human populations and ecosystems in the border area, negatively impacting water resources, agriculture, biodiversity, health, disaster resilience, tourism and infrastructure on which the increasing human population depends for their livelihoods.
14. On this border between Angola and Namibia, small-scale rainfed and small-scale irrigated agriculture and livestock (cattle and goats) rearing provide livelihoods and subsistence for the vast majority of the population. The dry seasons in the area are depicted by significant challenges in terms of food security and access to water. Despite the potential for agriculture production, both countries are net importers of food, placing especially the most vulnerable populations at risk of climate-related shocks and market fluctuations. Little attention has been paid to efficient rural development and crop and livestock production, and the populations are inadequately reached with agriculture extension and other social services.
15. The target areas are geographically more coherent than they are with their own national capitals. Population groups across frontiers share similar ethnic backgrounds, languages and cultural habits and characteristics. A unified cross-border approach would not only help the populations to adapt to changing conditions but encompasses a key contribution to avoid further encroachment of the protected areas in the highly valuable Okavango river basin ecosystem.
16. In view of these observations and projections, and with the aim to strengthen the resilience of the border area's populations and ecosystems, the Sahara and Sahel Observatory (OSS) in collaboration with the two countries (Angola and Namibia) and in direct partnership with two national NGOs, Ajuda de Desenvolvimento de Povo para Povo (ADPP) Angola and Development Aid from People to People (DAPP) Namibia as the Executing Entities. OSS with ADPP and DAPP [founding members of the Humana People to People Federation (HPP)], have submitted a Concept Note (CN) to the Adaptation Fund (AF) for a regional project. The project is titled "Resilience Building as Climate Change Adaptation in Drought-Struck South-Western African Communities – ADSWAC".

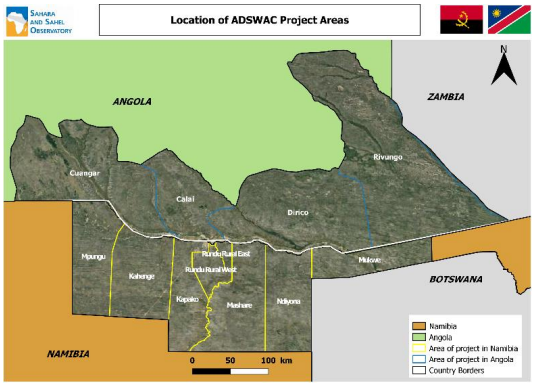
2.2. Project Objectives

17. Overall, the project's objective is to enhance adaptation capacities and resilience towards Climate Change impacts and variability in the transboundary region between Angola and Namibia.
18. This will be achieved through increasing knowledge and awareness on CC and CC Adaptation (CCA), strengthening technical capacities for CCA at local, sub-national, national and regional level, and the implementation of concrete adaptation activities to increase resilience and adaptive capacities of smallholder farmers. More specifically, the project has set specific objectives of:
    a) Enhancing local, sub-national and regional capacities to adapt and respond to climate change risks in the cross-border area of Angola and Namibia;
    b) Building organizational and technical capacity for climate-resilient production and water management;
    c) 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.

[45] 2014, Intergovernmental Panel on Climate Change (IPCC), 5th Assessment Report

19. 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).
20. 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;
21. In Kavango East & West Regions in Namibia (constituencies of Mpungu, Nkurenkuru, Tondoro, Musese, Kapako, Mankupii, Ncamagoro, Ncuncuni, 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.

Figure: Location of the transboundary project area between Angola and Namibia



3. , INSTITUTIONAL AND LEGAL FRAMEWORK

3.1. National Environmental and Social Management Requirements

Angola

22. First signed into law in 1992, the Constitution of the Republic of Angola was replaced in 2010 and provides the basis for the Environment Framework Law through Article 39 (Environmental rights): '(1) Everyone has the right to live in a healthy and unpolluted environment and the duty to defend and preserve it; (2) The state shall take the requisite measures to protect the environment and species of flora and fauna throughout the national territory, maintain the ecological balance, ensure the correct location of economic activities and the rational development and use of all natural resources, within the context of sustainable development, respect for the rights of future generations and the preservation of species. (3) "Acts that endanger or damage conservation of the environment shall be punishable by law.' In addition, Article 90(e) reads that the state shall promote social development by 'ensuring that all citizens enjoy the benefits resulting from collective efforts in terms of development, specifically with regard to quantitative and qualitative improvements to standards of living.'

Namibia

23. Since achieving independence in 1990, the government of Namibia has adopted a number of policies that promote sustainable development rooted in the Namibia's National Constitution, and based on the adopted United Nations Agenda 21 principles. Namibia's Vision 2030 with 'Chapter 5: Sustainable Resource Base' and 'Chapter 6: Creating the Enabling Environment' forms the foundation with strategic implementation guided by the 5-year National development plans; this is clearly described in Chapter 4: Environmental sustainability. Directly supportive National Acts include the Environmental Management Act 7 of 2007, the Water Resources Management Act 11 of 2013 and the Forest Act 12 of 2001, supported by the National Policy on Climate Change. Furthermore, two distinct clauses of the Namibian Constitution support above: Article 91(c) defines the functions of the Ombudsman to include: '... the duty to investigate complaints concerning the over-utilisation of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia ... '. Article 95(l) commits the state to actively promoting and maintaining the welfare of the people by adopting policies aimed at the: '... maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future ...'

3.2. Policy Framework

Angola

24. The government's environmental strategies, policy framework and management approaches and priorities are spelled out in two major documents – the Programa Nacional de Gestão Ambiental (PNGA) and the National Environmental Strategy (Estratégia Nacional do Ambiente (ENA)). Responsibility for formulating and implementing environmental policies and programmes and for environmental management lies with the Ministry of Culture, Tourism and the Environment. This includes the promotion of a policy to support environmental education processes within the formal and informal education sectors. The PNGA emphasizes the need for an environmental management strategy to protect the environment, even though most of Angola's natural resources are still

largely intact. The ENA, is a guiding framework closely related to the PNGA, which aims to identify the main environmental problems in Angola and address them in order to achieve sustainable development goals.

25. Otherer relevant policies include: (a) Angola 2025: Long-Term Strategy (estratégia de Longo Prazo): This strategy document reviews the significant challenges in Angola and establishes strategic options up to 2025. (b) Strategy to Combat Poverty (2003): The overall objective is to improve the conditions of Angolan citizens, in particular those who are vulnerable, by motivating them to participate actively in the socio- economic development process; (c) National Biodiversity Strategy and action Plan (2006): to guarantee the conservation and sustainable use of biological diversity components that enable the fair and equitable sharing of the benefits of the use of biological resources.

Namibia

26. In 1992, Namibia's Green Plan was drafted by the newly created Ministry of the Environment and Tourism, currently the Ministry of Environment, Forestry and Tourism (MEFT). This document analysed the main environmental challenges and specified actions required to address them, leading to a 12-point plan for integrated and sustainable environmental management, a strategic document that set out the most important areas that needed to be developed to place Namibia on a sustainable development path. Namibia's Environmental Assessment Policy recognises that EIAs seek to ensure that the environmental consequences of development projects and policies are considered, understood and incorporated into the planning process. The Policy defines the required steps for an EIA, the required contents of an EIA report, the need for post-implementation monitoring, and the system of appeals. All these aspects have since been taken up in the subsequent EMA and the accompanying Regulations. The Environmental Management Act, No. 7 of 2007 defines EIA as a process of identifying, predicting and evaluating the significant effects of activities on the environment, as well as the risks and consequences of activities and their alternatives and options for mitigation, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management. Furthermore, the Act stresses the integrated nature of an EIA

27. Other relevant environmental legislation in Namibia: (a) Water Resources Management Act, No. 24 of 2004; (b) Atmospheric Pollution Prevention Ordinance, No. 11 of 1976; (c) Public Health Act, and Social Services No. 36 of 1919, with subsequent amendments; (d) Forestry Act, 2001; (e) Agricultural (Commercial) Land Reform Act, 1995; (f) Communal Land Reform Act, 2002.

3.3. Environmental regulatory framework

Angola

28. The 1998 Environment Framework Law is based on Article 39 of the Angolan Constitutional Law. The Law provides the framework for all environmental legislation and regulations in Angola. It gives the definitions of important concepts, such as the protection, preservation and conservation of the environment, the promotion of quality of life, and the use of natural resources. Article 14 allows for the establishment of environmental protection areas and the setting of rules for those areas. Article 16 of the Law makes provision for mandatory EIAs for all undertakings that may have an impact on the balance and wellbeing of the environment and society. The Decree on environmental impact assessment has the aim to ensure better environmental protection, particularly in terms of human activities likely to have an impact on the environment, by: (i) Providing regulations to supplement the Environment Framework Law on EIAs; (ii) Establishing norms for conducting an EIA for public and private projects, which, due to their nature, dimension or location, might have significant environmental and social impacts; and (iv) Establishing which projects should be subject to an EIA, what elements are to be included in the EIA, the nature and extent of public participation, the entity responsible for compliance with these legal requirements and the EIA monitoring process. The Decree on environmental Licensing provides additional legislation by providing guidance on topics such as: which project should be subject to an EIA; what elements are to be included in an EIA; the nature and extent of public participation; the entity responsible for compliance with these legal requirements; and the EIA monitoring process. It also indicates that only Angolan-registered environmental companies can submit an Environmental Impact Study for approval

Namibia

29. The Environmental Management Act, No. 7 of 2007**,** provides for the main regulatory framework. The EMA is in line with modern legislative trends, including: Adherence to the polluter pays principle; The inherent need to incorporate adequate provisions to achieve 'reduction-at-source' in the areas of pollution control and waste management; The need to consider alternatives and to avoid or minimise negative impacts wherever possible; The costs of EIAs being borne by the proponent, who is also responsible for ensuring that the EIA and the EIA report are of an acceptable standard; The need for a binding agreement between the proponent and government, based on the recommendations contained in the EIA report, that specifies how the environmental issues will be dealt with in project implementation; and the need for public participation in the EIA process. Regulations in the EMA specify the process requirements for undertaking assessments of policies, plans and programmes (strategic environmental assessment) and of projects (EIA), developing environmental management plans, and undertaking environmental monitoring. Permits and licences in the EMA: Before a developer can commence with an activity listed in Schedule 1 of the Regulations to the EMA (see Appendix 11-1 for the list), s/he must obtain a Record of Decision and a Letter of Authorisation.

3.4. National Resettlement Regulations

Angola

30. Involuntary resettlement in Angola is guided by the Land Law (No. 9/04 of 9 November) and the Regulation on Resettlement. Under Article 12 of the Land Law, the state is allowed to expropriate land for public purposes. In order to obtain an Environmental Licence, the proponent or developer must attach written agreements pertaining to land acquisition and resettlement to the final draft EIS. The Presidential Decree No. 117/16 of 30 May 2016 establishes the rules for resettlement and rehousing for public projects but can be applicable to other projects. This Regulation aims to define the rules, procedures and criteria that should govern the action of the organs of public administration and autonomous state in the resettlement and rehousing process for a group of people living in a given territory, households, residents affected by redevelopment and conversion of urban areas, in accordance with the principles

governing public administration, without prejudice to the pursuit of public interest and the protection of rights and interests of citizens.

Namibia

31. In Namibia, according to the Communal Land Reform Act 5 of 2002, the traditional chief has the power to allocate land in communal areas for the purpose of farming or residential living. An application for *customary land rights* must be presented to the chief. *Section 2 of the Act* provides for the establishment of a Communal Land Board, which provides oversight over *all* land allocations in communal areas. As stipulated by the act, land may only be allocated if the board has approved the application. Once the board gives approval, a *certificate of registration* will be issued.

3.5. Institutional Framework in Angola/Namibia for E&S management

Angola

32. The Ministry of Culture, Tourism and the Environment is responsible for the development and coordination of the country's environmental policy and for implementing the PNGA. As the primary authority responsible for the implementation of the Environment Framework Law, No. 5/98, the Environmental Licensing Law, No. 59/07, and all associated Regulations, the Ministry is also responsible for the review and regulation of EIAs.

Namibia

33. The MEFT is responsible for safeguarding Namibia's environmental resources. Currently, environmental impact assessments (EIAs) are guided and reviewed by the Directorate of Environmental Affairs (DEA) in the MEFT.

4.1. Physical environment

4.1.1. Geographic location and target area

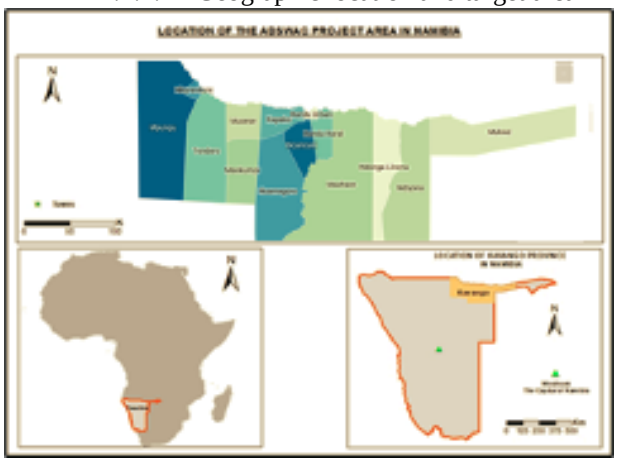


Figure: Location of Cuando Cubango province and other provinces in Angola

34. 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*). 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. 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 which borders to the North and Cunene to the west. The capital is Menongue, a city founded on the banks of the Kuebe River. It is the country's southernmost point part that is very close to the town of Dirico, where Angola and Namibia connect[46]. 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 shares international borders with Namibia and Zambia (*Figure 1*). 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.

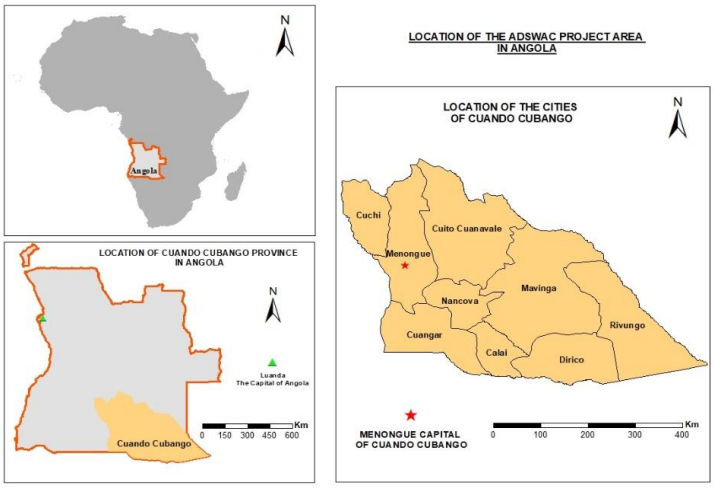


Figure: Location of Kavango regions in Namibia and neighbouring countries

35. 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 (*Figure 2a)*.

36. 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.

4.1.2. Climate & Climate Change

37. The target area is located in the flat plains of the Cubango-Okavango Basin (CORB). The CORB is characterized by rainfall in one distinct rainy season, October to May. The northern parts of the basin receive highest rainfall during the December-January period,

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

while the southern parts, such as Maun, have peak rainfall during January and February. Mean annual rainfall varies from across the river basin, but is estimated between 200 and 600 mm/annum in the target area[47]. Rainfall is highly variable, and there is at tendency to have 2-3 higher rainfall years, followed by 2-3 of low-rainfall years. Years with extremely low rainfall occur frequently, and seem to be increasing. Average daily maximum temperatures range between 30–35°C from August to March, and between 25-30°C in the colder months. Evaporation rates across the CORB increase from north to south in line with increasing temperatures. In the target area, the average monthly evaporation rate is greater than monthly rainfall for all months.

38. According to recent climate models (IPCC, AR5), significant temperature increase is expected, between 4 and 6°C by the end of the century, making the area one of the major 'climate change hotspots' across the world. There is an expected increase in heat waves, especially in the Southern part of the target area (Namibian section). The drought index is around 8.5 – 9 (out of 10), indicating a very high probability of droughts.

4.1.3. Topography

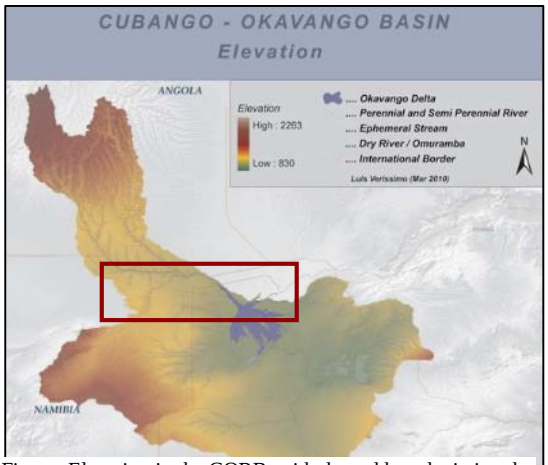


Figure: Elevation in the CORB, with the red box depicting the approximate target area

39. The headwaters of the CORB river system are located on the central highlands of Angola between Huambo and Cuito, at an altitude of 1,700–1,800 meters above sea level, dropping to just over 900 meters above sea level in the delta. The project area lies in what is defined as "***The middle reaches*** ", the lower Cuito and Cubango Rivers, as well as the Kavango upstream of the panhandle, approximately at 1,000 m above sea level[48].

40. Most of the target area is dominated by Kalahari sands, which extend to at least one meter, have less than 10 percent clay or silt content, and contain low nutrients. They are very porous, so that water drains rapidly, leaving little moisture for plants to access. The soils along the river channels and floodplains consist of a mix of silt, clay and fine sands. All along the border area, repeated ploughing and crop production have resulted in land degradation, soils of low nutrient content that are subject to erosion. In summary, most soils in the target area are quite coarse and so are not able to retain moisture and are low in nutrients, thus not very conducive to crop production, unless agriculture practices are adapted. The only fertile soils in the basin are scattered through parts of the delta[49].

4.1.4. Hydrology

River network

41. The main characteristics of the hydrological regime in the target area are two large streams, the Cubango and the Cuito, and the floodplains along the system. The Cubango river shows a highly variable hydrograph with sharp flow increases after rain events, receding quickly to low base-flow levels. The Cuito river exhibits smoother rise and fall patterns, because of the combined effects of groundwater contributions to base-flow and wet-season storage of floodwaters in vast floodplains and their drainage back into the river in the dry season. The CORB river system as a whole is a floodplain-driven system. These floodplains sustain the rivers in the dry season and store floodwaters that would otherwise increase flooding downstream. Climate change impacts such as rainfall decline, increasing frequency of drought years, and increasing evapotranspiration are creating lasting impacts, affecting the hydrological ecosystem as well as livelihoods derived from it[50].

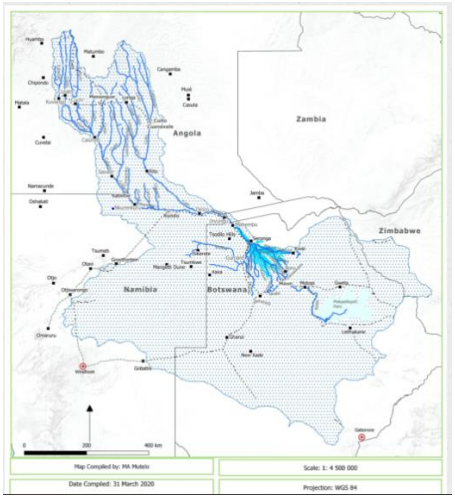


Figure: The CORB river network

Groundwater

42. The aquifers in the CORB can be considered in three distinct zones: The Angolan headwaters, the lower basins and the Okavango Delta. Obviously interlinked, it is the **"*lower basins*"** in which the proposed ADSWAC project will be implemented. Within that basin area, there are two types of aquifers: (i) primary Kalahari sand and sandstone aquifers; and (ii) secondary aquifers with fractured and weathered strata. Primary aquifers may be reached by some boreholes at a depth of about 350 m. The yield of boreholes near the Cuito River is less than 1 m3/h, while in the Kavango region of Namibia, most boreholes yield up to 8 m3/h. In areas where the Kalahari aquifers have a shallow groundwater gradient, the CORB river system recharges the aquifers, but in most sections the river gains groundwater from the permeable Kalahari sands. Of the total precipitation that the area receives, approximately 83% evaporates, 14% is used up by vegetation, 1% recharges groundwater, and only 2% becomes runoff.

Water Quality

43. The river waters' quality is very good, with levels of clarity and purity that generally make it possible for people to drink directly from the river. The Kalahari sands release few minerals and particles, while highly toxic pollution as such from urban areas is highly

[47] Climate Resilient Infrastructure Development Facility (CRIDF), 2019, Cubango-Okavango River Basin Homogenous Units & Hotspot Narratives
[48] OKACOM, 2011, Cubango-Okavango River Basin Transboundary Diagnostic Analysis
[49] OKACOM, 2011, Cubango-Okavango River Basin Transboundary Diagnostic Analysis
[50] OKACOM, 2011, Cubango-Okavango River Basin Transboundary Diagnostic Analysis

localized, and very little agro-chemicals are used in the area. This is, however, under threat as population is growing rapidly. There are limited consolidated data on surface water quality. Some assessments indicate a decreasing water quality, especially in dry seasons, in areas where population is growing fast, and higher values of phosphate concentration are noted – in the first place attributed to human and cattle waste and laundry detergents. Data on surface water quality and pollution sources is limited. In *Namibia*, with the concentration of human populations along the river, there is the potential for decreasing water quality, especially during periods of low flow. Groundwater quality in the areas is variable with 'strips' of saline water in the Kalahari aquifers, while other areas contain high fluoride. Groundwater along the river banks of the river is often of poor quality as the result of high iron and manganese content, on occasion higher than safe limits for drinking. Flood events, when they occur, recharge the aquifer, improving groundwater quality.

4.1.5. Land Cover

44. The land cover classes within the CORB are fairly well defined and are shown in Figure 7. Moving down the basin, the wooded highlands of Angola give way to open and transitional woodlands and then to tree/shrub savannah – the target area – as the river flows into and through Namibia.

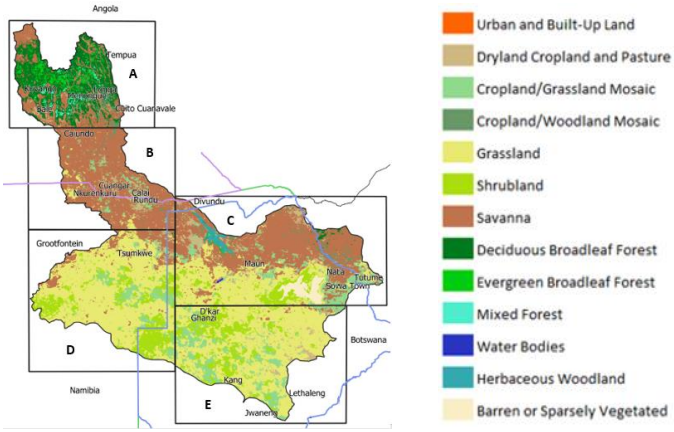


Figure: Land cover in the CORB – the target area of the ADSWAC project is in Zone B

4.2. Biological Environment

4.2.1 Biodiversity

45. The CORB is recognized as being internationally important for its biodiversity. In the Okavango delta alone 1,300 species of plants, 71 species of fish, 33 species of amphibians, 64 species of reptiles, 444 species of birds and 122 mammal species have been recorded. Although the target area is not in the Delta itself, the upstream activity is relevant. The diversity of species in the CORB is due to the different habitats providing a variety ecological niches, resulting from the hydrological gradient in the basin. The area has high diversity of fauna, the key species including elephants, Palanca royal, Rhinoceros, Hippopotamus, Nguelengue, Ngunga, Leopard, Lion, Hyena, Jaguar, Pacaça, Boar, Mabeco, Tortoise and Ostrich. The vegetation of the area is characterized by dry forest, and savanna with bushes, Exotic woods found in the area include Mussivi, Girassonde, Mumue, Mupanda and Muiunga[51].

46. The biodiversity of the CORB is under pressure and is changing and some Red Listed species are decreasing in number. Threats that can be attributed to anthropogenic pressure, including the following: (a) Fires - while naturally occurring and important, increased human activities leading to more frequent fires; (b) Overgrazing - more cattle and small livestock are maintained by an increasing human population; (c) Natural resources exploitation - hunting and fishing pressures are rising on all the natural resources utilized by increasing human populations who are reliant on them; (d) Changes in habitat - demand for land for agriculture, especially land near the river, leads to encroachment of different habitats in the river, reducing its diversity and productivity; (e) Changes in flow of the river due to abstraction for water supply, irrigation and hydropower[52].

4.2.2 Protected Areas

47. Within the target area, there are no formal reserves/protected areas, hence there is no protection. In the vicinity of the target area, Cuando Cubango province in Angola is home to two national parks, while in Namibia, the Kavango Regions are home to the wild and undeveloped Khaudum Game Park. Namibian policies and strategies strive to transfers the responsibility of conservation to local communities by facilitating the establishment community forests and wildlife conservancies. This natural resource management framework provides for rights of rural communities to sustainably use and manage resources within a legal framework and thereby preventing exploitation and supporting conservation. In the Kavango region there are nine registered Community Forests and three registered Conservancies.

48. Nevertheless, the area is regarded as highly important as being upstream to some of the world's most important biodiversity hotspots: Two of the world's largest Ramsar sites[53] are located in Botswana and in Namibia, adjacent to the Okavango Delta. This area has regional and global environmental and biodiversity value and importance. The Okavango Delta has been inscribed as a World Heritage Site under the UNESCO Convention in June 2014. The Ramsar Sites lie in the heart of the extensive network of transboundary parks and community conserved areas that make up the globally important Kavango Zambezi Trans frontier Conservation Area (KAZA TFCA). The KAZA-TFCA, which supports large herds of elephant and buffalo, rare and endangered species such as roan and sable antelope, constitutes important corridors for animal movement within the greater region. KAZA aims

[51] OKACOM, 2011, Cubango-Okavango River Basin Transboundary Diagnostic Analysis
[52] M. Pröpper et. Al, 2015, The Future Okavango
[53] 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

to broaden the protected areas network, thus increasing biodiversity, expanding historical game migration routes and drawing more tourists to the area.

4.3. Agriculture

49. The predominant land use throughout the target area is for subsistence agriculture with households cropping few hectares and keeping small numbers of livestock. Areas covered by estates or larger irrigation schemes are as good as non-existent in Angola, while commercially orientated irrigation are established in Namibia (they are referred to Green Schemes and were initiated by the MAWLR. Smallholder rain-fed farming accounts for 95% of agriculture production. The introduction of micro horticulture (vegetables) cropping units is increasingly observed in Namibia. Crop production is predominantly small-scale in nature54. In Namibia, the MAWLR facilitates mechanical filed cultivation services with the existing capacity not meeting the demand in the peak season.

4.3.1 Agro-ecosystem

50. The target area lies within the semi-arid agro-ecological zone, characterized by a combination of Tropical and Subtropical Grasslands, Savannas, Shrublands and Woodlands. The areas in the semi-arid Southern African region contains micro-climate related semi-arid 'hotspots', in which these target areas are placed. These hotspots are characterized by high rainfall variability, frequent droughts, low soil moisture and extreme events such as sporadic rainfall causing flash floods55.

4.3.2 Local production systems

51. The project sites basically comprise of 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. The main food crops grown are small grains (millet, sorghum and beans), while there is some maize and vegetables produced for consumption especially along the main rivers and valleys. Cultivation and cropping depend on the season, with intense activity just before the rains. Most farmers do not apply agricultural chemicals or fertilizers, with little use of compost or organic manures. The supply/use of improved seeds cultivars is limited while farmers resort to own seed harvesting.
52. Crop productivity in the drylands is generally very low. The soils are generally poor and need "correction" with soil amendments. Therefore, the cultivation systems of small farmers are overly fragile, characterized by harvest and post-harvest losses, price volatility, and forced migration[56].
53. The main production system is dryland cropping (pearl millet, sorghum, maize and beans). There is some, but limited irrigated agriculture near to the rivers (mainly vegetables - tomato, onion, green pepper and spinach). There are some traditional forms of recessional agriculture used, close to rivers and streams, tending to be much more productive than dryland agriculture, since the fertility and moisture of the soils is maintained by seasonal flooding of the land. In recent years, small-scale irrigated horticulture has made its appearance along the Kavango river in Namibia. In addition, some large-scale irrigation schemes are established in Namibia along the Kavango river.
54. All these systems 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)[57].
55. The following trends can be observed: Households adapt to decreasing yields from existing fields while expansion of fields is hampered by the existing allocation of land to individuals and the strict control of clearing of barren land, usually forests. This results in an increasing social stratification of rural communities into a minority of relatively wealthy smallholders who manage to cope with reduced access to land and benefit from increasing cash availability. [58]

4.3.3 Livestock

56. The keeping of larger livestock, especially cattle, plays a major role in the traditional socio-ecological systems. The semi-arid areas are suited for rangeland and transhumance pastoralism. Throughout the CORB, livestock are a critically important feature of livelihoods and land use, with many households owning a number of cattle and goats, and with larger herds being kept at cattle posts and ranches throughout Namibia.
57. Cattle are used as a source of income, meat, draught power and milk. In Angola, very few farmers have cattle, perhaps less than five percent of households, in comparison to Kavango Regions where about 50 percent of all households own some livestock. While livestock numbers have generally increased over the years as a result of better disease control and an increasing number of relatively wealthy people acquiring herds, the numbers have fluctuated markedly, especially in very dry periods[59]. Increasing cattle herd numbers are observed with concern as they directly contribute to rangeland deterioration in the area. Increasing seasonal livestock losses can be attributed to emaciation of herds resulting from natural fodder scarcity.

4.3.4 Fisheries

58. Fishing is an important additional activity for families residing near the river, especially in seasons of low or no harvest. All the communities along the river are to some extent reliant for their livelihood on the seasonal fisheries. Often there is one or two fishermen or fisherwomen in a family. Fishing is traditionally done by men, post-harvest processing such as drying or salting by women. Fishing is predominantly of artisanal nature. Commercial fishing is only practiced in the panhandle, by groups of semi-motorized small-scale fishermen; elsewhere the fishing is at the household level.
59. Little information exists on fish yields and almost no work has been done on the productivity and fish stocks within the system. Estimates of maximum sustainable yields vary. In Angola, the need for conservation of fish stocks is highlighted. It was also reported

[54] M. Pröpper et. Al, 2015, The Future Okavango
[55] FAO, 2013, Forests, Rangelands and Climate Change in Southern Africa
[56] M. Pröpper et. Al, 2015, The Future Okavango
[57] OKACOM, 2011, Cubango-Okavango River Basin Transboundary Diagnostic Analysis
[58] OKACOM, 2011, Cubango-Okavango River Basin Transboundary Diagnostic Analysis
[59] OKACOM, 2011, Cubango-Okavango River Basin Transboundary Diagnostic Analysis

that catches are reduced during flood season. In Namibia, the key concerns are potential overexploitation and destruction of habitats. Conflicts over fishery resources between Angolan and Namibian fishermen are reported regularly.

4.3.5 Ecosystem services

60. A list of four ecosystem services has been identified for wetlands by the Millennium Ecosystem Assessment and is used by the Convention on Biological Diversity. They are: (a) Provisioning services: The river provides water, edible plants and animals, construction materials, fuel, genetic materials and ornamental products. (b) Regulating services: The river affects the local climate of Angola and Namibia. It regulates groundwater recharge along its length and plays an important role in flood mitigation. (c) Cultural and recreational services: The river contains sacred and cultural sites for the people of all three countries and while these are of great importance for riparian communities, no formal studies have been undertaken on the location and significance of these sites along the river. (d) Supporting services: The river, delta and its floodplains are important carbon sinks. They also play significant roles in nutrient management, soil formation and the accumulation of organic material.

4.4. Socio-economic landscape

4.4.1 Demography

61. 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, with over 62% of the population living in rural areas. Like most African societies, women in this delta comprise of the vulnerable group since property ownership rights tend to favour men. In **Namibia**, according to national statistics agency, the population of the Kavango Regions is about 2250,000 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.

4.4.2 Socio-economic

62. The area comprises of a largely very poor population, with significant food insecurity although relatively better services along main routes and rivers. There is cross-border flexibility to the inhabitants of this area, especially along the border river area where there is virtually 'no border'. On the Namibian side, with the exception of Rundu Urban and Rundu Rural West constituencies, in all the constituencies in Kavango regions more than half of the population (60%) is considered poor. On the Angolan side, Cuando Cubango is one of the Provinces with the highest poverty rate (75%), having the second highest index of poverty in the country. Both Namibia's (0.625) and Angola's (0.586) Gini-coefficients indicate inequality rates among the highest in the world (UNDP, 2012). In both countries, poverty continues to exhibit an urban-rural divide[60].
63. Although the literacy rates on the Namibian side are relatively high, 18% of the population older than 6 years have never entered formal education while more than one third (35%) of those aged 15 years and above have not completed primary education. 61% of those aged 15 years and above are in the economically active category. However, only half are employed, resulting in 50% unemployment. Similar data for Angola don't exist, but it can be assumed that the situation is similar across the border.
64. Recent vulnerability assessments in the target areas confirms these findings and provide for a more detailed overview of the situation in the target areas. Reports from those assessments can be accessed on ADPP's website.

4.4.3 Accessibility and infrastructure

65. The target zone has significantly poor accessibility. Along the border, there is reasonable access to markets, urban areas and services, even though roads are in poor condition. Recent assessments (CRIDF, 2015) found that there is an urgent need from the government of Angola to intervene in this area socially and economically, also indicating that it is virtually impossible to travel without 4x4 vehicles due to excessively sandy conditions. These conditions create logistical difficulties and movement in and out of the area. This also limits the participation of local people to actively participate in any economic activity. Almost all rural households in the target areas rely on wood for cooking[61].

4.4.4 Indigenous Peoples

66. 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. 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". 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. The Khoisan families that are to be participants in the ADSWAC project are located in Rivungo municipality. In Luiana Commune, a group of Khoisans reside in the vicinity of Chatoma - Bwabwata. They are estimated to comprise 80 members of an estimated 37 different families, though they are often dispersed throughout the region. They are still nomadic and often stay in different locations in the target area.
67. 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%. The San are generally referred to as the *Vacu* by the Gciriku and Shambyu, *Hakwengo* by the Kwangali and Mbunza, while they prefer to use their ethnic labels when referring to themselves. The !Xun San can be largely found in the Mpungu Area, which has the largest concentration of San, while smaller numbers of Hai||om, Khwe and Ju|'hoansi resides in the Khaudum and Samagaigai Areas. They can also be found in urban centres, such as Nkurenkuru and Rundu. Currently, there are no recognized San Traditional Authorities in the Kavango East and West regions. Instead, many of them live under the authority of Kavango Traditional Authorities. Through

[60] World Bank, 2011, Transboundary Diagnostic Analysis
[61] CRIDF, 2019, Cubango-Okavango River Basin Homogenous Units & Hotspot Narratives

rigorous consultations, it was noted that the San territories are not included in the direct target areas of the project. The San reside more to the East, in Kavango East towards the Zambezi Region, which are areas not directly addressed by the project, with some exceptions such as Wiwi village, which is West of the target area. It was however noted in the consultations that took place, that various members of the San community migrate to the more populated zones within the target area, in search for employment

68. 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.

Table 1: Overview population groups in the target Regions and Province

Population group		**Kavango Regions**	**Cuando Cubango**
Total population		223,352	700,000
Target beneficiaries (direct and indirect)		73,000	103,000
Age structure	0-14	95,981	324,800
	15-64	116,445	355,600
	65 years and over	10,962	19,600
Breakdown by gender	Women (53.1% and 51,3%)	118,591	355,600
	Men (46.9% and 48,7%)	104,761	341,600
Indigenous People in Kavango – 0.4% of households in the Kavango regions, 0,1% of Cuando Cubango Province		893	573

4.5. Summary of key environmental and social issues in proposed project sites

69. The key environmental and social issues in the proposed project sites can be summarized as follows:

- Land degradation has been a challenge for pastoralists and farmers for centuries, and according to several studies the CORB is among the areas most affected in the SADC region. In the arid part of the CORB, the target area, it is reinforced by disadvantageous climatic conditions such as high temperatures with low and erratic rainfall, as well as socioeconomic transformation processes such as population growth and changing consumption patterns. The interaction of these factors leads to a number of negative effects, including the damaging of ecosystems, biodiversity loss, declining productivity and agricultural yields or even the complete loss of cropland, land-use conflicts, and outmigration.
- Peri-urban growth is anticipated to contribute to significant socio-environmental challenges: with rapidly growing populations residing near the river, and without adequate water supply facilities, water contamination and resultant waterborne diseases (including in downstream communities) is high.
- Future food insecurity due to drought impact is expected to be severe. On the other hand, there is already high reliance on non-agricultural/land-based food crops due to existing high risk of crop failure as a result of already lower rainfall, higher temperatures and heat waves in recent years.
- Access to water is an increasingly important issue, exacerbated by climate change: communities distant to the river have limited access to water; farming communities in the inland (far from 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. The problem is larger in Angola than Namibia, which has developed a well-established water distribution network at rural level with strategically positioned water points with rural communities.
- The young labour force consisting of men and women has usually preferred to migrate in search for better opportunities. The elderly, child headed households, and people living with HIV/AIDS that are dependent on this labour force have resultantly also become more vulnerable.

5.1. Methodology

70. The Environmental and Social Policy (ESP) of the Adaptation Fund ensures that projects supported by the Fund promote positive environmental and social benefits and mitigate or avoid adverse environmental and social risks and impacts. The ESP, in effect since November 2013, require that all AF projects enhance positive social and environmental opportunities and benefits as well as ensure that adverse social and environmental risks and impacts are avoided, minimized, and mitigated.

71. The ESP has 15 principles to manage unnecessary risks that are put into practice during the development of projects. Among them are promoting human rights and gender equality, protecting natural habitats, preserving biodiversity, empowering vulnerable groups such as indigenous communities, and preventing pollution.

72. The purpose of this party is to provide a practical plan to manage the potential environmental and social unintended negative impacts associated with the project's activities, as well as to allow for meaningful and inclusive multi-stakeholder consultations and engagement throughout the lifecycle of the project.

73. The objectives of the identification and evaluation of socio-environmental risk are to:

- integrate the ESP Principles in order to maximize social and environmental opportunities and benefits and strengthen social and environmental sustainability,
- identify potential social and environmental risks and their significance; and,

- determine the level of social and environmental assessment and management required to address potential risks and impacts.

74. The assessment of socio-environmental risk ensures that throughout the ADSWAC project implementation, the project team continuously screens all the activities proposed under the project and monitors potential unintended environmental and social impacts properly and sufficiently as required.
75. Based on the environmental and social risks assessment and their related potential impacts, mitigation measures have been proposed mainly for the moderate and significant impacts. These measures were identified according to the project activities and the countries specificities. Equally, during the consultative process and the various assessments related to ecosystem and natural resources, population, economic activities and infrastructures, the project potential impacts were presented and discussed while giving the opportunity to the participants and other resource persons to propose mitigation measures that were then evaluated and adapted to fit to the project specificities and budget. In addition, OSS expertise with the support of ADPP and DAPP based on the information and data collected was able to inform the most suitable mitigation measures for the identified risks.
76. Where risks and potential impacts were identified and if these are unavoidable, suitable mitigation measures will be properly planned to adequately compensate for residual impacts and to provide for restoration. The methodology used builds on two key steps:

1. <u>Screening to identifying specific environmental and social risks at the project level</u>

77. Each activity of the project will undergo screening against the 15 Environmental and Social Principles of the Adaptation Fund. Hence, the table below " Project Activities Screening in accordance with the AF ESP "only assesses generic activities on potential environmental and social risks. As such impact identification is still rather preliminary and the table should be understood as indicative. This is not applicable to the USPs.
78. The screening of the activities underwent the first phase of step 1 which included rating of risks based on the assumptions that the management measures and plans specified in the respective column are implemented and effective in mitigating the risk. It is good practice that the plans are available before ESMS Clearance. Risk rating is based on the two elements: probability and the expected impacts. Probability represents the possibility that a given risk event is expected to occur. The probability should be established using the following five ratings: Expected (1), Highly likely (2), Moderately likely (3), Not likely (4), Slight (5). Significance of risks is established by combining likelihood and expected impact of a risk (Low, Moderate or High). The significance rating signals how much attention the risk event will require during sub-project development and implementation and the extent of control actions to be put in place.
79. Based on this screening, the following principles were identified as having social and environmental risks with moderate and high significance: Access and Equity (moderate risk) and Indigenous Peoples (high risk).

