



ADAPTATION FUND

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16 March 2026

Adaptation Fund Board
Project and Programme Review Committee
Thirty-seventh Meeting
Bonn, Germany, 7-8 April 2026

PROPOSAL FOR ANGOLA, MOZAMBIQUE



ADAPTATION FUND

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Regional Project Concept

Countries/Region: Angola, Mozambique

Project Title: Enhancing rural access to climate adaptation technologies, products and services (A2A)

Thematic Focal Area: Innovation in adaptation finance

Implementing Entity: United Nations Industrial Development Organization (UNIDO)

Executing Entities: Ajuda de Desenvolvimento de Povo para Povo (ADPP) Mozambique; Angola: to be confirmed; UNIDO

AF Project ID: AF00000441

IE Project ID:

Requested Financing from Adaptation Fund (US Dollars): 30,000,000

Reviewer and contact person: Ahmad Ghosn

Co-reviewer(s): UnaMay Gordon

IE Contact Person:

Technical Summary

The project “Enhancing rural access to climate adaptation technologies, products and services (A2A)” aims to strengthen rural households’ climate resilience and productivity in the provinces of Huíla and Cubango (Angola) and Tete (Mozambique) by empowering them to adopt and sustain climate adaptation solutions. This will be done through the three components below:

Component 1: Strengthening local enabling conditions for the uptake and sustainability of adaptation solutions in rural communities (USD 8,000,000).

Component 2: Inclusive delivery and uptake of adaptation solutions by rural MSMEs for resilient livelihoods (USD 13,000,000).

Component 3: Knowledge loops and adaptive partnerships for regional learning and synergies (USD 3,880,721).

Requested financing overview:

Project/Programme Execution Cost: USD 2,392,007

Total Project/Programme Cost: USD 27,272,728

Implementing Fee: USD 2,727,272

Financing Requested: USD 30,000,000

The proposal includes a request for a project formulation grant of USD 120,000.

	<p>The first technical review raises several issues, shortening document length to AF limits; providing projects activities details and clarifying some USPs; indicating AF outcomes supported by the project and the required AF thematic area; quantifying project benefits and cost effectiveness; providing initial gender assessment; revising relevant national plans; clarifying consultations conducted and providing a tabulated summary; revising AF RF alignment table; clarifying the sustainability of the O&M of the facilities to be developed, and replicability/ scaling up of project outcomes; clarifying the IE's ECs and justifying IE involvement as EE; among others indicated in the Clarification Requests (CRs), Corrective Action Request (CARs) and notes raised in the review.</p> <p><i>Please be advised that the findings of the AFB Secretariat's review of the funding proposal(s) do not reflect, indicate, or prejudge the outcome of the reaccreditation process currently underway. The Implementing Entity (IE) shall acknowledge that the funding proposal will not be approved by the Board if the IE's accreditation has expired, and reaccreditation has not been achieved at the time of the Board's decision. Notwithstanding this potential risk, the IE has elected to proceed with the development of the funding proposal.</i></p>
Date	03 March 2026

Review Criteria	Questions	First Technical Review Comments 03 March 2026
Country Eligibility	1. Are all of the participating countries party to the Kyoto Protocol and/or the Paris Agreement?	Yes.
	2. Are all of the participating countries developing countries particularly vulnerable to the adverse effects of climate change?	Yes. Both countries are vulnerable to the adverse effects of CC, due to rising temperatures, erratic rainfall, etc., and associated intense flooding, prolonged droughts.
Project Eligibility	1. Have the designated government authorities for the Adaptation Fund from each of the participating countries endorsed the project/programme?	<p>Yes. As per the Endorsement letters dated below:</p> <p>Angola: 29 October 2024 Mozambique: 10 December 2025</p> <p>CR1: Please insert letters of endorsement in Part IVA or attached to the CN document as an annex.</p>

	<p>2. Does the length of the proposal amount to no more than fifty (50) pages for the project/programme concept, including its annexes?</p>	<p>No. The proposal length is 52 pages, excluding annexes to be attached (e.g., endorsement letters, initial gender assessment, etc.) and information to be added to address the review comments. Other issues in Part I, need to be addressed as indicated below.</p> <p>CAR1: Revise Part I “Project/Programme Background and Context” (over 22 pages) to reduce its length, without losing key contexts, and maintain document and annexes length within AF limit.</p> <p>CAR2: On p. 1, Please address the following:</p> <ol style="list-style-type: none"> 1. For more clarity consider replacing “A2A” in the project title by “in Angola and Mozambique” so that the title reads: “Enhancing rural access to climate adaptation technologies, products and services in Angola and Mozambique”. 2. For the executing entity in Angola please indicate the <u>tentative</u> entity “to be confirmed”. 3. Indicate the last date of last submission of the proposal (as PCN, etc.). <p>CAR3: Revise components financing table, p. 25, to reflect allocated budgets at <u>output</u> and component levels. Also add table number and heading.</p> <p>CAR4: in project calendar, p. 25 revise terminal evaluation date to be within 9 months after project closing, as per AF requirements. Also add table number and heading.</p> <p>Editorial Notes:</p> <ol style="list-style-type: none"> 1. Add table of contents, lists of abbreviations, tables & figures (will not count towards proposal length).
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		<ol style="list-style-type: none">2. Spell out abbreviations when first used and refer to figures, tables, annexes at related discussions.3. Add table number and heading for all tables (e.g.: tables under paras 61 & 62, pp. 13-14; tables in paras 66-67; project calendar; components financing table, AF alignment table, etc.), adjust table numbering sequence accordingly and reflect in the list of tables.4. Conduct a round of editing/ proofreading for the document after addressing the review comments. Ensure that the CN document length after the revisions remains within the AF 50 pages limit.
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3. Does the regional project / programme support concrete adaptation actions to assist the participating countries in addressing the adverse effects of climate change and build in climate resilience, and do so providing added value through the regional approach, compared to implementing similar activities in each country individually?

Not clear. See Part IIA, pp. 26-35. More details are needed, among other issues indicated below.

CAR5: The discussions provided are very general/ generic and do not provide enough details to define neither the concrete activities/ interventions, if any, nor the soft ones. The discussions also indicate that the interventions under outputs 1.1, 1.2 and 2.1 are USPs. Further details are needed to clearly define all activities (concrete & soft), including USPs, along with supporting quantification to demonstrate the size of work involved and substantiate allocated budgets. Also, include direct/ indirect beneficiaries for each outcome/ output.

CR2: In the components description please indicate the executing entity, including UNIDO for each of components outputs/ etc.

CR3: Paragraph 110 mentions that the intervention under 1.2 and 2.2 are classified as USPs. On the other hand, the table on p. 28 indicates that the interventions under outputs 1.1, 1.2 and 2.1 interventions are classified as USPs. Please ensure consistency.

CR4: Activity 1.3.1 (output 1.3) discussed in para 123, p. 32, reads as USP, because it is dependent on the outcomes of Activity 1,2.1 which is a USP. Please reflect in related USPs discussions.

CAR6: In Part I (after objectives) or in Part IIA, please indicate under a dedicated paragraph or as appropriate the AF outcomes/ objectives supported by the project (info can be extracted from Part IIIA, AF RF revised alignment table).

	<p>4. Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the Environmental and Social Policy of the Fund?</p>	<p>Yes. See Part IIC, pp. 36-37. <u>However</u>, more details are needed among other issues indicated below.</p> <p>CR5: Please provide based further details on the benefits based on the requested further details on the components activities (see related CAR above). Also, para 153, p. 37, refers "community savings groups". Please clarify what these groups are.</p> <p>CR6: <u>As possible or available at this stage</u>, please provide dollar figures of the economic benefits, estimates of potential new jobs created under social benefits, if any, etc.</p> <p>CAR8: Compliance with AF Gender Policy requires the provision of an initial gender analysis/ assessment at the earliest stage of the project. Please provide such an analysis/ assessment and Include under dedicated heading in Part I or attach as annex and refer to it at related sections.</p>
	<p>5. Is the project / programme cost-effective and does the regional approach support cost-effectiveness?</p>	<p>Not fully demonstrated. See Part IID, pp. 37-38. Cost-effectiveness of project interventions should be compared with other possible alternative options and/ or no action.</p> <p>CAR9: Please provide a comparison table to demonstrate the project interventions cost-effectiveness against other options or no action, supported with dollar estimates of the benefits gained/ losses avoided, where/as possible.</p> <p><u>Note: A more detailed cost-effectiveness analysis would be required at full proposal stage.</u></p>

	6. Is the project / programme consistent with national or sub-national sustainable development strategies, national or sub-national development plans, poverty reduction strategies, national communications and adaptation programs of action and other relevant instruments? If applicable, it is also possible to refer to regional plans and strategies where they exist.	<p>To a large extent. See Part IIE, pp. 38-39. However, more details and some clarifications are needed.</p> <p>CAR10: in Part IIE, pp. please address the following:</p> <ol style="list-style-type: none"> 1. In para 163 table please include related UNCCD national plan/ strategy. Also, add table number and heading (indicate country name in the heading). 2. In para 164 table please ensure the listed plans match with those in para 163. Also, add table number and heading (indicate country name in the heading). 3. Under para 165, please include a tabulated list (similar to paras 163&164) of the regional and international plans/ commitments. Include table number and heading. 4. For all listed plans in the tables mentioned above, please provide more details regarding their relevance (e.g.: the specific plans actions and the corresponding project outcomes/ outputs). <p><u>Note: Additional relevant plans could be added, as deemed appropriate, at full proposal stage.</u></p>
	7. Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund?	<p>Yes. See Part IIF, pp. 39-40. Sufficient for CN level. <u>Note: please provide tables numbers and headings.</u></p> <p>CR7: Please briefly discuss the specific arrangements to be taken to ensure compliance with the listed standards.</p>
	8. Is there duplication of project / programme with other funding sources?	<p>Yes. See Part IIG, pp. 40-41. Sufficient for CN stage.</p>

	<p>9. Does the project / programme have a learning and knowledge management component to capture and feedback lessons?</p>	<p>Yes. See Part IIH, p. 42. However, more details are needed/ recommended.</p> <p>CR8: Kindly clarify/ include details on the following:</p> <ul style="list-style-type: none"> • The entity responsible for tracking the experiences gained, how this will be done, and the tracking periodicity. • The process and resources by which knowledge generated will be sustained after project end. How will UNIDO's CAIL be instrumental in this respect?
	<p>10. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations in compliance with the Environmental and Social Policy and Gender Policy of the Fund?</p>	<p>Not clear. See Part II"l", pp. 42-44. Paragraph 178 refers to limited consultations with Angola's and Mozambique's designated authorities (DAs) that are not substantiated. Also, para 179 indicate that "In December 2025, the project team will conduct structured consultation interviews with national and subnational stakeholders in both countries to validate the proposed interventions and inform the detailed design of the Full Proposal" (we are now in February 2026). Remaining paras in Part II"l" refers to future consultations.</p> <p>CAR11: Please address the following:</p> <ol style="list-style-type: none"> 1. Please confirm whether or not the consultations mentioned in para 179 were conducted or not and revise the para text accordingly. 2. Provide a summary table of the conducted consultation. The table should include date of consultation, consulted entity/ group, number of participants disaggregated by gender, topics discussed, outcomes how they were considered in project design. <p>CR9: As the PFG will support the Gender Action Plan, please ensure it is informed by a comprehensive Gender Assessment.</p>
	<p>11. Is the requested financing justified on the basis of full cost of adaptation reasoning?</p>	<p>Yes. See Part IIJ, pp. 44-45. Sufficient for CN stage.</p>