Tables 2, 3 and 4: Risk Rating and Determination methodology

Rating the 'Impact' of a Risk

Score	Rating	Social and environmental impacts
5	Critical	Significant adverse impacts on human populations and/or environment. Adverse impacts high in magnitude and/or spatial extent (e.g. large geographic area, large number of people, transboundary impacts, cumulative impacts) and duration (e.g. long-term, permanent and/or irreversible); areas impacted include areas of high value and sensitivity (e.g. valuable ecosystems, critical habitats); adverse impacts to rights, lands, resources and territories of indigenous peoples; involve significant displacement or resettlement; generates significant quantities of greenhouse gas emissions; impacts may give rise to significant social conflict
4	Severe	Adverse impacts on people and/or environment of medium to large magnitude, spatial extent and duration more limited than critical (e.g. predictable, mostly temporary, reversible). The potential risk impacts of projects that may affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples are to be considered at a minimum potentially severe.
3	Moderate	Impacts of low magnitude, limited in scale (site-specific) and duration (temporary), can be avoided, managed and/or mitigated with relatively uncomplicated accepted measures
2	Minor	Very limited impacts in terms of magnitude (e.g. small affected area, very low number of people affected) and duration (short), may be easily avoided, managed, mitigated
1	Negligible	Negligible or no adverse impacts on communities, individuals, and/or environment

Rating the 'Probability' of a Risk

Score	Rating
5	Expected
4	Highly Likely
3	Moderately likely
2	Not Likely
1	Slight

Determining 'Significance' of Risk

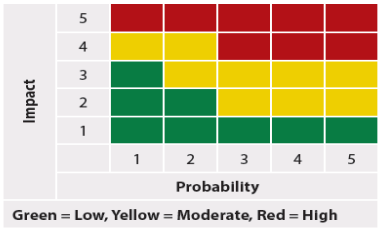


Table 5: Project Activities Screening in accordance with the AF ESP

Component/Activity	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15
COMPONENT 1:															
Activity 1.1.1.1 Establishment of institutional capacities to manage the CCACs															
Activity 1.1.1.2 Rehabilitation or construction of the CCACs	X											X			
Activity 1.1.1.3 identify and agree on land for setting up 6 CCACs demonstration plots		X	X												
Activity 1.1.1.4 Build capacity of sub-national and local authorities and entities on climate change adaptation planning and implementation					X										
Activity 1.1.1.5 Develop Community Adaptation Action Plans (CAAPs)		X	X		X		X								
Activity 1.1.2.1 Development of a communication strategy for Cc information and dissemination															
Activity 1.1.2.2 Climate change awareness campaigns in communities		X	X		X		X							X	
Activity 1.1.2.3 Climate change awareness campaigns in schools and school gardens		X	X		X		X							X	
Activity 1.1.2.4 Dissemination of project results, best practices and lessons learned in sub-national, national and international forums and through online campaigns (website, social media)		X	X		X		X							X	
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	X				X										
Activity 1.2.1.2. Organize coordination meetings between the 6 CCACs for a better knowledge and information sharing		X	X		X		X								
Activity 1.2.1.3. Sensitize and provide conflict management trainings for cattle herders, crop farmers and local authorities near transhumance corridors		X	X		X		X							X	
Activity 1.2.1.4. Strengthen Early Warning climate information channels.			X		X		X							X	
COMPONENT 2:															
Activity 2.1.1.1 Conduct baseline and capacity needs assessment of all actors															
Activity 2.1.1.2 Develop training plan and modules for all topics															
Activity 2.1.1.3 Establish partnerships and Memorandums of Understanding (MOUs) with sub-national extension services															
Activity 2.1.1.4 Train the extension agents and field instructors to ensure farmer trainings		X			X										
Activity 2.1.1.5 Conduct regular farmer field days and FFS using a Technical Orientation Manual		X	X				X							X	
Activity 2.1.1.6 Conduct KAP surveys			X		X		X								
Activity 2.1.2.1 Identification and establishment of new Producer Organizations (POs) and Water Users Associations (WUAs)		X	X		X		X								
Activity 2.1.2.2 Strengthening and building capacities of 160 POs and 160 WUAs including managerial capacities		X	X		X										
Activity 2.1.2.3 Support POs in adapting in developing agriculture value chains (production systems, management of low-cost storage and processing equipment, business skills and establishment of links to the market)		X	X		X										
Activity 2.1.2.4 Support WUAs to manage water points and promote accompanying hygiene messages around safe water storage and use, and water demand messages (Develop the technical capacity of the WUAs in community outreach, establish guidelines for usage, establishment and management of water infrastructure)		X	X		X										
Activity 2.2.1.1 Select and agree on the demonstration plots		X	X				X	X							
Activity 2.2.1.2 Train and sensitize the lead farmers/focal points in each of 160 community/producer organizations		X	X		X										
Activity 2.2.1.3 Organize with the support of the extension services sensitization sessions to farmers to encourage them to apply new resilient practices		X	X		X				X					X	

Activity 2.2.1.4 Set up the demonstration plots and procure inputs for their establishment and management									X						
COMPONENT 3:															
Activity 3.1.1.1 Select the most viable water solutions for production	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Activity 3.1.1.2 Provide inputs to farmers to implement infrastructure for production, water capture and retention systems at farmers' fields	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Activity 3.1.1.3 Promote solar powered water pumps and small-scale irrigation systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Activity 3.1.1.4 Establish models for water collection for human consumption	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Activity 3.1.1.5 Conduct community campaigns for safe water use and water demand management		X	X				X							X	
Activity 3.1.2.1 Promote improved soil management		X	X				X								
Activity 3.1.2.2 Promote cropping practices resilient to climate change		X	X				X		X						
Activity 3.1.2.3 Establish nurseries and seed banks by communities		X	X		X		X								
Activity 3.1.2.4 Increase the use of a range of drought-resistant crops and seeds		X	X						X						
Activity 3.1.2.5 Promote horticulture and horticulture production sites		X			X				X						
Activity 3.1.3.1 Facilitate access to the fishing sites		X	X												
Activity 3.1.3.2 Train and sensitize on sustainable fishing methods and technics		X	X		X										
Activity 3.1.3.3 Equip fishermen and processors with materials and tools		X	X		X										
Activity 3.1.4.1 Facilitate farmers' access to veterinary services		X													
Activity 3.1.4.2 Promote short-cycle livestock production		X													
Activity 3.1.4.3 Improve the production of fodder for livestock		X							X						
Activity 3.2.1.1 Develop and promote non-agricultural sources of income such as beekeeping, fishing, wild indigenous fruits and microenterprise development	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Activity 3.2.1.2 Facilitate the establishment of saving groups among farmers		X	X		X										
Activity 3.2.1.3 facilitate access to micro credits for farmers and POs to adopt new IGAs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Activity 3.2.1.4 Introduce low-cost storage and processing equipment	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Activity 3.2.1.5 Develop public-private partnerships (PPPs) to improve links to the markets	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Activity 3.2.1.6. Organize exchange visits between POs across the border to facilitate experience sharing		X													

Legend

N/A	Unidentified risk for USPs
	Not applicable - No generated risk
X	Risks identified according to the corresponding AF ES Principle

2. Environmental and Social Impact Assessment

80. Based on listing potential environmental and social risk, the positive impacts of activities will be evaluated according to the guidance for development of such measures. It further makes predictions about the significance of residual impacts (after implementation of mitigation measures) by assessing the probability of risks occurring and anticipated magnitude of impacts.

Table 6: Overview of the E&S Impacts and Risks identified as being relevant to the project and guidelines for mitigation

Checklist of environmental and social principles	No additional assessment is required for conformity	Potential impacts and risks - additional assessment and management required for the conformity
Compliance with the Law	X (The risk screening process that will be applied is considering the adherence of the activities with the national laws and technical standards)	
Access and Equity		X (OSS in accordance with its practices and adherence to the AF, makes available to all direct and indirect beneficiaries of the project a grievance redress mechanism that will inform conflict situations and will ensure access and equity to all project participants and beneficiaries)
Marginalized and Vulnerable Groups	X (All activities' implementation will be decided in common with consultation of all concerned project participants and beneficiaries especially communities directly affected such as PLWDs)	
Human Rights	X	
Gender Equity and Women's Empowerment	X (The project has been developed with a special focus on women and youth groups)	
Core Labour Rights		X
Indigenous Peoples		X (Consent letters signed by the representatives of the indigenous people has been delivered and further detailed analysis will be conducted using the FPIC process prescribed in the project)
Involuntary Resettlement	X	
Protection of Natural Habitats	X	
Biodiversity conservation		X (capacity building and exchange visits to strengthen the efficient management of natural resources, including flora and fauna will be undertaken)
Climate Change	X (Climate Change vulnerability study has been conducted during the preparation of the Full Proposal)	
Pollution Prevention and Resource Efficiency	X	
Public Health	X	
Physical and Cultural Heritage	X	
Soil and land conservation	X	

81. The principles, which directly apply to the ADSWAC project, are:

Principle 1: Compliance with the law.

Screening result: **No risk**

82. Explanation: All issues relating to compliance with the law have been checked in Part II, Section F and described thoroughly. It is noted that the project activities are in line with national regulations and laws. Land ownership is a crucial issue in the area for the establishment of the demonstration plots and water solutions. During the extensive consultations with national and regional stakeholders, it was highlighted that the involvement and support of the local and traditional authorities is pertinent to address this barrier. Principle 6 related to Indigenous Peoples describe how issues of consent are considered regarding working in and around people's homes.

83. During the development of the ESMP, some activities/ sub-projects under output 3.1.1 (water solutions) and output 3.2.2 (Income-Generating Activities) are categorized as unidentified, and therefore they may require EIA depending on the size and the location of their implementation to determine their impacts.

84. The risk screening process (as described xxx) that will be applied should take into account the adherence of these activities with the national laws and technical standards.

Principle 2: Access and equity

85. Screening result: **Moderate risk** resulting from activities under Output 2.12 and Output 3.2.2.

86. Explanation: The community consultations in particular identified that there is a potential risk in terms of access and equity without mitigation measures. Given that the beneficiaries are rural people and marginalized poor families who are not often integrated in the

local politics and decision-making processes, there could be a risk of insufficient access of the project resources by these people. In addition, some activities of the project such as the identification and establishment of new Producer Organizations (POs) and Water Users Associations (WUAs) for organizing communities and livelihood improvement (output 3.2.2) are not intended to provide a benefit for all, but target those livelihoods in need as well as the livelihoods which are involved in land restoration activities, transforming exploitive agriculture, fishing, livestock and IGAs. This particularly concerns the ability of indigenous people, women and youth, as presented below in Principle 3, 5 and 7 to benefit from the project. There will be potential, without risk avoidance or reduction measures, for the target beneficiaries to benefit inequitably, or for some groups to be excluded altogether.

87. As outcome of the consultation process, it has been suggested to develop selection criteria to be agreed with all the stakeholders. This approach will ensure that the project provides basic services (potable water, sustainable livelihoods, solar energy, accurate climate information and effective knowledge), fair and equitable access to all beneficiaries including the most marginalized and vulnerable groups.
88. The process of identifying project beneficiaries involves (i) the formulation of selection criteria and priorities and (ii) consultations with local and traditional authorities as well as potential communities. Selection criteria will consider practicality and feasibility, exclusion from other previous development initiatives, existing of dormant projects with potential to be revived, potential synergies with other current development initiatives, and the presence of committed youth. The selection of project sites and communities will involve participatory consultations with, in Namibia: The Offices of the Governors, the Regional Councils together with affiliated Community Development Committees and the respective Traditional Authorities and in Angola: The Municipal administrations in collaboration with the traditional authorities. Based on recommendations aligned to selection criteria targeted communities will be consulted and based on their potential and commitment a final selection considering the achievement of project outcomes/results will be made; and this again is subject to committed support and approval by the Traditional and local authorities.
89. Communities and beneficiaries will be comprehensively sensitized to enhance priorities of the most vulnerable groups while ensuring their participation into decision making and equal access to the project benefits. In addition, and as usual, OSS in accordance with its practices, makes available to all direct and indirect beneficiaries of the project a grievance mechanism that will inform about conflict situations and will ensure access and equity.

Principle 3: Marginalized and vulnerable groups

90. Screening result: **Potential risk** resulting from activities under Output 2.1.2 and component 3.
91. Explanation: The community consultations held in the formulation of this proposal highlighted that indigenous people, women, youth and people living with HIV/AIDS and other disabilities are the main marginalized and vulnerable groups in the area. It is probable that project activities will exclude these marginalized/vulnerable groups, thus preventing them from accessing benefits – both in terms of resources and capacity building. To mitigate this risk, these vulnerable/marginalized groups such as women, youth and indigenous peoples have been intensively consulted during the design of the project and will be further consulted during the implementation of the project. A gender study has been established for a better understanding of the social construction and the FPIC process has been conducted to ensure the involvement of the indigenous people. As a result, the project components were designed to encourage the participation of marginalized and vulnerable groups in the decision-making processes (POs and WUAs) at the local and specific activities are targeting women and youth. In fact, during the several consultation workshops, representatives from the several target groups were invited to take part in some activities design.
92. During the first steps of project implementation, additional assessment (e.g., land right) will be carried out, to avoid exclusion of marginalized groups and to minimize potential impacts related to the project activities. In order to avoid the exclusion of these communities all activities implementation must be decided in common with consultation of all concerned communities including the small grant scheme under output 3.2.2.

Principle 4: Human rights

93. Screening result: **No risk**
94. The proposed project respects and adheres to all relevant conventions on human rights, national and local laws and both countries are also part of various human rights treaties.
95. Explanation: 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.

Principle 5: Gender equality and women's empowerment

96. Screening result: **Low Risk** resulting from activities under Output 2.1.2 and component 3 with mitigation measures as the project has built-in targets and indicators for the inclusion of women in its results framework.
97. Explanation: As highlighted in the Gender Assessment and Action Plan, women throughout both countries face numerous challenges that either are more severe than those faced by men, or that men don't face, including access to land, finance, vulnerability to drought and climate change and the ability to recover quickly from lack of potable water.
98. Women are less likely to have the ownership of the land they till and have less land tenure security than men. While women can often use land for free for subsistence farming, as soon as their production generates revenue, they usually need to pay a rent. There is a risk that some of the activities under Component 3 would increase gender inequality, because they suppose that the beneficiary of the activity is the owner of the land, so this may exclude most women. In addition, activities that generate revenue may put women in a situation that they need to cede part of the revenue or need to pay rent, while this was not the case before the activity.
99. In addition, the women will also be engaged in activities that support the project such as tree seedlings production in tree nurseries and seeds banks under output 3.1.2. The project thus is targeting women, and single-headed households to ensure their income and living conditions. The project will also conduct gender-based activities to enhance the participation of all gender to have access to

water. Targets have been set for coverage of women in all the project's interventions related to training, capacity building, and sensitization activities. This will ensure that women will have equal access to information and acquisition of equipment under Output 3.1.1 about access and use of water.

100. From the pre-concept note, the project has ensured inclusion of gender equality and women empowerment issues with activities sensitive to gender equality particularly equal rights, responsibilities, opportunities and access of women and youth to resources allocated to improve their resilience to the current and future climate change effects. All consultative and participatory processes strived to include representation of women groups of the community and analyze relevant gender-disaggregated data.
101. The project has been developed with a special 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. A series of measures (e.g., involvement in consultation process, selection criteria) has been developed to ensure that both, men and women, have access to project benefits and small grant scheme, taking into account that, traditionally, women have less access to control of economic resources. Gender equality is also a prerequisite in the implementation of activities in the field as Lead Farmers and in FFS as well as access and maintenance of water solutions.
102. Finally, it is planned (i) to carry out communication and sensitization of populations on the gender issue to ensure gender equality in income-generating activities, (ii) to strengthen the representation of women and youth in the various consultation workshops, and (iii) make available a grievance mechanism that can be used by women and youth to lodge complaints about being affected by certain project activities.

Principle 6: Core labour rights

103. Screening result: **Potential risk** resulting from activities under component 3
104. Explanation: The project will use some community labour to do unskilled construction tasks. However, without appropriate risk mitigation measures, there is a possibility that there could be exploitation of people providing their labour to the project. Noting that the risk is low, OSS will legally oblige (through Agreements of Cooperation) its' executing partners to uphold international labour standards, and both countries have ratified and transposed into law all eight fundamental conventions of the International Labour Organization.
105. Activities under component 3 will involve labour works for implementation of concrete adaptation actions where communities will provide the local labour force. However, in doing so local communities might be exposed to the risk of minor accidents while executing some water solution constructions, tree planting and ecological restoration activities.
106. In addition, there is a risk of late or unpaid salaries or remuneration non- compliant with the countries' labour legislations and laws. During the consultations where national and regional stakeholders have been involved, the core labour rights have been highlighted to ensure that labour legislations are adhered to. Consequently, children's labour will be forbidden as well as remuneration inequity between men and women. It is also planned to (i) Sensitize workers and populations to the risks related to the undertaken activities, (ii) ensure that all of the labour involved will be daily wages according to best common practices in the districts and villages, and (iii) follow-up the worksites by the national executing entities including schedules, activities progress, respect of the labour and safety rights of workers and conformity with national labour codes.

Principle 7: Indigenous people

107. Screening result: **High Risk**
108. Explanation: The project is fully compliant with the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and has put in place a process to obtain the Free, Prior and Informed Consent (FPIC) from the indigenous peoples present in the territories targeted by the project. The FPIC is described by the consultative process which was undertaken and is an ongoing process with considerations towards the status (nomad or sedentary), language and social structure of the indigenous people and the risks that may occur will be addressed accordingly.
109. The main risks that could be raised are related to the ways they use water resources. Therefore, a detailed analysis will be carried out by local and national agencies to understand the traditional use of natural resources especially regarding to water and land use. This will be the major project challenge and to cope with this, the participatory approach will be applied. They will be involved at all stages of the project implementation to allow a better ownership of the project outcomes. The Indigenous Peoples (IPs) that have migrated to urban centres in search for employment report facing discrimination, exclusion and marginalization.
110. During the development phase of the full proposal and in particular during the consultations with local communities, a special approach was put in place by OSS to take into account the indigenous people in the region. In fact, the FPIC process has been deployed since the beginning of the series of consultations that began since the approval of the Concept Note in order to keep the momentum created during the previous phase. It should be noted that due to the project submission date and the timeframe agreed with the countries, the consultations were conducted during the rainy season. Yet, during this period a significant number of the Khoisan people leave the project area and migrate to the north searching for better conditions more adapted to their way of life. Indigenous people living within the targeted project area are hunters and gatherers and sometimes do temporary labour on farms. They generally do not have cattle, nor practice agriculture. As per water resources, their needs are basic and natural due to their migratory nature and adapted capacity to live within the arid region. The locations where the project will establish model plots, promote climate-resilient agriculture, water management and livelihoods, will not impede in any way on the areas where the Khoisans are hunting and foraging. The payment system for using water planned for in the ADSWAC project is based on a model used all over Angola. The WUAs consist of residents who are expected to be the permanent users of the water point and thus also co-responsible for the operation and maintenance. The model for indigenous people (who are nomads in this region) will be taken into account when the statutes for the WUA are made, making sure that special privileges are given to nomads who are not frequent or permanent users of the water point. This is traditional practice in all areas in Angola where there are nomad indigenous people,

given the small population and the relatively little amount of water they use. As such, they are not responsible for operation and maintenance costs.

111. The project will promote the participation of indigenous people through the traditional authorities. In addition, the project will promote the cultural and ancestral knowledge of the indigenous people in providing climate information in output 1.1.2. The project will also foster native species and seeds with ecological and nutritional value and will provide inputs to the development of the productive technological packages and establishment of seedbanks under output 3.1.2. The project will actively seek the inclusion of IPs in the project, intentionally supporting the establishment and coaching of Producer Organizations and Water User Associations in one indigenous community in Angola (Luiana). The Khoisan people do not reside fixed at one location throughout the year, they migrate seasonally, hence this does not apply to all IPs. However, in the community identified in Dirico municipality, where currently Khoisan families are residing, the project will encourage them to participate in the POs and WUAs, motivating them to practice small-scale agriculture, as this was requested by their leader. It would contribute to the populations' food security, health as well as the opportunity for the children to frequent school. In order to ensure a full involvement of the Khoisan people, the FPIC process shall be maintained throughout the lifespan of the project.
112. The project will promote the participation of indigenous people through the traditional authorities. In addition, the project will promote the cultural and ancestral knowledge of the indigenous people in providing climate information in output 1.1.2. The project will also foster native species and seeds with ecological and nutritional value and will provide inputs to the development of the productive technological packages and establishment of seedbanks under output 3.1.2. The project will actively seek the inclusion of IPs in the project, intentionally supporting the establishment and coaching of Producer Organizations and Water User Associations in one indigenous community in Angola (Luiana).

Principle 8: Involuntary resettlement

113. Screening result: **Potential risk** resulting from activities under Output 2.2.1
114. Explanation: The project activities will not lead to involuntary resettlement (in the sense of eviction or people involuntarily leaving their homes) or even losing their land use rights and will not include community resettlement activities. However, the demonstration plots may occupy spaces and may temporarily affect private lands or related activities. The choice of these areas will include strict criteria to be agreed with traditional and local authorities that stipulate no population resettlement through giving priority to communal-owned lands. The rainwater harvesting facilities in public buildings have already been discussed with the local authorities. These are public buildings and/or public spaces and as such there is no risk of eviction from them. Likewise, the household level water facilities will not lead to waste, runoff or any other externalities that could realistically lead to eviction or involuntary resettlement. However, there is a risk that construction work could cause damage or temporary inconvenience to people living in the areas (both beneficiaries and non-beneficiaries) and as such the risk cannot be assessed since they are Unidentified Sub-Projects (USP) at this stage. The process described under section 5.2 will be applied.

Principle 9: Protection of Natural Habitats

115. Screening result: **Potential risk** resulting from activities under component 3
116. Explanation: Within the target area, there are no formal reserves/protected areas. However, in the vicinity of the target area, Cuando Cubango province in Angola is home to two national parks, while in Namibia, the Kavango Regions are home to the wild and undeveloped Khaudum Game Park.
117. The surrounding area is also regarded as highly important as being upstream to some of the world's most important biodiversity hotspots i.e., two of the world's largest Ramsar sites are located in Botswana and in Namibia, adjacent to the Okavango Delta. This area has regional and global environmental and biodiversity value and importance. The Okavango Delta has been inscribed as a World Heritage Site under the UNESCO Convention in June 2014. The Ramsar Sites lie in the heart of the extensive network of transboundary parks and community conserved areas that make up the globally important Kavango Zambezi Trans frontier Conservation Area (KAZA TFCA). The KAZA-TFCA, which supports large herds of elephant and buffalo, rare and endangered species such as roan and sable antelope, constitutes important corridors for animal movement within the greater region.
118. The potential and indirect risks related to the protection of ecosystems and to the natural habitats may occur because they border around the project's target areas in the municipalities and peri-urban areas. The Cuando Cubango river which causes flooding in the project area, will have minimal construction in or around its banks. The materials or waste products which may go into the river and its surroundings shall not obstruct the volume or direction of the river flow. The Water harvesting structures used in the demonstration plots for agriculture using irrigation techniques under activity 3.1.1.3 will not adversely affect in any way the flora and fauna in the project site.
119. The potential risk related to the solar-pumped boreholes, water harvesting and storage infrastructure such as simplified water tanks and micro-irrigation systems may result in the interference with the flora and fauna. The possibility and presence of a labour force and construction equipment when necessary could have a minor impact on the target sites. The project will otherwise be actively improving or otherwise protecting natural ecosystem services through outcomes 2.1 and 3.1 of the project.
120. Also, the presence of labour and construction equipment, could have an impact on the fauna and flora on certain intervention sites. Not forgetting water capture and retention systems under activity 3.1.1.2 could have an impact too as such the risk cannot be assessed since they are Unidentified Sub-Projects (USP) at this stage. Besides, the implementation of water points, solar-pumped boreholes, and other activities of buildings that requires concrete actions on the ground may result in the vegetation and wildlife habitats provisional or definitive destruction in the implantation site and can create tensions with farmers living around. To address this, the project will ensure the application of the USP process described in section 5.2 to ensure that the appropriate regulations and standards will be adhered to I promote preservation of natural habitats

Principle 10: Conservation of biological diversity

121. Screening result: **Potential risk**

122. Explanation: Although the target area is not in the Delta itself, the upstream activity is relevant and there is a potential risk. In fact, the Cubango Okavango River Basin (CORB) is recognized as being internationally important for its biodiversity. The area is rich fauna and flora diversity and in the Okavango delta alone 1,300 species of plants, 71 species of fish, 33 species of amphibians, 64 species of reptiles, 444 species of birds and 122 mammal species have been recorded. The biodiversity of the CORB is under pressure and is changing. Some Red Listed species classified by IUCN are decreasing in number.
123. The protection of ecosystems and their biological diversity is an essential objective of the project. However, the ecosystems or biodiversity located in the spatially populated areas where the project will be implemented, the clearance of vegetation for water harvesting and storage sites may represent a form of disturbance for fish habitats and wildlife. This will provide opportunities to promote planning for biodiversity conservation activities and eco-tourism, such as reforestation and capacity building to strengthen the efficient management of natural resources.
124. The project will only utilize indigenous species, hereby mitigating any risk of species invasion. The project will not be exposed to any risks related to conservation and biodiversity and care will be taken to not endanger any flora and fauna habitats particularly the endangered species. The crop varieties introduced in the communities will be selected to be non-invasive or of influence on local genetic resources in the communities. The implementation of solar-pumped boreholes, water harvesting and storage infrastructure can result in the vegetation and wildlife habitats destabilization in the implantation sites.
125. As part of the implementation of some activities, new agricultural practices, may represent a form of disturbance for the flora and can affect the biological diversity. However, the project plans to promote cropping practices resilient to climate change by increasing the usage of a range of native drought-resistant crops and indigenous seeds under activity 3.1.2.4. this will also be facilitated by improving the capacity of the communities to create seed banks in activity 3.1.2.3.
126. To mitigate the risks mentioned above, follow-up and monitoring of the implementation of activities related to the protection and management of ecosystems will be undertaken. In fact, pre-surveys of the proposed areas will be conducted to avoid sensitive habitats that have high diversity of flora and fauna. Promotion of awareness sessions, capacity building and exchange visits to strengthen the efficient management of natural resources, including aquatic species and animals will also be undertaken.

Principle 11: Climate change

127. Screening result: **No risk**
128. Explanation: As the project is geared towards mainly adaptation interventions, the component 1 is dedicated to strengthening awareness, knowledge and capacity to adapt to climate change and variability at community, district, national and regional level. Component 2, aims at increasing technical learning for production and water management and finally, component 3 is anchored at improving resilience of ecosystems and livelihoods through the implementation of community adaptation actions to improve food security in response to climate change and variability. A potential change of the land use due to the field clearing to construct innovative water harvesting and storage infrastructure (e.g., simplified water tanks) under component 3 may generate low sequestration decrease. So, it is intended to promote reforestation to offset these lands. Some of the water solutions to be installed will require small pumps using solar energy abundantly available in the project areas under activity 3.1.1.3.
129. Without effective design or management, these could be modified to use diesel generator driven pumps in the long run, which can lead to emissions. In the areas targeted by the project, reliable solar energy is available, meaning that diesel generators will not be necessary based on the consultations. A potential change of the land use due to the field clearing to construct innovative water harvesting and storage infrastructure and buildings of centres may generate sequestration decrease. So, it is intended to promote reforestation to offset these lands.
130. In addition, the project will facilitate the transmission of information to the communities and info on EWS Information sharing and alert dissemination under activity 1214
131. Concurrently, the project will create awareness, strengthen technical capacities and provide support on climate interventions and information provided at the CCACs.

Principle 12: Pollution prevention and resource efficiency

132. Screening result: **Potential Risk**
133. Explanation: the project will not have major impacts on the natural resources in the intervention sites. However, the water solution construction under output 3.1.2 in the project could have a temporary impact while using plastics, PVC piping and a small amount of concrete. This can generate some small-scale and localized waste, which will be collected according to standard waste disposal methods. The project's activities (associated with the household level and public rainwater harvesting) will generate little or no waste in the day-to-day course of their operation. Routine maintenance may generate very small amounts of localised waste (such as when plastic pipes are replaced, for example).
134. The project activities moreover advocate the prevention of air, water, and soil pollution through awareness raising at all levels such as strengthen the capacities of the WUAs in monitoring the access and the use of water under activity 2.1.2.4 and 3.1.1.5
135. The new water solutions introduced by the project may increase the demand of water from the river especially during the dry season experienced in the project sites. This new pressure tends to mount the water availability for farming, livestock use as well as potability for human consumption. To address this, the project will create water points that can be used for irrigation and livestock rearing as well as support the reduction of human wildlife conflicts from animals seeking water. To ensure that the conflicts that may arise are addressed, the project will support transhumance conflict resolution measures in activity 1.2.1.4.
136. For resource efficiency, the project will ensure the users will appropriately utilize locally available resources and make sure to always consider the sustainability of resource use. In addition, the project will contribute to the energy efficiency through the interventions on alternatives energy sources such as solar for water pumping under activity 3.1.1.3 and efficient use of water through the small irrigation techniques and the water storage constructions establishments under activity 2.1.2.4. This will also be supported by capacity building the WUAs to manage water resources.

137. The project intends to promote efficient use of natural resources and to help farmers to adopt new agricultural practices such as improved soil management, use of a range of drought-resistant crops and seeds, cropping practices resilient to climate change emphasized under output 3.1.2. The use of chemical fertilizers and pest control will not be encouraged or supported by the project, but instead manure, compost and organic pest control remedies will be promoted.

Principle 13: Public Health.

138. Screening result: **No risk**
139. Explanation: Community consultations and data gathered during the project's formulation emphasized that public health continues to be a serious problem in Cuando Cubango with high rates of water-borne disease. Water storage constructions may lead to water- or vector-borne diseases (such as cholera and Malaria) increase, so, it is mandatory to raise awareness and support mechanisms to implement disease awareness and management programme for Malaria and Bilharzia. If the project did not take proactive measures to promote and ensure high quality drinking water, there could be public health through the rainwater harvesting units providing poor quality or contaminated water.
140. With regards to the safety in maintaining the reservoirs and dams (in particular risk of falling of man or cattle) and transhumance conflicts, security will be ensured at the reservoirs by providing adequate protective equipment (e.g., protective mesh). Health problems related to tank water quality or the infestation of insects near the water points could occur. Thus, it is planned that under output 3.1.1 to (i) avoid collecting the first runoff that is often heavily loaded or provide a decanter for tanks to improve the water quality, (ii) train communities that tank water is not consumed by the population without adequate treatment (after boiling or treatment), (iii) Provide family sanitary kits (filters) for potable water, and (iv) promote improved hygiene and sanitation messaging through community campaigns
141. Taking into account the spatial organization of populations and the prevalence of HIV/AIDS in the project areas, it is planned to prevent and control spread and occurrence of it among the project populous and local communities mainly the most vulnerable groups (women, youth, people living with disabilities) by organizing sensitization sessions, distributing prevention kits and by limiting the utilization of labour force from other areas.

Principle 14: Physical and cultural heritage

142. Screening result: **Potential Risk**
143. Explanation: This area has regional and global environmental and biodiversity value and importance. The Okavango Delta has been inscribed as a World Heritage Site under the UNESCO Convention in June 2014. The Ramsar Sites lie in the heart of the extensive network of transboundary parks and community conserved areas that make up the globally important Kavango Zambezi Trans frontier Conservation Area (KAZA TFCA).
144. The project will enhance and promote the protection of physical and cultural heritage. It will utilize and install rainwater harvesting facilities in public buildings. In fact, participatory workshops have been conducted to identify areas of physical and cultural heritage to ensure the preservation of traditional and ancestral knowledge.
145. In regard to cultural heritage, the new agricultural practices and water solutions may experience some resistance from the local and indigenous peoples. During the FPIC process, the project secured the adherence and inclusion of the TAs and local authorities to facilitate the popularization of the practices proposed in the project areas. Consultation is an ongoing process and will continue during the implementation of the project to adapt these practices to the reality on the ground.

Principle 15: Land and soil conservation

146. Screening result: **No risks**
147. Explanation: One of the main objectives is to promote the conservation of soil and land resources. This is evidenced in output 3.1.2 on adoption and promotion of agricultural resilient practices especially through the improvement of soil management, cropping practices, use of a range of drought-resistant crops and seeds and horticultural practices.
148. Livelihood diversification through the promotion of several IGAs will help reduce pressure and over exploitation of soils within the project sites. However, there is a potential risk of soil erosion and where applicable, it will be recommended to install specific measures to combat erosion such as intercropping, use of plant sediment binding grasses trees and shrubs on the exposed landscapes. Also, the use of gabions inter alia could be where applicable. Sensitization and awareness sessions under output 1.1.2 with the beneficiaries, workers and the local population will be undertaken to strengthen the effective management of soil under activity 3.1.2.1.

Compliance with Adaptation Fund policies

149. All activities implemented under the USP modality will adhere to the AF Policies to which the ADSWAC project is subject. These policies are: The Adaptation Fund Environmental and Social Policy (AF ESP), revised in March 2016, which sets out the requirements for Implementing Entities (IEs) to assess and manage environmental and social risks in project implementation. The AF ESP defines the E&S Principles that AF projects abide by. The AF ESP defines that IEs shall adopt measures to avoid, or where avoidance is impossible to minimize or mitigate those risks during implementation. In line with this, that the current Policy on USPs was developed.
150. Any USP identified and implemented in the ADSWAC project will, without exception, comply with the E&S Principles defined in the AF ESP. The Adaptation Fund Gender Policy and Action Plan (AF GP), approved in March 2016, which defines the objectives and principles that AF funded projects shall comply with in order to secure the uphold of women's rights as universal human rights, and in order to attain the goal of gender equality and the equal treatment of women and men. Any USP identified and implemented in the ADSWAC project will, without exception, comply with the Main Principles defined in the AF GP.

151. The USP Policy for ADSWAC is furthermore informed and guided by the AF Guidance Document, published February 2019, "Further Compliance with the Environmental and Social Policy and the Gender Policy of the Fund: Update of the Project/Programme Performance Report and guidance for unidentified sub-projects" (AFB/B.32-33/7)

Compliance with OSS Environmental and Social Safeguards

152. The Environmental and Social Safeguards (ESS) of the ADSWAC project, and inherently for the USPs, are assured through OSS policies and procedures which are based on the International Finance Corporation (IFC) Environmental and Social Sustainability Framework. This ensures that potential risks and impacts are iteratively identified, mitigated and monitored throughout the life-cycle of the Project.
153. The Environment and Social risk management is completed through two main stages: (a) Preliminary Risk Screening with respect to the ten Performance Standards (PS) prescribed in OSS E&S policy that all projects should comply with. This phase is implemented during project preparation and leads to a categorization of the project according to its risk level; (b) On-going Risk Screening of the project interventions during the implementation phase. Activity-wise risk management is governed by OSS' risk management procedure which is in line with the internationally recognized standards, and more specifically the ISO 31000:2009, Risk management — Principles and guidelines
154. Operational procedures will be implemented to ensure a continuous screening of all project activities and interventions for the identification of arising risks and impacts.

Adherence to National Technical standards

155. Equally to the compliance with the AF ESP and GP, with OSS ESS, and in line with these, the ADSWAC project is compliant with national laws, and adheres to all National Technical Standards that are applicable to the project. As such, all activities implemented as USPs will comply with these laws and standards.
156. All national laws and technical standards that are applicable to the ADSWAC project are identified in the Funding Proposal as presented to the AF. The laws and standards that are relevant for the USPs are listed above in Section 3. Any USP identified and implemented in the ADSWAC project will, without exception, comply with the identified national laws and technical standards of Angola and Namibia.

Unidentified Sub-Projects (USPs) in the ADSWAC Project

157. The current USP Policy applies to the two activity clusters that were identified as being USPs, and of which the detailed scale, scope and location are not yet identified at the time of full proposal development.
158. The USP Policy will therefore be applied to the following activities clusters of the ADSWAC Project: (a) Small-scale infrastructure investments aiming to provide access to water; (b) Promotion of non-agricultural Income Generating Activities (IGAs); (c) Establishment of nurseries and seed banks; (d) Establishment of 160 demonstration plots; (e) Disbursement of micro-credit facilities to communities.

Procedures for identification and validation of USPs

159. Overall, in the ESMP for the ADSWAC project, procedures are defined in case significant risks are identified. As such, when impacts or risks are determined significant, activity-wide E&S assessment will be conducted which, in turn, will lead to the identification of activity-specific E&S management measures that need to be incorporated into the project. Identification, treatment and monitoring of identified risk and mitigation measures for the ADSWAC project will be managed using a Risk Register. The process will be governed by the *Risk Management Procedure of the AF and OSS.* Specifically, local procedures will be established for the identification and validation of USPs to be implemented under the ADSWAC project.
160. During project preparation, consultations and studies were carried out to take into account the needs of local populations and to prevent environmental and social risks that could be linked to the implementation of the planned activities. In order to prevent and manage potential grievances that may arise during and after its implementation, the project will establish a grievance mechanism. This mechanism provides an access point for individuals, communities and other relevant stakeholders to submit complaints. It will also record and process all complaints relating to the project's activities, results or impacts.
161. The proposed mechanism is intended to be rapid, effective, participatory and accessible to all stakeholders, to prevent or resolve conflicts through negotiation, dialogue, joint investigation, etc. It will handle complaints related to the compliance of the project activities and impacts with environmental and social safeguards as well as fiduciary and legal aspects (grant agreements, contracts, etc.).
162. The key principles of the GM have been categorized as seen in table 3 below:

Table: Key principles of the Grievance Mechanism

Principle	Implementing Measure
Security and confidentiality	• Protect the anonymity of complainants if required; • Ensure confidentiality in the event of sensitive complaints; • Limit the number of people with access to sensitive information;
Accessibility and context	• Widely disseminate the mechanism to target groups (taking into account restrictions, such as language, geographical, gender etc.); • Clearly explain procedures; • Diversify possibilities for filing complaints; • Assist people with special access challenges;
Predictability	• Respond promptly to all complainants; • Present a clear process, with deadlines for each step;

Impartiality	• Ensure impartiality of those involved in investigations; • Ensure no person with a direct interest in the outcome of the investigations is involved in the handling of the complaints concerned;
Transparency	• Inform the parties concerned about the progress and the results of a complaint in process;

Organization and Functioning of the Complaint Mechanism

163. The mechanism is being extended to all institutional stakeholders. The system will be closely linked to the OSS grievance mechanism, especially for the handling of major sensitive complaints. If necessary, complainants may also refer the matter to the Ad hoc Complaint Handing Mechanism (ACHM) of the Adaptation Fund. The complaint form by OSS will be made publicly accessible, electronically and in written forms. (Attached below)

Organizational framework

164. Complaint management will be integrated into the project activities. The tasks and responsibility of the project team are well defined. The management of the mechanism will be supported by OSS environmental and social committee, national experts from the concerned countries and from committed civil society/local communities' representatives, who will be available and trained to implement the mechanism as seen in table 4 below.

Table: Organizational Framework of the ADSWAC Grievance Mechanism

Actors	Number/Composition	Role
Complaint Management Committee (CMC)	• OSS Environmental and Social Committee (ESC) (4 members) • Project Coordinator • M&E Expert of the project	• Complaint handling • Proposal of responses and complaint resolution measures • Follow-up and supervision of the complaints
Regional Project Management Unit (RPMU)	• Project Coordinator • M&E Expert • Representative from ADPP National HQ • Other Regional Stakeholders as required	• Receipt and registration of complaints • Transmission of complaints to CMC • Convening the CMC, including provision of logistics
National PMUs Angola and Namibia	• Project Coordinator (Angola) or Deputy Project Coordinator (Namibia) • M&E Expert • Representative from ADPP or DAPP National HQ • Other National Stakeholders as required	• Receipt and registration of complaints • Transmission of complaints to the RPMU • Receipt of complaints responses • Facilitation of contacts with local leaders as required
Local complaint management units (LCMUs)	• Local technical services • For Angola: Municipal Department of Water, Municipal Department of Agriculture / Agrarian Development Station (EDA); Municipal Department of the Environment); • For Namibia: Directorate of Agricultural production, Extension and Engineering Directorate of Water Resources Management (Water Affairs and Rural Water Supply); Directorate of Forestry, Directorate of Environmental Affairs; • Local authorities (Village Committees, Regional/Provincial Councils) • For Angola: Local councillor (*regidor*); Municipal Administrator; Provincial Governor; • For Namibia: Regional Councils (Office of the Governor); • Customary Authorities • For Angola: Traditional leader (soba) • For Namibia: Traditional Authorities & customary, community or traditional courts.	• Transmission of complaints to the PMU • Receipt of complaints responses • Handling of complaints at first instance
Commission of inquiry	• As required, not to exceed 5 people; 1 member of OSS ESC, 1 National officer, 1 local service agent relevant to the complaint.	• Consideration of sensitive issues or issues requiring specific expertise
Project Field Staff	• Depending on the case and the scope, local coordinators, farming instructors or CCAC staff may be called upon.	• Called upon to clarify and manage non-sensitive complaints through dialogue and negotiation while informing the PMU
Project participants	• Two representatives of the site concerned	• Participation in necessary investigations and examinations; • Clarification for a better understanding of the facts • Testimonials

Functioning:

165. At Implementing Entity (IE) - level, project grievance mechanism will be coordinated by the OSS ESC. As an IE, OSS will use its grievance mechanism to manage complaints that arises during the preparation, execution and after the project completion. Affected communities or other stakeholders who will be affected by the project may file complaints directly to the OSS or through the RPMU. Grievances may also be sent to the Ad hoc Complaint Handing Mechanism (ACHM) of the Adaptation Fund.