	12. Is the project / program aligned with AF's results framework?	<p>Yes. See part IIIA, pp. 50-51. However, the alignment table does not comply with AF latest guidance.</p> <p>CAR12: Please revise the AF RF alignment table to align with the latest AF guidance that can be found at Results Framework Alignment Table (Amended in November 2025) (77 kB, DOC). Also, add table number and heading.</p>
	13. Has the sustainability of the project/programme outcomes been taken into account when designing the project?	<p>To a large extent. See Part IIK, pp. 45-46. However, the sustainability of O&M of the infrastructures/ facilities to be developed by the project, as well as the potential replication/ scaling up of the project outcomes with other funds after its end, need to be discussed/ clarified.</p> <p>CAR13: Clarify the sustainability arrangements for the O&M of the facilities/ infrastructures to be developed by the project. Also, discuss the potential replication/ scaling up of the project outcomes, after it end, with other funds.</p> <p>CR10: Please clarify how the performance-based financing/ MSME incentives will be sustained after project completion. Also, clarify if there will be any recurrent costs that should be considered for financing after the project ends. If so, please ensure it is reflected in the narrative of Section K.</p>
	14. Does the project / programme provide an overview of environmental and social impacts / risks identified, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	<p>To a large extent. See Part IIL, pp. 46-48. However, the AF E&S checklist table need to be aligned with AF format, and some more details need to be added</p> <p>CAR14: Please address the following:</p> <ol style="list-style-type: none"> 1. Align AF E&S checklist table <u>columns titles</u> to align with those of the AF template. Also, add table number and heading. 2. In column 2 mark with (✓) the principles for which no further assessment is needed (unmarked ones will by default require further assessment to be described in column 3). In this respect, please note that AF Principles

		<p>1, 4 and 6 always apply. For more information, visit: AF's ESP guidance and Environmental and Social Policy.</p> <p>3. In column 3, please specify the risks for each principle, further assessments needed, and how you would mitigate against these risks.</p> <p>4. Refer to USPs and initial gender assessment (if any) at related E&S principles.</p>
Resource Availability	<p>15. Does the project promote new and innovative solutions to climate change adaptation, such as new approaches, technologies and mechanisms?</p>	<p>Yes. Sufficient for CN stage. See Part IIB, pp. 35-36.</p> <p>CR11: Please clarify the innovation pathway, in terms of whether the project will be scaling up proven models or whether new ones will be developed.</p>
	<p>1. Is the requested project / programme funding within the funding windows of the regional projects/programmes?</p>	<p>Yes.</p>
	<p>2. Are the administrative costs (Implementing Entity Management Fee and Project/ Programme Execution Costs) at or below 10 per cent of the project/programme for implementing entity (IE) fees and at or below 10 per cent of the project/programme cost for the execution costs?</p>	<p>Yes. Execution Cost (USD 2,392,007) is 8.77% of total project cost (USD 27,272,728). IE fee (USD 2,727,272) is at 10 %. <u>However</u>, some clarification is needed regarding UNIDO's executing role.</p> <p>CAR15: please address the following:</p> <ol style="list-style-type: none"> 1. Clarify whether the IE (UNIDO) execution costs were calculated on the basis that they are within 1.5% of the cost of the activities executed by UNIDO (i.e., \$3,111,000 out of total components cost of \$8,594,438) as required by the AF policy. 2. Provide justification/ approval of UNIDO's involvement in the project execution from the concerned designated authorities (DAs). <p>CAR16: Please confirm if ADPP Mozambique will be executing the PFG or if UNIDO will be doing so. If the PFG will be executed by UNIDO please amend the PFG request</p>

		form. This clarification is essential for the preparation of the PFG legal agreement.
Eligibility of IE	1. Is the project/programme submitted through an eligible Multilateral or Regional Implementing Entity that has been accredited by the Board?	<p>No. <u>UNIDO's accreditation expired 30 November 2025.</u></p> <p><i>Please be advised that the findings of the AFB Secretariat's review of the funding proposal(s) do not reflect, indicate, or prejudge the outcome of the reaccreditation process currently underway. The Implementing Entity (IE) shall acknowledge that the funding proposal will not be approved by the Board if the IE's accreditation has expired, and reaccreditation has not been achieved at the time of the Board's decision. Notwithstanding this potential risk, the IE has elected to proceed with the development of the funding proposal.</i></p>
Implementation Arrangements	1. Is there adequate arrangement for project / programme management at the regional and national level, including coordination arrangements within countries and among them? Has the potential to partner with national institutions, and when possible, national implementing entities (NIEs), been considered, and included in the management arrangements?	n/a at concept stage
	2. Are there measures for financial and project/programme risk management?	n/a at concept stage
	3. Are there measures in place for the management of for environmental and social risks, in line with the Environmental and Social Policy and Gender Policy of the Fund? Proponents are encouraged to refer to the Guidance document for Implementing Entities on compliance with the Adaptation Fund Environmental and Social Policy, for details.	n/a at concept stage

	4. Is a budget on the Implementing Entity Management Fee use included?	n/a at concept stage
	5. Is an explanation and a breakdown of the execution costs included?	n/a at concept stage
	6. Is a detailed budget including budget notes included?	n/a at concept stage
	7. Are arrangements for monitoring and evaluation clearly defined, including budgeted M&E plans and sex-disaggregated data, targets and indicators, in compliance with the Gender Policy of the Fund?	n/a at concept stage
	8. Does the M&E Framework include a breakdown of how implementing entity IE fees will be utilized in the supervision of the M&E function?	n/a at concept stage
	9. Does the project/programme's results framework align with the AF's results framework? Does it include at least one core outcome indicator from the Fund's results framework?	n/a at concept stage
	10. Is a disbursement schedule with time-bound milestones included?	n/a at concept stage



ADAPTATION FUND

CONCEPT NOTE FOR REGIONAL PROJECT/PROGRAMME

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme: Enhancing rural access to climate adaptation technologies, products and services (A2A)

Countries: Angola, Mozambique

Thematic Focal Area¹: Innovation in adaptation finance

Type of Implementing Entity: Multilateral Implementing Entity

Implementing Entity: United Nations Industrial Development Organization (UNIDO)

Executing Entities: Mozambique: Ajuda de Desenvolvimento de Povo para Povo (ADPP Mozambique), Angola: to be confirmed, UNIDO

Amount of Financing Requested: 30,000,000 (in U.S Dollars Equivalent)

Project Formulation Grant Request: Yes No

Amount of Requested financing for PFG: 120,000 (in U.S Dollars Equivalent)

Letters of Endorsement (LOE) signed for all countries: Yes No

Stage of Submission:

This proposal has been submitted before including at a different stage (pre-concept, concept)

This is the first submission ever of the proposal at any stage

In case of a resubmission, please indicate the last submission date: [Click or tap to enter a date.](#)

Please note that concept note documents should not exceed 50 pages, including annexes.