166. At Regional level, the RPMU is the focal point for all project- related complaints. If the complaint is minor or not related to the project, it will be dealt with at the regional level by the relevant competent services concerned, as stated in the table above.
167. At National level, the PMU is the focal point for all project- related complaints. If the complaint is minor or not related to the project, it will be dealt with at the local or national level by the relevant competent services concerned, as stated in the table above.
168. At the local level**,** complaints can be addressed in different ways to local authorities or customary authorities, as outlined in the table above. They will be received in different forms appropriate to the complainant's local context: local radio, WhatsApp messaging, telephone, word of mouth, exchanges at markets, or messages to PMUs or Fields Staff during workshops or missions.
169. The RPMU, national PMUs and Project Field Staff are committed to respond quickly and appropriately to the complaint. When the complaint cannot be handled at the local level, the national PMUs will support the complainants to fill in a complaint form to be submitted to the OSS Environmental & Social Committee. The PMUs should advise complainants to provide comprehensive information to facilitate the assessment and handling of the complaint. A report is made and sent to the CMC, who registers the complaints and starts its processing.

Complaint Handling Process:

170. Filing a complaint: Anyone or communities affected by project activities can fill in their complaint or claim in several forms and in several ways. In accordance with the principle of accessibility and depending on the context, the method of filing complaints will be diversified: *i) At the national or regional level*, complaints will be addressed directly to the OSS or to the Adaptation Fund via the contacts presented above and via social networks; and *ii) At the local level*, complaints can be addressed to local authorities or customary authorities as per the table 4 which will refer them to LCMUs. Complainants can also fill in their complaint directly with LCMUs or PMUs. Contacts of local complaint management units and PMUs will be made public at beginning of project execution.
171. The mechanism will use all possible means and channels (traditional and modern) to receive complaints or claims (anonymous or not). These will include, among others: Telephone call, the phone is widely spread in the target area; Word of mouth and exchanges in local markets; Broadcasting through local and community radio stations; Self-referral to the CMC during supervision missions; Facts noted during meetings or a field visit; Facts observed in performance and financial reports and project evaluations; Social networks (WhatsApp, etc.), web page of the project, email address of the project, the OSS website; Mail via complaint boxes in the localities concerned by the project.
172. Receipt and registration of complaints**:** this is ensured by the PMU which is responsible for receiving all complaints related to the project activities and impacts. Complaints received will be recorded upon receipt and the traceability procedure will be established. They are generally classified into 2 groups: (a) Non-sensitive complaints related to the implementation process, including choices, methods, results achieved; and (b) Sensitive complaints generally concern personal misconduct such as corruption, sexual abuse, discrimination.
173. The PMU will send a formal acknowledgment (by email or letter) within a maximum of one week. In this, the recipient will be informed of the next steps and if necessary, he/she will be asked to provide clarifications or additional information for a better understanding of the problem.
174. Complaint handling**:** involves verifying the eligibility of the complaint to the mechanism and ensuring that the complaint is related to the project's activities or commitments. The aim will be to establish the link between the facts denounced and the project's activities and impacts. The eligibility assessment will also determine whether the case should be dealt with under the Project-specific grievance mechanism or referred to other mechanisms (whistleblowing, etc.).
175. In the case of unfounded complaints**,** it is essential to conduct the necessary investigations to preserve the project reputation. This task is the responsibility of the regional and the national PMUs. Unfounded complains include among others those that have a lack of necessary information or are the result of rumours or malicious persons, which may harm the proper conduct of the project. Public complaints or accusations broadcasted to a wider audience that are considered unfounded complaints, will be addressed at IE and national PMU level, and may be followed by a formal statement.
176. In the *case of* well-founded complaints, two kind of responses can be applied: (i) direct response and action by the CMC to resolve the complaint; and (ii) broad and thorough audit is required, and joint investigations, dialogues, and negotiations could be conducted to reach a substantial resolution. This may involve extending the team to national and local services, as well as additional time. For sensitive cases, the CMC may use an investigation to reach an appropriate resolution based on expert advice.
177. Following the audit and investigations, a contextually appropriate and formal explanatory response is given to the complainant. It should include the procedures to be followed by the PMU to manage the complaint or propose the appropriate bodies to be contacted for cases that does not fall into the Project management unit's responsibilities. If agreed with the complainant, the proposed responses are implemented by the Complaints Management Committee (CMC), the latter will monitor the whole process of the complaint treatments in all cases.
    - ***Implementation of measures****:* if the CMC and the complainant agree to implement the proposed response, a plan will be developed involving all stakeholders. The CMC should document all discussions and choices available.
    - ***Monitoring of the complaints:*** It is necessary to track the number of complaints by the identity of the complainants, background, period, theme and final outcome.
    - ***Registering of the complaint:*** Regardless of the outcome of the complaint processing it is important to record all steps and document them. The satisfactory resolution and lessons learned should be documented.
    - ***Closing the grievance:*** The procedure will be closed if the mediation is satisfactory to the parties and leads to an agreement.
    - ***Publication of complaint result*****:** all well-founded complaints will be made publicly available by different communication means. The publication will include the type of complaint, its origin and impact, the treatment procedure and its results, including the complainant level of satisfaction.

E&S Management Plan

E&S principles Checklist	Potential impacts	Mitigation Measures	Indicators	Responsible	Cost (USD)
1- Conformity with the law	• The fully identified project activities will not generate risks. Only some activities/ sub-projects under output 3.1.1 (water solutions) and output 3.2.2 (Income-Generating Activities) are categorized as unidentified, and therefore they may require EIA depending on the size and the location of their implementation to determine their impacts and to comply with national standards and laws.	• The fully identified project activities do not generate risks related to conformity with the law so there are no mitigation measures to plan. • The assessment of the risks related to the USPs will be ensured according to the Unidentified Sub-Projects (USP) methodology of Impact Assessment and Risk Management detailed above			
2- Access and Equity	• Women and youth are characterized by poor access to land and related resources over agricultural production and finance. These findings imply that there is limited capacity to cope due to high levels of poverty and dependency among the women and youth and may limit their opportunities to benefit from projects outcomes requiring access to land. • Rural people (pastoralists, fishers and smallholder farmers) and marginalized poor families targeted by the project are not often integrated in the local politics and decision-making processes. This may limit their opportunities to be part of the decision-making bodies such as the WUAs and POs and to benefit the project outcomes.	• Project beneficiaries will be selected through few phases, including (1) screening of potential beneficiaries during the community consultation meetings, (2) recommendations by the municipalities and the final beneficiaries will be selected as a result of (3) face-to-face meeting and visit to the farm of the beneficiary in order to assess her/his skills of farming and readiness to accept the project terms. • To ensure the equal participation of women, youth, elderly and other potentially vulnerable groups, dedicated consultations and working groups with these groups will be organized to provide ample space for the consideration of the specific needs of these stakeholder groups. • Close monitoring of the project beneficiaries to assure equal access of men; women, youth and the most vulnerable; • A grievance redress mechanism would support community members and stakeholders to submit any complaint.	• Nb of selection criteria agreed on • Nb of workshops • Nb of participants to these workshops and gender distribution • Nb of complaints	OSS ADPP DAPP	It is incorporated in the investment cost of the project
3- Marginalized and vulnerable groups	• Lack of land ownership may affect negatively some vulnerable groups	• Marginalized people who do not have land will be given priority for access to other project activities such as IGAs, fishing, etc. The project will also closely monitor the targeting of all project	• Nb/ Frequency of radio awareness campaigns per day (in local language)	OSS ADPP DAPP	It is incorporated in the investment cost of the project

		beneficiaries to ensure equal access of men, women youth and the most vulnerable.			
	• Some project activities could increase inequalities and hamper the livelihoods of project beneficiaries	• Benefit from the project activities will be based on a set of agreed community selection criteria to avoid exclusion and inequity • The proposed activities do not require full time labour. Full time labour of communities can be directed to other activities including agricultural crop farming in other areas. • KAP will be conducted at the local level to collect feedback from the population including marginalized groups • Grievance mechanism			
	• Insufficient knowledge and access/use of technological devices such as mobile phones or lack of good cellular connectivity specially required for climate information.	• To avoid the exclusion of marginalized and vulnerable communities in order to disseminate and broadcast the information in local radio channels and traditional practices such as speakers to reach them. Visual learning and awareness materials will be included to avoid exclusion of illiterate groups.			
4- Human rights	• The project activities do not generate risks related to human rights.	• The project activities do not generate risks related to human rights so there are no mitigation measures to plan. • Grievance mechanism			
5- Gender Equality and Women's empowerment	• Women's status and representation may limit their meaningful participation in project activities and benefiting it outcomes	• Ensure the presence of women and young people in workshops and trainings; • A Gender Assessment Action Plan have been developed to ensure that women are meaningfully engaged in project activities and realize an equitable share of project benefits • Communication and sensitization of the population on the gender issue to ensure gender parity in USPs; • Grievance mechanism.	• % of women and youth participating in workshops and trainings • % of women beneficiaries of USPs • % of women in the POs and WUAs • % of women leading POs and WUAs • Nb of complaints	OSS ADPP DAPP	It is incorporated in the investment cost of the project
	• The majority of those involved and 178. benefiting from the project's field agricultural activities will be men who are mostly land owners	• Women will be specifically targeted to benefit from activities primarily animal raising loans and the agro-processing activities. This will enhance their access to finance and enable them to generate	• % of women beneficiaries' micro credit	OSS ADPP DAPP	

		income, contributing directly to their financial empowerment.			
6- Core Labour Rights	• Construction/Rehabilitation planned under the project may lead to accidents and occupational hazards during the project preparation and implementation. • In rural areas where the presence of the state is not very strong, late or unpaid salaries or remuneration non- compliant with the countries labour legislations and laws may occurs as well as Children's labour.	• Sensitize workers and populations to the risks related to the undertaken activities; • Design and implement safety measures and emergency plans to contain accidents risks and ensure the application of safety standards by companies (equipment, signs, training, etc.); • Provide workers with protective clothing (nose and mouth masks, ear muffs, overalls, industrial boots and gloves) and helmets as applicable • Salaries in line with the best common practices in the districts and villages; • Close follow-up and monitoring of the worksites by the national executing entities including schedules, activities progress, respect of the labour and safety rights of workers and conformity with national labour codes.	• Nb of training sessions on the risks related to construction sites • Nb of participants to these sessions and gender distribution • % of companies that comply with safety standards • % workers equipped with protective clothing • Signature of people involved in works; • % of spot checks validated	OSS ADPP DAPP	It is incorporated in the investment cost of the project
7- Indigenous People	• Although indigenous people have formal right to participate, they have no influence over national issues and rarely consulted on issues affecting them directly and therefore special consideration of empowering.	• Involvement of indigenous people representatives at all project stages (development, implementation, monitoring and decision-making process) • Ongoing consultation process to adapt the project activity (USP) to their needs.	• % indigenous people involved	OSS ADPP DAPP	It is incorporated in the investment cost of the project
	• Changes in San and Khoisan lifestyle due to the type of activities promoted in the project	• The implementation of the activities under Component 3 that involve indigenous peoples will align with the seasonal calendar of the indigenous peoples.			
8- Involuntary Resettlement	• The construction of water solution and demonstration plots will occupy spaces and may affect private lands or related activities.	• The choice of these areas will include strict criteria to be agreed with traditional and local authorities that stipulate no population resettlement through giving priority to communal-owned lands. • Sensitization and awareness sessions will be organized to explain the potential impact of such an activity and its added value.	• Nb of beneficiaries affected by the project activities • Nb of sensitization session	OSS ADPP DAPP	It is incorporated in the investment cost of the project
9- Protection of natural habitats	• The presence of labour and construction equipment, if this is necessary for carrying out the works or activities planned by the project	• Follow-up of the implementation of all activities related to the protection and management of ecosystems and natural habitats;	• Nb of monitoring reports including specific section on	OSS ADPP DAPP	It is incorporated in the investment cost of the project

	such as boat loading sites could have an impact on the fauna and flora of certain intervention sites. • The implementation of water solution may result in the vegetation and wildlife habitats destabilization in the implantation site.	• Establishment of E&S Impact Assessment Studies; • Sensitization sessions to local populations on good environmental practices and the protection of natural habitats.	activities related to the protection and management of ecosystems • Nb of E&S impacts assessments • Nb of awareness sessions on the protection of the ecosystems • Nb of participants to these sessions and gender distribution		
10- Conservation of biological diversity	• The promoted drought resilient species and seeds may represent a form of disturbance for the flora. • Vegetation clearance for water harvesting and storage sites construction may represent a form of disturbance for fish habitats and wildlife.	• Organize consultations meetings with forest officer and communities to agree on the suitable seeds • Species introduced in the communities are not alien to the area. • Follow-up and monitor the implementation of all activities related to the protection and management of ecosystems; • Minimize vegetation clearance as Low as Reasonably Practical (ALARP); • Avoid cutting large trees with a diameter >20cm; • Promote planning for activities of biodiversity conservation such as Compensatory reforestation; • Pre-survey the proposed construction site areas to avoid sensitive habitats that have high diversity of indigenous plants; • Promote awareness sessions, capacity building and peer learning to strengthen the efficient management of natural resources, including aquatic species, animals and forests.	• Nb of meetings organized • Nb of monitoring reports including specific section on activities related to the protection and management of ecosystems • % reforested land in relation to deforested land • Nb surveys established • % of surveys indicating that the area has high diversity of indigenous plants • Nb of awareness sessions on the protection of the ecosystems	OSS ADPP DAPP	It is incorporated in the investment cost of the project

			• Nb of participants in these sessions and gender distribution		
11- Climate change	• The project activities do not generate risks related to climate change.	• The project activities do not generate risks related to climate change so there are no mitigation measures to plan; • A small positive impact is expected from the use of solar energy for water pumping and irrigation, reducing the use of diesel pumps; • Agriculture practices mainstreamed can be expected to have a positive impact as carbon sequestering.			
12 - Pollution prevention and resource efficiency	• Potential contamination of water reservoir through introduction of impurities, wastewater and solid waste.	• Conduct regular water quality monitoring and maintenance of the water supply system as well as ensure the monitoring of water quality by chemical analysis; • Awareness improvement on water Resource management and conservation through consultation workshops;	• Nb of conformity certificates issued; • Nb of awareness sessions on water Resource management and conservation	OSS ADPP DAPP	It is incorporated in the investment cost of the project
	• Over exploitation of water resource	• Irrigation system installed, fully monitored and schedule controlled	• Nb of frauds and irregularities		
13 - Public Health	• Water storage constructions may lead to water- or vector-borne diseases (such as cholera or Malaria) increase, and the proliferation of insects near the water points	• Raise awareness and support mechanisms to prevent and control spread of water related diseases such as Malaria and Bilharzia among the program workers and local communities • Implement disease awareness and management programme for Malaria and Bilharzia • Provide family sanitary kits (filters and disinfectants) • Conduct community campaigns on safe water use, and improved hygiene and sanitation practices;	• Nb of awareness sessions on diseases • Nb of participants in these sessions and gender distribution • Nb of families provided with sanitary kits for water purification	OSS ADPP DAPP	It is incorporated in the investment cost of the project
	• The presence of workers at construction sites near the project beneficiary villages could increase the risk of spread of sexually transmitted diseases (STD) especially that most vulnerable members of communities	• Prevent and control spread of HIV/AIDS among the program workers and local communities, by organizing sensitization sessions and distributing prevention kits. • Recruitment of the project labour force among the targeted area	• Nb of awareness sessions on diseases • Nb of workers provided by prevention kits • % of the labour force from the targeted area		

	• Risk of persons safety in maintaining the tanks or dams (in particular risk of fall of man or cattle	• Ensure security at the reservoirs especially at the dams' area by providing adequate protective equipment (e.g., protective mesh).	• % reservoirs equipped with security measures • Nb of security measures set up at each reservoir		
14 - Physical and Cultural Heritage	• The new agricultural practices and water solutions may affect local and indigenous people's knowledge	• Awareness raising sessions with to local populations on the project activities.	• Nb of sessions organized	OSS ADPP DAPP	It is incorporated in the investment cost of the project
15 - Soil and land conservation	• Some activities such as agriculture and construction may lead to soil erosion and compaction	• Instruction of sustainable soil and water conservation measure • Refreshment of the deteriorate land • Raise the local population awareness to strengthen the effective management of soil and land	• Nb of soil and water conservation measures • % refreshed land in relation to compacted land • Nb of awareness sessions on the effective management of soil and land	OSS ADPP DAPP	It is incorporated in the investment cost of the project

179. Monitoring and Evaluation (M&E) of the ADSWAC Project will be mainstreamed with emphasis towards environmental and social monitoring. Environmental monitoring of sub-projects will be undertaken at different levels. Trained individuals at lower local government levels and communities will, depending on the scale or scope of the projects, undertake the monitoring exercises in sequences and frequencies stipulated in the Project Implementation Schedule including where appropriate a Maintenance Schedule. The regulatory Agencies in each country will mainly carry out "spot checks" to ensure that implementation of mitigation measures is done satisfactorily.
180. The ESMP supervisory arrangements shall summarize key areas on which focus of critical risks to implementation, how these risks will be monitored during implementation and agreements reached with the key stakeholders including contractors.
181. Supervision of the ESMP, along with other aspects of the project, covers monitoring, evaluative review and reporting and is designed to:
    - Activity 1: to ensure the application of mitigation and maximization measures in this ESMP;
    - Activity 2: to carry out regular inspections on the work site and report any non-conformities to the site manager;
    - Activity 3: identify, in collaboration with the site manager, the alternative measures to be put in place in order to solve any unforeseen problems that may arise during the works; and
    - Activity 4: to ensure that the works are carried out in accordance with the environmental requirements of the beneficiary States and the AF.
182. It is vital that an appropriate environmental supervision plan is developed with clear objectives to ensure the successful implementation of this ESMP.

Implementing Entity

183. The E&S committee of the OSS, the Implementing Entity, will be responsible for ensuring the implementation of the ESMP and the application of the methodology described here above. Besides, for the USPs, this committee will be in charge of deciding whether ESIA studies are necessary or not when risks happen and this according to its Environmental and Social principles as well as those of the AF. Additionally, National Environmental Authorities may be involved to deliver conformity certificates (if applicable) and/or just for seeking opinion and comments. Finally, OSS will ensure the effective implementation of the mitigation measures identified in the ESMP during its supervision missions. Nevertheless, it could organize specific assignments to assess the complaints submitted by local communities.

Regional Project Management Unit (led by ADPP Angola)

184. The regional monitoring of the project activities will be carried out by ADPP. This RPMU will be responsible for the supervision of the EEs (ADPP Angola, DAPP Namibia) activities related to monitoring the ESMP at local level. On a quarterly basis, the RPMU will gather the reports from the EEs, who will rely on a bottom-up feedback system based also on community inputs. In order to ensure a relevant monitoring regular field visits to inspect and verify on the one hand the efficiency of the mitigation measures and on the other hand to check the extent of the foreseen impacts. Given that the project is regional, the impacts may also be regional and the limited competencies of the EEs could make the monitoring of these impacts inadequately implemented. The RPMU will be responsible of taking into account the regional dimension in order to identify these impacts and ensure that each EE makes the necessary follow-up. Also, the PMU will take the measures to ensure that the regional dimension is taken into account in the assessment of the USPs if required. If the monitoring is not adequately ensured, the RPMU will inform the EEs and the RIE to take the necessary measures in a concerted manner. In addition, the RPMU and the RIE will carry out regular field missions for close monitoring of risks, impacts and mitigation measures, especially those with a regional connotation. In this context, the involvement of all implementing and executing entities is necessary to ensure adequate monitoring of mitigation measures at the local, national and regional levels. Their involvement mainly necessary for monitoring the cross-border impacts that are the most difficult to follow. A yearly monitoring reports will be developed by the PMU and submitted to OSS.

National EEs (ADPP Angola, DAPP Namibia)

185. The EE will be responsible for coordinating and monitoring environmental and social indicators. The EE will be also in charge of analysing data, managing local information systems and supervising the baseline establishment at project starting phase. As regards to the unidentified sub-projects the EE will be responsible for conducting the ESIA according to the AF policy and will then work closely with local authorities to develop the relevant ESMPs for each intervention sites that also complied with the national standards and laws Finally, the EE will prepare quarterly based reports and submit them to the PMU.

Local Communities

186. The ESIA monitoring will also include a community-based component. In fact, the project plans to carry out training and capacity building sessions for the benefit of local agents and communities, in data collection and monitoring. During all the consultative workshops and meetings related to activities execution, capacity building and training the representatives of ethnic groups and indigenous people will be involved in an active way. They will be informed about the activity risks and will be involved in the implementation and monitoring of mitigation measures.

Table: Roles and Responsibilities of EM Program

Actor Involved	Responsibility/Role
Implementing Entity (OSS)	OSS will be committed to adherence to AF standards and ESP principles and will implement mitigation measures as part of the ESMP.
Regional Project Management Unit (led by ADPP Angola)	Monitor and disseminate the ESIA / ESMP, in particular its grievance mechanism, among relevant stakeholders and beneficiaries. Ensure that the implementation of the project complies with applicable national and standard regulatory frameworks. And monitor the implementation of ESMP activities and evaluate the effectiveness of the mitigation measures put in place.
National EEs (ADPP Angola, DAPP Namibia)	Each EE will ensure the day-to-day implementation of the project and ensure regular monitoring, identifying any new potential risks for society and / or the environment during the project

	implementation, so that measures of support and appropriate attenuation can be implemented to be adopted on time.
Local Communities/ Project Partners	Provide information on potential new social / environmental risks that may arise during the implementation of the project. Assist in the implementation and monitoring of mitigation measures based on their expertise.

187. As part of the monitoring of the implementation of the ADSWAC ESMP, it is important to carry out an annual monitoring and evaluation mission of the application of the environmental measures foreseen in the ESMP in order to detect any unforeseen impacts. The reports produced by the national technical structures should be transmitted to the structures involved in the implementation of the ESMP as well as to the FA.
188. The costing of the measures took into account the most important elements of the environmental management plan. The gender and gender issues will be respected in carrying out the different project activities in accordance with the E&S policy of the FA and the OSS. Moreover, in the case of a problem related to Environmental and Social Management, the population has at its disposal a grievance mechanism relating to the project through which it can express its claims. Given this, the total cost of implementing the Environmental and Social Management Plan for interventions in the framework of the implementation of the ADSWAC project activities is incorporated in the investment cost of the project.
189. If the environmental management and monitoring system is to be successfully implemented, it is recommended that various trainings be provided. In general, training should be composed of workshops, In-service training, and in-service formal courses.
190. The preparation, implementation and monitoring and evaluation envisaged in this project are based on a system of organization that involves the contribution of several categories of interventions, particularly the structures mentioned above. This will create the right conditions for better results. The table below shows the cost of the capacity building program for these actors.

Table: Stakeholders capacity building program

Topic	Target entities	Implementing entities	Indicators	Timing	Cost (USD)
Training on environmental monitoring	ADPP 2 EE	OSS	Nb of training sessions Nb of trained persons	Project start	20,000

ANNEXES
OSS – Grievance Mechanism
Complaint form

This complaint form can be filled out by typing to enter the requested information. When completed, you may print and sign, or you may upload a photo of your signature (instructions provided below) and e-mail the completed form to doleances@oss.org.tn

Complainant information	
Name	
On behalf of	
Phone	
E-mail address	
Do you request that identity be kept confidential? ☐Yes ☐No	
Complaint	
Subject	**…….....** **……...** **……** **……** 191. Project name 192. …… ……... 193. Project location (Country, Village, etc.) 194. …… ……...
Details of the complaint (include nature of the infringement)	
Supporting documents (if any)	
Which results you wish to be achieved (optional)	
Reserved for Social and Environmental Committee	
Registration number	
Received by	**Date**
Nature of the complaint	
Conditions of admissibility	**Admissible ☐ Non-admissible ☐**
Reserved for the specialized commission	
Reasoned opinion	
NOTES	

1. This form is to ensure that the complaint is received, key information is provided and action is initiated for investigation.
2. The "Complainant" may not be a person, the request can be initiated by a letter sent to a newspaper, an article or the Internet.
3. Complaints may be submitted by mail, fax, e-mail, or hand delivery to the OSS.
4. The "Details" must include a brief description and may refer to a letter or any other detailing document. Complaint may include any other information that s/he consider relevant
5. If the supporting documents are provided, it is important that they are registered to be examined during the investigation and to avoid any subsequent complaint alleging a concealment of pieces, even if it is not intentional
6. Under the "expected result", the complainant can specify the expected outcome after filing complaints such as: disciplinary action, cancellation decision etc.
7. It is accepted that the ON maintains a register of all complaints received indicating the results of the survey in the "registration number".
8. The person receiving the complaint must sign and date the form.
9. When an investigation request is made, the person's name assigned to the investigation and the date on which he/she receives the complaint are recorded

Signature: Date:

OBSERVATOIRE DU SAHARA ET DU SAHEL
SAHARA AND SAHEL OBSERVATORY
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3. Gender Assessment and Action Plan for ADSWAC Project (Angola and Namibia)

List of acronyms

ADSWAC	Adaptation in Drought-Struck South-Eastern African Communities
ADPP	Ajuda de Desenvolvimento de Povo para Povo
CC	Climate Change
DAPP	Development Aid from People to People
GAAP	Gender Assessment and Action Plan
OSS	Sahara and Sahel Observatory
AIDS	Acquired Immune Deficiency Syndrome
AIGAS	Alternative Income Generating Activities
AF	Adaptation Fund
CA	Climate Adaptive
CAAP	Community Adaptation Action Plan
CBO	Community Based Organization
CCA	Climate change adaptation
CCAP	Climate change adaptation plan
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
EE	Execution Entities
HIV	Human Immunodeficiency Virus
IBEP	Integrated Survey on the Welfare of the Population
ICF	International Finance Cooperation
IIMS	Multiple Indicator and Health Survey
INE	National Statistics Institute
FFS	Farmer Fields Schools
GII	Gender Inequality Index
GBV	Gender-based violence
MASFAMU	Ministry of Social Action, Family and Women Promotion
MDG	Millennium Development Goals
MINAGRIP	Ministry of Agriculture and Fishery
MINSA	Health Ministry
MPDT	Ministério do Planeamento e Desenvolvimento Territorial
NIDS	Inter-cense Demographic Survey
NDP	National Development Plan
NGO	non-governmental organization
OKACOM	Okavango River Basin Water Commission
PO	Producer Organizations
SADC	Southern African Development Community's
UN	United Nations
UNDP	United Nations Development Program
WUA	Water User Associations

This document is based on the Adaptation Fund Gender Policy and is developed to guarantee that the ADSWAC project promotes gender equity and environmental benefits, and at the same time tackles gender group differences in terms of their vulnerabilities, roles and responsibilities as well as the challenges and opportunities, promoting gender mainstreaming into project activities and draw a gender-based action plan for project implementation. Additional to the AF Gender Policy, the project follows objectives and reinforces results targeted by the OKACOM Gender Mainstreaming Strategy (2015).

It is important to point out that gender inequality is combined with the climate change and increases vulnerability. Difficulties faced by poor women to access resources, restriction of their rights, reduction of their mobility and their participation in decision-making make them totally vulnerable to the climate change, which accentuates already existing inequalities, including inequality between genders.

In this sense, it is significant to have an understanding of what investing on gender equality and equity and environmental education jointly entails. Achieving gender equality implies both tackling the causes and addressing the consequences of discrimination against women and gender inequalities, while promoting a favourable institutional framework to achieve this goal. Understanding the different needs and capacities of women and men related to climate change is critical to the effective project implementation. The cross-cut integration of a gender approach on the ADSWAC project aims to ensure that the specific needs of men and women are addressed in all spheres of the project implementation, taking into account the practical needs and strategic potential for each gender in both regions. Cross-cutting the gender perspective at all stages of the planning and budgeting cycle implies introducing this approach from the moment of the project's conceptualization, through the design of the activities, its monitoring and evaluation and the elaboration of the budget.

The GAAP for ADSWAC was conducted with inputs from (i) Cuando Cubango Provincial Director of Family and Women Promotion and (ii) the respective Executing Entities (Ajuda de Desenvolvimento de Povo para Povo (ADPP) in Angola, and Development Aid from People to People (DAPP) in Namibia), in direct collaboration with the Sahara and Sahel Observatory (OSS). An overview of the main Gender-focused regulatory and socio-economic issues in each of the two countries is presented in this document. The key problems that women have to tackle in both two countries regarding climate change, and drought management are also highlighted.

2.1. Project Background and Context

Angola and Namibia are experiencing severe food and water insecurity due to high drought occurrence. Increasing temperatures and rainfall variability have led to increasing occurrences of floods and droughts, resulting in negative effects for populations and ecosystems. Climate projections indicate mean annual temperatures are projected to increase between 1.2oC and 3.2oC by 2060 (RCP8.5 scenario). Although rainfall models vary, there is broad agreement that precipitation will decrease. The strongest decrease in the respective countries is expected in the border area along Southern Angola and Northern Namibia. Such projected temperature and rainfall anomalies aggravate the Climate Change (CC) situation for human populations and ecosystems in the border area, negatively impacting water resources, agriculture, biodiversity, health, disaster resilience, tourism and infrastructure on which the increasing human population depends for their livelihoods.

On this border between Angola and Namibia, small-scale rain fed and small-scale irrigated agriculture and livestock rearing provide livelihoods and subsistence for the vast majority of the population. The dry seasons in the area are depicted by significant challenges in terms of access to water and food security. Despite the potential for agriculture production, both countries are net importers of food, placing especially the most vulnerable populations at risk of climate-related shocks and market fluctuations. Little attention has been paid to efficient rural development and crop and livestock production, and the populations are inadequately reached by agriculture extension and other social services.

The target areas are geographically more coherent than they are with their own national capitals. Population groups across frontiers share similar ethnic backgrounds, languages and cultural habits and characteristics. A unified cross-border approach would not only help the populations to adapt to changing conditions but would also encompass a key contribution to avoid further encroachment of the protected areas in the highly valuable Okavango river basin ecosystem.

In view of these observations and projections, and with the aim to strengthen the resilience of the border area's populations and ecosystems, the Sahara and Sahel Observatory (OSS) in collaboration with the two countries and in direct partnership with two national NGOs, Ajuda de Desenvolvimento de Povo para Povo (ADPP) Angola and Development Aid from People to People (DAPP) Namibia as the Executing Entities, has submitted a Concept Note (CN) to the Adaptation Fund (AF) for a regional project. The project is titled "Resilience Building as Climate Change Adaptation in Drought-Struck South-Western African Communities – ADSWAC".

Overall, the project's objective is to enhance adaptation capacities and resilience towards Climate Change impacts and variability in the transboundary region between Angola and Namibia. This will be achieved through increasing knowledge and awareness on CC and CC Adaptation (CCA), strengthening technical capacities for CCA at local, sub-national, national and regional level, and the implementation of concrete adaptation activities to increase resilience and adaptive capacities of smallholder farmers.

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;
- Improving food security in response to climate change impacts amongst rural and vulnerable communities in the Cuando Cubango Province and the Regions of Kavango East and Kavango West.

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).

In the 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.

In the 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.

3.1. Description of the Project sites

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.

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 to 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 are experiencing 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 other resources (e.g., fish) on which communities depend for alternative livelihoods.

The gender analysis was conducted using literature review, primary sources and secondary sources available online. Besides, information was gathered from consultation reports with different stakeholders in the proposed project sites that are highly prone to frequent and intense droughts. The main purpose of these public consultation sessions 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, including farmers, women and youth. This participatory approach aimed at ensuring effective representation of the project beneficiaries during preparation and planning stage; learning about the concerns of all stakeholders, including vulnerable groups (women, youth and men) in the design and implementation of the project as well as exchanging views on the financing and sustainability of the project. The consultations were conducted with gender parity in mind which helped to enrich the debate about challenges of women face, including access to income generating activity opportunities.

Key Informant Interviews (KIIs) were also conducted by telephone with a total of 4 local leaders in the two countries in which the project will be implemented. Therefore, although the data collected may not be statistically representative given the fact that the participants were few, the qualitative primary and secondary data gathered presents a reliable analysis and incorporation of the arising gender issues into the proposed regional project for the two countries.

5.1. Institutional framework promoting Gender aspects in Angola and Namibia

Women and men are experiencing climate change differently, as gender inequalities persist around the world, affecting the ability of individuals and communities and more specifically women to adapt. Recognising the important contributions of women as decision makers, stakeholders, educators, carers and experts across sectors and at all levels can lead to successful, long-term solutions to climate change, as women have proven to be leading the way towards more equitable and sustainable solutions to climate change. Across sectors, women's innovations and expertise have transformed lives and livelihoods, and increased climate resilience and overall well-being.
This section identifies the international, regional and national frameworks in Angola and Namibia, supporting gender equality and women's empowerment.

a. International and Regional protocols and frameworks ratified by Angola/Namibia in support of gender equality, women's empowerment and Human Rights.

Angola

Angola has signed the following main International and Regional frameworks in defense of Human and Women's rights:

	Frameworks
International	UN Declaration on Human Rights (1948)
	Protocol II Additional to the Geneva Conventions of 12 August 1949 on the Protection of Victims of non-international Armed Conflict
	International Convention on Civil and Political Rights (1966)
	International Covenant on Social and Cultural Economic Rights (1966)
	Equal Remuneration Convention (1976)
	Discrimination Convention (Employment and Occupation) (1976)
	Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) (1979)
	Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (1987)
	Convention on Elimination of All Forms of Racial Discrimination (the Second Optional Protocol to the International Covenant on Civil and Political Rights concerning the Abolition of Punishment of death) (1989)
	Convention on the Rights of the Child (1989)
	Vienna Declaration and Program of Action from the Vienna World Conference on Human Rights (1993)
	Beijing Declaration and Platform for Action (1995)
	UN Security Council resolution 1325 on *Women, Peace and Security* (2000)
	Convention on Rights of People with Disabilities (2008)
	Sustainable Development Goals (SDGs) / 2030 Agenda (2015)
Regional	African Charter on Human and Peoples' Rights (1981)
	African Charter on the Rights and Welfare of the Child (1990)
	Constitutive Act of the African Union (2000)
	African Union's Protocol to the African Charter on Human and People's Rights on the Rights of Women (Maputo Protocol, 2003)
	Solemn Declaration of Gender Equality in Africa (2004)
	Common Defense and Security Policy (2004)
	Southern African Development Community's (SADC) Protocol on Gender and Development (2008)
	AU Gender Policy (2009)
	Special Rapporteur on Rights of Women (2012)
	AU Agenda 2063 (2014)
	AU Gender, Peace and Security Program (2015-2020)
	Network of African Women in Conflict Prevention and Mediation (2017)
	AU Strategy for Gender Equality and Women's Empowerment (2018)
	Commission on the Status of Women Resolution 60/2 on Women, the girl child and HIV (2018)

Namibia

Namibia has signed the following main International and Regional frameworks in defense of Human and Women's rights:

	Frameworks
International	UN Declaration on Human Rights (1948)
	Optional Protocols for UN Human Rights Convention (1949)
	International Covenant on Civil and Political Rights (1966)
	Member of the International Criminal Court
	The Beijing Declaration and Platform for Action (BPFA) (1995)

	Convention on the Elimination of All Forms of Discrimination against Women (CEDAW, 1997), and its Optional Protocol
	Women, Peace and Security resolutions from UN Security Council Resolution 1325 (2000)
	Discrimination Convention (Employment and Occupation) (2001)
	Equal Remuneration Convention (2010)
	Sustainable Development Goals (SDGs, 2015)
Regional	African Commission on Human and People's Rights
	SADC Declaration on Gender and Development (1997) and its Addendum on the Prevention and Eradication of Violence against Women and Children (1998)
	Constitutive Act of the African Union (2001)
	African Union's Protocol to the African Charter on Human and People's Rights on the Rights of Women (Maputo Protocol, 2003)
	Solemn Declaration of Gender Equality in Africa (2004)
	Common Defense and Security Policy (2004)
	Southern African Development Community's (SADC) Protocol on Gender and Development (2008)
	AU Gender Policy (2009)
	AU Agenda 2063 (2015)
	AU Gender, Peace and Security Program (2015-2020)
	AU African Women's Mediation Network

b. National regulations for the advancement of women in Angola / Namibia

Angola

Angola has undertaken important measures to address resource, institutional and socio-political constraints in order to progressively comply with its obligations. Angola has formally acknowledged women's right to equality in its Constitution and had promulgated legislation to address the social, economic, legal and political aspects of gender parity and discrimination against women, including in the family and in labour codes, as well as in legislative provisions related to HIV/AIDS, nationality, domestic violence, the elimination of all forms of violence against women and the exploitation of women, including trafficking and prostitution.

Angola's government states its commitment to the recognition of women's advancement and full gender integration, as well as to the creation of necessary conditions for their well-being and security through the implementation of policies and programmes. It is also highlighted the need to prioritize women in social policies, and the importance of equal opportunities for women in the fields of assistance, education, training and employment. The Ministry of Family and Women Promotion was instituted in 1997 in order to tackle issues related to gender.

The country's efforts are represented in the following National gender commitments in women's empowerment frameworks and national Policies, Plans and Programmes on gender equality:

	Frameworks and national Policies, Plans and Programmes on gender equality in Angola
National	Angola Constitution (1975, reviewed in 2010)
	Law nº 02/2005 on Political Parties
	Law nº 04/2007 Basic Law of Social Protection
	Law nº 25/11 Against Domestic Violence
	Presidential Decree 237/2011 regarding the policy of the disabled person
	Presidential Decree nº 8/11 Maternity protection
	Presidential Decree 238/11 regarding the Strategy of Protection for People with Disabilities
	Presidential Decree nº 52/12 of the National Commission to audit and prevent maternal, neonatal and child deaths
	Presidential Decree nº 138/12 of the National Program to Support the Rural Women
	Presidential Decree nº 179/12 of Policy of the Elderly Person
	Presidential Decree nº 180/2012 of the National Strategy for the Implementation of the Policy for the Elderly Person
	National Development Plan 2013-2017 and 2018-2022
	Presidential Decree nº 26/13 of the Executive Plan for the Fight against Domestic Violence and a Multisectoral Commission for the Implementation of the Plan and the Action Plan
	Presidential Decree 124/13 – Ordinance of the Law against Domestic Violence
	Presidential Decree nº 222/13 of the National Policy for Gender Equality and Equity (PNIEG - 2013) and the Advocacy and Resource Mobilization Strategy for the Implementation and Monitoring of the PNIEG
	Angola Gender Country Profile (2015)
	General Labor Law nº 7/15 of 15th July
	Presidential Decree nº 36/15 of the legal regime for the recognition of the union fact by mutual agreement and dissolution of the recognized union fact
	Presidential Decree nº 155/16 – Legal framework of domestic work and social protection of the domestic service worker

	Accessibility Law nº 10/16
	Vacancy Reservation Law nº 12/16
	Presidential Decree nº 143/17 that approves the UN Security Council resolution 1325 on Women, Peace and Security
	Angola Analytic Gender Report (2017)
	Analysis of the General Budget of the State of Angola with a Gender Focus (2017)

Namibia

Namibia has a comprehensive legal framework and a bouquet of laws to promote gender equality and protect the rights of women. A dedicated Ministry was instituted in 2000: The Ministry of Gender Equality and Child Welfare. Several laws have been enacted for this purpose including the Combating of Rape Act, the Domestic Violence Act and the Maintenance Act. Policies have also been put in place, including the policy on Learner Pregnancy as well as the National Policy on Orphans and Vulnerable Children (OVCs).

However, major hurdles still exist for gender equality within the legal domain. Access to justice and legal literacy, particularly for rural women, also continue to limit the effective realisation of the human rights of women in Namibia. As a signatory to the SADC Protocol on Gender and Development and other regional and international instruments, Namibia is obliged to ensure a comprehensive legal framework protecting the fundamental rights of both sexes, as well as effective access to the justice system. Namibia has enacted new laws in order to address gender inequalities and redress issues of economic and social injustices brought about by past, discriminative cultural practices, patriarchal ideologies and historical imbalances.