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

Project/Programme Background and Context:

A. Economic and Environmental Overview

A.1. Economic Context

1. Angola and Mozambique share similar structural economic challenges and high exposure to common climate risks. Both are economies with rapid population growth, weak economic diversification, and a heavy reliance on natural resources. They are also highly exposed and already experiencing the escalating impacts of climate change, with rising temperatures, increasingly erratic rainfall, and more frequent droughts and floods heightening risks to the economy and undermining rural livelihoods and food security. Angola's economy remains dominated by oil, while Mozambique depends on large-scale extractive and energy projects such as gas and mining. In both countries, growth has been volatile and highly sensitive to external shocks, with limited spillover to poverty reduction and persistent rural inequality and food insecurity. Both countries continue to face high poverty rates (81.4% in Mozambique and 39.3% in Angola²) with poverty concentrated in rural areas where most households depend on low-productivity smallholder agriculture, and, to a lesser extent, livestock and fisheries for their livelihoods.

2. **Mozambique** is a low-income country with 34.5 million people (2024). It boasts a long Indian Ocean coastline and it is strategically positioned as a trade gateway for its neighbors (Tanzania, Malawi, Zambia, Zimbabwe, South Africa, and Eswatini), making it central to regional trade flows. The population growth rate is high and projections estimate it could reach 50 million by 2050. The country's GDP is approximately US\$22.4 billion (2024), with a GDP per capita of US\$649, one of the lowest in the world.

3. The key economic sectors are agriculture, services and industry, and recent economic growth has been driven mainly by extractives and energy. Although agriculture employs 70% of the labor force, it contributes only about 25% of GDP. Services account for roughly 40–45% of GDP, including trade, transport, communications, finance, tourism, and retail. The industrial sector, which comprises manufacturing, mining and extractives, energy, construction, and utilities, makes up the remaining 30–35% of GDP. Historically, growth has been driven largely by major investments in extractives and energy, which attract large-scale investments. 'Megaprojects' such as the Mozal aluminum smelter in Maputo or the Temane gas fields in Inhambane have generated most of Mozambique's foreign direct investment and export revenues. This dependence on large-scale extractive and energy projects has made the economy vulnerable to commodity price fluctuations, energy supply risks and climate variability.



Figure 1: Mozambique political map

4. Mozambique's current growth model has had a limited effect on poverty reduction and has contributed to rising inequality. Between 2008 and 2014, poverty rates declined from 81.1% to 74.4%, coinciding with strong economic growth. By 2022, however, poverty had jumped back to 81.4%³, raising the number of poor people from 17.7 million (2008) to 26.5 million (2022). This is because Mozambique's historical growth has been driven by extractives and services, with limited linkages to

² Defined as poverty headcount ratio at \$3.00 a day (2021 PPP) (% of population). World Bank World Development Indicators.

³ Defined as poverty headcount ratio at \$3.00 a day (2021 PPP) (% of population). World Bank World Development Indicators

rural economies. It has struggled to translate growth into broad-based welfare gains and benefits have accrued mainly to higher-income urban groups. As a result, inequality has also risen, with the Gini coefficient increasing from 0.47 in 2008 to 0.51 by 2019/20.

5. Women’s economic activities are concentrated in less productive and lower-paying sectors, reflecting unequal burdens of domestic responsibilities, and the lasting effects of early marriage and adolescent motherhood. In Mozambique, the employment rate for women is 76.1% compared to 81.1% for men. Deep-rooted social norms shape gender roles and time use, with women spending significantly more hours on unpaid domestic and care work than men, thus limiting their economic potential and income. Additionally, high rates of early marriage and adolescent motherhood further limit women’s access to education and employment. Mozambique has the fifth-highest rate of child marriage globally, with 48% of women aged 20–24 married before age 18 and 12.9% before age 15. The country also has one of the highest adolescent fertility rates. As of 2015, 46% of girls aged 15–19 were either mothers or pregnant.
6. Rural areas are the center of economic life in Mozambique. Around two-thirds of the population live and work in rural areas, where smallholder and subsistence farming dominate as well as other low-productivity economic activities such as livestock and fisheries. Poverty is also overwhelmingly rural: while the national poverty rate was 62.8% (2020), it rises to 72.1% in rural areas compared with 45.4% in urban centers⁴. Nearly eight in ten poor Mozambicans live in rural communities.
7. Mozambique is among the world’s most climate-vulnerable countries. The country ranked 156th of 187 on the 2023 ND-GAIN Index. It was the most climate-affected nation in 2019, according to the Global Climate Risk Index, after Cyclones Idai and Kenneth caused over 700 deaths, displaced 2.2 million people, and caused more than \$3 billion in losses. Mozambique faces multiple, overlapping climate risks, including rising temperatures and extreme heat, decreasing and more erratic rainfall, and more frequent and intense floods, droughts, and cyclones. These hazards have a direct and compounding effect on key sectors of the economy. Offshore gas operations are particularly vulnerable to cyclone damage, flooding, and coastal erosion. Hydropower, which supplies over 80% of the country’s electricity, is highly sensitive to changing rainfall and river flows. Extreme weather can disrupt transport infrastructure, increase health costs from waterborne disease outbreaks, and reduce labor productivity under heat stress. Agriculture, largely rainfed and dependent on predictable seasonal cycles, is particularly exposed, as well as livestock and fisheries.
8. Given Mozambique’s rural poverty profile and economic exposure to climate shocks, focusing on the rural economy, particularly agriculture, and to a lesser extent livestock and fisheries, offers the most strategic entry point for building resilience. While urban areas also face growing climate risks, Mozambique’s population remains overwhelmingly rural. About two-thirds of Mozambicans live and work in rural areas and rural poverty is significantly higher than in cities. Agriculture employs over 70% of the labor force and provides the main source of food and income for most rural households, yet productivity is low and malnutrition is widespread. Strengthening agriculture and related rural economic activities, such as livestock and fisheries, is therefore essential to enhance food security, reduce poverty, and increase climate resilience.
9. Angola is a lower-middle-income country with a population of 37.8 million (2023). The country is located on the west coast of southern Africa, bordering Namibia, the Democratic Republic of Congo, the Republic of the Congo, Zambia, and the Atlantic Ocean. Over the past two decades, Angola’s population has doubled, and it is projected to double again by 2050 to approximately 74.6 million. Angola’s GDP is \$80.4 billion (2023) with a GDP per capita of \$2,112.