The country's efforts are represented in the following National gender commitments in women's empowerment frameworks and national Policies, Plans and Programmes on gender equality:

	Frameworks and national Policies, Plans and Programmes on gender equality in Namibia
National	Namibia Constitution (1990)
	Police Act 19 (1990)
	Labour Act and Social Security Act (1992 and 11 of 2007)
	Married Persons Equality Act (No. 1 of 1996)
	Employment Act (1998)
	Affirmative Action (Employment) Act (No. 29 of 1998)
	Combating of Rape Act (No. 8 of 2000)
	Communal Land Reform Act (No. 5 of 2002)
	Combating of Domestic Violence Act (No. 4 of 2003)
	Maintenance Act (No. 9 of 2003)
	The Children's Status Act (No. 6 of 2006)
	Labour Act (No. 11 of 2007)
	Namibia's Vision 2030
	National Development Plan (NDP5)
	The Harambee Prosperity Plan (2015)
	Gender and International Human Rights Law
	National Gender Coordination Mechanism
	National Gender Policy (2010-2020)
	National Plan of Action on Gender Based Violence (2012-2016)
	Namibia Gender Analysis (2017)
	Namibia National Action Plan on Women Peace and Security (2019-2024)

c. Similarities and differences between the two national mechanisms dealing with gender issues

After a thorough analysis of the two national mechanisms for gender issues, it can be concluded that Angola and Namibia are equally sensitized to include gender issues in their legal frameworks, having ratified a considerable number of international, regional and national protocols/conventions/laws. Nonetheless, both countries still face certain challenges to overcome the gap between the comprehensive policy frameworks and mechanisms developed and their implementation.

Over the last years, the governance reforms of the justice and legal sectors in Angola have led to the creation of more courts and the update of civil codes. Important progress has also been achieved by the country in implementing international treaties. Financial and logistical support was provided to the Ministry of Justice for its participation in important regional conferences, which have led, for example, to the 2015 statement of Cuando Cubango on poaching, and the 2016 Declaration of Luanda on corruption. Angola has, furthermore, carried out significant work in awareness-raising and advocacy through the preparation, discussion and timely publication of six national reports on human rights. However, not enough evidence is available to confirm whether these have led to any specific results in terms of strengthened national framework and compliance with the obligations of international human rights. Further efforts to promote civil society's participation in development processes are also needed. And even though the country has made important progress in adopting legal instruments to advance gender equality and equity in the last decade, the 2018 Global Gender Gap report ranked Angola 125 out of 144 countries in terms of economic participation and opportunities for women. Namibia occupied a proud 10th place. Despite the seemingly significant disparities when looking at national statistics, situations across regions and provinces vary strongly and the situations in the targeted project areas are similar, as the cultural traditions, including gender, of the area are shared.

The assessment of achievements of gender equality efforts in Namibia provides a mixed picture of the progress and obstacles encountered during the implementation of the first National Gender Policy and the Second National Development Plan (NDP 2). Significant progress has been made in the advancement of gender equality in economic, political and legal spheres, indicating increased recognition of the need to address gender issues in development programmes in the country.

The consultative processes for the development of the NAP on Women Peace and Security in Namibia highlighted many of the peace and security challenges confronting women. Policies, however, have not always been backed by adequate resources required to effectively implement, monitor and evaluate national programmes, and coordinating mechanisms at national and local levels have not always functioned optimally. This situation is comparable to the one taking place in Angola.

The overall approach in both Angola and Namibia is assessed as 'gender targeted', meaning it ensures women's participation in the interventions, but does not focus on addressing men's and women's specific needs, nor does it seek to bring substantial changes in the norms and the structures of power. More systematic gender analyses are needed, with a focus on differentiated needs by groups, particularly youth, to ensure more significant results. In terms of voice and participation, beneficiaries' engagement in the projects has also been limited and further efforts are needed to ensure they are consulted. The challenges existent in both countries have their roots in gender-based inequalities, gender stereotypes, patriarchal social norms and attitudes and harmful cultural practices. Forced marriages (of children and adults) are still prevalent in some regions of both countries. And even though there is comprehensive legislation and action plans to deter gender-based violence, there is a low level of successful prosecution of its perpetrators. The reporting of GBV cases is sometimes hampered by long distances to police stations and gender protection units. Alcohol and drug abuse, especially by male perpetrators, heighten insecurities faced by women and girls, both in Angola and Namibia. The high prevalence of Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) are raised in both countries as key issues in need of redress, also in regard to gender.

In addition, in a global context of shrinking official development assistance and austerity measures, many women's organisations are faced with inadequate funding, reducing their ability to augment the delivery of services by government. Access to social grants is also an issue in both countries, as many rural based citizens do not have the proper required documentation to apply for such. High rates of teenage pregnancies, high school dropouts, absent fathers, and child-headed households are highlighted as additional key issues that need to be tackled on both sides of the border.

The above stated agreements of gender consideration in both countries have been made possible by increasing evidence allowing for a clearer understanding of the linkages between gender and climate change, especially on adaptation. In contrast, the linkages between gender and mitigation have been, and continue to be, less intuitive but equally important. Mitigation issues go beyond addressing vulnerability, and demand that women and men alike be considered as stakeholders, beneficiaries, innovators, and agents for positive change. Understanding women, women's experience and expertise, and women's roles and opportunities as powerful drivers of change—as well as gender equality itself—is critical to solving the climate crisis.

5.2. Demographic and socio-economic characteristics

In the Human Development Index (HDI) 2018, Angola was placed in the 149th position and Namibia in the 130th (UNDP, 2019). In **Angolan** society, women are primarily responsible for housework, irrespective of location (being it the city or rural area), and a support system that enables a better reconciliation of family and work responsibilities is not available. Various studies note that women continue to be disadvantaged compared to men in regard to social and human development. In terms of age, the female population follows the national trend in which 51% of the Angolan population is under 15 years old, composing a young structure with an age average of around 21 years and a median of 15 years. In numbers, this means that, of the population aged 15-24 years, 18.4%, or 2,441,539 are female; for the 25-64 age group, the percentage increases to 32.8% or 4,356,274 people. Only 2.6% of the female population is 65 years of age or older. The aging rate for the national female population is 5.5. This index is much higher in rural areas, with an index of 7.3, compared to urban areas, with an index of 4.0. In addition to the youthfulness of the female population, there is a fertility rate of 5.7 children per woman at national level; 5.2 and 6.5 in urban and rural spaces, respectively.

The struggle for gender equality in **Namibia** over the last decade has achieved mixed results. Women thrive in certain sectors of society and key policy objectives have been achieved. For instance, enrolment of girls in schools now matches or surpasses that of boys at every level. Legal reforms have been carried out in order to address gender inequalities and redress issues of economic and social injustices brought about by past, discriminative cultural practices, patriarchal ideologies and historical imbalances. This has led to the enactment of important new laws. Nonetheless, significant challenges still remain. With regard to sex distribution, the Inter-cense Demographic Survey (NIDS, 2016) results showed that there were more females (51.4%) than males (48.6%) in Namibia, with a sex ratio of 95 males per 100 females. The majority of households in Namibia were, however, identified to be headed by males (53.6%). These statistics indicate that women are more in numbers, but that men continue to have more rights. According to the national statistics agency, the population of Kavango province in 2011 was about 446,703 people. According to the 2013 population census, women encompassed 56.5% of the residents in the same province and men 43.5%.

Country	Project sites	No. of people[62]	Men	Women	Youth (16-29)
Angola	Cuangar	8,175	3,325	3,800	1,050
	Calai	8,175	3,325	3,800	1,050
	Dirico	8,175	3,325	3,800	1,050
	Rivungo	8,175	3,325	3,800	1,050

[62] Approximate numbers

Namibia	Kavango East	7,875	3,250	3,750	875
	Kavango West	7,875	3,250	3,750	875
Total		48,450	19,800	22,700	5,950

Table 1: Number of direct beneficiaries targeted by the project

a. Education

Angola

Statistical data shows gender inequality, mainly affecting women, in fundamental areas such as education. According to the Integrated Survey on the Welfare of the Population (IBEP) 2008 - 2009 (2011), "education is one of the main factors of poverty in Angola". It is also important to note the great disparity between the levels of rural and urban literacy, in favor of urban space, a characteristic that cuts across different gender indicators in many other contexts. The latest data from the 2015-2016 Multiple Indicator and Health Survey shows that 22% of women and 8% of men aged 15-49 years old have no level of education, as they have never attended an educational institution, and 33% of women aged 15-24 cannot read, compared to 16% of men in the same age group. The literacy rate in the period 2015 - 2016, for the population between 15-49 years old, was 58% for the national female population and 84% for the national male population. The inequality between men and women is strongly influenced by the differentiation between rural and urban areas. Only 25% of women (aged 15-49 years) living in rural areas are literate compared to 63% of men. In the urban space, the gender gap if reflected in the fact that 72% of women are literate versus 92% of men. As for primary education, 35% of women and 30% of men have completed this level.

Namibia

Namibia has recorded encouraging results in terms of the enrolment of girls compared to boys from primary school through to tertiary education. Boys and girls have equal access to education. There are 102 girls for every 100 boys in primary school, and the total primary enrolment rate is nearly 90%, with a significant increase since 2010. For every 100 boys in secondary school, there are 113 girls. This trend continues right through to tertiary education where female students outnumber their male counterparts. Despite the high enrolment figures of girls at the primary and secondary education levels, there are still disparities among the administrative regions of the country. And although male and female learner retention rates are approximately equal, female learners face unique challenges in completing their education; these include inadequate prevention and management of learner pregnancies, economic pressures on young girls from family members and financial dependence on older men. Graduation figures for men in relation to women at the University of Namibia, in all faculties, have been decreasing in recent years, necessitating action to ensure that men continue to be represented in all educational and employment sectors, including the traditionally female-dominated sectors such as teaching and nursing. In 2007, only 465 men graduated in comparison to 934 females

REGION	LEARNERS			TEACHERS			SCHOOLS			
	Female	Male	Total	Female	Male	Total	Schools	Learners as % of National Total	Teachers as % of National Total	Schools as % of National Total
Kavango East	33971	43313	68284	1160	1004	2164	173	8%	7%	9%
Kavango West	22482	23322	45804	820	811	1631	177	6%	5%	9%
Total	56453	66635	123088	1980	3795	5775	350			

Table 2: Number of learners, teachers and schools by region and sex in 2020

b. Health

Angola

A total of 2% of the Angolan population aged 15-49 are HIV positive. Females represent most of the cases, 2.6%, against 1.2% in men; with a higher concentration of women infected with the virus living in urban areas, 3%, more than in rural areas. Women aged 35-39 are the most affected, specifically 4.3% of this population is infected with HIV (INE; MINSA; MPDT and ICF International, 2016). Levels of education also play a key role in this field, increasing knowledge and prevention against HIV/AIDS contagion. Among the trained population, secondary/higher education, 83% of men and an equal percentage of women admit to knowing about prevention (specifically, condom use and monogamous relationships). As for mother-to-child transmission (TMF), 53% of men and 57% of women aged 15-49 are aware that HIV can be transmitted during pregnancy, during childbirth and through breast-feeding.

In the national report on the implementation of the 2015 MDGs, Angola identified violence based on gender as an important limitation to the participation of women in society and the economy (MPDT, 2015). Updated data from IIMS 2015-2016 reveals that 32% of women have been victims of physical violence since the age of 15; 8% have been victims of sexual violence at some point in their lives and 34% of women aged 15-49 years old and married have at some point suffered conjugal, physical or sexual violence. The same data reveals that violence against women also results from social perceptions about the position and role of women in society and within the family. For this reason, 25% of women between 15 and 49 years old give some legitimacy to men's marital violence against women, while 20% of men corroborate the same view (INE; MINSA; MPDT and ICF International, 2016). The information on violence collected

by IIMS 2015-2016 is supplemented by data on the profile of the aggressor, among which, it identifies the husband/current partner; previous husband/spouse, among others.

Namibia

The Maternal Mortality Ratio in Namibia increased to 449 per 100,000 in 2006, while contraceptive usage stands at 65% in urban areas and 45% in rural areas. Furthermore, 93% percent of births in urban areas are assisted by skilled birth attendants compared to 66% of births in rural areas.

Namibia also has one of the highest HIV prevalence rates in the world, with women accounting for 53% of all new reported HIV cases. The 2006 prevalence rate increased to 19.9%. Women who die from AIDS are, on average, 5-10 years younger than men. The percentage of young women living with HIV is 29% compared to only 8% for young men. In this context, HIV and AIDS constitute a serious challenge not only to health but also to development in general.

Namibia now has a strong legal framework to address various forms of gender-based violence and sexual exploitation. Nonetheless, problems with ineffective implementation and inconsistent criminal enforcement remain significant barriers to protecting Namibian women from all forms of such violence. Women and Child Protection Units (WCPUs) represent progress in terms of the protection of vulnerable members of society. These must, however, be strengthened in order to effectively carry out their mandated roles. And despite stronger laws, the prevalence of GBV has increased in Namibia over the last decade. In 2005, 6,637 cases of this form of violence were perpetrated against women, while 3,350 cases were perpetrated against men, 241 against young girls, and 131 against young boys.

c. Income

Angola

In 2014, of the 13.592,528 inhabitants of working age (aged 15 or older), 7.182,631 were economically active and 1.739,946 were unemployed (INE, 2016). The activity rate was 61.1% for men and 45.4% for women. In the same period, unemployment in urban areas reached 30.8% against 14.3% in rural areas. The employment rate for women aged 15-64 was 34.1% and 46.6% for men in the same group age.

Of the 40% of employees at national level, 34.4% were in the urban space and 50% in the rural space. In the same period and age group, the unemployment among women was 24.9%; for men it was 23.6% and 24.2% at the national level. Most women and young girls work in the informal market. As such, they do not benefit from the applicable rights in the legislation in force, such as maternity leave, social security and living wages, in addition to being vulnerable to high professional instability. According to the Multiple Indicator and Health Survey (IIMS) 2015-2016, of the analyzed population, about 36% dedicated themselves to the agricultural sector, with 28% of them being men. Only 8% women workers were qualified and 2% were technicians or managers, against 26% and 18% of men, respectively.

Still according to IIMS 2015-2016, 75% of married women were employed (with payment). While 40% of them decided autonomously how to use their income, 42% decided together with their spouse. Rates of unpaid work are 30% for women and 12% for men.

Namibia

The 2004 Namibia Labour Force Survey (NLFS) recorded a total number of 369.863 private households, with about 1.7 million residents. Currently, women's participation in the labour force is lower than that of men, at 49% and 60%, respectively. Gender variations also occur when comparisons are drawn between subsistence agriculture and wage employment. Studies show that 44% of female-headed households depend on subsistence agriculture, and only 28% make a living from wage employment. In contrast, more than 50% of men depend on wage labour and only 29% from subsistence farming. The overall share of women aged above 15 years in wage employment in non-agricultural sectors is relatively low at 47%.

The majority of country's population lives in rural areas where agriculture is their main source of income. Namibia is predominantly a livestock farming country. 70% of the Namibian population depends directly or indirectly on natural rangeland for food security. In order to meet basic food needs, rural households depend on additional cash or in-kind income. Sources of income for rural people include wages and salaries, non-farming businesses, cash remittances and public pension payments. Unlike younger females, elder women can derive some additional income from pensions and social welfare grants. Informal employment opportunities are available in the form of collecting water, firewood, fencing materials and thatching grass.

The migrant labour system practiced by most men helps to supplement rural incomes, but also increases the number of female-headed households, seasonal labour shortages and an overload of work for women. When women in rural areas work for wages, they are more likely to hold seasonal, part-time and low-paid jobs and receive fewer wages for the same jobs than men. The Namibian Labour Fore Survey 2013 states that 28.1% of Namibians are unemployed.

d. Poverty

Angola

The poverty distribution in Angola is heavily gendered. Though gender-specific poverty assessments are only available to a very limited extent, and notably poor people's own accounts are lacking, it can be assumed that given the social, cultural, economic and political situation in Angola, poverty strikes women and children particularly hard. Poverty, on average, is greater in female-headed households, a situation that is particularly evident in rural areas. Many women are head of their household as a result of being members of polygamous households, male labour migration or conscription. The share of female-headed households is reported at 31%, and according to a survey conducted by the Ministry of Agriculture and Fishery (MINAGRIP) and the FAO in 2014, they form the majority in the category of

households living in extreme poverty. The same survey estimates the share of female-headed households among the poorest 20% to be at 60% (Wagel Indicator, *An Overview of Women's Work and Employment in Angola – Country Report nº2*.).

POVERTY	Number of Poor (million)	Rate (%)	Period
National Poverty Line	8.0	36.6	2008
International Poverty Line 429.3 in Angolan kwanza (2018) or US$1.90 (2011 PPP) per day per capita	14.7	47.6	2018
Lower Middle Income Class Poverty Line 723.1 in Angolan kwanza (2018) or US$3.20 (2011 PPP) per day per capita	21.5	69.8	2018
Upper Middle Income Class Poverty Line 1242.9 in Angolan kwanza (2018) or US$5.50 (2011 PPP) per day per capita	26.9	87.2	2018
Multidimentional Poverty Measure		56.3	2018

Table 3: World Bank Group, Poverty & Equity Brief – Angola (2020)

Namibia

Almost a third of Namibia's population is classified as poor, and 15% severely so. The approximate 44% female-headed rural households are amongst the poorest of the poor. The 2012 target of reducing the number of severely poor households in the country has already been achieved. Despite the progress made, challenges and obstacles remain to achieving gender equality. Women in Namibia continue to experience pervasive gender and intra-household inequalities, which greatly contributes to poverty. Approximately 67% of the population live in rural areas, a decline from 72% in 1991. About 52% of the population in rural areas are female. This slightly skewed sex ratio in rural population is the result of migration by men to urban areas in search of employment. In the populous northern regions of the country where 42.6% of the population live, women who care for small children and the elderly are the main participants in subsistence agriculture and maintain rural homesteads, while men are away in urban areas. Most rural Namibians depend on subsistence agriculture, often in conjunction with cash income and pension remuneration. However, 36% of the people pertaining to this group have no source of income other than that which comes from their involvement in subsistence agriculture (*National Gender Policy – 2010-2020*).

e. Access to natural Resources and Decision Making (Land Ownership…)

Angola

Angola has an abundance of fertile soils, biodiversity, vast water resources, as well as aquatic biological and natural resources all over the country. Customary Practice and Traditional Rights for Land Access for the inheritance of land assets still prevail in most areas of Angola, and constitute a primary mode for land access. These practices follow a matrilineal system, which favours passing land assets from the male head-of-household to his sister's son (nephew of the head-of-household), commonly practiced in many Bantu cultures. This often-complex system of inheritance vests important authoritative power with the respective female member of the household in determining how and when assets are used and allocated. At the same time, it also represents a barrier for women explicitly accessing and owning land independently of their male relatives. It can impact their economic opportunities, particularly in-terms of access to credit, which usually requires clear ownership of collateral. At village level, this inheritance practice is often connected to political authority, which can have mixed implications for women's decision-making power. Improvements in the systems and institutions governing both property rights and use of the country's natural resources remain a challenge for Angola.

A third of households in Angola are headed by women, and attention to measures that would enable women to have more secure rights to land, understand their rights, and have access to institutions to support their rights are essential. Angola's traditional leaders, known as Sobas, are the local governing authority in rural and many peri urban areas. Sobas traditionally handle a multitude of local governance matters (including land administration and management). At the community level, fewer than one percent of Sobas are women. This disenfranchisement has led to women being relegated to manual labour roles in the economy with little access to natural resources.

Namibia

The majority of Namibians live in rural areas. Their livelihood depends mainly on the natural environment for food and shelter. Other resources essential for daily sustenance and wellbeing, including grazing, firewood, water and fruits, also come from the natural environment. Women are the primary users of these environmental resources. In most rural communities, women and girls constitute 75% of the workforce responsible for fetching water and collecting firewood.

Community Conservancies, well-established local institutions in Namibia, have already started to generate remarkable benefits for their members, many of whom are women. It is also hoped that the programmes, combined with adequate female representation in their implementation, will contribute towards greater recognition of the role of women in the protection, management and sustainable utilisation of the environment. The contradiction between the legally granted rights of women and traditional patriarchal values is, however, a barrier in the realisation of gender equality. The National Gender Policy 2010 alludes to gender challenges reflected in "low involvement of women in decision-making processes on environmental management, environmental hazards, cultural practices and attitudes towards ownership and control of land, inadequate information and education on sustainable environmental management and the need for gender responsive environmental policies and programmes" (*Namibia Gender Policy 2010-2020*).

Historical unequal division of labour still confines women to household duties and to issues pertaining to children. Even food resources often fall under the man's supervision. Women generally have less control over resources, limited access to land, lack of security of

tenure and poorer access to services and finance. Additionally, lack of tenure security does not create incentives for women to invest in land. Strategies for power-sharing and the inclusion of women in economic gains will have to be carefully negotiated with the authorities regulating rural lives, especially in view of the fact that the majority of the Traditional Authorities are male.

f. Access to Finance (Trade and Economic Development)

Angola

Financial access facilitates day-to-day living and helps families and businesses to plan for everything from long-term goals to unexpected emergencies. Socioeconomic and demographic categories—especially gender and urban/rural residence—vary meaningfully in the commonly used measure of financial inclusion. Women are 14% less likely than men to be financially included. Account ownership reaches 58 % in urban areas, but falls by almost half, to 29%, in rural areas. Women display less financial knowledge than men, with female underperforming men on average by 0.4 points overall. Rural residents underperformed urban residents by 1.0 point *(World Bank Group, Enhancing Financial Capability and Inclusion in Angola: a Demand-side Survey (2020)).* Given that the rural population relies heavily on agriculture as a main source of income, a need exists to offer insurance products (e.g., harvest insurance, index-based weather insurance, and index-based livestock mortality insurance) and access to finance, which would allow agri-dependent rural households to smooth fluctuations incomes due to seasonality and to mitigate external risks associated with conducting business.

Namibia

As already detailed, access to finances is essential for women's economic empowerment. Legally, the Married Persons Equity Act in Namibia grants women the right to obtain loans without the need of the husband's consent. In reality, women often do not have the collateral to secure finance and credit. According to data provided by the Agri bank of Namibia in December 2019, of how the bank has disbursed its loans in relation to gender, age and groups, from 2010 to 2018, females have persistently trailed in terms of loan beneficiaries. Female beneficiaries have taken up less than 26% of all the loans issued, except for 2015 and 2017 when they took 28,4% and 30,5% respectively. For the past 9 years, male beneficiaries took up more than 55% of loans issued by the bank; except for 2018 when they slid to 51,5% as group loans were increased. The bank also offers group loans that comprise both genders and youth. Since 2010, the bank issued 8770 loans, with 5390 of those going to men while 1820 went to women, and group applicants acquired 1970 of all loans. On average, the bank has extended about 975 loans annually to the agricultural sector since 2010.

g. Roles and Responsibilities

Angola

The representation of women in political, economic and public leadership positions is part of goal 5.5. of the SDG 5, and has an indicator of the percentage of seats occupied by women in national parliaments. The country shows progress in combating the under-representation of women in this central structure of decision-making and policy-making to meet the goals of political participation and empowerment. According to national data for 2016, of the 220 seats of the National Assembly, distributed among the 5 parties with parliamentary representation, 138 are men, which corresponds to 63.2%. Women occupy 92 seats, representing 36.8%. In 2016, at the level of decision-making bodies of the Executive Branch, according to data provided by the Vice-Presidency, of the total 33 Ministries, only 8 (24.2%) were run by women. Of the 56 State, 12 are headed by women and among Vice-Ministers 2 women were counted. It is important to reinforce the role of women in local, community, provincial public affairs, in a perspective of political inclusion and participation, so that women may also fully exercise their citizenship. To this extent, the difference in representation between men and women in government leadership positions marks a significant asymmetry, evidenced by the low number of women leaders in the different levels of management of provincial governments.

Namibia

Women's representation and participation in decision-making in Parliament and managerial levels have fluctuated over time, as well as across sectors. As a signatory to the SADC Protocol on Gender and Development, the Government has committed itself to achieving the target of 50% representation of women in decision-making positions. A key issue is the low level of women's representation especially in key decision-making structures in both the public and private sectors. While Namibia has made great strides with the representation of women in parliament (41%), and ranked 11th in the world in this regard, only 26% (7 out of 27) of the cabinet ministers were women in 2017. Women's representation at regional level is also low with only 16% of the regional councillors being women in 2015. Local authorities are, however, approaching gender parity, with 48% representation of women. According to an Afro Barometer (2015) report[63], Namibians expressed high levels of support for women in political leadership, with 80% agreeing that women should have the same chance of being elected to political office as men. Women are also represented in the top foreign mission positions where there were 11 (36%) women and 20 men in 2017.

h. Gender Inequality Index

The Gender Inequality Index (GII) can be interpreted as the loss in human development due to inequality between female and male achievements in the three GII dimensions: reproductive health, empowerment, and economic activity.

Angola

Angola has a GII value of 0.578, ranking it 144 out of 162 countries in the 2018 index. In Angola, 30.5% of parliamentary seats are held by women, and 23.1% of adult women have reached at least a secondary level of education compared to 38.1% of their male counterparts. For every 100,000 live births, 477.0 women die from pregnancy related causes; and the adolescent birth rate is 150.5 births per 1,000 women of ages 15-19. Female participation in the labour market is 75.4% compared to 80.1% for men[64].

Namibia

[63] Transparency International, *Afro Barometer – People and Corruption: Africa Survey 2015*.

[64] http://hdr.undp.org/en/content/gender-inequality-index-gii

Namibia has a GII value of 0.460, ranking it 108 out of 162 countries in the 2018 index. In Namibia, 39.7% of parliamentary seats are held by women, and 40.5% of adult women have reached at least a secondary level of education compared to 41.9% of their male counterparts. For every 100,000 live births, 265.0 women die from pregnancy related causes; and the adolescent birth rate is 63.6 births per 1,000 women of ages 15-19. Female participation in the labour market is 56.2% compared to 65.9% for men[65].

To understand the relationship between gender and climate change, it has to be considered that women's response and ability to cope with climate change issues depend on the robustness of their underlying health and wellbeing and the breadth of their social networks. Secondly, women's ability to adapt to the demands of climate change depends on the extent of their control over economic resources and access to economic and financial resources. Dealing successfully with the challenge of risk management, disaster preparedness and climate change-induced-weather challenges require resources beyond those that are available to meet the day-to-day needs of individuals and households. Empowering and investing in women is key to combating the effects of desertification and paving the way for poverty alleviation. Goal 5 of the SDGs highlights that "gender equality is not only a fundamental human right, but a necessary foundation for a peaceful, prosperous and sustainable world"[66]. Nonetheless, adequate theories of change are failing to better integrate the contributions within the targeted sectors through proper systems to ensure effective and sustainable advances to transformational change, national ownership and learning for improved effectiveness.

The OKACOM gender mainstreaming strategy, developed in 2015, provides a framework to support integration of gender considerations in all OKACOM programmes, projects and activities, The ADSWAC project follows OKACOM objectives and reinforce that with a strong initiative to empower women for greater and more effective participation in water use and management through supporting the full participation of both men and women in order to strengthen management, distribution and monitoring of water resources, as well as other natural resources, which is crucial for the program's success.

To assure this objective, ADSWAC will include knowledge management and learning throughout the project, to improve results as compared to other projects. That is the main reason why the present document identifies gender-sensitive strategies to respond to the environmental and humanitarian crises caused by climate change. It is important to remember, however, that women are not only vulnerable to climate change, but that they are also effective actors and agents of change in relation to both mitigation and adaptation. Women often have a strong body of knowledge and expertise that can be used in climate change mitigation, disaster reduction and adaptation strategies. Furthermore, women's responsibilities in households and communities, as stewards of natural and household resources, positions them well to contribute to livelihood strategies adapted to changing environmental realities.

6.1. Participatory Process

When it comes to decision-making and implementation towards building resilient communities in the face of climate change, the full and meaningful participation of women is essential. Women are generally not allowed to handle money or gain access to credits, tending to have only secondary roles in farmer organizations. Generally, land is not allocated to women and their economic contribution is undervalued. In dry seasons, women and girls are tasked with heavier burdens such as carrying water from water points and wells. The ADSWAC programme will take concrete measures regarding the participation of women in decision-making, including having at least 50% of women representatives in all forums. Guaranteeing their access to knowledge, training, inputs and all project activities will strengthen the position of women in the community and the society. Gender parity will be furthermore secured in POs' and WUAs' boards and committees. The consultation and participation of women in climate change initiatives must be secured, and the role of women's groups and networks strengthened. The project will also make sure that women are represented in the decision-making process on environmental governance. They will be equally represented in decision-making structures to allow them to contribute their unique and valuable perspectives and expertise on climate change. As primal users of natural resources, women can make substantive contributions through their knowledge and experience on issues related to the management of these resources.

The project will be innovative in implementing a participatory approach towards awareness, learning, planning and action. Management activities will take place as a first experience for many of these women. Various stakeholders are involved in local adaptation planning, including teachers and students and communities. This approach is novel to the addressed areas and aims to not only strengthen the action and ownership of the participants, but also to establish and consolidate linkages across different sectors and different layers of society. 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 of the database, setting up water and related resources monitoring networks and defining data exchange protocols between both countries. This mechanism will be implemented on a consultative basis including women, men and vulnerable groups, and will take into account the specificities of the areas.

6.2. Gender and Land ownership for agriculture

There are several gender gaps in the agricultural sector. Generally, while making essential contributions to rural economies as farmers, women still have significantly less access to agricultural assets, inputs, and services compared to their male counterparts. Because of this, women often have smaller farms, fewer livestock, greater workload, less access to credit and education, and lower wages in the agricultural sector. Under Angola's constitution, men and women are afforded equal rights and protections. Women have the right to own land individually or jointly with their husbands. However, despite these basic rights, in practice women have far less explicit political representation and economic power than men. Customary law tends to be detrimental to women, particularly in the rural context, and do not protect them in terms of land rights, matrimony and adultery, among others and it is the primary way to usufruct land and its resources.

While gender equality is promoted under both countries' laws, women have less economic, educational, and political opportunities than men, which poses significant challenges for promoting gender equality and poverty alleviation. For example, in Angola women account

[65] http://hdr.undp.org/en/content/gender-inequality-index-gii
[66] 2030 Agenda for Sustainable Development

for approximately 70 percent of all agricultural workers, and 75 percent of the livestock farming labour force, while being a minority of landowners. In livestock production, another economically important sector for the national economies, men are the predominant actors, especially for large stock such as cattle. Women are involved in the rearing of short-cycle livestock, such as small ruminants and poultry (of which they are often the owners), but this short-cycle livestock production is associated more with household consumption and food security rather than commercial opportunity and economic empowerment. Therefore, although women play an active role in the agricultural economy as labourers, they have less access to agricultural resources and support mechanism, important for raising their economic status as well as agricultural development.

Technical assistance for improving access to land under the ADSWAC GAAP will focus on providing appropriate methodologies to solve conflicting claims between (members of) local communities and other stakeholders; supporting national and regional land administration services; giving technical advice and support to the discussion of the Land Law in appropriate forums. For the gender-neutral modern rights to be respected, significant and widespread sensitization of women's rights to land and labour rights in rural communities, as well as follow-up and monitoring, is needed in order to have an effective impact on the cultural aspects of gender equality. The institutions responsible for the legalization of land management are often unaware or incapable of enforcing these processes or solving conflicts between men and women, between communities and private investors or among communities over land resources. Capacity-building activities for traditional, local and national agents will address this issue.

6.3. Planning and capacity-building activities

ADSWAC will support smallholder farmers in changing from business as usual to climate-resilient farming practices. In that regard, the project will have a high impact supporting smallholder farmers directly in transforming their food production systems. 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 same countries, such as pearl millet, sorghum, short-season cowpea, orange sweet potatoes, and others.

The project will also 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 for 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. Furthermore, the project will introduce, develop and enhance technical capacities and opportunities at various levels, including for sub-national and local authorities, as well as CBOs, communities' individual farmers and community members. This is innovative for the target zone where a very small share of the population has had or is expected to 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).

The project is also innovative in its particular methodology, emphasising the strengthening of social capital as a key building block of climate resilience. Supplementary to the aspects mentioned above, the project is built on the strengthening of organizational structures at community-level so that activities continue to be carried on in the future and communities remain on climate-resilient development pathways. Gender training will be provided for the board of the POs, WUAs and FFS staff in order to build up gender sensitivity. It is expected that they will complement their own staff capacity with the recruitment of additional gender-competent staff as activities and the need for additional staffing increase over time. Local entities may request readiness and preparatory support from the project related to gender training and capacity-building. They may also obtain gender training and capacity-building through their partnerships and synergies with other organizations (such as bilateral, multilateral and international organizations, as well as NGOs).

Competitive small grants scheme

Under the current climate change finance regime, women do not have sufficient access to funds aimed at covering weather-related losses, nor do they have access to funds in order to service adaptation and mitigation technologies. The project will build lasting technical capacities among the project beneficiaries, creating continued, long-term socio-economic benefits at the community-level. Also, participation of women will be encouraged as Lead Farmers and in FFS as well as their access to micro-credits for farming and other enterprises, such as AIGAS. To further augment the benefits gained by communities and farmers, the strengthening of POs, WUAs and cooperatives will allow for farmers to benefit from aggregating their production and their purchase of inputs, and from having formalized institutions, which will assist in accessing credit and funds required for further investments.

The project's EEs will ensure that both men and women will have equal access to small grants scheme, trainings in management area and equal opportunities in learning how to make a business plan. Informal credit and saving groups within the POs will also facilitate access to credit when necessary, which may provide further benefits to farmers and communities. The project will assure that 50% of the access is granted to women and other vulnerable groups. Moreover, since information is essential for informed decision-making, the project will develop information tailor-made for women in order to fill this existing gender-based knowledge gap. Communication and information are important because they form the basis for making informed decisions. Consequently, developing information tailor-made for women is one way to fill knowledge gaps.

6.4. Alternative Income Generating Activities (AIGAs)

The project will introduce new IGAs to diversify both food production and income of smallholder farmers and their communities that are 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 well as income. Besides these non-agricultural options, the project will also enhance the integration of smallholders in value chains, thereby creating new job opportunities at processing centres, storage/aggregation units, sales and supply related activities. A further focus will be placed on short-cycle livestock production and fodder production, both adding to diversification and food security.

The project will also establish 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. Furthermore, farming activities adapted to wetlands ecosystems have been designed and will bring innovative opportunities for the concerned population. To ensure a gender balance, the GAAP identifies gender-sensitive strategies that should focus on: reducing women's vulnerability, in tandem with men's susceptibilities; promoting gender sensitive emergency responses; and enlisting women as key environmental actors in natural disaster management decision-making processes, alongside men, tapping on women's skills, resourcefulness and leadership in mitigation and adaptation efforts.

6.5. Provision of inputs throughout the Project

ADSWAC project will use four main dimensions from which to collect inputs throughout the project:

Legal and Institutional Dimension – Women in leadership positions, at national, local and community levels, make a visible difference in natural disaster responses, both in emergency rescue and evacuation efforts and in post-disaster reconstruction, as well as in the management of essential natural resources, such as fresh water. During the assessment, weaknesses were identified in specific guidelines aimed at promoting gender equality, and in limited knowledge expressed by the gender sector entities on tools for the promotion of gender equality and the inclusion of vulnerable groups in community development programs. ADSWAC will contribute to amplify the correct use of the existing legal and institutional instruments to protect women and vulnerable groups, strengthening traditional, local, regional and national knowledge and, at the same time, to widely spread this information amongst the beneficiaries of the project.

Community and Participatory Dimension – The importance of an approach that strengthens social mobilization mechanisms, communication and community awareness actions is visible in the success of programs that have integrated mechanisms for community mobilization and participation in the management of community systems. For example, the community management of water systems has proven beneficial for better maintenance of water points in a timely manner and reduction of maintenance costs. It has also been shown to lead to, with the revenues obtained by the system, the construction of day care centres, schools or other infrastructure, which are priorities for the population. The involvement and active participation of women in the management, maintenance of structures and awareness programs is essential because they are the main food and water managers in domestic activities, being responsible for the nourishment and well-being of the family, as well as being more aware of solutions that help improve access to food security and water. This, ultimately, leads to better management of available resources.

Dissemination of knowledge and synergies – Advantages highlighted by stakeholders to approaching State and Non-State Actors implementing programs of Agriculture and Water in the project's sites relates to the sharing of knowledge, experiences and approaches in the implementation of projects, in addition to local union of efforts and resources. CBOs stand out for their vast experience in social mobilization and the active involvement of communities in agriculture, water and sanitation programs, as well as in documents processes, carrying out, in synergy, studies and diagnoses that contribute to the development of the sectors as knowledge is disseminate.

Attention to Social and Gender vulnerabilities – As framed in both countries' national efforts to promote gender equality and women's empowerment, the programme intends to do the following with the objective of ensuring that activities are more equitable, safe, participatory, informed and socially responsible: a) promote participation, inclusion and equal access to water and sanitation for women, men and vulnerable groups by bringing information to communities about the existing participation mechanisms, their rights and duties, so that they can better collaborate with local entities and programs through accessible and consistent channels of dialogue; b) promote an equitable work environment for women and men, with a focus on institutional capacity building, by raising awareness and training women and men working in the project to deal with challenges related to situations of gender inequality, as well as training staff to produce data and respond to goals and gender specific indicators in the monitoring activities; c) create an environment for sharing knowledge on the integration of the social and gender perspective by highlighting the importance of producing information on sector actions specific to social and gender issues and by promoting sharing of information, knowledge, actions and approaches supported and streamlined by all actors (governmental and non-governmental) in the region.

Angola

Impacts of droughts	Women are more affected by droughts because they are in charge of the homes, their children and the elderly. They suffer most of the following: - improper production practices and lack of knowledge concerning climate change adaptation in general; - absence of crop protection mechanisms to face animal transhumance and hungry and aggressive elephants; - locust invasions that destroy the harvest., and other pests, plagues and diseases affecting plant health;
Support needs	- Capacity building programs for climate change and drought management; - Capacity building programs to empower women in entrepreneurship, alternative means of subsistence and business plan design; - Support technical, managerial and financial capacities for gender groups to cope with drought; - Heat and radiation tolerant horticulture production (selection of heat resistant crops and knowledge of timing of planting); - Support to animal breeding activities (chicken and cows); - Support activities that open windows for youth to participate: o In the Crop production processes - improved methods and technologies (CA and seed varieties and cultivars); o In cooperation with academic institutions, allowing students and young researchers to participate in the project; o With access to small grants, credit and/or seed capital for small enterprises;

	- Food supply at household level; - Early warning systems – with an effect and impact at rural community level.
Suggestion for project design	Incorporate activities that consider the varying needs of the gender groups in the project sites, such as: - Awareness activities (i.e., Early warning systems, IEC material, etc.); - Education activities (i.e., Dryland cropping in dry environment, Savings for hard times, etc); - Infrastructure and support services (i.e., Availability of field cultivation services (timely and at reasonable/affordable prices). Undertaking specific actions to support single mothers, women victims of violence and women workers, enabling day care centres for their children.

Namibia

Impacts of droughts	Women are more affected by droughts because they are in charge of the homes, their children and the elderly. They suffer most of the following: - loss of crop production; - livestock losses due to starvation, caused by lack of fodder; - decline in milk production from cows and goats; - weak draught animals (oxen and donkeys); - weal plants more prone to plant disease and insect plaques (locust invasions); - limited wild harvesting (veld fruit); - dying of bees; - increased human wildlife conflict (especially elephants in selected areas that become hungry and aggressive).
Support needs	- Livestock management capacity building - Capacity building programs for climate change and drought management; - Support technical, managerial and financial capacities for gender groups to cope with drought; - Food supply at household level – focus on balanced diet; - Early warning systems – with an effect and impact at rural community level; - Supply of farming inputs in services after years of drought; - Feed supply for core livestock (after destocking only); - Heat and radiation tolerant horticulture production (such as shade nets and mulching, selection of heat resistant crops and knowledge of timing of planting); - Capacity building and direct access to spare parts for repairing defect water infrastructure; - Mindset change is required given the attitudes and lack of skills to manage droughts.
Suggestion for project design	Incorporate activities that consider the varying needs of the gender groups in the project sites, such as: - Awareness activities (i.e., Early warning systems, IEC material, assertive guidance by extension and project team, buy in of decision formers etc.); - Education activities (i.e., Dryland cropping in dry environment; Selection of seed varieties and cultivars, aligned to expected season; Vegetable production in extreme temperatures; Savings for hard times, etc); - Infrastructure and support services (i.e., Availability of field cultivation services (timely and at reasonable/affordable prices; Water supply infrastructure, aligned to water demand; Immediate response to and rectification of water pump and distribution defects; Share nets – protection against sun radiation, etc). Undertaking specific actions to support single mothers, women victims of violence and women workers, enabling day care centres for their children. Undertaking specific actions to include People living With Disabilities in the project's activities.