⁴ Poverty rates are based on Mozambique’s national poverty line, as reported in the World Bank (2023) “Mozambique Poverty Assessment”. They differ from the poverty headcount ratio at \$3.00 a day (2021 PPP), which applies a globally standardized threshold for cross-country comparison.

10. Angola's economy remains heavily reliant on the oil and gas industry, though it is gradually transitioning toward greater diversification. The country is the second-largest oil producer in Africa. Oil and gas accounted for about 31% of GDP and 50% of government revenues (2020), down from nearly two-thirds in 2012–2014 due to lower oil prices, the structural decline of maturing fields, and reduced investment. This trend is expected to continue and non-oil sectors are projected to be the main driver of economic growth. The most relevant non-oil sectors are services (around 40% of GDP, including trade, transport, communications, financial services, real estate, etc.), mining (10% of GDP, including diamonds, gold, and iron ore) and agriculture (14%). Hydropower supplies the majority of Angola's electricity and is central to the government's diversification and infrastructure plans. Despite these efforts, Angola's excessive dependence on oil remains a core vulnerability, exposing the economy to high volatility linked to global oil price fluctuations.



Figure 2: Angola political map

11. Despite its oil wealth, Angola faces pervasive poverty, inequality, and food insecurity. The benefits of Angola's oil-driven boom between 2002 and 2015 were unevenly distributed and did not translate into a more diversified, resilient, and inclusive economy. In 2018, 39.3% of the population lived below the poverty line⁵. Inequality is high and rising: the Gini index increased from 43 to 51 between 2008 and 2018, placing Angola among the most unequal countries in the world.
12. Female labor force participation in Angola is relatively high, but disproportionately concentrated in lower-paid sectors and informal jobs. Female employment rate is 63.3% compared with 67.7% percent of men. However, women are disproportionately concentrated in lower-paid sectors and informal jobs, due to women's limited access to education, vocational training, and productive resources such as credit and land. As a result, women earn roughly 78% less than men. These economic inequalities are reinforced by structural barriers such as early marriage and uneven access to reproductive health services, all of which limit women's opportunities for economic advancement and formal employment.
13. Rural Angola remains disproportionately poor. The rural–urban poverty divide in Angola is stark. Although only 34% of the population lives in rural areas (~12.8 million people), the majority of the country's poor are found there. Poverty affects more than half of rural residents (54.7%), compared with just 17.8% in urban areas (2018)⁶. This imbalance reflects the heavy dependence of rural households on low-productivity subsistence agriculture, and to a lesser extent, livestock and fisheries.
14. Angola is among the most climate-vulnerable countries in world, reflecting both high exposure to hazards and low institutional readiness. It currently ranks 158th of 187 countries on the 2023 ND-GAIN Climate Vulnerability Index. Like Mozambique, Angola faces multiple and overlapping climate risks, including rising temperatures and extreme heat, declining and increasingly erratic rainfall, and more frequent and severe floods and droughts. These hazards have wide-ranging economic repercussions. In the oil and gas industry, flooding and coastal erosion threaten critical infrastructure

⁵ Defined as poverty headcount ratio at \$3.00 a day (2021 PPP) (% of population). World Bank World Development Indicators

⁶ Poverty rates are based on Angola's national poverty line, as reported in the World Bank (2020) "Angola poverty assessment". They differ from the poverty headcount ratio at \$3.00 a day (2021 PPP), which applies a globally standardized threshold for cross-country comparison. <https://documents1.worldbank.org/curated/en/099020924085516638/pdf/P1715491e087270a51865012df69da6ab7e.pdf>

such as ports, refineries, and pipelines, while heat stress and extreme weather events disrupt logistics and offshore operations. Mining activities are also exposed to climate-related risks, including heavy rainfall and flooding that damage transport routes, limit mine access, and affect groundwater availability. Hydropower depends on variable river flows that are becoming increasingly unstable due to shifts in rainfall patterns and prolonged droughts, particularly in the south. Agriculture is highly climate-sensitive because most production is rainfed and soil degradation and recurrent droughts reduce yields and increase vulnerability to food insecurity. More recently, in 2021 southern Angola faced the worst drought in 40 years. An estimated 3.81 million people in six southern provinces had insufficient food, 1.32 million faced acute food insecurity, and more than 1.2 million faced water scarcity.

15. Angola's rural economy represents a critical opportunity for strengthening national resilience to climate shocks. Poverty levels remain far higher in rural than in urban areas, where most rural households depend on farming (and to a lesser extent livestock and fisheries) as their main source of income and food. Agriculture employs more than half of the labor force but contributes only a small share of GDP, reflecting its low productivity. Focusing on climate-resilient productivity, diversifying income sources, and investing in climate-resilient rural livelihoods is vital to address poverty, food insecurity, and vulnerability to climate hazards.