The ADSWAC Gender Assessment & Action Plan is based on the following nine most relevant specificities:

1) Clear policy guidance and sustained management commitment on mainstreaming gender sensitivity is needed in order to obtain gender-sensitive results;
2) Clear baselines on gender sensitivity for the EEs are needed in order to allow operations to move forward;
3) Clear accountability mechanisms are needed, in terms of monitoring and reporting gender sensitive policy implementation, results and processes, in order to take corrective measures when results are not forthcoming;
4) Gender-sensitive complaint mechanisms are needed, so that women and men feel confident when filing their complaints relating to climate change interventions;

5) Sex-disaggregated data and relevant gender indicators in the results and portfolio monitoring frameworks need to be included, as appropriate, whenever an activity requires the intervention of people or has an impact on people. Qualitative and qualitative methods are needed in order to assess the gender impact of activities;
6) Periodic auditing of gender-sensitive results allows policies, accountability and implementation mechanisms to be adjusted;
7) Operational procedures and tools are needed to implement policies;
8) Gender competencies among core staff greatly enhance attention to gender issues;
9) Dedicated budgets for gender-related activities are indispensable.

A range of priority areas were identified for each component:

1) Analysing existing policies and institutional arrangements to enhance awareness on gender and climate change linkages and options for action;
2) Implementing training on gender and climate change for all gender focal points, including training tools on gender-responsive budgeting (building on and enhancing existing tools);
3) Broadening training on gender and climate change to provincial level, particularly focusing on government's staff, key partners, women's organisations and networks;
4) Establishing civil society liaisons to complement each gender focal point, which would aid in information flow across sectors, provinces and districts, including on climate change information and climate financing opportunities;
5) Concretising a partnership with Regional institutions, by establishing a gender and climate change working group and identifying climate finance opportunities that could improve the lives, livelihoods and resilience of the women and men of the project's sites;
6) Developing the capacity of women and women's organisations to be able to access climate finance.

Putting forward a range of innovative, cross-sectoral and multi-stakeholder activities, this project is seen as a powerful opportunity to identify and secure new investment in sustainable development and the security and resilience of the women and men of South Angola and North Namibia. ADSWAC has a special focus on women and youth groups, especially on the capacity building of their leadership in POs, WUAs committees and FFS, and to ensure that they fully participate and benefit from the project.

8.1. Compliance by the Project's Components with the Adaptation Fund Gender Principles

Component	Gender Objective	AF GP Principle	Action	Responsible parties (Who)	When (Time)
Component 1: Strengthening awareness, knowledge and capacity to adapt to climate change and variability at community, district, national and regional level	To tackle gender imbalances at local, national and regional levels from project design to implementation To improve women empowerment during designing and implementation of project activities at local, national and regional levels	Balance, Equity, Mainstreaming, empowerment	Developing capacity at the national and subnational levels to raise awareness of gender in climate change and integrate gender into climate change policy and planning in all sectors and at all levels	ADSWAC project staff, Ministries of Education and Environment in the respective countries, Municipality Administration (Angola) and Regional Councils (Namibia), Traditional Authorities (TAs), EEs.	Project design and implementation stage
		Balance, Equity, Mainstreaming, empowerment	Holding inter-ministerial and sectoral meetings for data sharing		
		Balance, Equity, Responsive, Sensitive	Develop CCAPs with participatory approach		
		Equity, Mainstreaming, empowerment	Organize campaigns on climate change awareness and conflict management taking into account gender needs		
			Strengthen transboundary coordination mechanisms for adaptation and disaster response systems		
			Promote conflict management trainings for cattle herders, farmers and local authorities near transhumance corridors		
			Support the development of small-scale cross-border agricultural trade		
Component 2: Organizational and technical learning for climate-resilient production and water management	To tackle gender imbalances at local levels from project design to implementation	Balance, Equity, Mainstreaming, empowerment	Establish and strengthen 160 POs	ADSWAC project staff, EEs, Local governments' Departments of Water.	Project design and implementation stage
			Organize training sessions to build capacities of the POs at local level		
			Establish and strengthen 160 WUAs		

	To improve women empowerment during designing and implementation of project activities at local levels	Balance, Equity, Mainstreaming, empowerment	Organize training sessions to build capacities of the WUAs at local level		
			Organize training sessions to farmers		
			Conduct regular farmer field days		
		Balance, Equity, Mainstreaming, empowerment	Establish and strengthen 160 FFS		
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	To tackle gender imbalances at local levels from project design to implementation To improve women empowerment during designing and implementation of project activities at local levels	Balance, Equity, Responsive, Sensitive, empowerment	Support access and use of water during the dry season	ADSWAC project staff, EEs, TAs, Ministries of Agriculture and Water in both countries.	Project design and implementation stage
		quity, Mainstreaming, empowerment	Conduct community campaigns for safe water use and water demand management		
		Balance, Equity, Mainstreaming	Promote diversified production		
		Balance, Equity, Mainstreaming	Increase the use of a range of drought-resistant crops and seeds		
		Balance, Equity, Mainstreaming, empowerment	Develop and promote non-agricultural sources of income such as beekeeping, fishing, wild indigenous fruits and microenterprise development		
		Balance, Equity, Mainstreaming, empowerment	Develop public-private partnerships (PPPs) to improve links to the markets		
		Equity, Mainstreaming, empowerment	Support improved livestock production		
			Support sustainable fisheries		

8.2. Gender Action Plan

Output	Activity	AF Gender principle	Gender Action Plan (GAP) actions	Indicators	Baseline	Target
COMPONENT 1: Strengthening awareness, knowledge and capacity to adapt to climate change and variability at community, district, national and regional level						
Outputs 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 Establishment of institutional capacities to manage the CCACS	Representation and participation	Adopt proper guidelines for selecting CCACS member to ensure equal representation and participation of men and women; Provide sex disaggregated data for analysis and monitoring; Ensure women's participation and representation when developing CAAPs; Focus on women's needs and vulnerabilities when developing CAAPs.	Number of consultative workshops dedicated to women		3 consultative workshops dedicated to women
	Activity 1.1.1.2 Rehabilitation or construction of the CCACs	Representation and access		Number of capacities-building activities dedicated to women		4 capacities-building activities dedicated to women
	Activity 1.1.1.3 Identify and agree on land for setting up 6 CCACs demonstration plots	Participation, representation		% of women participants in development of CAAPs		40 % of women participants in development of CAAPs
	Activity 1.1.1.4 Build capacity of sub-national and local authorities and entities on climate change adaptation planning and implementation	Participation, representation				
	Activity 1.1.1.5 Develop Community Adaptation Action Plans (CAAPs)	Participation, representation, equity and access				
Output 1.1.2 Climate change awareness and sensitization to the communities	Activity 1.1.2.1 Development of a communication strategy for CC information and dissemination	Participation, representation	Project team to focus on Gender when developing the communication strategy; Project team to dedicate awareness campaigns to women conducted by women and adapted to their needs and constraints; Ensure that women/ girls access climate change awareness campaigns in communities and schools and school gardens; Project team to ensure that women access project results, best practices and lessons learned specifically concerning gender	% of women reached by the communication strategy		50% of women reached by the communication strategy
	Activity 1.1.2.2 Climate change awareness campaigns in communities	Participation, representation		Number of CC awareness campaigns dedicated to women		At least 1 CC awareness campaigns per CCAC per year organized for women in each targeted community
	Activity 1.1.2.3 Climate change awareness campaigns in schools and school gardens	Participation, representation		Number of CC awareness campaigns organized for girls in schools		30 CC awareness campaigns organized for girls in schools
	Activity 1.1.2.4 Dissemination of project results, best practices and lessons learned in sub-national, national and international forums through offline and online campaigns (website, social media)	Participation, representation		% of women/ girls accessing project results		50% women accessing project results

			Ensure that timetables, places and resources take care of women needs and constraints; Use sex disaggregated data	Number of written and non-written knowledge products e.g., documents on lessons and best practices from project interventions Number of case studies and lessons learned documented and shared		4 brochures, 4 publication (documents), 4 non-written forms of communication on lessons and best practices from project intervention At least 8 case studies /lessons learned shared
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	Participation, representation, equity and access	Adopt proper guidelines for selecting transboundary coordination mechanisms members to ensure participation and representation of women; Ensure that timetables, places and resources take care of women needs and constraints; Project team to ensure that Early Warning climate information is accessed by women; Use sex disaggregated data; The project team to dedicate transhumance conflict management sessions to women.	Number of women trained in transhumance conflict management % of women to participate in CCACS meetings % of women to participate in transboundary coordination mechanisms Number of women accessing Early Warning climate information in local language		1,500 women are trained in transhumance conflict management 50% of women participate in CCACS meetings 50% of women participate in transboundary coordination mechanisms 3,250 women are accessing Ealy Warning climate information in local language
	Activity 1.2.1.2 Organize coordination meetings between the 6 CCACS for a better knowledge and information sharing	Participation, representation				
	Activity 1.2.1.3 Sensitize and provide conflict management trainings for cattle herders, crop farmers and local authorities near transhumance corridors	Participation, representation				
	Activity 1.2.1.4 Strengthen Early Warning climate information channels	Participation, representation				
COMPONENT 2: Organizational and technical learning for production and water management						
Output 2.1.1 Capacities of extension services and institutions needs are assessed and strengthened	Activity 2.1.1.1 Conduct baseline and capacity needs assessment of all actors	Participation, representation	Project team to dedicate training sessions to women conducted by women and adapted to their needs and constraints; The project team will design gender focused/inclusive training plans. Use sex disaggregated data; Ensure that timetables, places and resources take care of women needs and constraints;	Number of training sessions dedicated to women Number of women attending farmer field days Number of women accessing FFS methodology		5 training sessions per year dedicated to women 3,250 women attending farmer field days 3,250 women access FFS methodology
	Activity 2.1.1.2 Development of a training plan and training modules for all topics	Participation, representation				
	Activity 2.1.1.3 Establishing partnership and Memorandum of Understanding (MoU) with the subnational extension services	Participation, representation				
	Activity 2.1.1.4 Train the extension agents and field	Participation, representation				

	instructors to ensure farmer trainings		Adopt proper guidelines to select farmers field days participants to ensure the participation and representation of women; Ensure that women access FFS methodology.			
	Activity 2.1.1.5 Conduct regular farmers field days and FFS using a Technical Orientation Manual	Participation, representation, equity and access				
	Activity 2.1.1.6 Conduct KAP surveys	Participation, representation				
Output 2.1.2 Communities are organized to adopt and mainstream to climate resilience practices (160 POs and 160 WUAs)	Activity 2.1.2.1 Identification and establishment of new Producer Organizations (POs) and Water Users Associations (WUAs)	Participation, representation	Project team to ensure equitable participation and representation of women and men in POs and WUAs; Use sex disaggregated data; Ensure that timetables, places and resources take care of women needs and constraints; Project team to dedicate part of information forum to women conducted by women and adapted to their needs and constraints.	Number of women integrated in POs and WUAs % of women members of WUAs and POs board Number of information forums dedicated to women		50% women integrate POs and WUAs 50% of women members of WUAs and POs board 2 information forums are dedicated to women (1 in Angola, 1 in Namibia)
	Activity 2.1.2.2 Strengthening and building capacities of 160 POs and 160 WUAs including managerial capacities	Participation, representation				
	Activity 2.1.2.3 Support POs in adapting in developing agriculture value chains (production systems, management of low-cost storage and processing equipment, business skills and establishment of links to the market)	Participation, representation, equity and access				
	Activity 2.1.2.4 Support WUAs to manage water points and promote accompanying hygiene messages around safe water storage and use, and water demand messages (Develop the technical capacity of the WUAs in community outreach, establish guidelines for usage, establishment and management of water infrastructure)	Participation, representation, equity and access				
Output 2.2.2 160 model plots (Farmer Field Schools) for climate-resilient and water-efficient agriculture practices (Conservation Agriculture (CA)	Activity 2.2.2.1 Select and agree on the demonstration plots	Participation, representation, equity and access	Dedicate consultative workshops to women; Adopt proper guidelines to select FFS model plots participants and ensure women's participation; Project team to dedicate training sessions to women	Number of women that partake in FFS model plots establishment Number of female Lead Farmers trained		650 women partake in FFS model plots establishment 350 female Lead Farmers trained
	Activity 2.2.2.2 Train and sensitise the lead farmers/focal points in each of 160 community/producer organizations	Participation, representation				

and Agroforestry Systems (AFS)) are established	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	Participation, representation	conducted by women and adapted to their needs and constraints. Use sex disaggregated data; Ensure that timetables, places and resources take care of women needs and constraints.	Number of training sessions dedicated to women		160 training sessions dedicated to women
	Activity 2.2.2.4 Set up the demonstration plots and procure inputs for their establishment and management	Participation				
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						
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	Participation, representation	Project team to adopt proper selection guidelines to ensure equitable participation and representation of women and men in participatory processes; Ensure that timetables, places and resources take care of women needs and constraints; Use sex disaggregated data The project team will ensure equal representation of men and women in the implementation process and capture opinions from both; Project team to dedicate community and sensitization campaigns to women conducted by women and adapted to their needs and constraints; Project team to work with sensitized women to promote best practices to non-sensitized women.	Number of women attending participatory processes Number of women accessing irrigation technology Number of sensitization campaigns dedicated to women		350 women attending participatory processes 3,250 women accessing irrigation technology At least 30 sensitization campaigns dedicated to women
	Activity 3.1.1.2 Provide inputs to farmers to implement infrastructure for production, water capture and retention systems at farmers' field	Participation, Access				
	Activity 3.1.1.3 Promote solar powered water pumps and small-scale irrigation systems	Access				
	Activity 3.1.1.4 Establish models for water collection for human consumption	Access				
	Activity 3.1.1.6 Conduct community campaigns for safe water use and water demand management	Participation, representation, equity and access				
Output 3.1.2 Agricultural resilient practices are adopted and promoted	Activity 3.1.2.1 Promote improved soil management	Participation, representation	Project team to dedicate sensitization campaigns to women conducted by women and adapted to their needs and constraints; Ensure that timetables, places and resources take care of women needs and constraints;	Number of trainings dedicated to women Number of nurseries and seed banks established and managed by women		160 trainings dedicated to women 80 nurseries and seed banks established and managed by women
	Activity 3.1.2.2 Promote cropping practices resilient to climate change	Participation, representation				
	Activity 3.1.2.3: Establish nurseries and seed banks by communities	Participation, representation, equity and access				

	Activity 3.1.2.4 Increase the use of drought-resistant crops and seeds	Participation, representation	Use sex disaggregated data; The project team will ensure that women are effectively accessing and using the new practices and techniques; Project team to work with sensitized women to promote best practices to non-sensitized women.	Number of women using drought-resistant crops and seeds Number of women beneficiaries from resilient cropping practices Number of women beneficiaries from horticulture and horticulture sites		3,250 women using drought-resistant crops and seeds 3,250 women beneficiaries from resilient cropping practices 3,250 women beneficiaries from horticulture and horticulture sites
	Activity 3.1.2.5 Promote horticulture and horticulture production sites	Participation, representation				
Output 3.1.3 Sustainable fisheries are supported	Activity 3.1.3.1 Facilitate access to the fishing sites	Participation, representation, equity and access	Project team to adopt proper guidelines to ensure equitable participation and representation of women and men in participatory processes; Ensure that timetables, places and resources take care of women needs and constraints; Use sex disaggregated data; The project team to dedicate trainings to women conducted by women and adapted to their needs and constraints; The project team will ensure that women are effectively accessing and using the new practices and techniques; Project team to work with sensitized women to promote best practices to non-sensitized women.	Number of women accessing fishing sites Number of trainings dedicated to women Number of women equipped with fishing material and tools		100 women accessing fishing sites 10 trainings dedicated to women 100 women equipped with fishing material and tools
	Activity 3.1.3.2 Train and sensitize on sustainable fishing methods and technics	Participation, representation				
	Activity 3.1.3.3 Equip fishermen and processors with fishing material and tools	Participation, representation, equity and access				
Output 3.1.4 Improved livestock production is supported	Activity 3.1.4.1 Facilitate farmers' access to veterinary services	Participation, representation, equity and access	Project team to adopt proper selection guidelines to ensure equitable participation and representation of women and	Number of women accessing veterinary services for various livestock owned (poultry to ruminants)		1,500 women accessing veterinary services for various livestock owned (poultry to ruminants)

	Activity 3.1.4.2 Promote short-cycle livestock production	Participation, representation	men to access to veterinary services; Ensure that women benefit from small short-cycle livestock; Project team to dedicate sensitization campaigns to women conducted by women and adapted to their needs and constraints; Ensure that timetables, places and resources take care of women needs and constraints; Use sex disaggregated data	Number of women beneficiaries from small short-cycle livestock production		3,250 women benefit from small short-cycle livestock production
	Activity 3.1.4.3 Improve the production of fodder for livestock	Participation, representation		Number of trainings dedicated to women		160 trainings dedicated to women
Output 3.2.2 Production of 6,500 targeted farmers (50% women) is diversified (crop diversification, beekeeping, fishing)	Activity 3.2.1.1 Develop and promote non-agricultural sources of income such as beekeeping, fishing, wild indigenous fruits and microenterprise development	Participation, representation	Project team to dedicate POs exchange visits to women; Project team to dedicate sensitization campaigns to women conducted by women and adapted to their needs and constraints; Ensure that women are targeted accessing diversified production and all activities related; Ensure that timetables, places and resources take care of women needs and constraints; Use sex disaggregated data; Project team to ensure equitable participation and representation of women and men in POs saving groups and agricultural loans; Ensure that women benefit from the processing equipment; Project team to ensure equitable participation and representation of women and men in all stages of value chain.	Number of farmer exchange visits between POs across the border dedicated to women		10 farmer exchange visits between POs across the border dedicated to women
	Activity 3.2.1.2 Facilitate the establishment of saving groups among farmers	Participation, representation, equity and access		Number of training sessions dedicated to women		160 training sessions dedicated to women
	Activity 3.2.1.3 Facilitate access to micro credit for farmers and POs to adopt new IGAs	Participation, representation, equity and access		Number of women accessing diversified production activities		3,250 women accessing diversified production activities
	Activity 3.2.1.4 Introduce low-cost storage and processing equipment	Participation, representation, equity and access		Number of women beneficiaries from processing equipment		350 women benefit from processing equipment
	Activity 3.2.1.5 Develop public-private partnerships (PPPs) to improve links to the markets	Participation, representation, equity and access		Number of women accessing all stages of value chain		3,250 women accessing all stages of value chain
	Activity 3.2.1.6 Organize exchange visits between POs across the border to facilitate experience sharing	Participation, representation, equity and access				

Component	Activity	Gender aspect	Benefits	Risks	Strategies for mitigation
Component 1: Strengthening awareness, knowledge and capacity to adapt to climate change and variability at community, district, national and regional level	Developing capacity at the national and subnational levels to raise awareness of gender in climate change and integrate gender into climate change policy and planning in all sectors and at all levels	Representation of various gender groups at ministerial and sectoral meetings	This is beneficial in building the capacity of various actors to plan and prepare for emergency responses to droughts. Different actors acquire knowledge and skills to plan and manage emergencies.	Trainings being dominated by men	Proper guidelines to determine the proportion of gender groups in such trainings should be developed and implemented
	Holding inter-ministerial and sectoral meetings for data sharing	Representation of various gender groups at ministerial and sectoral meetings	Provides an opportunity for gender groups to share CC information and data at a high influential and policy level	The tendency for CC information and data to remain un utilized at higher levels to the detriment of the end users (farmers) at the local levels	Ensure the participants at these ministerial and sectoral meetings are gender segregated to at least 50% women representation compared to other gender groups.
	Develop CAAPs with participatory approach	Representation of various gender groups in the participatory analysis to conduct CAAPs	This is beneficial to ensure women's representation	CAAPs being dominated by men´s participation	Deliberately ensure 50% women representation in the participatory analysis
	Organize campaigns on climate change awareness and conflict management	Proportional representation of various gender groups on training	This is beneficial in building the capacity of various actors to plan and prepare for emergency responses to droughts. Different actors acquire knowledge and skills to plan and manage emergencies.	Campaigns being gender dominated by men	Proper guidelines to determine the proportion of gender groups in such trainings should be developed and implemented
	Promote conflict management trainings for cattle herders, farmers and local authorities near transhumance corridors	Proportional representation of various gender groups on community campaigns	Strengthens the capacity of various actors to conflict management	Selecting only then men	Gender groups especially women need to be supported and empowered to participate in conflict management activities.
	Strengthen transboundary coordination mechanisms for adaptation and disaster response systems	Representation of various gender groups in accessing disaster response information	The aspect leads to stronger/strengthened gender groups (women, men, and youth) of farmers that have climate information earlier. This	The tendency to selectively provide early warning information to men only yet women are the main planners of	Provide fair guidelines for supporting gender groups. The guidelines should acknowledge the importance of women by about 50%. The guidelines should be approved by project parties.

			aid planning crop and livestock-based activities.	climate influenced household activities including cropping and livestock grazing	
	Support the development of small-scale cross-border agricultural trade	Representation of various gender groups in accessing this small-scale activity	Strengthens the capacity of various actors to undertake innovative small-scale cross-border agricultural trade	Trade being dominated by men	Proper guidelines to determine the proportion of gender groups in such trade activities should be developed and implemented
Component 2: Organizational and technical learning for climate-resilient production and water management	Establish and strengthen 160 POs	Proportional representation of various gender in POs	Strengthens the capacity of various actors to develop their management abilities	Groups being dominated by men	Provide fair guidelines for supporting gender groups, that should acknowledge the importance of women by about 50%.
	Organize training sessions to build capacities of the POs at local level	Proportional representation of various gender groups on training	Strengthens the capacity of various actors in increasing their level of business	Trainings being dominated by men	Proper guidelines to determine the proportion of gender groups in such trainings should be developed and implemented.
	Establish and strengthen 160 WUAs	Proportional representation of various gender in WUAs	Strengthens the capacity of various actors to develop their management abilities for water points	Groups being dominated by men	Provide fair guidelines for supporting gender groups, that should acknowledge the importance of women by about 50%.
	Organize training sessions to build capacities of the WUAs at local level	Proportional representation of various gender groups on training	Strengthens the capacity of various actors in managerial capacities and develop the technical capacity in the water committee	Trainings being dominated by men	Proper guidelines to determine the proportion of gender groups in such trainings should be developed and implemented.
	Organize training sessions to farmers	Proportional representation of various gender groups on training; Representation in accessing farm inputs.	Strengthens the capacity of various actors to undertake innovative climate resilient practices	Trainings being dominated by men	Proper guidelines to determine the proportion of gender groups in such trainings should be developed and implemented.
	Conduct regular farmer field days	Selection of at least 50% women for participation in exchange visits for cross learning in such initiatives	Encourages women to take the lead in implementing successful interventions to the success of the projects	Selecting only then men, yet youth and women often lead implementation of project interventions.	Develop guidelines for selecting participation in these days.

	Establish and strengthen 160 FFS	Proportional representation of various gender in FFS	Strengthens the capacity of various actors for climate resilient and water-efficient agriculture practices	Trainings being dominated by men	Proper guidelines to determine the proportion of gender groups in such trainings should be developed and implemented.
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	Supporting access and use of water during the dry season	Proportional representation of various gender groups on access and use of water during the dry season	Strengthens the capacity of various actors to the correct use and maintenance of water infrastructures	Selecting only then men, yet youth and women often lead the water collection	Supporting various groups especially women and the other vulnerable groups to access water infrastructures.
	Conduct community campaigns for safe water use and water demand management	Proportional representation of various gender groups on community campaigns	Strengthens the capacity of various actors to the use of safe water and water demand management	Marginalization of women, youth and vulnerable groups	Gender groups especially women need to be supported and empowered to participate in water management activities.
	Promote cropping practices resilient to climate change	Proportion of women accessing new cropping resilient climate change practices	People acquire additional knowledge and skills about new cropping resilient climate change practices	Marginalization of women, youth and vulnerable group	Supporting various groups especially women and the other vulnerable groups to access the inputs of new cropping resilient climate change practices.
	Increase the use of a range of drought-resistant crops and seeds	Proportion of women accessing a range of drought-resistant crops and seeds	Strengthens the capacity of various actors to undertake innovative climate smart agriculture through skills and knowledge acquisition as well as accessing farm inputs	Marginalization of women, youth and vulnerable group	Proper guidelines to determine the proportion of gender groups covered by such supports and in trainings should be developed and implemented.
	Develop and promote non-agricultural sources of income such as beekeeping, fishing, wild indigenous fruits and microenterprise development;	Proportion of women accessing support/ inputs for alternative IGAs	People acquire additional knowledge and skills about the various alternative IGAs	Marginalization of women, youth and vulnerable groups	Supporting various groups especially women and the other vulnerable groups to access the inputs IGAs through skills development and trainings etc
	Develop public-private partnerships (PPPs) to improve links to the markets	Selection of at least 50% women for participation as beneficiaries from PPPs	Encourages women to take the lead in the links to the market	Selecting only then men, yet youth and women often sell in the markets	Develop guidelines for selecting participation in PPPs
	Support improved livestock production	Representation in accessing inputs for improved livestock production	Strengthens the capacity of farmers in livestock production;	Marginalization of women, youth and vulnerable groups	Gender groups especially women need to be supported and empowered to participate in livestock improved production and management activities.

			It is also beneficial in the sustainability of interventions on resilient drought and livestock management		
	Support sustainable fisheries	Proportion of women accessing inputs for sustainable fishing methods	Strengthens the capacity of fishers and increase the sustainability of their practices	Marginalization of women, youth and vulnerable groups	Gender groups especially women need to be supported and empowered to participate in sustainable fisheries

To monitor the gender program implementation, two specific indicators are suggested: (a) For quality: the percentage of adaptation and mitigation activities that include specific gender elements and gender-sensitive implementation arrangements (based on action plan); and (b) On the basis of best practices from other organizations (i.e., OKACOM), a portfolio classification system, which consists in adopting a project rating for gender sensitivity. Such a system allows for a global analysis from a gender perspective, an assessment of effectiveness and, eventually, corrective action to be taken.

A Project Monitoring Officer shall be attached to the project to monitor safeguards, complaints, and claims. The officer will have proven work experience with international funding agencies safeguard, including a gender approach. The Officer will be hired by the EEs and will be in charge of overseeing the implementation of both the project´s Environmental and Social Management Plan and the Gender Action Plan. This Technician will be responsible for conveying semi-annual reports to the National and Regional Executing Entities. In addition, during quarterly meetings held to monitor project progress, this Officer will report any possible environmental and social and gender risks that may have originated and that have not been previously identified. The Officer will also be responsible for updating the Environmental and Social Management Plan and the Gender Action Plan whenever unforeseen impacts and risks are identified. This Officer shall work together with other staffs, for instance the counterpart staffs at the Executing Entity teams, to ensure compliance with all conditions.

The Officer will assess all aspects of the ADSWAC project, but in particular those listed below, as a basis for monitoring and evaluation during the project's implementation: 1) The challenges faced by women and men in climate change adaptation and disaster risk reduction. 2) The roles and capacities of women and men in climate change adaptation and disaster risk reduction in the selected ADSWAC project communities. 3) The roles and capacities of women and men in carrying out the adaptation options identified by the project. 4) Identification of the main vectors of information that the men and women use to access information and how to better adapt awareness and Early Warning Systems messages to reach both men and women. 5) Activities promoting more equal access by women and men to the benefits of the program, and more broadly to resources, services and skills. 6) Activities promoting equality of decision-making between women and men. 7) Are the initiatives promoted helping to develop capacity (donors, partner government, civil society, etc.) to understand and promote gender equality? 8) Is data gender-disaggregated generated to measure the outcomes of the activity on men, women, boys and girls?

Climate change, gender equality, and sustainable development are highly inter-related. This GAAP document was designed in order to assure that ADSWAC project actually takes into account the gender approach necessary to guarantee that women, youth, men and vulnerable groups are accountable in every stage of the project's implementation and ensure its sustainability. 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 are for a vast majority reliant on natural resources 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.

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. GAAP reinforces the importance of including women in all activities and processes, because it guarantees the sustainability of the project outcomes. Despite the local culture in the site's project does not recognize the importance of the women's role in the community development, they are primary, and many times solely, responsible for the house, food, children and elderly. Inequality limits women's ability to adapt to the impacts of climate change. This vulnerability is exacerbated by viewing women as victims, rather than key actors who have critical knowledge of their society, economy, and environment, as well as practical skills, which, when recognised and used, can be effective in risk reduction and adaptation. ADSWAC also intends to tackle this issue and through awareness raising change the mind set and give equal opportunities to all gender and empower the most vulnerable groups. It is clear that the impacts of climate change undermine sustainable development, however, to fully understand the impact of this, gender-disaggregated data collection and analysis must be implemented regarding the above gender action plan.

Any forward-looking goals for the Okavango River Basin that aim to address climate change need to take into account at every stage its impacts on men and women, and the ways in which both can contribute, to make adaptation more successful. In the same way, all efforts to address gender inequality will need to take into account the ways in which climate change will affect everyone including men, women, girls and boys as well as the needs of those in society that are already marginalized and disadvantaged on any grounds. Despite the efforts entailed by the OKACOM gender mainstreaming strategy in 2015, which provided a framework to support integration of gender considerations in all OKACOM programmes, projects and activities, 2018 report acknowledged that there was no clear indication of integration of gender issues in water resources management both at national and basin level. Nonetheless, ADSWAC follows OKACOM objectives and reinforce that a strong initiative to empower women for greater and more effective participation in water use and management through supporting the full participation of both men and women in order to strengthen management, distribution and monitoring of water resources, as well as other natural resources, is crucial for the program's success.

4. Cost Effectiveness Study for ADSWAC PROJECT (Angola and Namibia)

Table of Contents

Abbreviations

ADPP	People's Development Assistance to the People of Angola
ADSWAC	Adaptation in Drought-Struck South-Western African Communities
CC	Climate Change
CCA	Climate Change Adaptation
CEA	Cost-effectiveness Analysis
CN	Concept Note
CNP	Concept Note Proposal
DAPP	Development Aid from People to People
IGA	Income Generating Activities
OSS	Sahara and Sahel Observatory
IRR	Internal Rate of Return

Alignment of Components with the Needs of the Region

The design of the ADSWAC Project is appropriate in the sense that it is designed to respond to the real needs of the population in a Region that has deep vulnerabilities, poverty and deprivation. In the ADSWAC Project Region, in fact, direct and specific interventions in building resilience, especially on the Angolan side, are few and far between the logistical difficulties of implementation and the high management costs. This condition has almost excluded communities on the Angolan side from being covered by projects on local development, climate change adaptation and disaster risk reduction, preferring to operate in the neighbouring provinces of Cunene, Namibe and Huila.

The ADSWAC Project's intervention, therefore, besides being fundamentally part of national and international policies and strategies, also represents a possibility of change for the communities, considering that it is one of the few Projects to be implemented in the Region, which aims to build the resilience of communities to climate change by acting with a univocal and harmonious approach in two different countries.

Therefore, the ADSWAC Project is in line with the interventions, policies and programmatic and strategic projects of the Region, especially in relation to the defined priority activities and because it aims to build the resilience of communities.

Therefore, the costs of the intervention are focused on building capacity, knowledge and opportunities in highly vulnerable communities, subject to severe deprivation that will certainly have immediate effects as a result of the ADSWAC project activities, as well as a long-term impact on people's own lives, the environment and socio-economic development.

The ADSWAC Project will directly benefit 42,500 people (200,000 indirectly) living in the Region through the establishment of 160 community groups for the management of water points, 160 community groups for the management of productive components, 38 Green Schools, local and regional public institutions in Angola and Namibia, private companies and national and international networks related to climate change adaptation, disaster risk reduction and environmental protection, through the development of 3 Components, all with a different focus but closely interlinked with each other.

Comparison with similar interventions in the Region

The relevance of the ADSWAC project intervention and its alignment with local needs is also evident when comparing it with eight other projects implemented in the area or in similar contexts. It should be noted that of the Projects identified for comparison, most are financed by the GEF fund, but that in this Region, no intervention is implemented and focused directly on Cuando Cubango and on building the resilience of communities in this province. Usually, Cuando Cubango province is involved in implementation together with other provinces (ex. GEF Project ID: 5230 and GEF Project ID: 5331) and few communities are covered, close to the border with Cunene or the Provincial Capital Menongue. In fact, most of the Projects identified have Namibia and the Angolan provinces of Huambo, Benguela, Cabinda, Cunene, Huila and Namibe as their areas of operation.

The detailed comparison can be found in the attached Excel CEA document, but in summary form, the following comments can be made.

1. *Components consistent with the analysis of the Region's needs* - The components of the different interventions have as a central point the construction of the resilience of communities and institutions to climate change, thus indicating to be in line with national and international policies and strategies and responding to a recognised need of the Region.
2. *Number and costs per direct and indirect beneficiary realistic and in line with other Projects developed in the Region* - Although considering the differences that exist between the ADSWAC Project and other Projects developed in the region or similar areas, which do not always allow for a specific calculation, and reflecting the differences in budgets and activities, it is estimated that in proportion to the costs and the number of direct and indirect beneficiaries, they are adequate and realistic. This identifies optimal efficiency in the use of funds and costs per beneficiary in relation to the other Projects with which the ADSWAC Project has been compared.

3. *Management costs consistent with the needs and reality of the Region* - Another element which stands out in the comparison of costs between the ADSWAC Project and the other Projects is that in the ADSWAC Project the management costs are slightly higher (10% of the budget) than the average percentage of management costs for the other Projects (5%). Nevertheless, this discrepancy is justified considering the contextual and infrastructural difficulties of the region, where the reality of Cuando Cubango province is indeed consistent. The high management costs have been the first barrier for Cuando Cubango Province and the Region to benefit from other direct interventions. In fact, infrastructure, logistics and management difficulties at the local level, as well as weak local human resources, influence the calculation of management costs for the ADSWAC Project. However, budget allocation and calculation of management costs are indeed consistent and realistic with the context and represent a necessary condition for implementation of the interventions. However, in Table 1 below, a comparison is made between the ADSWAC Project and similar Projects, mainly with GEF funding, implemented in the same Region, which had/will have as objective the building of socio-economic and climate resilience of communities.

Table 1- Comparison with other projects

	Summary Table	Total Project	Direct Beneficiary Number	Cost per direct beneficiary
	ADSWAC	11.941.038,00	42.500	280,97
1	GEF Project ID: 5432	25.325.000,00	25.000	1.013,00
2	GEF Project ID: 4720	12.250.000,00	3.000	4.083,33
3	GEF Project ID: 5230	11.520.000,00	72.000	160,00
4	GEF Project ID: 5331	13.164.095,00	6.000	2.194,02
5	GEF Project ID: 5640	65.169.105,00	25.000	2.606,76
6	GEF Project ID 10565	70.742.180,00		
7	GEF Project ID: 5177	28.050.000,00	100.000	280,50
8	GEF Project ID: 5343	40.500.000,00	25.000	1.620,00

The analysis carried out in the table above also shows that in the comparison between the ADSWAC Project and 8 other GEF Projects implemented in Angola and Namibia in the same scope, both costs for direct beneficiaries and costs for indirect beneficiaries, are placed among the lowest investments, although a significant number of people were reached.

Looking also at the overall budget of the ADSWAC Project, it can be also noted that the different macro-lines of expenditure are consistent with those of other similar Projects, considering that about 30% of the budget is invested in human resources of the Project and more than 33% for means and equipment to build the resilience of communities [67].

It is also evident that, in line with the other projects compared, the ADSWAC Project invests a lot in training, considering an expenditure per beneficiary of between 11 and 18 USD each day and a remuneration of 450 USD each day for international trainers.

Description of alternative options to the measures proposed in the project and cost comparison to these other possible interventions

As previously indicated, the ADSWAC Project as well as other GEF projects implemented, or being implemented, define and represent appropriate and possible interventions to achieve climate and socio-economic resilience building of communities in the Okavango Region or transboundary between Angola and Namibia. These interventions and proposed actions are very similar in that they are based on environmental education and protection, community capacity building, associations, public-private cooperation/partnership, community-based income activities and institutional strengthening.

In order to carry out the CEA and ensure that the intervention defined by the ADSWAC Project was indeed the most appropriate and beneficial one, the ADSWAC Project was compared with other different economic development interventions implemented by the Government of Angola and Private Institutions.

In Table 5 below, the actions defined in the ADSWAC Project, investment costs and results were then compared with three possible measure options: the installation of 2 types of Farms (with public funds and engagement and with private institutions) and the implementation of a humanitarian intervention. In this case, the investment of each project was compared with the number of beneficiaries reached by the project proposal.

The development of the analysis is reported in detail in the Table 5 below, but it is generally understood that with interventions other than those proposed by the ADSWAC Project it is not possible to reach the same number of beneficiaries, as well as it is not possible to have the same level of socioeconomic and environmental sustainability, thus not reaching an effective building of climate resilience of the communities and the Region.

Table 2: Resume of alternative options and cost comparison to these other possible interventions

	Total Budget	Number of Beneficiaries	Total Cost for Household (5 year)	Total Cost for Direct Beneficiary (5 year)	Financial Observation	Sustainability Observation	Environmental Observation	Final CEA Observation

[67] For more details, see the Excel Document in the spreadsheet called CEA MACRO - GENERAL.

ADSWAC	11.941.037,68	160 FFS - 6500 households - 42.500 beneficiaries	1.837,08	280,97	The project shows a substantially and clearly lower investment per beneficiary compared to the other intervention options defined in the Public and Private Farming Projects, used for the comparison. It should be noted that also in Table 4, where the Project is compared with 8 other projects with similar actions and interventions, implemented in the same Region, the investment per beneficiary calculated in the ADSWAC Project is in most cases lower than the others. In this way, the intervention option defined by the Project is the most economical and financially advantageous in both the short and long term.	The ADSWAC Project, as previously shown, through the analysis of possible micro-projects, guarantees a strong sustainability in the medium and long term (Projects calculated over 5 and 10 years), that is for the time of the project and for 5 years after the end of the project. Furthermore, through continuous training during the 5 years of the Project, it is ensured that communities consolidate knowledge and are able to disseminate and replicate it within their region, causing a change in behaviour in climate change adaptation.	The ADSWAC Project, as indicated above, shows a strong component of environmental sustainability and environmentally friendly actions oriented to a positive impact. Through the type of investments proposed for the income activities and the strong environmental awareness and management component, a broad and positive environmental sustainability in the short, medium and long term is envisaged. At the same time, through the CACCs, the communities, involved in each phase of the Project implementation, will be inclined to a change of positive behaviour and respect for natural resources and the environment.	From all the factors analysed above, this Project is the most appropriated investment that can be made to achieve the intended results in building resilience.
Private Farm Project - ESOPACK	15.000.000,00	300 households - 1800 beneficiaries	50.000,00	8.333,33	The private investment made on the ESOPACK Farm Project, used as a model for large private investments made through international loans with the Government of Angola as guarantor, was used as a method of comparison. With a budget slightly higher than that of the ADSWAC Project, approximately US$15,000,000, a Farm to produce maize and other cereals was installed in the Cunene River region (Calueque area towards Ruacana). The fazenda employed about 300 local workers at an early stage. The cost per beneficiary is USD 8,333,33 (total for 5 years). In this case, it is absolutely higher than the costs defined in the ADSWAC Project, without considering the other aspects that may jeopardise the achievement of results.	Although the Farm Project, consisting of more than 20 Pivots, is still in operation and continues production at the time of this benchmarking, there is no data or information regarding the gains made, as well as any additional costs that have been incurred for maintenance or problem solving in implementation. However, as a private investment, the objective is profit, not local community development. In this perspective, if there is a market available and workers to be employed, the Farm will continue to produce, but at the expense of workers' rights, respect for human rights and, last but not least, in spite of environmental sustainability and local development.	The farm uses a large amount of water, significantly reducing the water in the Cunene River and thus the water available for the canal that feeds northern Namibia at Calueque and the Ruacana Dam. This is to the detriment of the communities. In addition, the farm uses an area of about 20,000 ha along the river, interrupting and negatively affecting the normal transhumance routes used by the pastoralists, and denying them access to water (also provided during colonial times). Apart from territorial conflicts between communities and local actors, this situation creates a total lack of control over resources and an unsustainable and environmentally risky exploitation of both land and water resources. The various local associations and churches have waged a struggle against the fazenda for the land rights of the indigenous people who have been displaced from their native areas. In addition, one can also consider the negative environmental impact that the use of chemical fertilisers and pesticides, used for extensive production in this fazenda, has on both the soil and the water table.	This option of intervention to achieve community resilience is inadvisable as it is not sustainable in terms of both economic and financial intervention and social development and environmental impact.
Public Farm project - Manquete	10.000.000,00	150 households - 900 beneficiaries	66.666,67	11.111,11	The investment made in the Manquete Farm was used as a comparison method and was used as a model for the public investments made by the Government of Angola through the national financing of the Sovereign Wealth Fund, first managed by the Public Enterprise GESTERRA and then directly by the Sovereign Wealth Fund itself. With a project budget slightly lower than ADSWAC, approximately USD 10,000,000, a Rice Farm was installed in the wetlands of Cunene (Maquete - Municipality of Ombandja). The farm employed about 150 local workers in the initial phase. The cost per beneficiary is therefore 11,111.11 USD for 5 years of the project, thus proving to be extremely high compared to the ADSWAC Project and the proposed actions, without considering the aspects that put at risk the achievement of the intended results.	For the first five years of the project, and therefore as long as funding was available, the publicly owned fazenda operated, but only produced 10% of what was assumed in the project proposal. Currently, it has completely stopped production, proving to be totally unsustainable, partly due to the lack of community involvement and external partnerships.	During the period of operation, the fazenda used a large amount of water, reducing the available water level of the Cunene River. Although the production hectares were less than those of the private fazenda, the area of approximately 800 ha occupied a long bend in the river and this too had interrupted the normal transhumance routes used by the shepherds, prohibiting access to water. To a lesser extent, all the problems previously encountered in the private fazenda (occupation of the land, blocking of transhumance routes, pollution of the soil and aquifers, reduction of the water available to the communities downstream, etc.) are also found in the public farm.	This option of intervention to achieve community resilience is inadvisable as it is not sustainable in terms of both economic and financial intervention and social development and environmental impact.
Humanitarias AID	11.941.037,68	2341 households - 14.048 beneficiaries	5.100,00	850,00	In this case, a different intervention was hypothesized, based on direct help to families to meet basic needs, with the perspective of improving their living conditions and being able to devote themselves to the strengthening of their socio-economic situation. Taking as reference the data previously used and provided by WFP, where a food kit costs 170 USD per year per beneficiary, it was assumed to provide direct support to people, so that they have the capacity to overcome the critical situation. For this interaction with the ADSWAC Project, instead of using the number of beneficiaries and the variation of the Budget as a constant, the Budget was kept constant and the number of beneficiaries as a variable. Thus, for the same Budget, it is possible to provide humanitarian aid (for 5 years) to only 2,351 families (total of 1,448 persons), compared to the 6,500 families (42,500 persons) beneficiaries established in the ADSWAC Project, the humanitarian intervention would be much less. This is without considering the lack of sustainability.	Humanitarian intervention is normally used for emergency situations, which is required to respond to basic needs. This type of action has often been implemented in the region because of the extreme need and vulnerability to climate change, poverty and disasters to which populations are exposed. Unfortunately, evidence has shown that they are not sustainable and do not create long-term resilience, as communities instead consolidate dependence on external aid and a short-lived belief in security.	Normally in this type of humanitarian and aid intervention, it is difficult to consider the environmental impact. But the intervention is not accompanied by an awareness-raising campaign on the collection and sorting of waste produced by the distribution of food and goods. However, considering the volume of external inputs (food packaging) if this solution is adopted, a calculation of the expenses for recycling/collection of the same should also be foreseen in order not to cause environmental pollution (not calculated).	This option of intervention to achieve community resilience is inadvisable as it is not sustainable in terms of both economic and financial intervention and social development and environmental impact.