A.2. Rural Economy Overview

16. Angola and Mozambique's rural economies share many similarities in their structure and challenges. In both countries, agriculture is a cornerstone of rural livelihoods, employing the majority of the labor force and serving as the main source of food and income for most households, complemented by small-scale livestock and fisheries. Yet, despite abundant arable land, fertile soils, and favorable climatic conditions, only a small share of total agricultural land is cultivated, and productivity remains low. Both systems are dominated by small-scale, subsistence-oriented family farms that rely heavily on rainfed production, limited mechanization, and minimal use of inputs and irrigation. Weak extension services and insecure land tenure further limit rural households' adaptive capacity. As a result, agriculture in both Angola and Mozambique is characterized by low yields and limited surplus, which undermines food security and rural prosperity, resulting in low resilience to external shocks, including climate change. Livestock and fisheries also suffer from low productivity due to limited access to equipment and extension services, and degraded pastures and ecosystems. Off-farm activities such as petty trade, handicrafts, and repair services offer alternative income sources but remain thinly capitalized and informal. Community savings groups and local Disaster Risk Management (DRM) Committees can play a crucial role in building rural resilience but they remain under-resourced and require institutional, financial, and technical support to operate effectively and scale their impact.
17. Mozambique's agriculture contributes about one quarter of total GDP and generates 71% of total employment. It is the main source of income for most rural households, largely through subsistence and smallholder farming. The country has vast agricultural potential, but only a small share of its land is currently under cultivation. By global standards, land in Mozambique is abundant relative to its rural population. The country has nearly 50 million hectares of agricultural land, equal to approximately 62% of its total land area. However, only about 12% of available agricultural land (5.95 million hectares) is currently cultivated.
18. Nearly all Mozambican farmers are smallholders, yet few produce beyond household consumption. Smallholders are estimated to be more than 4.1 million, representing nearly 98% of all farmers in the country. Although their farms average only 1.4 hectares, they account for about 86% of the cultivated area. Smallholders also grow most of Mozambique's staple foods (maize, cassava, rice, and beans), but yields are generally low. Fewer than one in four smallholders sell any crops, and total sales are estimated to represent 5% of total production, with barely any value addition.
19. Despite hundreds of producer associations nationwide, few smallholders participate or benefit meaningfully from them. Mozambique has an estimated 1,700–1,800 producer associations and cooperatives nationwide (MADER, 2022), but only about 3.5% of smallholders are affiliated with any

form of productive organization. Among those, approximately 76% belong to producer associations, 6.3% to cooperatives, and the remainder to other types of groups. Membership remains limited due to multiple barriers, including weak management capacity (e.g., limited managerial skills, poor financial accountability, lack of transparent leadership, and weak business orientation), inadequate service provision to members, and poor market integration. Many producer associations depend heavily on donor-funded projects, and institutional support often declines once these projects end. Most associations are also too small to achieve aggregation or economies of scale, which further limits their commercial viability and competitiveness.

20. Maize and cassava are Mozambique's main food staples, but productivity is very low. Maize accounts for about 42% of cultivated land by rural households, followed by cassava (10.3%), cowpeas (6.4%), groundnuts (6.4%), rice (5.4%), sesame (5.2%), and sorghum (4.8%). Maize and cassava are grown by roughly 84% and 43% of smallholders, respectively, with total production estimated at approximately 1.6 million tons of maize and 6.0 million tons of cassava. Cassava is the principal food starch in Mozambique, approximately 80% of which is grown in the northern provinces. Maize is more cultivated in the central and northern provinces. Agricultural productivity in Mozambique is among the lowest in southern Africa. Average maize yields are about 0.7 tons to 1 ton per hectare, which is roughly one-fifth of those achieved in South Africa and about half of those in neighboring Malawi. Cassava yields, averaging 4 to 5 tons per hectare, are also low compared with major producers in West Africa and represent about one-half to one-third of yields recorded in Latin America and Asia.
21. Smallholder productivity in Mozambique remains low due to minimal use of inputs, limited irrigation and mechanization, and weak extension services. Few smallholders use fertilizers (7.8%) or pesticides (5.5%) because of high costs, poor distribution networks, and limited awareness, while only 10.1% use certified maize seeds due to weak seed quality control systems and the circulation of counterfeit seeds. Most agriculture is rainfed, with just 2–4% of land irrigated, leaving smallholders highly vulnerable to rainfall variability. Mechanization is also scarce, with only 1–2% of smallholders using tractors. Extension services reach just 6.9% of smallholders, constrained by severe understaffing (one agent per 4,000 smallholders) and uneven provincial coverage.
22. Mozambique's livestock and fisheries sectors are vital to rural livelihoods and food security but are constrained by low productivity, limited access to inputs, and weak extension services. Livestock production is dominated by small-scale, extensive and mixed farming systems where animals are raised alongside crops, with about 85% of producers being family smallholders operating under traditional, extensive grazing systems that rely on natural pastures and minimal inputs. Limited access to improved fodder, veterinary services, and technical support (received by only 3–5% of livestock producers) results in low productivity, high mortality, limited value addition, and poor market integration. Similarly, fisheries, which contribute around 3–4% of GDP, are essential for nutrition and income, particularly in rural coastal and inland areas. The sector spans marine, semi-industrial, artisanal, and inland fisheries, and is largely informal and vulnerable to climate shocks. Inland fisheries, accounting for roughly 10–12% of total production, provide critical dietary protein and income but depend on small-scale operations with simple gear and are increasingly threatened by environmental and climate variability.
23. Alternative income activities are essential for stabilizing rural household income in Mozambique during agricultural off-seasons. Common sources include petty trade, artisanal production, food processing, construction, and repair services. About 9% of rural households engage in food trade, 6.6% in beverage production, 4.7% in non-food goods, and 4% work in small-scale manufacturing. These activities remain informal and family-based, relying on limited savings and seasonal labor. Their growth is constrained by scarce credit, weak market links, low energy access, and minimal technical support, which limit their contribution to poverty reduction and rural economic diversification.
24. Community savings groups are an important mechanism for rural economic resilience in Mozambique. As of 2023, the country had 15,000–20,000 groups, with about 8.9% of rural households (around 487,000 people) participating. Known as Village Savings and Loan Associations (VSLAs or 'Caixas Comunitárias de Poupança e Crédito'), they provide savings and small loans

where formal banking is scarce, helping households invest in livelihoods and recover from climate shocks. Most groups remain informal and unregistered, limiting access to bank accounts and formal credit. Weak governance, low financial literacy, and limited trust further constrain their sustainability and growth.

25. Local DRM Committees are central to rural resilience in Mozambique. Established under the National Institute for Disaster Management (INGD), these volunteer-based committees coordinate prevention, preparedness, early warning, response, and recovery at the community level, and link villages to district and provincial emergency services. Despite their importance, most face severe capacity and resource constraints. Limited budgets, equipment shortages, and weak information systems hinder effective early warning and response. High volunteer turnover, limited training, and persistent gender and inclusion gaps where women participate but rarely lead further reduce their effectiveness and sustainability.
26. Women smallholders face greater barriers than men in accessing land, inputs, finance, and extension services. Women often cultivate smaller plots of lower-quality land than men. These disparities reflect persistent structural and social constraints, including unequal access to education, limited control over productive assets, and gender norms that restrict women's participation in producer associations and training programs. For example, women are 3.4x less likely than men to receive credit and 13% less likely to get extension services. As a result, female-headed households are on average 20% less productive than male-headed households.
27. Angola's agriculture plays a central role in the country's economy, jobs and food security. It is the main source of food and income for 90% of the 12.8 million Angolans living in rural areas and represents roughly 56% of the national workforce, mostly in subsistence farming with minimal marketable surplus. Angola, like Mozambique, has vast agricultural potential, but only a small share of its land is cultivated. Angola has extensive arable land, freshwater resources, and diverse climatic conditions suitable for a wide range of crops. Agricultural land covers 59.2 million hectares, representing 45.6% of the national territory, yet only about 10% (5.9 million hectares) is currently cultivated.
28. Angola's agriculture is driven by small-scale, subsistence family farms in terms of land cultivated, agricultural output, and employment. Farms of less than five hectares represent about 92% of all cultivated land. The average smallholder farm is approximately 2.3 hectares, producing roughly 80% of total agricultural output, but mostly for self-consumption and barely any marketable surplus of value addition.
29. Most producer associations and cooperatives have limited capacity to provide effective services to smallholders. Cooperatives and producer associations in Angola are numerous (about 1,780 nationwide) and have been actively promoted by the government to improve smallholder access to inputs, credit, and markets. However, most remain undercapitalized, fragmented, and lack professional management or clear business models. Only a small share of cooperatives is formally registered, active, and commercially oriented. Their small size and weak governance limit their ability to aggregate smallholder production or access effectively inputs and services for their members.
30. Maize and cassava are the country's main crops, but yields are below their potential. The staple crops in Angola include maize (46.1% land cultivated), cassava (16.7%), beans (10.6%), millet (9.9%), sorghum (5.2%), and sweet potatoes (5.1%). Maize is the dominant staple with mixed farms typically combining maize with root and tuber systems. Maize is also frequently intercropped or rotated with cassava or legumes. Smallholders produce an estimated 95% of national maize output as subsistence food, with production heavily concentrated in the central highlands and southern interior. Cassava is especially significant in central and northern provinces because of its drought tolerance and harvest flexibility (i.e., it can be harvested year-round to buffer food shortages). Yields are extremely low relative to regional peers, particularly among smallholders. National average cereal (including maize) yields reached about 1.03 t/ha in 2022 as compared with estimated potential yields under improved conditions for maize at ~2.85 t/ha. Cassava yields are estimated to be 9.6

tons/hectare, roughly half the yield of international peers such as Ghana (23 tons/hectare), Mali (15.6 tons/hectare) or Cameroon (14.8 tons/hectare)⁷.

31. Agricultural productivity in Angola is constrained by very low use of inputs, limited irrigation and mechanization, and weak extension services. Only 10% of smallholders use fertilizer and 5% use pesticides, largely due to high import tariffs, complex licensing, and limited technical knowledge, while 94% smallholders rely on saved seed from previous harvests. Irrigation covers just 0.2% of farmland and only 1.5–3.5% of smallholders use any form of irrigation. Most land preparation remains manual (70%), with only 5% mechanized, reflecting limited equipment availability and high operating costs. Extension services reach just 1.6% of smallholders, hindered by a severe shortage of trained personnel and weak institutional linkages with research.
32. Livestock and fisheries are important to Angola's rural economy but are limited by low productivity, scarce inputs, and limited technical support. Livestock production, managed mostly by small rural households under traditional extensive grazing systems, supports about 1.4 million producers. The southern provinces of Huíla, Cunene, Cuando, and Cubango form the main livestock belt and hold 72.4% of the national herd. Productivity is low due to the limited use of improved breeds and feed. Veterinary services reach only about 3% of producers. Drought, land degradation, and grazing conflicts further undermine herd resilience and any potential marketable surplus or value addition. Angola's fisheries sector, which accounted for 3.7% of GDP in 2021, is dominated by marine capture fisheries but also includes vital inland artisanal fisheries that sustain rural nutrition and livelihoods. Inland fishing, practiced by around 337,000 small-scale fishers mostly for self-consumption, relies on rivers and seasonal water systems, using simple hand lines and nets. Despite its importance, inland fisheries face challenges from climate variability, limited infrastructure, and poor management, which constrain their contribution to local resilience and food security.
33. Angola has a long history of rotating savings and credit associations (ROSCAs) and village savings and loan groups (VSLAs) that support rural resilience. While no recent national data were identified regarding the number of associations or members, anecdotal evidence indicates participation is highest among market traders, petty retailers, and women's producer groups. In rural areas, formal savings groups are few and often linked to producer associations or churches. The country lacks a central regulatory framework or national coordinating body, leaving groups without standard supervision or policy integration. Common challenges include their informal status and weak governance. Poor cash handling and bookkeeping, which heightens risks of theft and recording errors. Limited pooled funds restrict lending for productive investments, and weak linkages to banks or mobile money services constrain growth and formalization.
34. Angola has recently begun creating local DRM Committees modeled on Mozambique's system, but these structures still require strong support to build rural resilience. The country's Municipal and Communal Civil Protection Commissions (CPCs) form the lowest tier of the national DRM system, coordinating preparedness, early warning, response, and recovery and providing the administrative backbone for disaster operations in municipalities. In 2025 CPCs began establishing local DRM committees as their operational arms at the village level, composed of volunteer-based groups that carry out risk mapping, early warning, evacuation, first aid, and damage assessments. These committees currently face major start-up challenges, including limited budgets for equipment, training, and communication, weak coordination with provincial centers, and low community participation.
35. Rural women make up the majority of the female population, but operate smaller farms and face significantly lower access to productive resources, extension services, and finance. On average, male-headed households in Angola cultivate 2.0 hectares, compared to 1.5 hectares for female-headed households. Women are 39% less likely to receive extension support, 53% less likely to access veterinary services, and 50% less likely to obtain credit. As a result, women's productivity and income opportunities remain systematically lower, reinforcing structural inequalities in Angola's rural

⁷ <https://pmc.ncbi.nlm.nih.gov/articles/PMC10559345/>

economy and limiting their ability to invest in improved technologies or adapt effectively to climate shocks.