Analysis 1 - Long-term comparison of the effectiveness of the ADSWAC project with other projects and without any intervention

The ADSWAC Project is compared to the two most similar GEF funded Projects and to an extreme situation where no intervention is made in the area to try to analyse the real benefits of the 5- and 10-year action.

Thus, the ADSWAC project investment per beneficiary in each year (USD 202.29) is a little higher than that made in the GEF Angola project (USD 109), but much lower than that made in the GEF Namibia project (USD 1,407.41) and much lower than the investment the state had to make to guarantee humanitarian aid (USD 850).

At the end of the Project, to the direct beneficiaries (42,500) are also added 200,000 indirect beneficiaries who will benefit from the actions implemented by the Project, ahead of an investment of 35.45 USD per person. Thus, the effectiveness of the invested costs will have a wider impact on the improvement of the life of the communities in the Region that can better deal with climate change.

The Angolan and Namibian governments are also assured that investing in the sustainability of the action with an economic investment, as well as being fair, ethical and moral, will make it possible to build resilience and, over the years, reduce the costs invested in relation to the effectiveness of the intervention. Thus, from a 10-year perspective, the ADSWAC project will save over USD 50,000,000.

Key activities and cost-effectiveness of Component 1

The ADSWAC Project will therefore establish a total of 6 CCACs, of which 4 will be in Angola and 2 in Namibia. There will be 1 main CCAC, in Calai (Angola) built from scratch and costing USD 125,000, which will oversee coordination and monitoring of the other centres and ensure cross-border collaboration. The other 5 CCACs will work on rehabilitated infrastructure at a cost per infrastructure of USD 32.622. The 6 CCACs will benefit from around 75,000 people at the end of the ADSWAC project. If the total cost of Component 1 is divided by the number of beneficiaries, the result is an average expenditure per beneficiary of USD 20 showing a high efficiency of the component in relation to the specific cost per beneficiary. The costs invested in these activities are effective because they build sustainability and allow local authorities to continue the Project's results, as well as to monitor communities, managing CCACs independently after 5 years of Project implementation. Another important element of Component 1 is the identification and support of a Climate Change and Risk Early Warning System, which is based on community experiences and methodologies (local knowledge and traditions) and can be integrated into the National and Regional Early Warning System.

Key activities and cost-effectiveness of Components 2 and 3

The activities of Component 2 and Component 3 are closely interlinked, those related to the water sector, capacity building and management. In relation to training activities both for Components 2 and 3 and across the whole ADSWAC project, it should be noted that the figures established are in line with the normal costs applied for training and capacity building carried out at different levels.

The cost effectiveness of training activities in these Components of the ADSWAC Project is represented by the increase and improvement of agricultural production and animal husbandry in the communities, the reduction of food insecurity, the better management of drinking water and use of the agricultural sector, as well as environmental protection measures and adaptation to climate change by communities, associations, and stakeholders. The costs invested in capacity building are highly effective in building long-term resilience in the region.

Cost Effectiveness Analysis of Hydraulic Infrastructures

The investment in hydraulic infrastructure in the Region represents the sine qua non measure to build resilience to climate change, so besides being fundamental in the ADSWAC Project it is appropriate and coherent for the context of climate risk in the Region and the results to be achieved. In general, it can be sustained that when applicable, hand drills are the most cost-effective option, but at the same time they are feasible in limited areas alongside rivers. In many cases, due to the experience many projects have carried out, it would be efficient to drill family boreholes, so that each family would be responsible for its own boreholes, thus ensuring a longer duration.

Also, the pavement cisterns, which are being introduced in the Angolan context in recent years, are a viable option for areas where it is not possible to obtain water from rivers and collect rainwater. Here too, looking at the experience in Brazil, they work best when management is familiar rather than community based.

Cost Effectiveness Analysis of Sub-Projects of Agricultural Production and others

Within the specific framework of Component 3, another key activity is represented by the Agricultural and Local Development Sub-Projects. An analysis of the costs and effectiveness of different sub-project proposals with various intervention options has been made in the first table below. In the second table, the Internal Rate of Return (IRR) that they will have over time was calculated. In this case, the IRR was calculated over a period of 10 and 5 years. Through this analysis, the main production development models typical of the area and/or proposed for the ADSWAC Project were compared.

The projects were calculated with the same annual depreciation (10% year) for ease of calculation. All projects identified the IRR with very positive figures, which identifies a strong economic and financial strength. The IRR was calculated net of maintenance and depreciation costs, and after 10 years the communities will have the necessary funds to purchase new equipment. The annual depreciation rate applied in the analysis was 10%.

Sub-projects related to aquaculture, beekeeping and fisheries have identified a higher IRR relative to others. For fruit farming the choice of using solar systems instead of motor pumps results in a lower management cost with respect to a higher quality of final production, in addition to the environmental benefits linked to pollution. The latter have not been calculated in an economical way, being sufficient the economic convenience and the confrontation of the IRR of the 3 options. For animal husbandry it is evident that family poultry farming has a better result compared to others.

Table 3 - Analysis Sub-projects (01)

			Area/quantity	Initial investment	annual profit	annual expenditure (including running and maintenance costs)	annual gain (stabilised at 3 years)	Abortion 10% (10 years)	actual gain
1	Horticulture and fruit growing	Motor pump + furrow irrigation	1 ha	2 000,00	2 000,00	1 000,00	1 000,00	200,00	**800,00**
2	Horticulture and fruit growing	Motor pump + drop by drop	1 ha	4 000,00	5 000,00	3 000,00	2 000,00	400,00	**1 600,00**
3	Horticulture and fruit growing	Solar system + Electro pump + drop by drop	1 ha	8 000,00	6 000,00	1 500,00	4 500,00	800,00	**3 700,00**
4	Cereals and other non-irrigated crops	Varieties adapted to short cycle + hydraulic systems of the plough	1 ha (Seeds)	1 000,00	600,00	200,00	400,00	100,00	**300,00**

5	Fishing		1 KIT	750,00	1 000,00	300,00	700,00	75,00	**625,00**
6	Aquaculture		1 tank (with fry and feed for the 1st production)	4 000,00	5 000,00	2 000,00	3 000,00	400,00	**2 600,00**
7	Beekeeping and honey production		1 KIT (2 protective suits 1 press, 1 filter 1 decanter)	1 500,00	3 000,00	1 500,00	1 500,00	150,00	**1 350,00**
8	Goat farming		1 KIT (1 male - 4 females + local pen)	800,00	600,00	150,00	450,00	80,00	**370,00**
9	Cattle breeding		1 KIT (1 male - 3 females + local sheepfold)	1 500,00	1 000,00	300,00	700,00	150,00	**550,00**
10	Pig farming		1 KIT (1 Male - 4 Females + local sheepfold)	800,00	600,00	150,00	450,00	80,00	**370,00**
11	Poultry farming		1 KIT (1 Rooster - 10 chickens + local sheepfold)	500,00	400,00	100,00	300,00	50,00	**250,00**

Table 4 - Analysis Sub-projects (02)

			0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**IRR 10 years**	**IRR 5 years**
1	Horticulture and fruit growing	Motor pump + furrow irrigation	- 2 000,00	400,00	600,00	800,00	800,00	800,00	800,00	800,00	800,00	800,00	800,00	**31%**	**18%**
2	Horticulture and fruit growing	Motor pump + drop by drop	- 4 000,00	800,00	1 200,00	1 600,00	1 600,0	1 600,0	1 600,0	1 600,00	1 600,00	1 600,00	1 600,0	**31%**	**18%**
3	Horticulture and fruit growing	Solar system + Electro pump + drop by drop	- 8 000,00	1 850,00	2 775,00	3 700,00	3 700,0	3 700,0	3 700,0	3 700,00	3 700,00	3 700,00	3 700,0	**36%**	**24%**
4	Cereals and other non-irrigated crops	Varieties adapted to short cycle + hydraulic systems of the plough	- 1 000,00	150,00	225,00	300,00	300,00	300,00	300,00	300,00	300,00	300,00	300,00	**22%**	**8%**
5	Fishing		- 750,00	312,50	468,75	625,00	625,00	625,00	625,00	625,00	625,00	625,00	625,00	**62%**	**54%**
6	Aquaculture		- 4000,00	1 300,00	1 950,00	2 600,00	2 600,0	2 600,0	2 600,0	2 600,00	2 600,00	2 600,00	2 600,0	**49%**	**40%**
7	Beekeeping and honey production		- 1 500,00	675,00	1 012,50	1 350,00	1 350,0	1 350,0	1 350,0	1 350,00	1 350,00	1 350,00	1 350,0	**66%**	**59%**
8	Goat farming		- 800,00	185,00	277,50	370,00	370,00	370,00	370,00	370,00	370,00	370,00	370,00	**36%**	**24%**
9	Cattle breeding		- 1 500,00	275,00	412,50	550,00	550,00	550,00	550,00	550,00	550,00	550,00	550,00	**28%**	**15%**
10	Pig farming		- 800,00	185,00	277,50	370,00	370,00	370,00	370,00	370,00	370,00	370,00	370,00	**36%**	**24%**
11	Poultry farming		- 500,00	125,00	187,50	250,00	250,00	250,00	250,00	250,00	250,00	250,00	250,00	**39%**	**28%**

Financial analysis of the Sub-Projects of Agricultural Production and others

Based on the proposals for the sub-project's typology presented above, a financial investment plan was also calculated to support future intervention decisions. Therefore, it is assumed that the Sub-projects are financed from a financial entity (e.g. banks) and that the following "typical" conditions are applied the financing of 5 years, the fair rate of 7.5% and a "scarcity" period of 1 Year.

For each sub-project type, the sustainability and (monthly) debt repayment plan required by local financial institutions is calculated.

Once a local study of socio-economic and market needs is carried out to have a realistic investment plan to implement interventions consistent with the context of climate change adaptation and disaster risk reduction, as financial projections sustainability and long-term gains are assured.

All Sub-Projects therefore identified positive Cash Flow and economic and financial sustainability.

Conclusions and Recommendations

The ADSWAC project is well structured and meets the needs of the environment and communities.

The ADSWAC project is also a novelty in the cross-border region for some planned interventions such as CACCs, networking, solar panelled water points, climate adapted agriculture, ECAs, GAS, etc. Considering that populations live cyclically and periodically affected by disasters, the investments made in the area by the ADSWAC Project interventions represent a concrete possibility to change the vulnerability condition in which they find themselves, improving livelihoods, income, relationship, and interaction with the environment and thus the future itself.

The actions and measures defined by the ADSWAC Project, through comparative cost-effectiveness analysis, proved to be the most appropriate for both the best financial investment per beneficiary in achieving and realising the building of community climate resilience and the socio-economic and environmental sustainability of the Region.

In conclusion of the cost-effectiveness analysis, several recommendations for the ADSWAC Project are presented that can further improve its effectiveness, such as Sustainability of CACCs, Evaluating the creation of a single structure for water management,

Maintenance of Water Points and Borehole with Solar Panels, Specific study to define the most appropriate gender approach and concrete interventions to strengthen gender balance, Specific attention to ethnic minority groups in the Region.

Context Analysis

The Report on the Multidimensional Poverty Index (IPM) in the Municipalities of Angola, published by INE in 2020, which measures poverty not only in a monetary sense, but considering four fundamental dimensions: health, education, employment and quality of housing (having different indicators for each dimension)[68]. The result of the IPM in the Angolan Municipalities shows that in Cuando Cubango at least 70% of the population is multidimensionally poor, therefore they are deprived of different services and opportunities at various levels. In urban areas, approximately 1 in every 3 people (35% of the population) is multidimensionally poor, while in rural areas this number increases to 9 in every 10 people (88% of the population). The main deprivations in Cuando Cubango are related to the quality of life (lack of water, electricity and cooking fuel). The multidimensional poverty of communities in Cuando Cubango is also at risk of increasing because the dimensions and indicators used to define IPM can change in contexts strongly affected by climate change and relevant environmental challenges.

The situation of rural communities living in the Namibian border area is quite like those of Angolans. The communities are prevalent in agriculture, live off small businesses, and have precarious livelihoods. The main sources of income are linked to farming, which is developed depending heavily on the climate. The Kavango region is in north-eastern Namibia, bordering Angola to the north. This region covers an area of about 48 456 km2. According to the 2011 national census data, Kavango has a population of 223 352 (compared to 202 694 in the 2001 census). The population density of 4.6 persons/km2 is relatively high compared to the Namibian average of 2.6 persons/km2 [69]. The IPM of the Kavango Region is 31.4%, however the incidence of poverty is 63.3% and the average deprivation intensity faced by the poor is 49.4%. The percentage of the population vulnerable to multidimensional poverty is 22.1% and that living in severe poverty is 30.4%[70] .

The region chosen for the project's intervention, which includes 4 municipalities in Cuando Cubango Province in Angola and Kavango East and Kavango West of the areas in the Okavango region in Namibia, has populations and communities with very similar characteristics, both from a historical-cultural and socio-economic and environmental point of view.

Communities are mainly vulnerable communities with poor access to services and opportunities for socio-economic development, with very low incomes from agricultural activities. The communities in the region are involved in pastoralism and develop subsistence agriculture, practiced in dry land. They also develop small businesses based on trade in agricultural and coal products. They live in a dispersed way and practice transhumance periodically along historical and traditional routes in search of water and pastures. The difference with the Kavango Region in Namibia, in Cuando Cubango Province there is a low population density in relation to the national average of the countries, with less than 5 people per km2 of which 62% live in rural areas[71].

In this Transboundary Region the population is mainly concentrated near the water points, considering the need for human and animal consumption.

There are thus common critical points affecting the Transboundary Region summarised in the following points:

- Youth unemployment and exodus of young people in search of better living conditions/opportunities;
- Weak incentives and stimuli related to gender development;
- Increasing transhumance periods and routes to the cause of demand for pastures and water points that are difficult to map;
- Land conflicts due to internal and external migration;
- A clear division of gender roles;
- Low schooling and strong school dropout (with critical aspects in Angola)
- Weaknesses in socio-economic infrastructure.

In addition, the region has worrying shortcomings in human and socio-economic development (e.g. unstable and unsustainable livelihoods, difficult access to basic services, weakness of the industrial and productive sector and scarcity of economic opportunities for community development). At the same time, the areas chosen to present the same problems in relation to the impact of climate change on the livelihoods of communities and on the environment with regard to the degradation of biodiversity.

Deforestation, a consequence of the exploitation of wood by private companies, the uncontrolled production of coal by communities to improve their own economic condition, the creation of new settlements and neighbourhoods and uncontrolled fires for agriculture, beekeeping and deforestation, have produced a consistent reduction in tree cover and vegetation. From 2001 to 2019, Cuando Cubango lost 136 kha of tree cover, equivalent to a 5.7% decrease in tree cover since 2000, and 25.1Mt of emissions from CO_2 [72] . In 2010, Cuando Cubango had 2.27 Mha of tree cover, extending over 11% of its land area. In 2010, Kavango had 233ha of tree cover, extending over 0.0048% of its land area. In 2018, it lost 73.3mha of tree cover, equivalent to 8.06t of emissions from CO_2 . If tree cover gains are considered, from 2001 to 2019, Kavango lost 150ha of tree cover, equivalent to a 23% decrease in tree cover since 2000, and 14.4kt of emissions from CO_2 . However, from 2001 to 2012, Kavango gained 0.512ha of tree cover across the region, equivalent to 1.2% of all tree cover gain in Namibia.

[68] National Statistics Institute of Angola (INE), *Multidimensional Poverty in the Municipalities of Angola*, Luanda, November 2019.
[69] M. Thiem, B. T. Jones, Chapter 9, Kavango Region, content in the ""Scraping the Pot": San in Namibia Two Decades After Independence.
[70] Oxford Poverty and Human Development Initiative (2013). "Namibia Country Briefing", Multidimensional Poverty Index Data Bank. OPHI, University of Oxford. Available at: www.ophi.org.uk/multidimensional-poverty-index/mpi-country-briefings/
[71] Instituto Nacional de Estatística de Angola (INE), *General Census of the Population of Angola, Census Report 2014*, Luanda, 2016.
[72] Information publicly available at www.globalforestwatch.org

This situation of deforestation and uncontrolled intervention in the environment contribute to and increase the exposure of communities already structurally vulnerable to a high risk of disaster, considering the under-reliance on adverse weather conditions related to climate. Communities in the ADSWAC Project Region are therefore affected by climate change that has a negative *knock-on* effect on people's lives, threatening their well-being and health, socio-economic development and perpetuating the vicious circle of poverty. In addition, environmental damage is reflected in the increased risk of disaster at the local level.

Only beekeeping, and therefore honey production, as a non-timber forest product (NTFP), is considered an important forest resource, although its production does not always take place with respect to environmental sustainability and environmental protection. One example is how to collect honey from traditional beekeepers who use the fires to make smoke and be able to collect honey from hives. The lack of personal protection for bees makes beekeepers unable to control fire and unnecessary burning in the forest. These practices lead to the weakening of soil compaction, which is considered to be the main cause of increased risk of ravines and landslides after the rains, especially considering that rainfall in recent years is being torrential and with extraordinary amounts of water. In addition to ravines, the decline of forests also affects the balance of the ecosystem, tending towards a slow and progressive warming of local temperatures and a progressive reduction in rainfall. Considering that family farming is dry and therefore dependent on rain, changes in climate have a direct effect on family livelihoods and the resulting local economy. The communities of the Project Region are therefore continuously threatened with damage and loss of their own property and sources of income. Added to this is poor sanitation and inefficient waste management in the communities. In addition, sometimes drinking water or water suitable for human consumption is contaminated by waste or wastewater, causing diseases (e.g. cholera, scabies, etc.).

Brief Project Description

Over the past decade, disasters have affected cyclically the populations of southern Angola and northern Namibia. In fact, anomalies related to climate change have caused these areas to alternate periods of long droughts, with very low or insufficient rainfall to ensure the livelihoods and well-being of family units, to periods of destructive flooding.

The populations of these cross-border areas of Angola and Namibia have similar characteristics, such as ethnicity, cultural background, language, habits, and customs, in addition, as mentioned above, to crossing the borders of the two countries with normality. They base their livelihoods on agriculture, with a strong dependence on climate conditions. Most of the population practices pastoralism and transhumance, developing dry farming considering that only small areas of these cross-border areas are dedicated to irrigation agriculture.

The negative impact of Climate Change has affected the fragile livelihoods of communities (e.g. agriculture and pastoralism) and the availability of and access to water, affecting with consequences cascade food security, nutrition, human and animal health, ecosystem balance and biodiversity, family income, school dropouts, unemployment, exodus from rural areas, domestic violence, family stability to local development.

This situation, caused by the increase in climate anomalies, is exacerbated by deep and previous structural and local governance problems, which have encouraged the consolidation of a vicious circle, linking governance-climate change-disaster-vulnerability-poverty, which worsens with each disaster.

Thus, despite positive experiences of local agricultural projects, a remarkable and encouraging productive capacity, the rural population in these cross-border areas of Angola and Namibia remains vulnerable and poor, lacking basic services and local development opportunities, mostly dependent on foreign aid.

With a view to improving the lives of communities in these cross-border areas, with similar characteristics and issues, the Governments of Angola and Namibia, together with regional and national partners, have joined forces in defining climate change resilience building measures to strengthen people's capacity to adapt and recover, which also includes the prevention of protected areas in the valuable Okavango River basin ecosystem.

With the aim to strengthen the resilience of the border area's populations and ecosystems, the *Sahara and Sahel Observatory* (OSS) in close collaboration with the two countries (Angola and Namibia) and in direct partnership with two national NGOs, *Ajuda de Desenvolvimento de Povo para Povo* (ADPP) Angola and *Development Aid from People to People* (DAPP) Namibia, founding members of the Humana People to People Federation (HPP), has submitted a Concept Note (CN) to the Adaptation Fund (AF) for a regional project. The project, titled "***Resilience Building as Climate Change Adaptation in Drought-Struck South-Western African Communities - ADSWAC***".

Overall, the project's objective is to *enhance adaptation capacities and resilience towards climate change impacts and variability in the transboundary region between Angola and Namibia*. This will be achieved through increasing knowledge and awareness on CC and CC Adaptation (CCA), strengthening technical capacities for CCA at local, sub-national, national and regional level, and the implementation of concrete adaptation activities to increase resilience and adaptive capacities of smallholder farmers.

The CNP was approved by the Adaptation-Fund (AF) in May 2020 and a full-scale project document must be developed and submitted to AF in order to access the secured funding worth about 12 US$ million for project implementation.

One of the innovative features of the ADSWAC project is the cross-border approach that transcends political boundaries and focuses on increasing the adaptive capacity and resilience of communities to the impacts and variability of CC in the region between Angola and Namibia. This will be achieved by strengthening the adaptive capacity of vulnerable communities and other stakeholders to the CC, sharing knowledge and information, and implementing concrete adaptation actions within the cross-border region between the two countries.

In this way the planned actions will be unambiguous, avoiding duplication of actions and costs between countries, and thus aimed at building resilience of communities and ecosystems. Thus, regional management, in addition to improving cooperation between Angola and Namibia, creates a regional and national base of knowledge and experts that represent the basis for the sustainability of the project.

In the preparation of the CNP it was defined that during the preparation of the full proposal, this specific detailed cost-effectiveness study of the concrete adaptation activities would be carried out and the results would be considered in the budgeting and quantification of the activities.

General Analysis of the Project

Alignment of Components with the Needs of the Region

The design of the ADSWAC Project is appropriate in the sense that it is designed to respond to the real needs of the population in a Region that has deep vulnerabilities, poverty and deprivation. In the ADSWAC Project Region, in fact, direct and specific interventions in building resilience, especially on the Angolan side, are few and far between the logistical difficulties of implementation and the high management costs. This condition has almost excluded communities on the Angolan side from being covered by projects on local development, climate change adaptation and disaster risk reduction, preferring to operate in the neighbouring provinces of Cunene, Namibe and Huila.

The ADSWAC Project's intervention, therefore, besides being fundamentally part of national and international policies and strategies, also represents a possibility of change for the communities, considering that it is one of the few Projects to be implemented in the Region, which aims to build the resilience of communities to climate change by acting with a univocal and harmonious approach in two different countries.

Therefore, the ADSWAC Project is in line with the interventions, policies, and programmatic and strategic projects of the Region, especially in relation to the defined priority activities and because it aims to build the resilience of communities.

Therefore, the costs of the intervention are focused on building capacity, knowledge and opportunities in highly vulnerable communities, subject to severe deprivation that will certainly have immediate effects as a result of the ADSWAC project activities, as well as a long-term impact on people's own lives, the environment and socio-economic development.

The ADSWAC Project will directly benefit 42,500 people (200,000 indirectly) living in the Region through the establishment of 160 community groups for the management of water points, 160 community groups for the management of productive components, 38 Green Schools, local and regional public institutions in Angola and Namibia, private companies and national and international networks related to climate change adaptation, disaster risk reduction and environmental protection, through the development of 3 Components, all with a different focus but closely interlinked with each other.

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

Considering that one of the most critical aspects in the Region is indeed the gap in environmental knowledge of populations and stakeholders, Component 1 focuses on improving community knowledge at different levels. Communities, which because of poor access to information and knowledge, the condition of poverty and deprivation in which they live, enjoy without control the natural resources existing in the area and do not implement local and community disaster risk reduction measures. At the same time, private companies and local authorities exploit natural resources, wood and minerals, without respecting and protecting biodiversity and the environment. This not only contributes to the progressive impoverishment of flora and fauna, but also encourages the vicious circle of disaster risk and community vulnerability. The climate changes that have affected and are affecting the Region contribute considerably to creating barriers to local development, encouraging communities' dependence on external assistance before and after disasters.

Therefore, Component 1 is designed to fully respond to the need to increase knowledge about climate change and adaptation at different levels, community, regional and transboundary, to raise awareness about disaster risk reduction and related issues to encourage a change of paradigm and behaviour by stimulating positive resilience building interventions and attitudes. This encourages community collaboration, networking, and lasting local partnerships.

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

Another critical aspect of the region is the poor technical knowledge of communities in agricultural production and water management. Agriculture is essentially rain-fed subsistence agriculture, thus totally dependent on rain. Access to quality, drought-resistant and short-cycle seeds is very weak. Farmers still cultivate with rudimentary, traditional systems, using unsuitable agricultural tools, which involve great physical effort and little production. Harvests are indeed at risk of continuous losses due to climate instability. Moreover, the few products harvested are not kept in safe and protected places and are therefore at risk of spoilage and are not suitable for either feeding or sowing.

In the field of livestock farming the situation is also critical and complex. Shepherds are transhumant and follow the traditional routes and are already known as much for the demand for pasture as for water for cattle. Unfortunately, with climate change and the consequent drought that cyclically affects this region, the old water points on the transhumance routes are dry and the herds have to travel many kilometres before they can drink, encountering many other problems (lack of veterinary services, lack of participation in cattle vaccination campaigns, poor access to veterinary medicines, conflicts between shepherds and communities, etc. ...).

The main sources of access to water in this region are basically rivers and water points fed by rain. But water management is carried out in an uncontrolled way: weak rules for differentiation of points for human and animal consumption, no treatment of water for human

consumption, no water systems for human consumption and for farming activities, poor use of rainwater for irrigation or animal consumption, etc.

The combination of all these problems, whether at different levels or at different times, causes poor agricultural production and thus an ability to be prepared for climate-related disasters.

Thus, the costs invested in improving access, management, and availability of water, strengthening agricultural production practices, as well as collaboration between associations and stakeholders, are effective because they respond to the needs of communities and are having a direct bearing on the ability to improve resilience to climate change for the coming years.

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.

Climate change phenomena, which include the reduction of the amount of rainfall and its concentration on stormy events, have led to a reduction in agricultural and livestock production capacity. Traditionally, communities had cereal reserves to overcome the years of drought, but in recent years, due to alternating but frequent disaster periods, these reserves were consumed to the limit with no possibility of regeneration.

With livelihoods weakened and adverse ecosystem conditions, the food security of communities is severely compromised, and some communities have reduced the number of meals a day to one, putting at risk not only the health but also the lives of people themselves.

Therefore, the costs invested in Component 3 of the AWS Project, which aim to strengthen the resilience of the livelihoods of communities and the ecosystem so that they are able to adapt and thus increase their own food production and security in the face of climate change, are in fact effective because the vision responds to the real criticisms of communities in this region.

Comparison with similar interventions in the Region

The relevance of the ADSWAC project intervention and its alignment with local needs is also evident when comparing it with eight other projects implemented in the area or in similar contexts. It should be noted that of the Projects identified for comparison, most are financed by the GEF fund, but that in this Region, no intervention is implemented and focused directly on Cuando Cubango and on building the resilience of communities in this province. Usually, Cuando Cubango province is involved in implementation together with other provinces (ex. GEF Project ID: 5230 and GEF Project ID: 5331) and few communities are covered, close to the border with Cunene or the Provincial Capital Menongue. In fact, most of the Projects identified have Namibia and the Angolan provinces of Huambo, Benguela, Cabinda, Cunene, Huila and Namibe as their areas of operation.

The detailed comparison can be found in the attached Excel CEA document, but in summary form, the following comments can be made.

1. *Components consistent with the analysis of the Region's needs* - The components of the different interventions have as a central point the construction of the resilience of communities and institutions to climate change, thus indicating to be in line with national and international policies and strategies and responding to a recognised need of the Region.
2. *Number and costs per direct and indirect beneficiary realistic and in line with other Projects developed in the Region* - Although considering the differences that exist between the ADSWAC Project and other Projects developed in the region or similar areas, which do not always allow for a specific calculation, and reflecting the differences in budgets and activities, it is estimated that in proportion to the costs and the number of direct and indirect beneficiaries, they are adequate and realistic. This identifies optimal efficiency in the use of funds and costs per beneficiary in relation to the other Projects with which the ADSWAC Project has been compared.
3. *Management costs consistent with the needs and reality of the Region* - Another element which stands out in the comparison of costs between the ADSWAC Project and the other Projects is that in the ADSWAC Project the management costs are slightly higher (10% of the budget) than the average percentage of management costs for the other Projects (5%). Nevertheless, this discrepancy is justified considering the contextual and infrastructural difficulties of the region, where the reality of Cuando Cubango province is indeed consistent. The high management costs have been the first barrier for Cuando Cubango Province and the Region to benefit from other direct interventions. In fact, infrastructure, logistics and management difficulties at the local level, as well as weak local human resources, influence the calculation of management costs for the ADSWAC Project. However, budget allocation and calculation of management costs are indeed consistent and realistic with the context and represent a necessary condition for implementation of the interventions.

However, in Table 4 below, a comparison is made between the ADSWAC Project and similar Projects, mainly with GEF funding, implemented in the same Region, which had/will have as objective the building of socio-economic and climate resilience of communities.

Table 5 - Comparison with other projects

	Summary Table	Total Project	Direct Beneficiary Number	Cost per direct beneficiary
	ADSWAC	11.941.038,00	42.500	280,97
1	GEF Project ID: 5432	25.325.000,00	25.000	1.013,00
2	GEF Project ID: 4720	12.250.000,00	3.000	4.083,33
3	GEF Project ID: 5230	11.520.000,00	72.000	160,00
4	GEF Project ID: 5331	13.164.095,00	6.000	2.194,02
5	GEF Project ID: 5640	65.169.105,00	25.000	2.606,76

6	GEF Project ID 10565	70.742.180,00		
7	GEF Project ID: 5177	28.050.000,00	100.000	280,50
8	GEF Project ID: 5343	40.500.000,00	25.000	1.620,00

The analysis carried out in the table above also shows that in the comparison between the ADSWAC Project and 8 other GEF Projects implemented in Angola and Namibia in the same scope, both costs for direct beneficiaries and costs for indirect beneficiaries, are placed among the lowest investments, although a significant number of people were reached. It is also important to note that most of the projects did not indicate the number of indirect beneficiaries, so the comparison was possible with only one project (PROJECT ID: 5432).

Looking also at the overall budget of the ADSWAC Project it can be also noted that the different macro-lines of expenditure are consistent with those of other similar Projects, considering that about 30% of the budget is invested in human resources of the Project and more than 33% for means and equipment to build the resilience of communities [73].

In addition, it is noted that, consistent with the ADSWAC Project's purpose of building community resilience, training represents a central point of investment, with knowledge management and strengthening being a key component of the ADSWAC Project.

Therefore, it is also evident that, in line with the other projects compared, the ADSWAC Project invests a lot in training, considering an expenditure per beneficiary of between 11 and 18 USD each day and a remuneration of 600 USD each day for the international trainers.

Description of alternative options to the measures proposed in the project and cost comparison to these other possible interventions

As previously indicated, the ADSWAC Project as well as other GEF projects implemented, or being implemented, define and represent appropriate and possible interventions to achieve climate and socio-economic resilience building of communities in the Okavango Region or transboundary between Angola and Namibia. These interventions and proposed actions are very similar in that they are based on environmental education and protection, community capacity building, associations, public-private cooperation/partnership, community-based income activities and institutional strengthening.

The CEA analysis was addressed at the level of Components and Outputs, considering that the nature of the ADSWAC Project is based for most of the activities on trainings and strengthening of climate resilience capacities of communities. In this regard, it was critical to identify alternative interventions, with a different cost, that would achieve in the same region, of such a complex nature, the same Outputs results.
Therefore, it was logical and necessary in the CEA analysis, especially for Components 1 and 2, to consider not properly alternative intervention activities, but an alternative approach and methodology of action. Thus, it was considered that the ADSWAC Project activities in the field would be carried out in the technical aspects by a group of consultants or local experts with specific experience in environmental issues and community empowerment that would carry out all the training and products of information and communication materials at the local level.
The basic cost of a local consultant in the region was calculated based on market research, which produced the average of 500 USD/day, which includes fee, accommodation and per diem. However, other costs remain in charge by the ADSWAC Project. Thus, in this case supposing that the ADSWAC Project (for the Outputs 1 and 2) must contract at least 5 national consultants, for at least 100 days per year for 5 years, to carry out the activities of training and production of training materials, the cost would result in USD 1,250,000, not counting the other logistical and construction expenses (ex. cost of the CCAs).
With reference to most of the activities for the achievement of Outputs 1 and 2, the CEA analysis has shown that there are few activities that are alternative to those of the project and all of them are mainly very expensive and not always sustainable, because they are not concentrated at a local level, involving communities.

Instead, as far as Output 3 is concerned, the alternatives of intervention have been analysed according to the choice of systems to increase the availability of water and irrigation and to increase the livelihood and socioeconomic capacity of the households.
For the systems to increase the availability of water and irrigation, the costs of solar systems, chosen by the ADSWAC Project, were compared with the costs and installation of alternative systems that still provide water to communities. The solar system is found to be more expensive than diesel-powered pump systems and cheaper than wind power system. Also considering durability, operating costs and sustainability, the solar system chosen by the ADSWAC Project is the most cost-effectiveness.
On the other hand, in relation to the interventions on household performance, an analysis comparing the different investment possibilities has been carried out, as described in the specific paragraph (Cost Effectiveness Analysis of Sub-Projects of Agricultural Production and others).

Table 2: Resume of alternative options and cost comparison to alternative interventions for Outputs.

Programme Components	Expected Outcomes	Expected Outputs	Project Strategy	Alternative Options for the Same Outputs	Detailed (If aplicable)
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; 515 330,00 USD	The methodology of intervention proposed by the project is: 5 Annual Capacity building/training reports 1 training manual 90 (assuming same staff trained multiple times, but may be some changes in personnel at least 36 women) 16 trainings conducted (4 dedicated to women) 6 CCA reahabilitated and built	1. Contracting private companies and consultants to conduct meetings and trainings in the communities.	1. Advantages: The training would definitely have more quality to would ensure the creation of high quality products. Disadvantages: High consulting costs would ensure more create training and meetings, but would be more expensive (cost of one national consultant has a cost of 500 USD/day in this region - being 5000 USD x 100 days of work). It is also less sustainable because although it achieves community strengthening, it does not sufficiently strengthen local authorities. 2. Advantages: Savings in construction, rehabilitation and equipping costs. Trials could be done directly in the community field (300USD/day/person+salary) Disadvantages: Substantially increase costs for training logistics, per diem, and transportation of materials. Also does not create a

[73] For more details, see the Excel Document in the spreadsheet called CEA MACRO - GENERAL.

					sense of community and sharing of experiences by depending only on community camps and not CCA staff.
		1.1.2. Climate change awareness and sensitization of communities 493 880,00 USD	The methodology of intervention proposed by the project is: At least 16 campaigns in 70% of targeted communities and schools Students of 38 schools reached with the GSP (19 in A; 19 in N) (50% girls/women)4 brochures, 4 publications (documents) on lessons and best practices from project interventions	1. Contract an external consulting firm to conduct trainings and meetings. 2. Implementation of the work at the level of the municipality level instead of the schools to ensure the participation of the authorities.	1. Advantages: The training would definitely have more quality to would ensure the creation of high quality products. Disadvantages: High consulting costs would ensure more create training and meetings, but would be more expensive (cost of one national consultant has a cost of 500 USD/day in this region - being 5000 USD x 100 days of work). It is also less sustainable because although it achieves community strengthening, it does not sufficiently strengthen local authorities. 2. Advantages: There would be involvement of other communities and greater coverage of the area. Disadvantages: The project would not be decentralized and would have moved away from the communities. Municipal management costs are higher and the availability of the implementation of the activity depends on the willingness of local authorities.
	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; 514 155,00 USD	The methodology of intervention proposed by the project is: At least 80% of targeted institutions at sub-national, national and regional level actively participate in the implementation of the project in climate responsive agriculture and water management	1. Contracting private companies and consultants to conduct meetings and trainings in the communities.	1. Advantages: The training would definitely have more quality to would ensure the creation of high-quality products. Disadvantages: High consulting costs would ensure more create training and meetings, but would be more expensive (cost of one national consultant has a cost of 500 USD/day in this region - being 5000 USD x 100 days of work). It is also less sustainable because although it achieves community strengthening, it does not sufficiently strengthen local authorities.
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.** Capacities of extension services and institutions needs are assessed and strengthened 395 530,00 USD	The methodology proposed by the project is the most effective: 40 extension agents (20 in each country) (10 women) and 34 Farming instructors (8 women) trained. 4 farmer field day for years for PO	1. Contracting private companies and consultants to conduct meetings and trainings in the communities	1. Advantages: The training would definitely have more quality to would ensure the creation of high-quality products. Disadvantages: High consulting costs would ensure more create training and meetings, but would be more expensive (cost of one national consultant has a cost of 500 USD/day in this region - being 5000 USD x 100 days of work). It is also less sustainable because although it achieves community strengthening, it does not sufficiently strengthen local authorities.
		2.1.2. Communities are organized to adopt and mainstream to climate resilience practices (160 POs and 160 WUAs) 683 450,00 USD	The methodology proposed by the project is the most effective: 160 POs established and supported (120 in A; 40 in N) 160 WUAs functional (120 in A; 40 in N)	1.Another solution for organizing Producer Organizations could have been to create a vertical structure organized from the Province. 2. For the management of the water points, instead of forming communities, one could have invested in strengthening the state/local enterprise or in private management that would carry out continuous monitoring of the water points.	1. Advanges: The intervention on producer organizations could have had a more uniform approach and could possibly be replicated in other areas in the future. Disadvantages: High management costs for the centralization of the intervention at different levels. Non-involvement of communities 2. Advantages: Maintenance costs could have been borne by the public sector. Disadvantages: Operating costs, more expensive construction, would have been less sustainable because communities would not have internalized water work
	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; 658 460,00 USD	The methodology proposed by the project is the most effective: 160 model plots/FFS established (120 in A; 40 in N)	1.Another solution for organizing Producer Organizations could have been to create a vertical structure organized from the Province.	1. Advanges: The intervention on producer organizations could have had a more uniform approach and could possibly be replicated in other areas in the future. Disadvantages: High management costs for the centralization of the intervention at different levels. Non-involvement of communities
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 2 639 200,00 USD	The methodology proposed by the project is the most effective: 160 model water capture and retention systems at farmers' fields established (120 in A; 40 in N) 160 solar powered water pumps and small-scale irrigation systems provided (120 in A; 40 in N)	Another solution would have been to use diesel motor pumps. The same would have had a lower initial price, but a much more expensive management price. Moreover, considering the isolation of the communities in question, there would always have been difficulties in managing the supply of fuel. Even from the analysis of possible investments, the one linked to production with solar motor pumps is the most sustainable.	The analysis shows that the solar system is the most expensive, but besides being the most environmentally sustainable, it is also the best in terms of financial sustainability (see the comparative study done). wind systems guarantee the same environmental sustainability, but the basic system price is estimated at around USD 25,000, with a considerably higher investment need. In addition to an initial in-depth study to evaluate the presence of sufficient winds to the systemwind systems guarantee the same environmental sustainability, but the basic system price is estimated at around USD 25,000, with a considerably higher investment need. In addition to an initial in-depth study to evaluate the presence of sufficient winds to the system
		3.1.2. Production is diversified and adapted to climate change impacts 1 356 080,00 USD	The methodology proposed by the project is the most effective: At least 6,000 farmers (3,000 women) practicing/adopted CA practices (4,500 in A; 1,500 in N) 160 POs undertaking cropping practices resilient to climate change (120 in A; 40 in N)	1. Diversification of production is done through a private company that does the training in the selected individual households available.	1. Advanges: The intervention on producer organizations could have had a more uniform approach and could possibly be replicated in other areas in the future. Disadvantages: High management costs for the centralization of the intervention at different levels. Non-involvement of communities"
		3.1.3. Sustainable fisheries are supported 362 600,00 USD	The methodology proposed by the project is the most effective. 500 fisherwomen/men that have participated in trainings on sustainable fishing methods (250 in each country) (100 women)	Another solution would have been that of not using the PO s as a channel for the diversification of production and using a private company that would carry out training in individual families. Again the price would have been much higher. Even from the analysis of possible investments between the development of fishing and aquaculture, fishing is the most profitable (as well as being closer to the traditions of the communities) question, there would always have been difficulties in managing the supply of fuel.	Fishing is the most effective investment, being the cheapest and the one that allows for greater sustainability. Considering the same number of beneficiry (500). For the fishing activity the price is 362 600.00 USD, for the acquiculture production, the same number of beneficiary the price is 1 637 400,00 USD
		3.1.4. Improved livestock production is supported 741 350,00 USD	The methodology proposed by the project is the most effective. At least 70% of farmers accessing veterinary services and 60 % of targeted farmers vaccinate short-cycle livestock	1. Establish pasture-raised farms that provide veterinary services and animal health monitoring.	1. Advantages: You would be able to better control animal health and animal production. Disadvantage: Very high costs for establishment, management and access to services. Communities benefit only indirectly.
	3.2. Resilience of populations' livelihoods is increased and sustained through Income Generating Activities (IGAs)	**3.2.1.** Production of 6,500 targeted farmers (50% women) is diversified (crop diversification, beekeeping, fishing) 1 760 820,00 USD	The methodology proposed by the project is the most effective. At least 40% of targeted farmers (of which 50% women) engaged in nonagricultural sources of income A least 40% of farmers (50% women) are accessing micro-credits for farmers to adopt new IGAs	In this case, the project leaves the identification of possible income-generating activities open to basic study. Also in this case it seems to us the best decision, in order to be able to carry out activities in line with the needs. a comparison study of the possible activities was carried out.	The analysis of possible investment projects was carried out in a dedicated section. All the projects showed good sustainability, with detachment for projects related to horticultural production with drop by drop, fishing, beekeeping etc …

Table 3: Resume of alternative options and cost comparison for Hydraulic System (under Outputs 3.1.1)

	Type of system (including logistic costs)	N° Beneficiary	Unitary Cost USD	Total Cost USD	Internal rate of return (IRR) 10 years	Internal rate of return (IRR) 5 years	Analysis of the comparison of alternatives
Project ADSWAC	Solar system + Electro pump + drip irrigation system	160	16 495,00	2 639 200,00	36%	24%	The analysis shows that the solar system is the most expensive, but besides being the most environmentally sustainable, it is also the best in terms of financial sustainability (see the comparative study done). wind systems guarantee the same environmental sustainability, but the basic system price is estimated at around USD 25,000, with a considerably higher
1. Alternative	Motor pump + furrow irrigation	160	10 495,00	1 679 200,00	31%	18%	

2. Alternative	Motor pump + drip irrigation system+ drip irrigation system	160	12 495,00	1 999 200,00	31%	18%	investment need. In addition to an initial in-depth study to evaluate the presence of sufficient winds to the wind systems guarantee the same environmental sustainability, but the basic system price is estimated at around USD 25,000, with a considerably higher investment need. In addition to an initial in-depth study to evaluate the presence of sufficient winds to the system
3. Alternative	Eolic pump + drip irrigation system	160	34 495,00	5 519 200,00			

Table 4: Resume of alternative options and cost comparison for Fishery (under Outputs 3.1.3)

	Type of system (including logistic costs)	N° Beneficiary	Unitary Cost USD	Total Cost USD	Internal rate of return (IRR) 10 years	Internal rate of return (IRR) 5 years	Analysis of the comparison of alternatives
Project ADSWAC	Fishing	500,00	725,20	362 600,00	62%	54%	Fishing is the most effective investment, being the cheapest and the one that allows for greater sustainability. Considering the same number of beneficiary (500). For the fishing activity the price is 362 600.00 USD, for the aquaculture production, the same number of beneficiaries the price is 1 637 400,00 USD
1. Alternative	Aquaculture	500,00	4 000,00	1 637 400,00	49%	40%	

Analysis 1 - Long-term comparison of the effectiveness of the ADSWAC project with other projects and without any intervention

A detailed description of the analysis and comparison of the ADSWAC Project with two other projects, funded by GEF and carried out in Angola and Namibia, can be found in the attached Excel CEA document. The two Projects were selected among the other projects with which it is compared the "CEA Geral" because they have similar activities to the ADSWAC Project, all of which aim to increase the resilience of communities by increasing the supply of water and creating Agricultural Field Schools (ECAs) with rural extension methodology and the dissemination of good production practices adapted to the climate.

At the same time, to understand the effectiveness and importance of the intervention, the ADSWAC Project is compared to an extreme situation where no intervention is made in the area, to try to analyse the real benefits of the action.

The comparison is made considering a time horizon of 10 years, considering that the duration of the Project is 5 years, but only after another 5 years can the impact of the Project and the changes caused be better understood. This comparison measures the cost-effectiveness and benefits in the long term by looking at the value of the components of concrete resilience actions on the direct beneficiaries of the projects.

Table 7 - Comparison of direct actions for community resilience with 2 GEF projects (Angola and Namibia) and one scenario without projects

		Expenditure for productive activities (USD)	**Number of beneficiaries**	**Average expenditure per beneficiary (over 5 years of project) USD**	**Year 1 USD**	**Year 2USD**	**Year 3USD**	**Year 4USD**	**Year 5USD**	**Year 6USD**	**Year 7USD**	**Year 8USD**	**Year 9USD**	**Year 10USD**	**Total USD**
1	**ADSWAC**	8.597.490	160 FFS - 6500 families - 42.500 people	202,29	1.719.498	1.719.498	1.719.498	1.719.498	1.719.498						8.597.490
2	**GEF 5432** Integrating climate resilience into agricultural and agropastoral production systems through soil fertility management in key productive and vulnerable areas using the Farmers Field School approach	16.350.000	500 FFS - 25.000 families - 150,000 people)	109,00											
3	**GEF 5343** Scaling up community resilience to climate variability and climate change in Northern Namibia, with a special focus on women and children.	38.000.000	4000 families estimated - 00 people)	1.407											

4	**Not Project**	36.125.000	0 families - 500 people	850	7.225.000	7.225.000	7.225.000	7.225.000	7.225.000	7.225.000	7.225.000	7.225.000	7.225.000	7.225.000	72.250.000
				Difference with the ADSWAC project	5.505.502	5.505.502	5.505.502	5.505.502	5.505.502	7.225.000	7.225.000	7.225.000	7.225.000	7.225.000	63.652.510

As is evident in the column "Average expenditure per beneficiary (over 5 years of project) USD", the ADSWAC project investment per beneficiary in each year (USD 202.29) is a little higher than that made in the GEF Angola project (USD 109), but much lower than that made in the GEF Namibia project (USD 1,407.41) and much lower than the investment the state had to make to guarantee humanitarian aid (USD 850).

At the end of the Project, to the direct beneficiaries (42,500) are also added 200,000 indirect beneficiaries who will benefit from the actions implemented by the Project, ahead of an investment of 35.45 USD per person. Thus, the effectiveness of the invested costs will have a wider impact on the improvement of the life of the communities in the Region that can better deal with climate change.

Looking instead at the last line, where it is assumed that in front of no intervention to build resilience the population will have to benefit from assistance and humanitarian aid. In the short term, this type of aid will provide immediate benefits to the population because it meets basic needs (food, water, hygiene kits, etc.), but in the long term, the sustainability of these interventions will be very costly because the needs will increase, as well as the number of people entering the condition of need. Therefore, spending on direct aid is gradually increasing because communities continue to be affected year after year by disasters, without being able to cope with them, adapt to them or mitigate the risks arising from them. Soon it can be said that without targeted interventions to act on radical and profound changes in the factors that create communities' vulnerability to build resilience and sustainability, only if they are spending money without building anything solid.

However, if the number of beneficiaries (42,500) does not change over a 10-year period, that the Government or any other institution decides not to intervene in the Region, the ADSWAC Project would build community resilience by providing only humanitarian aid interventions to people, the amount invested in the ADSWAC Project would result in significantly less aid needed to provide better goods and livelihoods to ADSWAC Project beneficiaries.

The Angolan and Namibian governments are also assured that investing in the sustainability of the action with an economic investment, as well as being fair, ethical, and moral, will make it possible to build resilience and, over the years, reduce the costs invested in relation to the effectiveness of the intervention. Thus, from a 10-year perspective, the ADSWAC project will save over USD 50,000,000.

Specific analysis of project activities

In the cost-effectiveness analysis, it was indeed relevant to carry out a more in-depth analysis of the key activities of the different components of the ADSWAC Project, to understand how costs and their intervention in changing context for building resilience were identified and planned.

Key activities and cost-effectiveness of Component 1

The main activity of Component 1 is the construction and rehabilitation of Climate Change Adaptation Centres (CCACs) in the Region. The ADSWAC Project will therefore establish a total of 6 CCACs, of which 4 will be in Angola and 2 in Namibia. There will be 1 main CCAC, in Calai (Angola) built from scratch and costing USD 125,000, which will oversee coordination and monitoring of the other centres and ensure cross-border collaboration. The other CCACs will work on rehabilitated infrastructure at a cost per infrastructure of USD 32.622. This is a novelty in the context of Angola and Namibia. There are currently no such resource centres, particularly in the field of the environment at municipal level. The staff working in each CCAC is represented by 3 people, one Leader and two Community Agents, who will represent the reference for communities and local governments, mainly for training, pilot experiences, production of material, guidance and relations with NGOs, local authorities, local governments and communities and all activities aimed at adaptation to climate change. CCACs will benefit from around 75,000 people at the end of the ADSWAC project.

If the total cost of Component 1 is divided for the number of beneficiaries, it results in an average expenditure per beneficiary of USD 20 showing a high efficiency of the component in relation to the specific cost per beneficiary.

This activity, besides being an innovation in the context of the region, is in line with local needs and is the centre for building the local resilience of communities and local governments through constant support. Indeed, whether communities or local governments, they all need a focal point to help build local capacity for climate change adaptation measures, providing technical and knowledge support and a field of experience and implementation of pilot projects that can serve to improve local practices, introduce new adaptation methodologies and experiment with ways of building resilience in communities.

The high construction costs of the root structure are justified by the condition in which the Region finds itself, where access to construction materials, water and energy represent a great challenge. The cost of the material is compensated by the low cost of local labour. Considering that the personnel involved in the construction and rehabilitation of the infrastructure will be hired locally, the investment in construction also represents a form of income creation for local households directly and indirectly involved in construction.

In terms of investment versus the effect of the project deriving from this activity, the communities involved will certainly benefit immediately, considering that part of a very weak knowledge base and capacity building given by the technical staff of CCACs will be positive, for the improvement of livelihood adaptation to climate change, the better management of water. CCAC will have a long-term impact on the environment, food security, nutrition, and the quality of life of communities.

Nevertheless, one of the main aspects to be clarified and which may represent a risk on the effectiveness of the investments, is the sustainability of these centres after the end of the Project. They are expected to be delivered and managed by the Local Government, which should ensure funds, human resources, and materials to operate the CCACs in a sustainable manner.

The costs invested in these activities are effective because they build sustainability and allow the authorities at the local level to continue the results of the Project, as well as to accompany the communities, managing the CCACs autonomously after 5 years of Project implementation.

The CACCs therefore represent the nerve centres of knowledge and other activities related to training, learning, awareness-raising campaigns, as well as support in the definition of the 140 Community Adaptation Action Plans (CAAPs), collection and dissemination of good practices, lessons learned and results of the Project.

In addition to the CCACs, another relevant activity in Component 1 is the establishment of an efficient coordination system. Therefore, as a cross-border project, it is very relevant and important to have and build the capacity of a coordination mechanism between the two countries, Angola and Namibia, to implement combined disaster response and adaptation systems. This considering that one of the elements of the ADSWAC Project is participatory decision making, therefore a process to implement interventions that involves all (communities and authorities) and is agreed upon by all. Therefore, investment in the creation of fora in which participatory discussion and joint decision-making between different national and international actors to respond to disasters and climate adaptation can be consolidated is very important and in line with the purpose of the ADSWAC Project.

Investments in this capacity building activity are very important to consolidate the establishment of coordination mechanisms and ensure a smooth and synergistic response to disasters. The costs invested in this activity are effective because they will ensure that national leadership is consolidated through a cross-border coordination mechanism, avoiding duplication or non-harmonious initiatives with the ADSWAC project.

Coordination mechanisms will also be relevant to encourage cost-efficient investment in other activities in this component such as public-private partnerships, CBO networks and collaborations to reduce conflict between communities and enhance environmental respect and protection.

Another important element of Component 1 is the identification and support of a Climate Change and Risk Early Warning System, which is based on community experiences and methodologies (local knowledge and traditions) and can be integrated into the National and Regional Early Warning System.

Key activities and cost-effectiveness of components 2 and 3

The activities of Component 2 and Component 3 are closely interlinked, those related to the water sector, capacity building and management.

In fact, although Component 2 activities may focus more on training and capacity building interventions for ECAs and Water and Sanitation Groups (WASH) (benefiting 6,500 families and 160 Associations) and the creation and consolidation of partnerships and community collaborations, irrigation and water management and infrastructure activities at community level represent the link with Component 3.

Component 3 activities are therefore concentrated on three types of intervention:

- Hydraulic infrastructure constructions;
- Improving agricultural production systems to strengthen livelihoods for the environment;
- Development of agricultural sub-projects by the communities most able to encourage food security.

In relation to the training activities both for Components 2 and 3 and across the whole ADSWAC project, it should be noted that the figures established are in line with the normal costs applied for training and capacity building carried out at different levels[74].

The cost effectiveness of training activities in these Components of the ADSWAC Project is represented by the increase and improvement of agricultural production and animal husbandry in the communities, the reduction of food insecurity, the better management of drinking water and use of the agricultural sector, as well as environmental protection measures and adaptation to climate change by communities, associations, and stakeholders. The costs invested in capacity building are highly effective in building long-term resilience in the region.

Cost Effectiveness Analysis of Hydraulic Infrastructures

One of the main aspects of building resilience is investment in water infrastructure, taking into account that the livelihoods of the population depend on the climate. In fact, in a cross-border region where access to water is mostly allowed only through rivers and wells, agriculture is practiced preferentially in dry land, without introducing crop adaptation practices and mitigating the effects of drought, and livestock needs transhumance to have pasture and water for animals, investment in hydraulic infrastructure has direct positive effects on the lives of communities. Infrastructure costs will be effective because they will provide better access to the quantity and quality of water for human consumption, animals, and agriculture, thereby increasing both animal health and agricultural production, integrating the introduction of improved cultivation techniques adapted to the climate. This will strengthen livelihoods and increase food and nutritional security.

[74] For more details, see the Excel Document in the spreadsheet called CEA MACRO - GENERAL

The investment in hydraulic infrastructure in the Region represents the *sine qua non* measure to build resilience to climate change, so besides being fundamental in the ADSWAC Project it is appropriate and coherent for the context of climate risk in the Region and the results to be achieved.

In light of this, a more detailed study of the area is also needed to verify which hydraulic infrastructures are in place to make drinking water available to the communities most applicable in the different locations, each one requiring different environmental conditions.

The following table briefly analyses the different water infrastructure for access to water in the communities implemented in southern Angola and in the region by other interventions, defining and arguing the options in relation to investment costs, considering the benefits and real effectiveness. All the options considered are important to increase the resilience of the communities, but the analysis of the benefits of the main hydraulic works used in the area can help to make the most appropriate choice.

In general, it can be sustained that when applicable, hand drills are the most cost-effective option, but at the same time they are feasible in limited areas alongside rivers. In many cases, due to the experience many projects have carried out, it would be efficient to drill family boreholes, so that each family would be responsible for its own boreholes, thus ensuring a longer duration.

Also, the pavement cisterns, which are being introduced in the Angolan context in recent years, are a viable option for areas where it is not possible to obtain water from rivers and collect rainwater. Here too, looking at the experience in Brazil, they work best when management is familiar rather than community based.

Table 8 - Analysis of Hydraulic Works

	Type of hydraulic system	Description	Environmental Needs	Technical necessity	Average cost (estimated)* (depending on the size of the work, location...)	Average water capacity, Water quality, Traditional use	Useful life
1	**Dam with Weirs**	They are usually medium and large works requiring state intervention	Throat along the riverbed				
2	**Underground Dams**	They are very diffuse in northern Namibia and some area of southern Angola. They allow them to be carried out at low cost and a lot of local labour provided by the community	Throat along the riverbed and a deposit area where an underground dam can be dug and applied.	It needs clay and cement (in % to be estimated depending on the type of work) It needs labour to carry out the work at Community level.	15,000 USD	The water stored along the intermittent river can be captured through a manual borehole. (together with a solar power system) and large quantities of water can be stored. It estimates that in a medium sized dam it can store 400 m3 of available water and can supply on average more than 1m3 of water per day. it has its own FAO manuals (and others) for community construction of underground dams	In Angola there are underground dams that are over 50 years old. They do not normally require maintenance by the community
3	**Direct chimpacas**	Anthropic water reservoir, very diffuse	Water reservoir along a water drain ditch.	These are usually works made for earth moving machines. Few manpower from the community	25,000 USD	Studies show that the Chimpacas need ordinary community maintenance and extraordinary maintenance, calculated over 25 years. The decantation ditch at the entrance of Chimpaca has to be done to allow the community to connect it, there are FAO's own manuals (and others) for the Community Management of Chimpacas. An average chimpaca can accumulate up to 5,000 m3 of water. It can be attached to a manual borehole or to a cacimba to obtain clean water.	Studies show that the Chimpacas need ordinary community maintenance and extraordinary maintenance, calculated over 25 years. The decantation ditch at the entrance of Chimpaca has to be carried out to allow the community to carry out the ordinary maintenance of Chimpaca, cleaning the waste deposited in the decantation ditch.

4	**Lateral Chimpacas**	Anthropic water reservoir, very diffuse	Water reservoir next to a water drainage ditch.	These are usually works made for earth moving machines. Little labour from the community.	25,000 USD	Studies show that the Chimpacas need ordinary community maintenance and extraordinary maintenance, calculated over 25 years. The decantation ditch at the entrance of Chimpaca has to be carried out in order to allow the community to connect it, it has its own FAO manuals (and others) for the Community Management of Chimpacas. An average Chimpaca can accumulate up to 5,000 m3 of water. It can be attached to a manual borehole or to a cacimba to obtain clean water.	Studies show that the Chimpacas need ordinary community maintenance and extraordinary maintenance, calculated over 25 years
5	**Cacimbas**	1–10-meter diameter holes with a depth of 20-80 meters	Groundwater and a manually pierceable stratum	These are usually works carried out by the communities themselves. It is necessary to value the experience of the elders who have already carried out these cacimbas. It needs manpower to carry out the work at community level	10.000 USD	Once protected by lateral desanding, the cacimbas have a useful life of more than 100 years. This also depends on the water table, if they are lowering, it will be necessary to lower the cacimba, if this disappears, the cacimba stops giving water. Being groundwater, the water capacity depends on the recharge and thus on the water table.	Once protected by lateral desanding, the cacimbas have a useful life of more than 100 years. This also depends on the water table, if they are lowering, it will be necessary to lower the trunk, if this disappears, the pipe stops giving water
6	**Manual Holes**	Holes of 20-50 cm of diameters with depth of 8-15 meters	Groundwater along riverbeds. You can also integrate a groundwater dam.	Hand drill. Little labour from the community	2,000 USD	Manual boreholes, being next to rivers have to be protected by floods. In other words, the borehole must be covered so as not to desiccate it with the flood. It has holes that are more than 25 years old. As with pipes, if the water table drops, the borehole will be inoperative. Also, in this case, the amount of water you can supply depends on the recharging capacity.	Manual boreholes, being next to rivers have to be protected by floods. In other words, the borehole must be covered so as not to desiccate it with the flood. It has holes that are more than 25 years old. As with pipes, if the water table drops, the borehole will be inoperative.
7	**Hydromin Borehole**	Holes of 20-50 cm of diameters with depth of 60-200 meters	High depth groundwater. The holes made with the hydromine serve to capture the deep water, but areas that are not close to the rivers.	Works carried out with a hydromine (perforator). Very little labour from the communities.	40,000 USD	You need to protect the hole, because just like for hand drills if it becomes silted, it cannot be used. Being groundwater, the water capacity depends on the recharge and thus on the water table.	You need to protect the hole, because just like for hand drills if it gets silted up, they don't allow to be used
8	**Cistern pavement**	Rainwater catchment area and rainwater cistern for rainwater harvesting	minimum rainfall of 600 mm/year	Cement and technical team for the construction of the cistern. Community/family labour to carry out the work	10.000 USD	Quite new in Angola. The experience of Ceara (North-east Brazil) indicates more than 25 years without major maintenance, only minor maintenance in the rain catchment area and no maintenance in the cistern. As groundwater, water capacity depends on recharging and thus on the water table. Capacity 20 m3 (Storage)	Quite new in Angola. The experience of the ceara speaks of more than 25 years with no major maintenance, only small maintenance in the area of rain captures and no maintenance in the cistern

Cost Effectiveness Analysis of Sub-Projects of Agricultural Production and others

Within the specific framework of Component 3, another key activity is represented by the Sub-Projects for Agriculture and Local Development (which include micro-businesses and more sustainable family income generation) which will indeed improve and increase agricultural production and animal husbandry and thus strengthen the livelihoods of communities. This intervention is also correlated with the construction of hydraulic infrastructures.

Nevertheless, the definition of the sub-project also requires a specific study and specific environmental and social conditions to be implemented to be consistent with the needs of the communities as well as with the conditions of each area to allow for greater success.

In the first table below an analysis of the costs and effectiveness of different sub-project proposals with various options for intervention was made. In the second table, the Internal Rate of Return (IRR) that they will have over time was calculated. In this case, the IRR was calculated over a period of 10 and 5 years. Through this analysis, the main production development models typical of the area and/or proposed for the ADSWAC Project were compared.

The projects were calculated with the same annual depreciation (10% year) for ease of calculation. All projects identified the IRR with very positive figures, which identifies a strong economic and financial strength.

The IRR was calculated net of maintenance and depreciation costs, and after 10 years the communities will have the necessary funds to purchase new equipment. The annual depreciation rate applied in the analysis was 10%.

Sub-projects related to aquaculture, beekeeping and fisheries have identified a higher IRR relative to others.

For fruit farming it is clear that the choice of using solar systems instead of motor pumps results in a lower management cost with respect to a higher quality of final production, in addition to the environmental benefits linked to pollution. The latter were not calculated in an economical way, being sufficient the economic convenience and the confrontation of the TIR of the 3 options.

For animal husbandry it is evident that family poultry farming has a better result than others.

Table 9 - Analysis Sub-projects (01)

			Area/quantity	Initial investment	annual profit	annual expenditure (including running and maintenance costs)	annual gain (stabilised at 3 years)	Abortion 10% (10 years)	actual gain
1	Horticulture and fruit growing	Motor pump + furrow irrigation	1 ha	2 000,00	2 000,00	1 000,00	1 000,00	200,00	**800,00**
2	Horticulture and fruit growing	Motor pump + drop by drop	1 ha	4 000,00	5 000,00	3 000,00	2 000,00	400,00	**1 600,00**
3	Horticulture and fruit growing	Solar system + Electro pump + drop by drop	1 ha	8 000,00	6 000,00	1 500,00	4 500,00	800,00	**3 700,00**
4	Cereals and other non-irrigated crops	Varieties adapted to short cycle + hydraulic systems of the plough	1 ha (Seeds)	1 000,00	600,00	200,00	400,00	100,00	**300,00**
5	Fishing		1 KIT	750,00	1 000,00	300,00	700,00	75,00	**625,00**
6	Aquaculture		1 tank (with fry and feed for the 1st production)	4 000,00	5 000,00	2 000,00	3 000,00	400,00	**2 600,00**
7	Beekeeping and honey production		1 KIT (2 protective suits 1 press, 1 filter 1 decanter)	1 500,00	3 000,00	1 500,00	1 500,00	150,00	**1 350,00**
8	goat farming		1 KIT (1 male - 4 females + local pen)	800,00	600,00	150,00	450,00	80,00	**370,00**
9	cattle breeding		1 KIT (1 male - 3 females + local sheepfold)	1 500,00	1 000,00	300,00	700,00	150,00	**550,00**
10	Pig farming		1 KIT (1 Male - 4 Females + local sheepfold)	800,00	600,00	150,00	450,00	80,00	**370,00**
11	Poultry farming		1 KIT (1 Rooster - 10 chickens + local sheepfold)	500,00	400,00	100,00	300,00	50,00	**250,00**

Table 10 - Analysis Sub-projects (02)

			0	1	2	3	4	5	6	7	8	9	10	IRR 10 year	IRR 5 years
1	Horticulture and fruit growing	Motor pump + furrow irrigation	- 2 000,00	400,00	600,00	800,00	800,00	800,00	800,00	800,00	800,00	800,00	800,00	**31%**	**18%**
2	Horticulture and fruit growing	Motor pump + drop by drop	- 4 000,00	800,00	1 200,00	1 600,00	1 600,0	1 600,0	1 600,0	1 600,00	1 600,00	1 600,00	1 600,0	**31%**	**18%**
3	Horticulture and fruit growing	Solar system + Electro pump + drop by drop	- 8 000,00	1 850,00	2 775,00	3 700,00	3 700,0	3 700,0	3 700,0	3 700,00	3 700,00	3 700,00	3 700,0	**36%**	**24%**
4	Cereals and other non-irrigated crops	Varieties adapted to short cycle + hydraulic systems of the plough	- 1 000,00	150,00	225,00	300,00	300,00	300,00	300,00	300,00	300,00	300,00	300,00	**22%**	**8%**
5	Fishing		- 750,00	312,50	468,75	625,00	625,00	625,00	625,00	625,00	625,00	625,00	625,00	**62%**	**54%**
6	Aquaculture		- 4000,00	1 300,00	1 950,00	2 600,00	2 600,0	2 600,0	2 600,0	2 600,00	2 600,00	2 600,00	2 600,0	**49%**	**40%**

7	Beekeeping and honey production		- 1 500,00	675,00	1 012,50	1 350,00	1 350,0	1 350,0	1 350,0	1 350,0	1 350,0	1 350,0	1 350,0	**66%**	**59%**
8	Goat farming		- 800,00	185,00	277,50	370,00	370,00	370,00	370,00	370,00	370,00	370,00	370,00	**36%**	**24%**
9	Cattle breeding		- 1 500,00	275,00	412,50	550,00	550,00	550,00	550,00	550,00	550,00	550,00	550,00	**28%**	**15%**
10	Pig farming		- 800,00	185,00	277,50	370,00	370,00	370,00	370,00	370,00	370,00	370,00	370,00	**36%**	**24%**
11	Poultry farming		- 500,00	125,00	187,50	250,00	250,00	250,00	250,00	250,00	250,00	250,00	250,00	**39%**	**28%**

Financial analysis of the Sub-Projects of Agricultural Production and others

The financial investments for the Sub-Projects under the ADSWAC project represent an important aspect both from the point of view of expenditure and in order to ensure real long-term local development. Considering, therefore, their relevance, based on the proposals of the Sub-Projects typology presented above, a financial investment plan calculation was also made in order to support future intervention decisions.

It is therefore assumed that the Sub-projects are financed from a financial entity (e.g. banks) and that the following "typical" conditions apply:

- Funding: 5 years
- Interest rate: 7,5%
- Scarcity: 1 Year

Considering this premise, for each type of sub-project, the sustainability and (monthly) debt repayment plan required by local financial entities can be calculated.

In the following table, to present the financing estimate between investment and sustainability, it has been used as an example the proposal n°3 of the Sub-projects presented above, concerning the installation of a water system with solar panels, electric pump, and drip irrigation system [75].

Table 11 - Economic and financial analysis of the sub-projects

		5		7,500%			
Year	**Capital in Debt**	**Depreciation**	**Residue**	**Interest**	**Debt Office**	**Winnings**	**Cash Flow**
-	8 000	(Needs)	8 000	600	600	1 850,00	1 250,00
1	8 000	1 600	6 400	545	2 145	2 775,00	1 880,00
2	6 400	1 600	4 800	425	2 025	3 700,00	3 555,00
3	4 800	1 600	3 200	305	1 905	3 700,00	5 350,00
4	3 200	1 600	1 600	185	1 785	3 700,00	7 265,00
5	1 600	1 600	0	65	1 665	3 700,00	9 300,00
TOTAL		**8 000**		**2 125**	**10 125**		**13 000,00**

It was thus estimated that with an initial investment in the Solar System, Electro-pump and drop-by-drop system of USD 8,000, with applied interest of 7.5% and the 1st year of grace, IRR of 24%, the Cash Flow would always be positive and after the five-year period the gains would be stabilized at USD 3,700.

This implies that, once a local study of socio-economic and market needs is undertaken to have a realistic investment plan in place to implement interventions consistent with the context of climate change adaptation and disaster risk reduction, as financial projections ensure sustainability and long-term gains.

All Sub-Projects therefore identified positive Cash Flow and economic and financial sustainability.

Conclusions

The ADSWAC project is well structured and meets the needs of the environment and communities.

Southern Angola and Northern Namibia, due to the arid and semi-arid climate, have always been populated by livestock farming communities and "waste-picker" communities. The traditional communities in those areas are the *Hereros* (ex. Mucubal, Muhimba, Mukwanhama) and the *Mucuisse* (*Bushman*). Many of these communities are still cattle ranchers.

The practice of raising cattle has always been carried out through transhumance. This practice in balance with the environment in recent decades has seen a progressive loss of sustainability. The reduction of the rainfall regime and the increase of occasional extreme

[75] Each financial analysis of the investment in the Sub-project is detailed in the attached Excel sheet called "Investment Analysis".

phenomena with irregular rains and large quantities are installing erosive phenomena. In addition, the years of drought that have followed do not allow vegetation, soil, and fertility to regenerate. This causes reduced pasture production.

At the same time, along the transhumance routes, the traditional water points are known from the decades, these allowed to follow the routes, encouraging a regular raising of the livestock and the trade of the same, they were damaged (probes) or silted up (e.g. chimpacas, dams), which significantly reduced the amount of water available during the dry period.

These are some of the factors that have caused an extension of the transhumance routes, there is also an increase in erosion with soil degradation phenomena along the transhumance routes and around the water points still active (a small number that causes a strong concentration of herds of animals).

Another factor that is negatively affecting the practice of transhumance is the uncontrolled production of coal that causes greater fragility of the environment in front of a lower quantity of water and less coverage of vegetation against erosion phenomena. This factor not only affects the direct loss of food, as the cows feed on *mutuate* leaves (the charcoal tree) during dry periods, but also affects the local climate and endangers biodiversity by encouraging desertification.

Transhumance in these communities is not normally done by everyone. Usually, part of the community and family (e.g. women, new-born children, old people) and part of the cattle (newborn animals with their mothers, old and weak animals) stay in the villages (locally called the *Kimbo*). The communities provide grazing and water to the remaining animals by calculating enough that exists around the *Kimbo*.

At the end of the rainy season, when the pasture starts to become scarce, the animals start to look for other water points, which takes them further and further away and people start to see the animals themselves only every two or three days, usually finding them at the water point.

This practice goes to the extreme with the climatic stress, that is, when a group from the community leaves to return only in the next rainy season. In some cases, when transhumance is done to a precise point where the animals stay (e.g. in the Cuvelai basin in Cunene), the shepherds return home on rotation almost every month or, as in other cases, transhumance is done completely for the same group. Usually, the animals spend two days eating and one-day drinking and often the water points are far from the grazing area.

Community vulnerability and exposure to disaster risks and climate change is putting traditional practices and community knowledge into crisis and causing a breakdown in habits, as well as degrading the environment without a recovery process.

Considering this situation, cost-effectiveness analysis has shown that investments in planned interventions will be effective in building community resilience to climate change, creating local conditions to strengthen livelihoods and access to water and livestock production, improve knowledge and awareness of environmental protection and preservation, and improve cross-border collaboration of public, private and network institutions.

The ADSWAC project is also a novelty in the cross-border region for some planned interventions such as CACCs, networking, solar panelled water points, climate adapted agriculture, ECAs, GAS, etc. Considering that populations live cyclically and periodically affected by disasters, the investments made in the area by the ADSWAC Project interventions represent a concrete possibility to change the vulnerability condition in which they find themselves, improving livelihoods, income, relationship, and interaction with the environment and thus the future itself.

Recommendations

In conclusion of the cost-effectiveness analysis, several recommendations for the ADSWAC Project are presented that could further improve its effectiveness.

- *Sustainability of CCACs:* One of the aspects that during the 5 years of the ADSWAC Project should have been further clarified and perhaps also within the proposal is the sustainability of the CCS, which institution will be responsible for management after the end of the Project, as well as ensuring the continuation of activities and responsibilities in terms of costs and human and material resources. If the responsibility was given to the Municipal Administrations, a consolidated and agreed management system should be established and supported, involving the Ministries of Environment, Agriculture and Territorial Administration and all those relevant in both countries for the scope of the Project. Considerable technical and financial support should indeed be ensured to ensure the functioning of the CACCs after the end of the ADSWAC Project, bearing in mind that the Administrations currently have a large gap at the local level in terms of management of funds and human capital.

- *Assessing the creation of a single water management structure*: The ADSWAC Project Proposal highlights the formation of 160 agricultural associations and 160 water management committees (WMS). This division can also be very complex, being more costly in terms of human resources and concentration of knowledge. The creation of a single structure for water management to better manage the available resources may be assessed initially.

- *Maintenance of Water Points with/without Solar Panels:* Another relevant aspect to be considered is the maintenance of the water points made, especially those with solar panels. One of the suggestions may be the preventive and periodic maintenance, when still the wells and water points are working, by the Municipal Administration or by a Public-Private Partnership developed by a company. In this case the Municipal Administration may take charge of covering the costs initially and then gradually decrease to 60%, with the remaining 40% being covered by the population through minimum contributions that allow quarterly maintenance.

- *Specific study to define the most appropriate gender approach and concrete interventions to strengthen gender balance*: The ADSWAC Project's area of work has a very defined and consolidated division between the roles of men and women. Women are in charge of the management of household activities, children, water collection together with children, family garden and small animals, small businesses and activities related to family management. Men are responsible for livestock, transhumance, construction, transport of materials and all activities which require a great deal of effort, such as digging wells. Women usually have a higher level of illiteracy than men (especially in rural areas) and are subject to serious violations of their rights. Apart from early marriage and weak decision-making power within the family and community, women are not entitled to inheritance and to own land or large animals. All these issues must be considered when defining a gender intervention strategy, also considering that the direct beneficiaries 50% are women. As capacities are strengthened, local taboos must also be broken to have an effective and lasting benefit from ADSWAC Project actions. It is advisable to conduct a Gender Study, related to the KAP Study, that helps to jointly define with the community specific strategic actions to ensure gender balance and sustainability of interventions. The ADSWAC Project, by investing in activities that are directly managed by women (garden, poultry, food processing, etc.) has the possibility to increase the weight that women have within the communities, ensuring a change of context.

- *Specific attention to ethnic minority groups in the Region*: The San (or *Khoisan*) and other ethnic minority groups living in the ADSWAC target Region face numerous challenges and violations of their own human rights. Particular attention should therefore be given to this group and others as ethnic minorities to ensure that they are clearly covered and integrated into ADSWAC Project interventions, ensuring that the benefits gained are consolidated.

2. References

- 2018 USAID CCIS Project Climate Risk Profile Angola
- APFS Agro Pastoral Field School
- Cuvelai Basin
- FAO APFS MANUAL
- Final ARP Project Design Report
- FMD - Angola-Namibia
- GEF Project: ID5432 PIF.
- GEF Project: ID10565 PIF
- GEF Project: ID4720PIF
- GEF Project: ID5443 PIF
- GEF Project: ID5177 PIF
- GEF Project: ID5640 PIF
- GEF Project: ID5230 PIF
- GEF Project: ID5331 PIF
- https://www.rvccdata.org
- https://www.weadapt.org
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- FFS Livestock
- Community Water Management Model - Agua MoGe Ca
- Namibia - scraping_two_chap9
- OSRO RAF 404 USA - Angola and Namibia - Final Report
- OSRO SFS 601 USA - Angola and Namibia - Final Report
- PDNA - Post Disaster Need Assessment
- SW - South West Angola a portrait of land and life
- Traditional knowledge on ethno-veterinary and fodder plants in South Angola

3. Wild medicinal and food plants used by communities living in Mopane woodlands of southern Angola

CEA Excel file

5. Summary of the Stakeholder Consultations for ADSWAC Project (Angola and Namibia)

1) Introduction

Angola and Namibia are experiencing severe food and water insecurity due to high drought occurrence. Increasing temperatures and rainfall variability have led to increasing occurrences of floods and droughts, resulting in negative effects on populations and ecosystems. Climate projections indicate mean annual temperatures are projected to increase between 1.2°C and 3.2°C by 2060 (RCP8.5 scenario). Although rainfall models vary, there is broad agreement that precipitation will decrease. The strongest decrease in the respective countries is expected in the border area between Southern Angola and Northern Namibia. Such projected temperature and rainfall anomalies aggravate the Climate Change (CC) situation for human populations and ecosystems in the border area, negatively impacting water resources, agriculture, biodiversity, health, disaster resilience, tourism and infrastructure on which the increasing human population depends for their livelihoods.

In view of these observations and projections, and with the aim to strengthen the resilience of the border area's populations and ecosystems, the Sahara and Sahel Observatory (OSS) in collaboration with the two countries (Angola and Namibia) and in direct partnership with two national NGOs, Ajuda de Desenvolvimento de Povo para Povo (ADPP) Angola and Development Aid from People to People (DAPP) Namibia as the Executing Entities. OSS with ADPP and DAPP [founding members of the Humana People to People Federation (HPP)], have submitted a Concept Note (CN) to the Adaptation Fund (AF) for a regional project. The project is titled "**Resilience Building as Climate Change Adaptation in Drought-Struck South-Western African Communities – ADSWAC**".

The project Concept Note[76] was approved by the AF and a full-scale project document was developed. After approval of the Concept Note in early October 2020, a series of consultation processes was initiated to inform this development of the full proposal of the ADSWAC project.

This included consultations at various levels:

a. Consultations with communities, including Indigenous Peoples, and including narrowing down of project intervention areas, and conducting baseline surveys;
b. Sub-national consultation workshops in the Regions and Provinces, organized in cooperation with local authorities and with a wide spectrum of participants;
c. National-level consultation workshops, with participation of key stakeholders of relevant ministries, development partners and NGOs, among others;
d. A virtual regional validation workshop with participants from all levels.

Alongside the workshops and community sessions, individuals of relevant institutions were consulted on a rolling basis. The consultation meetings and workshops were facilitated with the objective to create awareness about the project, generate understanding of the intended activities, present budget outlines, and gather inputs and recommendations from stakeholders at the different levels.

The consultative process was conducted under the leadership of the EEs in their respective countries, in cooperation with the designated AF focal points, entities and other relevant authorities, and took place between the start of November 2020 until mid-January 2021, when the process was concluded with the virtual Regional Validation Workshop under the leadership of OSS.

This report provides a summary and overview of the key consultation processes, and recommendations that resulted thereof. The full reports of the consultations are published on ADPP's website.

2) Background and Context

The border between southern Angola in Cuando 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 pre-concept note for this project was approved by the Adaptation Fund (AF) in October 2019 and will have to evolve into a concept note to be submitted for the AFB 35-36 Intersessional Review Cycle, before April 20, 2020. This proposed project will be implemented by the Sahara and Sahel Observatory (OSS) and executed at the national levels by ADPP Angola and DAPP Namibia for the benefit of communities in Angola and Namibia.

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

The **ADSWAC** 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:

a) Enhancing local, sub-national and regional capacities to adapt and respond to climate change risks in the cross-border area of Angola and Namibia;
b) Building organizational and technical capacity for climate-resilient production and water management;
c) 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 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.

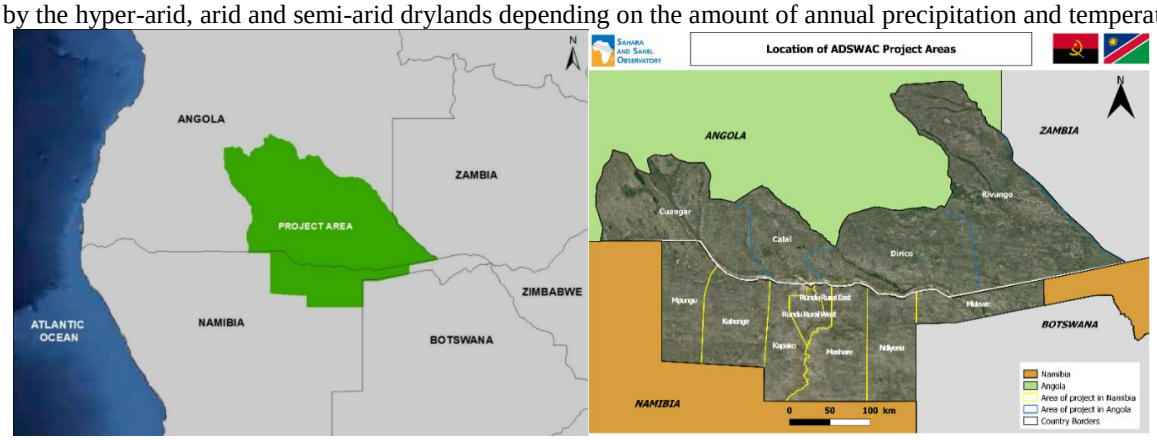

Figure (left): Location of the transboundary project area between Angola and Namibia; Figure (right) Municipalities (Angola) and Constituencies (Namibia) forming the project area;

3) Local and National Consultation Workshops in Namibia

DAPP Namibia was assigned to facilitate the Consultative process on Stakeholder Engagement in Namibia. This required, amongst others, the organisation and facilitation of local community stakeholder engagements and workshops and a national stakeholder workshop.

The overall objective was the verification of the proposal with all critical stakeholders with emphasis confirmation of proposed activities and outcomes and the suggested amendments with finalising the proposal based on inputs and feedback derived from discussions. Planning of the consultations started with mapping of critical stakeholder and identification of credible representatives. In accordance, it was decided to facilitate to host the national consultation in Windhoek (capital) and the local consultations in the target regions, namely Kavango West and Kavango East.

The Windhoek-based national consultation was aimed at Government Ministries and other organisations' centres / headquarters and key representatives were invited. While some high-ranking officials attended, others sent delegates who reported on the event. The event was well attended and the outcome of the consultation met the stated objectives.

With regard to the local consultations, the Governors of the two regions were consulted during pre-consultation meetings. They advised DAPP on the stakeholders to participate and agreed to invite identified stakeholders. These included government ministries, regional and local authorities, traditional authorities, community representatives and locally active NGOs and CBOs. The cooperation with the Governor's offices proved to be supportive and initiated excellent supportive relationships with this most critical partner in this project.

National Stakeholder Workshop

Details of meeting:

- Date: 04 November 2020
- Time: 09:00 – 13:00
- Venue: Windhoek, APS Guesthouse
- Facilitator: DAPP Namibia

Stakeholder representations:

- Ministry of Environment, Forestry and Tourism (MEFT)
- Ministry of Agriculture, Water and Land Reform (MAWLR)
- Ministry of Urban and Rural Development (MURD)
- Ministry of Gender, Poverty Eradication and Social Welfare (MGPESW)
- German Development Services (GIZ)
- Namibia Nature Foundation (NNF)

- Namibia Environmental Education Network (NEEN)

The meeting was facilitated to give an update on the process and background of the compiling the funding proposal with reference to the observed needs of communities, proposed remedial interventions, the submission of the pre-concept note (Nov 2019) and the approval of the Concept Note (Oct 2020) after pre-liminary consultation with Namibian stakeholders. Equally, it was referred to the roles and responsibilities of the Adaptation Fund (AF), the Sahel and Sahara Observatory, Humana and DAPP Namibia and APDD Angola.

The ADSWAC project was presented (PowerPoint presentation) based on the Concept Note and other updated information on project formulation. The presentation succeeded to give a comprehensive overview on the project with emphasis on overall objectives, activities and required synergies between different stakeholders such as government ministries, regional governments, non-governmental organisations, traditional authorities and benefitting communities. Discussions on the project were prompted during the presentation and extensively continued during the following formal discussion of the ADSWAC project.

Overall, the project was welcomed and endorsed by stakeholders. The following **key recommendations** were noted, considered and included in the design of the full proposal: (i) Close cooperation with TAs is essential, especially in the identification and mobilization of the most vulnerable population groups; (ii) ADSWAC should integrate dormant projects and project sites; (iii) integration of the school gardens in the operations of the POs; (iv) drip irrigation equipment to individual farmers can be sourced and facilitated through the CRAVE project (GCF funded, EIF managed) and their local offices in the Kavango Regions; (v) Tree cultivation to be integrated in project activities (nurseries, AFS, fruit tree promotion); (vi) the role of demonstration plots and lead farmers was emphasized; (vii) cash constraints should be addressed (micro-finance and village saving loans); (viii) Importance of local stakeholder cooperation throughout the project cycle was emphasized; and (ix) mobilization of youth should be targeted (mainly through IGAs, and through the GSP).

Local Stakeholder Workshops

A. Kavango West

Details of meeting:

- Date: 19 November 2020
- Time: 09:00 – 16:00
- Venue: Nkurenkuru, Muharwa Guest House
- Facilitator: DAPP Namibia

Stakeholder representations:

1. Office of the Governor
2. Kavango West Regional Council
3. Traditional Authority Chief Council (Uukwangali Traditional Authority)
4. Ministry of Agriculture, Water and Land Reform (MAWLR)
5. Ministry of Gender, Poverty Eradication and Social Welfare (MGPESW)
6. Youth Forum (Ministry of Sport, Youth and National Service)
7. CRAVE project (MAWLR) funded by the Environmental Investment Fund (EIF)
8. Kavango West Regional Farmers Union (affiliated to Namibia National Farmers Union)
9. Namibia Environmental Education Network (NEEN)
10. DAPP: TCE and FC programmes (as community representatives)

B. Kavango East

Details of meeting:

- Date: 20 November 2020
- Time: 11:00 – 18:00
- Venue: Mashare Agricultural Development Institute (MADI)
- Region: Kavango East
- Facilitator: DAPP Namibia

Stakeholder representations:

- Office of the Governor
- Kavango East Regional Council
- Traditional Authority (King (Mfumu) and Senior Headmen)
- Ministry of Environment, Forestry and Tourism (MEFT)
- Ministry of Agriculture, Water and Land Reform (MAWLR)
- Ministry of Urban and Rural Development (MURD)
- Namibia Nature Foundation (NNF)
- Namibia Environmental Education Network (NEEN)
- DAPP: TCE and FC programmes (as community representatives)

Both meetings were facilitated to give an update on the process and background of the compiling the funding proposal with reference to the observed needs of communities, proposed remedial interventions, the submission of the pre-concept note (Nov 2019) and the approval of the Concept Note (Oct 2020) after pre-liminary consultation with Namibian stakeholders. Equally, it was referred to the roles and responsibilities of the Adaptation Fund (AF), the Sahel and Sahara Observatory, Humana and DAPP Namibia and APDD Angola.

The ADSWAC project was presented (PowerPoint presentation) based on the Concept Note and other updated information on project formulation. The presentation succeeded to give a comprehensive overview on the project with emphasis on overall objectives, activities and required synergies between different stakeholders such as government ministries, regional governments, non-governmental organisations, traditional authorities and benefitting communities. Discussions on the project were prompted during the presentation and extensively continued during the following formal discussion of the ADSWAC project.

In both workshops, the ADSWAC proposal was overall well received and support was in principle granted by all representatives of various stakeholder's present.

Various **comments and contributions** by workshop participants were provided, including the following key recommendations, which were included in the project design: (i) Youth participation should be emphasized (through IGAs and access to micro-grants and credits, through education programme); (ii) Gender-balance should be provided, focus on women alone was not recommended; (iii) support farmers to move from subsistence farming alone towards farming as a business; (iv) seed supply should be emphasized (through seed banks, and PPPs); (v) Early Warning Systems are not reaching local communities (included in CCAC functioning); (vi) education of youth and children in the GSP should not only be theoretical (link with school gardens and demonstration plots); (vii) importance of water solutions and mainstreaming of CA was emphasized; (viii) empowerment of community members, and change of mindset, through exposure to innovative solutions should be facilitated (model plots, exchange programmes, etc.); (ix) affordability of new technologies for HHs is essential; (x) dormant projects should be considered to be revitalized; and (xi) sustainability of interventions should be emphasized through trainings and coaching of communities.

Conclusions

All participating stakeholders appreciated the approach of initiating this information sharing events, namely the consultation engagement at various levels involving critical stakeholders. This provided next to awareness for a detailed insight and understanding of proposed project activities with reference to the desired objective-based outcomes. Furthermore, it was appreciated that the DAPP team facilitated open and transparent discussions on the project and genuinely were interested in the feedback provided.

The confirmation by DAPP to accommodate suggestions and concerns in both the project proposal and with project implementation was equally appreciated. On another note, it was mentioned that it was enriching to interact with diverse stakeholders present the meetings and to take cognisance of their specific responsibilities and intentions, eventually all based on a shared objective: namely to upliftment rural communities, and this against the economic and Climate Change related challenges. The benefit of maintained communication and cooperation between all diverse stakeholders was sensitised and acknowledged.

Furthermore, it is worthwhile to note that the following comments were part of all discussions:

- In-depth community and traditional authority consultation and involvement prior to and with project implementation
- Facilitation of efficient and effective cooperation between all stakeholders based on commonly agreed objectives and outcomes; thus, facilitating synergies
- Impact and sustainability (continuity) with project implementation to be achieved
- Realise existing local opportunities (focus on food production) based on the combination of natural resources land and water supported by capacitated local human resources and an enabling environment
- Changing the mindset of community members with focus on encouragement and confidence for achievement (all inclusive)
- The active and sustainable inclusion of the youth in project activities in consideration of their specific needs
- Achievement of a gender balance in project activities, and this aligned to cultural norms

In conclusion it can be stated that the Consultation on Stakeholder Engagement was successfully completed with the overall objectives achieved. All-important stakeholders were informed on the proposed project, the project and its implications were discussed in detail and valuable feedback was provided.

Comments and suggestions (feedback), as documented in the reports, provide critical additional information to be accommodated in the project proposal and to guide the potential implementation of the project. The positive verification without any substantial reservations confirms the validity of the project proposal.

The full reports of the consultations, including detailed minutes of the meetings are published on ADPP Angola's website.

4) Local Consultation and National Workshops in Angola

National Stakeholder Workshop

Details of meeting:

- **Date:** 30 November 2020
- **Time** 09:30 to 12:00
- **Venue** Luanda, through Video Conference
- **Facilitator** ADPP Angola

Stakeholder representations:

- Ministry of Culture, Tourism and Environment (MCTE)
- Ministry of Agriculture and Fisheries (MAF)
- Ministry of Energy and Water – GABHIC
- United Nations Development Program (UNDP)

- Food and Agricultural Organization of the United Nations (FAO)
- Provincial Directorate of Agriculture and Fisheries (Cuando Cubango)
- Provincial Directorate of Education (Cuando Cubango)
- Municipal Administration of Cuangar (Cuando Cubango)
- Municipal Administration of Rivungo (Cuando Cubango)

After opening speeches by The MCTE and ADPP, The ADSWAC project was presented (PowerPoint presentation) based on the Concept Note and other updated information on project formulation. The presentation succeeded to give a comprehensive overview on the project with emphasis on overall objectives, activities and required synergies between different stakeholders such as government ministries, regional governments, non-governmental organisations, traditional authorities and benefitting communities. Discussions on the project were prompted during the presentation and extensively continued during the following formal discussion of the ADSWAC project.

Overall, the project was welcomed and endorsed by all stakeholders. There was unanimity on the relevance and necessity of the project, improving food security in a changing climate. A few recommendations were made to improve the project, including: (i) focus on water management is of highest importance to overcome increasing irregularity of rains. Not the lack of water is the problem, lack of management and capture systems; (ii) agricultural diversification has huge potential in the target area, including improved fisheries; (iii) simple land use change should include digging irrigation ditches, swales, and farm ponds to make better use of water on-farm; (iv) CA is widely unknown as an agriculture practice and demonstration plots are important; (v) create better cross-border cooperation; (vi) importance of documenting CVAs and CAAPs to do wider mapping of climate vulnerabilities; (vii) FAO-GEF programs near the target area have potential for synergies; (viii) participation of youth should be emphasized; and (ix) suggested to share data gathered widely with the academic community and national level ministries.

Local Stakeholder Workshops

Four local consultations workshops took place, one in each of the targeted municipalities, as follows:

Location	Meeting details	Attendees
Municipality of Rivungo - Commune of Luiana	Meeting Details • **Date:** 11/27/2020 • **Time:** 08:30 - 10:15 • **Venue:** Luiana Communal Administration Meeting Room • **Facilitator:** ADPP Angola (Walter Alexandre, Enoque Manjenje and Felix Caala Chavelela)	Local Attendees: • Communal Administrator • Communal Administrator • Head of the Secretariat of Communal Administration • Headmaster of the Primary and the Lower Secondary School Nº9 of Luiana • Headmaster of School nº 9 • Upper Secondary School Coordinator • Communal Councillor
Municipality of Dirico	Meeting Details • **Date:** 01 /1 2 /2020 • **Time:** 08:30 - 10:15 • **Location:** Dirico Municipal Administration meeting room • **Facilitator:** ADPP Angola (Walter Alexandre, Enoque Manjenje and Felix Caala Chavelela)	Local Attendees: • Municipal Administrator • Deputy Administrator • Head of the Municipal Administration Secretariat • Municipal Director of Agriculture • Coordinator of the Farmers' Association of the Municipal Capital
Municipality of Calai	Meeting Details • **Date:** 10 /1 2 /2020 • **Time:** 10:00 - 11:30 • **Location:** Calai Administration Meeting Room • **Facilitator:** ADPP Angola (Walter Alexandre, Enoque Manjenje and Felix Caala Chavelela)	Local Attendees: • Municipal Administrator • Deputy Administrator • Municipal Coordinator of Residents' Commissions • Municipal Director of the Legal Office
Municipality of Cuangar	Meeting Details • Date: 14 /1 2 /2020 • Time: 08: 0 0 - 1 0:30 • Location: Cuangar Municipal Administration meeting room • Facilitator: ADPP Angola (Walter Alexandre, Enoque Manjenje and Felix Caala Chavelela)	Local Attendees: • Facilitator: Economic consultant to the Municipal Administration of Cuangar • Municipal Director of Agriculture • Agriculture Technician

The 4 meetings followed the same outline, which included presentations of (a) the main activities of the project; (b) climate rationale for the project; (c) budget outline; (d) implementation arrangements; and (e) next steps. The introductory presentations were followed by open discussions on the project, in which inputs and recommendations were gathered to the project, potential additional activities, and concerns and considerations.

Overall, the project was received with great satisfaction, local administrations committed to support its implementation, communal administrators assumed the responsibility for identification and mobilization of smallholders, and priority intervention areas were identified. The following key recommendations, which were included in the project design, were recorded: (i) water management and water use should be a crucial activity in the project to manage the cyclical droughts communities are facing (WUAs); (ii) CA, AFS and other cultivation methods are widely unknown, agriculture development is not taking place, and farmers need to access knowledge on these improved practices (demonstration plots, lead farmers, trainings, inputs, etc.); (iii) support to animal care is recommended (vaccinations, disease prevention, fodder production); (iv) fresh vegetables are mainly bought from central towns, and local production should be promoted (communal vegetable plots); (v) local production is essential because of the inexistence of roads and transport options, farmers need to be equipped with the know-how for improved farming; and (vi) there are high numbers of illiteracy and literacy classes are recommended (to be included in the PO trainings, self-organized by farmers and field staff residing in the area).

Conclusions

The southern border area of Angola is an area that despite having been affected by ancient geography, forming part of a desert corridor that extends to the West, it is provided with the presence of water resources and soils that can provide self- sustainability but difficult to achieve. The rivers Cubango, Cuito and Cuando at the other end make a difference in this geography.

This is a region in which the population's strength lies in the creation of animals with special attention to cattle. The same cattle, on many occasions, feeds despair when an outbreak occurs. Its people are characterized by a daily struggle for survival and, above all, they fight for the protection of their property, with emphasis on cattle.

Generally speaking, people live on what they work for. Throughout our interviews, a fact emerged among our interviewees. I am afraid to give consistent information, especially with regard to daily spending. The greater tendency of many heads of households contacted sought to increase daily costs and when compared to annual costs the values are extremely high. For example, it is incredible that a family of 8 members consumes 10 kg of manure. Data such as these need an analysis, so that unofficial situations are not falsely stamped.

On the other hand, local administrations are at the beginning of development projects. Peasants are being grouped into cooperatives and this force can be used for new projects. ACADIR, another NGO in Cuando Cubango, is also strongly implanted in the communities, but this was little expressed by our interviewees.

The minority group that lives in this region is little known. The population of each group may increase in number of members, but there is no system of control with these nomadic groups. we believe that the project may find a mechanism that contributes to an effective and systematic control of these nomadic groups taking into account their characteristics and livelihoods.

The expectation is higher on the proposed project, the municipal administrations ensure full support to the project, communities are engaged in the pursuit of development and we hope that its implementation is likely to answer some needs.

In conclusion, it is worth noting that, in general, the stakeholder consultation process facilitated by ADPP Angola was successful and the information contained in this report reflects well the feedback resulting both from consultations at the national level, and at the subnational level and local. The information collected thus constitutes important input for the preparation of the complete proposal for the ADSWAC project, whose process is led by the OSS, in order to be submitted to the Adaptation Fund for approval and financing.

However, we would not like to mention some important bottlenecks to be taken into account. It has to do with the complexity of the area, characterized by the almost total absence of roads or in terrible conditions, allied to the difficulties of communication by telephone, due to the lack of the public network of the mobile operator UNITEL Angola practically along the entire length of the coast. In the municipality of Dirico, the alternative resource has been through the NTC Namibia mobile network. It would therefore be recommended that the project vehicles be equipped with satellite communication systems.

The full reports of the consultations, including detailed minutes of the meetings are published on ADPP Angola's website.

5) Community consultations and baseline survey

The local consultation process at regional and municipal level was accompanied with a simple baseline survey to gather data on the conditions of communities and HHs in the targeted areas. A total of 60 surveys was conducted across the two countries, and data was gathered and processed into reports, which has informed the project design and which data are included in the full proposal.
The survey provided more details on the socio-economic conditions and on the livelihoods of populations in the target area.
Key observations are as follow:

Assets

- HHs' homes are limited to mud houses, most with thatch roofs.
- HHs have limited assets, most have a mobile phone, although network is limited to non-existent, and radio, no transportation means other than ox carts and some fishing boats, no energy sources (generators or solar panels).

Production

- Most families have some access to arable land for staple crops or vegetables. Sizes average between ½ ha and 3 ha. Main crops are rainy season sorghum, millet and corn. Only a very small proportion of farmers has more than 1 staple harvest per year.
- Some families have vegetable gardens, though not all. Vegetable production varies, some produce a few months a year, others all year round. Most of the production is for household consumption.
- Most families own cattle for the households, not for surplus sale. Other small animals are varied, with about 50% of interviewed families owning goats or poultry. Pigs are rare, with only few families owning them.
- Most families sell some surplus products on the market. Access to markets is difficult due to inexistence of roads and limited means of transportation, so most families walk to the markets. Market information is accessed by word of mouth and rarely by other means.

Income and expenditure

- The vast majority of households highlight that their income is insufficient to cover daily expenses and other costs. Coping methods are mainly reducing food intake in the difficult seasons, although most families report not having enough grain for consumption all year round.
- Food, housing and health care are priority expenses, followed by children's education and social events. Only some families (10%) access loans, mainly from local money lenders and family.

Access to water:

- Most families in the target area's source of water is the river. A few families report buying water from local suppliers, a few communities have boreholes or wells.

- Most families on the Namibian side of the border, access water within a walking distance of 30 minutes. On the Angolan side, over half of the families reports to walk more than 1 hour to access water. All families reported collecting water on a daily basis.
- Families who report buying water on occasion, all do so in the dry season.
- All families report to experience water scarcity in their agriculture production. Most report 2018 to have had very high scarcity, 2019 medium to high.
- The few families who report being able to buy water for production, do so in the dry season.

Access to climate information

- All families report accessing rainfall and hazard information through word of mouth. In Namibia, some families mention radio or TV.

Major livelihood challenges

- Nearly all families report natural disasters (droughts, floods) as the number 1 concern for their livelihoods' vulnerability (in Angola all, in Namibia most), followed by lack of markets and market mechanisms (Namibia mainly).
- All families report having faced extreme natural disasters, mostly droughts and storms. Drought is conceived to have severe impacts on subsistence crops, livestock loss and cash crops. Floods are conceived to have severe impacts on subsistence crops, and loss of human and animal life.

The full reports of the baseline survey can be found on ADPP's website.

6) FPIC Process

Indigenous Peoples in the target areas

The target area of Northern Namibia and Southern Angola is home to one indigenous population group, the Khoisan (also called San in Namibia, and Kamussequeles in Angola), a hunter-gatherer population.

In Namibia, according to estimates the San community comprise only 0.4% of the Kavango regions (2011 National Housing and Population Census) and is well integrated into the local Kavango communities, with many of them living in communal areas and speaking the local dialect. The San are generally referred to as the *Vacu* by the Gciriku and Shambyu, *Hakwengo* by the Kwangali and Mbunza, while they prefer to use their ethnic labels when referring to themselves. The !Xun San can be largely found in the Mpungu Area, which has the largest concentration of San, while smaller numbers of Hai||om, Khwe and Ju|'hoansi resides in the Khaudum and Samagaigai Areas. They can also be found in urban centres, such as Nkurenkuru and Rundu. Currently, there are no recognized San Traditional Authorities in the Kavango East and West regions. Instead, many of them live under the authority of Kavango Traditional Authorities.

The San group and their related Khoisan descendant groups including the Kwisi, Kwehe in southern Angola 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 Kwehe are numerous along the eastern part of Cuando Cubango's southern border with Namibia.

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. In alignment with the AF ESP and the OSS E&S standards, the FPIC process was initiated, which started during the development of the CN in January-April 2020 and, despite difficulties with travel and meeting restrictions in light of Covid-19, continued throughout the development stage of the project, notably in Angola, where the Indigenous Peoples reside within areas targeted by the ADSWAC project.

FPIC during project design

The participatory identification of needs, project design, and project impacts involved a wide range of stakeholders, including: national and local government representatives, traditional authorities, national civil society organizations, development partners, community-based organizations and community members. Included within this process were considerations regarding the indigenous population groups that reside in the targeted province and regions.

In **Namibia**, through community consultations in Windhoek, Nkurenkuru and Mashare, in the Kavango East and West regions the DAPP Namibia team has noted with concern the poor socio-economic conditions of the San community residing in these areas. They often live-in inaccessible regions, often geographically isolated and suffer from various forms of marginalization, both politically and socially. They are subject to domination and exploitation within political and economic structures that are commonly designed to reflect the interests and activities of the national majority. This discrimination, domination and marginalization violates their human rights as peoples/communities, threatens the continuation of their cultures and ways of life and prevents them from being able to genuinely participate in deciding their own future and forms of development"

In Namibia, through rigorous consultations, it was noted that the San territories are not included in the direct target areas of the project. The San reside more to the East, in Kavango East towards the Zambezi Region, which are areas not directly addressed by the project, with some exceptions such as Wiwi village, which is West of the target area. It was however noted in the consultations that took place, that various members of the San community migrate to the more populated zones within the target area, in search for employment.

As such, it was decided to:

1. Ensure equal access for the San members to the project structures (POs, WUAs), trainings, workshops and sensitizations;
2. Ensure San representation in stakeholder meetings, steering meeting, etc;
3. Ensure that the Green School Programme reaches the San school in Wiwi (outside the direct target area);
4. Consult and discuss the possibility with TAs to establish a PO and a WUA in Wiwi community, even if that is outside the project area.

Consultations with San leaders have and will be continued throughout the project. National-level San representatives, housed at the Office of the President, Department of Marginalized communities, were equally consulted and after consultations provided a support letter to the project confirming the project is in line with national and international regulations (attached in Annex I).

In **Angola,** where the Khoisan do reside directly within the project area, a mapping of the Khoisan communities was conducted in cooperation with local administrations, identifying the locations, and facilitating exchanges with Khoisan leaders. The assessments that were done with the 4 municipal authorities, concluded on the presence of the Khoisan: Cuangar and Calai: the Khoisan occasionally enter the municipalities premises, yet very far away from the project target area. As such, the project poses no risk to them. Rivungo: a group of Khoisan was identified in the area of Bwata-Bwata. They are nomadic and live mainly from hunting, gathering, food aid and seasonal work on farms. The area where they move around is not transitional in the rainy season. Thus, information was gathered from local administrations. They are moving between the border of Angola and Namibia, also far away from the project's target area. Dirico: a group of approximately 37 families are moving around in the target area (in the Xamavera Comune area of Sakapundo). They are nomadic and live from hunting and gathering as well as from food aid from the municipality, community leaders and others.

A set of direct consultation with the Khoisan community in Dirico was carried out with the representation of 38 persons out of a population group from approximately 37 families, together with their leader, Mr. Augusto Kamati Luvengo. As part of the consultations, the project's activities, the project logic, implementation arrangements and methodologies were discussed. Equally, the principles for a grievance mechanism that is accessible by indigenous peoples was presented and agreed on with the representatives of the indigenous peoples. At the time of the project team's visit, a group of Khoisan was in the community because some of its members do temporary labour in the fields. Those were invited for the consultation meetings, while the others were on the south bank of the Cuito River foraging. The consulted members are part of the same group and the same families, and were sensitized to communicate and inform the rest of the group about the main outcomes of the consultations, including the grievance mechanism. It was clarified during those consultation meetings that the project's activities will not impede in any way on the Khoisan's traditional territories, nor disturb their traditional way of life. Specific arrangements, such as exemptions from paying water fees for non-permanent users of water points, will be made, as it is traditional practice in the areas. Some of the Khoisan group expressed interest in participating in the activities, and accordingly they will be included in the PO and WUA that will be established in the Sakapundu community. After consultation meetings with the group of 38 Khoisan representatives, Mr. Luvengo, in his capacity as representative of the Khoisan families in Dirico municipality, has provided his consent, which is recorded with his consent letter (attached in Annex II).

As the FPIC and consultation process is a continuous activity throughout the project cycle, efforts will continue to engage the communities and Khoisan, and apply the FPIC process.

The Khoisan families that are to be participants in the ADSWAC project are located in Dirico municipality. They are estimated to comprise an estimated 37 different families, though they are often dispersed throughout the region. They are still nomadic and often stay in different locations in the target area. No effective measures have been taken for the integration of this group. ACADIR, an Angolan NGO, has made efforts to bring about the settlement of the group. The Local Administration's idea is to use the project to create greater and better integration and protection through the project's action with the communities of Bwabwata and Cheto, which will be included in the M&E and knowledge management of the project.

These Khoisan communities have been in communication in various projects with ADPP (the EE), and therefore discussions and consultations regarding this and other similar project ideas go back over many years. During the full proposal development stage, consultations with the local leader of the community were conducted, and will continue throughout the project cycle. During these consultations, a team from ADPP went to meet the group, including the leader, on multiple occasions to discuss the project's activities, the project logic, implementation arrangements and methodologies. Equally, the principles for a grievance mechanism that is accessible by indigenous peoples was presented and agreed on with the representatives of the indigenous peoples.

It was further clarified during those consultation meetings that the project's activities will not impede in any way on the Khoisan's traditional territories, nor disturb their traditional way of life. Specific arrangements, such as exemptions from paying water fees for non-permanent users of water points, will be made, as is traditional practice in the areas. Some of the Khoisan group expressed interest in participating in the activities, and accordingly they will be included in the PO and WUA that will be established in the Sakapundu community. After consultation meetings with the group of 38 Khoisan representatives, Mr. Luvengo, in his capacity as representative of the Khoisan families in Dirico municipality, has provided his consent, which is recorded with his consent letter (attached in Annex II). However, the FPIC process used by the project is a continuous process that will span the entire period of the project.

Khoisan community consulted in Luiana Commune, Dirico municipality

FPIC during project implementation

The free, prior and informed consent regarding certain activities at community level can only be obtained during the implementation of the project, given that the project includes Undefined Sub-Projects (USPs) at proposal stage (water solutions and new Income Generating Activities). As such, the FPIC process and consultations and discussions with the indigenous community will continue throughout the project, not only to inform and agree on the interventions, but equally to collect traditional knowledge from the group.

As part of the activities under Component 1, such as adaptation action planning, and regional meetings, the indigenous communities will be represented by their respective leaders, and appropriate translation will be secured. Under Components 2 and 3, which will work through POs and WUAs, the intention is to include the indigenous communities in Angola (Luiana commune) and Namibia (Wiwi village) in the activities, but this will still need to go through the appropriate procedures with local and traditional authorities and can only be confirmed in the start-up phase of the project, hence also the need for continuation of the FPIC process.

Wide stakeholder consultation will continue throughout project implementation, with a range of stakeholders including national, local and traditional authorities, civil society, local communities and indigenous peoples. As such, the project commits to adhere to the FPIC process all throughout the project cycle.

1) Regional Validation Workshop

Summary

Following the consultative workshops organized at local and national level to gather national and project site-specific information that supported the elaboration of the draft full proposal for the project, and aware of the challenges associated with face-to-face meetings due to the COVID-19 Pandemic, as required for regional project development, a remote regional workshop was organized using the Zoom videoconference platform.

The workshop was an opportunity to bring together local and national partners from both countries, regional partners, as well as other related stakeholders in order to establish a joint reflection on the ADSWAC project and obtain final in puts into the full proposal prior to submission to the Adaptation Fund.

The regional workshop was held on Tuesday January 12th 2021 at 12:00 am UTC (1:00 pm Tunis and Luanda times, 2:00pm Windhoek time), for a 3 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 provided to the participants prior to the workshop.

Overall, presentations focused on the workshop objectives, project overview, project objectives, the draft full proposal, the project's budget, institutional arrangements, the Grievance Redress Mechanism (GRM), the Gender Assessment and Action Plan (GAAP), the Environmental and Social Management Plan (ESMP), as well as the main elements of the full proposal. Additional information on potential activities, recommendations for implementation and institutional arrangements were agreed upon.

a. **Objectives of the workshop**

The overall aim of the remote regional consultation workshop was to collect the expectations and needs of all participants but also to explain several relevant points, thus allowing the consultant to integrate the proposals and recommendations from the discussions in the project concept note submitted to the Adaptation Fund. The workshop was also an opportunity for the participants to know about the scope of the project, the risks and objectives related thereto during the execution of the activities.

The overall objective of this workshop is split into several specific objectives as follows:

- Validate the priority intervention sites in Cuando 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.

b. **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.

c. **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) Namibia
  - Ministry of Agriculture, Water and land Reform (MAWLR) Namibia
  - Ministry of Culture, Tourism and the Environment (MCTA) Angola
  - Ministry of Agriculture and Fisheries (MINAGRIP) Angola
  - Representatives of local governments (Cuando Cubango Province in Angola, and Kavango Regions in Namibia)
- Representatives (women and men) from the targeted communities
- Representatives of the Okavango River Basin Commission (OKACOM), Botswana
- Representatives of Climate Resilient Infrastructure Development Facility (CRIDF), South Africa
- Representatives from development partners of the target countries (FAO, UNDP)
- Humana People to People's European Office
- Representatives from the Regional Implementing Entity and Partners
- Independent consultants contributing to the project

Workshop proceedings

The workshop was facilitated by Mr. Jesper Wohlert, director of the European Partnership Office of the Federation of Associations connected to the International Humana People to People movement (FAIHPP), of which the executing entities are members.

Mrs. Khaoula Jaoui, Environment Programme Coordinator at OSS, welcomed the participants to the consultative workshop and presented the agenda.

Opening and welcome speeches were given by Mr. Nabil Ben Khatra, Executive Secretary of OSS, and Ms. Rikke Viholm, Chairperson of ADPP Angola, both stressing the vulnerable situation in the targeted countries and the borderless-ness of climate change impacts.

The Agenda comprised five technical sessions in addition to the official opening and closure. Based on the agenda, the workshop was estimated to last for about three and half hours.

Recommendations

The below table presents the key issues raised and recommendations provided:

Comment/issue raised	Responses/reactions
Will the project contribute to local job opportunities, for example for recent graduates?	The project intends, for the staff at the CCACs and the field staff to work with the farmers, to employ local resource people. The focus will be on skilled, experienced and motivated people, who will be further trained and employed for the duration of the project.
Regarding using the water of the Okavango river, licenses are required and this has to be taken into consideration.	The project has taken this into account, consultations with local government and OKACOM representatives have taken place. Local authorities will be involved in the project management all the way through. OSS stressed that there are no major investments made that will put the water levels in the Okavango river in danger. But the project is aware of the permissions and licenses needed for such activities.
How can communities and local businesses access funding from the envisaged project activities.	It was emphasized that there is scope for farmers and local businesses with solid business plans for climate-resilient productions. Activities providing for small grants, equipment and credit are foreseen in the project to this effect.
What about other communities in the region that are outside the target area? How can they benefit from the project?	It was pointed out that the upscaling of the project will be considered at a later stage, which may focus on activities for other communities. However, for the purpose of the ADSWAC project proposal, the focus will be on communities nearby the river.

There is need for accessing quality seeds, farmers lack access. Will the project also capacitate farmers to become seed growers?	It was explained that the project includes specific activities on establishing seed banks and seed multiplication plots, as well as nurseries, which will be managed by the communities. They will be trained in this regard. Equally, low-cost storage equipment will be promoted, which can serve for saving seeds and reducing post-harvest losses. It is also intended that the project, by facilitating PPPs between larger seed suppliers and local POs, will address other needs for seeds and other agricultural inputs.
There is need for clarification regarding the budget allocations between Angola and Namibia.	It was explained that the larger budget allocation to Angola was partly regarding the regional activities, which will be led from Angola but will benefit both sides of the border. Additionally, it was explained that the project took into account that Namibia has been more effective until now than Angola in accessing climate finance, with among others 4 national GCF projects as compared to 0 in Angola. An updated budget was prepared accordingly, that demonstrates better which proportions of the funding will go to regional activities.
Clarity was sought on budget allocations and whether there will be needed contributions from local government such as extension workers.	It was pointed out that certain mechanisms will be introduced, such as extension services by the project. It is envisaged that. This will be integrated into existing government structures, and the budget has made provisions for extension workers attending trainings and government officials to participate in meetings, among others.
How will the implementing and executing organizations benefit from the project?	It was explained that there are budget allocations for project management costs and execution costs, that these will only cover for the expenses regarding the project. It was furthermore stressed that the RIE and the EEs are non-profit organizations that do not make profit on any their projects, but however have costs to manage the projects.
There are conflicts across the border, when nationals from one country cross into the other. It seems that Namibians who move to Angola don't receive the same treatment as the other way around.	It was noted that the project is aware of border conflicts. Transboundary coordination mechanism is part of the project and a Regional Steering Committee will be established, and various cross-border exchanges are planned, which can serve for people to sit together and discuss any cross-border issues. To better equip the team, the local entities, that is DAPP Namibia/ADPP Angola will collaborate with local government on any of these matters; possibly being part of meetings of this nature, in order to gain a deeper understanding of the socio-political situation in the region. It was also highlighted that a Grievance Mechanism will be established at the start of the project that will assist in solving cross-border conflict.
Hon. Wakudumo highlighted that there will be a regional political meeting between the government officials in Cuando Cubango and the Kavango East and West regions, where some of these issues will already be discussed.	The comment was welcomed, and the EEs expressed their intention to participate in such meetings if possible, and to consult with local governments in any cross-border activity.
Clarity was requested on how the envisaged CCAC centres and accompany staff will be divided up between the two countries.	It was explained where the CCACs will be established: 4 in Angola, in each of the targeted municipalities, and 2 in Namibia, in each of the targeted regions.
It is recommended that the project seeks synergies with other projects, especially with the GCF funded CRAVE project in Kavango East and West.	It was pointed out that consultations had been conducted with local CRAVE representatives already, and that a wish was expressed from both sides for close collaboration, sharing resources where possible, and avoiding any form of duplication. Description of synergies with the CRAVE project were added to the full proposal narrative.
A suggestion was made to conduct Climate Vulnerability and Risk Assessments (CVRA) at the community level in the target areas to better inform the preparation of the Community Adaptation Action Plans (CAAPs). I think it would be useful to generate information and increase technical capacities at local level/municipal the fact of getting the Community-based CVRA as a subproduct of the project. It will help to generate up to date local information related to climate risks and vulnerability and build capacities of people involved in the exercise and in the application of the methodology.	The comment was taken into account and it was explained that the activity relating to CAAPs included participatory Climate Vulnerability Analyses (CVAs) with the communities, which will serve as the basis for the CAAPs.
Closing remarks were given by the Governor of Kavango East, who gave his appreciation for the project in supporting the upliftment of communities	
The Ministry of Environment, Forestry and Tourism from Namibia followed to show its support for the project. The Ministry has found the consultative process conducted by DAPP Namibia as commendable and favourable. Therefore, they are assured that the recommendations will be integrated within the project. She also urged the project to take into consideration the current COVID-19 pandemic when starting with the implementation stage.	
The Ministry of Culture, Tourism and Environment from Angola followed to show her support and appreciation to the project, stressing how important these types of activities are for rural communities in Angola	

2) Annex I – Agenda Regional Workshop

Time	Activity	Lead
Workshop opening		
12h00 - 12h20	• Presentation of the participants – Environment Programme Coordinator (OSS) • Presentation and adoption of the workshop agenda	Mrs. Khaoula Jaoui
	• Opening speeches and welcome - Executive Secretary of OSS - Chairman at ADPP Angola **Group Photo**	Mr. Nabil Ben Khatra Ms. Rikke Viholm Everyone
Session 1: Presentation of the Project development process		
12h20 - 12h30	• Brief presentation of OSS - Environment Expert (OSS) • Reminder of the overall project development process and donor requirements	Mr. Steve Muhanji
Session 2: Presentation of the project full proposal		
12h30 - 13h00	• Introduction to the Project - Agriculture & Environment Program Officer (ADPP) – 5 mins	Mr. Paulo Vicente
	• Presentation of the main sections of the full proposal - Partnership Officer at DAPP Namibia – 10 mins	Mr. Gunther Roeber
	• Presentation of the budget by component – 5 mins	Mr. Paulo Vicente
	• Presentation of the institutional arrangements -– 5 mins	Mr. Gunther Roeber
Session 3: Discussion [Moderator: Mr. Jesper Wohlert]		
13h00 - 13h30	• Institutional arrangements and roles of each partner • Activities and related budget • Q&A	All
Session 4: Presentation of the Environmental and Social Management Plan (ESMP)		
13h30 - 14h00	• Presentation of consultation process taken place so far - Senior Partnership Officer – 10 mins	Mr. Gunther Roeber Mr. Evaristo Waya
	• Presentation of the draft ESMP– 10 mins	Mrs. Khaoula Jaoui
	• Presentation of the suggested project - level grievance mechanism -– 5 mins • Presentation of the draft Gender Assessment and Action Plan (GAAP) - Gender Consultant - 5 mins	Mr. Paulo Vicente Ms. Ana Freitas
Session 5: Discussions [Moderator: Mr. Steve Muhanji]		
14h00 - 15h00	• ESMP, including Grievance Mechanism and USP management • GAAP • Stakeholder engagement, participatory processes, FPIC • Etc.	All
Workshop closing		
15h00- 15h30	• Q&A • Wrap-up and sharing of main results of the workshop - Climate Adaptation Coordinator at HPP (European Office)	Mr. David Kerkhofs

3) Annex II – Participant list Regional Workshop

First Name	Last Name	Organization	Job Title	Email
Carla	Silva	Ministry of Culture, Tourism and Environment	Adaptation Fund Focal Point Angola	carla.silva.pompilio@gmail.com
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The full reports of the consultations, including Annexes and detailed reports and minutes of all the meetings are published on ADPP Angola's website.

Annex III – Consent Letters
The following consent letters have been provided:

Namibia
Office of the President, Deputy Minister of Marginalized and Indigenous Communities
Kavango West Regional Council
Kavango East, Regional Governor
Angola
Khoisan community consent letter (+ English translation)
Community consent letters (16)

The consent letters can be accessed here