A.3. Project Area Focus

36. **Huíla** is a province in southwestern Angola. According to the 2014 census, Huíla had a population of 2,5 million, with an overwhelmingly rural composition (72%). It is one of Angola's leading agricultural regions, characterized by fertile soils, favorable climatic conditions, and relatively high rainfall. The province also supports extensive livestock production, particularly cattle, goats, and poultry. The forestry sector also contributes to local livelihoods, with eucalyptus and pine plantations supplying timber and wood products for the construction and manufacturing industries. Building on this resource base, Huíla has emerging agro-processing and timber. The province also contains the Cassinga iron mine, one of Angola's largest iron ore deposits, with estimated reserves of about one billion tones, underscoring its potential as a center for diversified economic growth.
37. Agriculture in Huíla is dominated by smallholder farming and is a key national maize producer. The province has an estimated 349,000 smallholders, representing nearly 15% of all smallholders in Angola. These producers cultivate about 793,000 hectares of land, equivalent to 18% of the country's total cultivated area, with an average farm size of 2.34 hectares⁸. Although no detailed crop production data at the provincial level was identified, Huíla is recognized as one of Angola's major maize-producing regions. It is cultivated by 81.4% of smallholders in the province, accounting for an estimated 12% of national maize output. Other important crops include sorghum (cultivated by 34.5% of smallholders), millet (32%), and sweet potatoes (13.9%), which are grown primarily for household consumption.
38. Farming practices in Huíla mirror national trends. Input use remains minimal: only 7% of smallholders use fertilizers (compared with 10% nationally) and 5.5% use pesticides (slightly above the 5% national average). Most agriculture is rainfed, with water management typically limited to traditional methods such as furrows and buckets. Access to agricultural extension services is also extremely limited. Only 1.1% of smallholders report having received any form of technical support, 82.5% of which came from the public sector, while 11.8% from the private sector and 5.7% from NGOs.
39. Livestock and inland fisheries play vital roles in Huíla's rural economy, providing livelihoods, nutrition, and income diversification. The province has about 276,000 smallholder livestock owners (roughly 20% of Angola's total) of whom 72% raise poultry, 36% cattle, and 28% goats. Most livestock are managed under traditional, extensive grazing systems that depend on natural pastures and minimal external inputs, leaving herds highly vulnerable to drought and pasture degradation. Limited veterinary services, land tenure insecurity, and grazing land encroachment further constrain productivity and contribute to periodic herd losses. Although inland fisheries are smaller in scale, they remain critical for food security and local trade. Around 28,000 artisanal fishers, most subsistence-based, operate along the Cunene and Queve rivers, catching tilapia and catfish. These fisheries rely on seasonal river systems and face increasing threats from drought and hydrological variability, which reduce water availability and fish stocks.
40. **Cubango** is a newly created province in southeastern Angola. Until September 2024, Cuando and Cubango formed a single province, but Angola's Parliament approved their division to improve governance, administrative efficiency, and public service delivery in what had been one of the country's largest and most underserved regions. Given its recent establishment, most available economic, demographic, and climate data still correspond to the former Cuando Cubango administrative boundaries. Economic activities are centered on agriculture, livestock, forestry, and fishing. The province is also rich in timber resources, with wood extraction and wood-based product processing serving and it hosts mining activity, notably an iron mine at Cutato. Due to limited infrastructure particularly poor road quality and connectivity in many areas challenges remain for market access, investment, and full economic development.

⁸ Figures differ slightly due to different data sources.

41. Like in Huíla, agriculture in Cuando is dominated by smallholders, but the province is significantly less agriculturally developed. The Cuando Cubango province has an estimated 51,000 smallholders, representing about 2.2% of Angola's total, who cultivate roughly 129,500 hectares of land (3% of the country's total cultivated area), most of which is in remote and semi-arid areas. The average farm size is approximately 2.56 hectares⁹. Maize is particularly important and cultivated by 89.6% of smallholders. Other key crops include sorghum (cultivated by 48% of smallholders), and cassava (44%), all of which are grown primarily for household consumption rather than for sale. Like for Huíla, no detailed crop production data at the provincial level was found.
42. Smallholder practices in Cuando Cubango are less advanced than in most other provinces. Input use is very limited. Only 6% of smallholders use fertilizers (compared with 10% nationally) and 2% use pesticides (compared with 5% nationally). Most agriculture is rainfed, with simple water management practices such as buckets and furrows. Access to extension services is virtually nonexistent. According to available data, none of the smallholders reported receiving technical assistance.
43. Livestock and inland fisheries are key livelihood activities in Cubango, sustaining rural economies and food security. In the former Cuando Cubango province there are an estimated 25,600 smallholder livestock owners: 78% raise poultry, 24.5% keep cattle, and 11.8% own goats. Most herds are managed under extensive grazing systems that rely on natural pastures and seasonal mobility, with little supplemental feed or veterinary support. Productivity remains low due to poor nutrition, limited animal health services, and recurrent droughts that cause pasture shortages and high livestock mortality. Sparse veterinary coverage contributes to the spread of endemic diseases and limits recovery after climate shocks. Inland fisheries are smaller, but play an important complementary role in livelihoods and nutrition. Around 14,000 artisanal fishers operate mainly along the Cuando and Cubango rivers, which provide critical freshwater resources and support local biodiversity. Almost all operate in rivers catching mostly tilapia, catfish, barbs for self-consumption and on a seasonal basis depending on river hydrology.
44. **Tete** is a province in western Mozambique. Tete had a population of nearly 2.8 million (2017), of which 77.1% lived in rural areas and 22.9% in urban areas, reflecting its predominantly agrarian structure. Tete is one of Mozambique's most resource-rich provinces. The mining sector is the province's main economic driver, attracting substantial foreign investment and supporting related industries such as energy generation, logistics, and construction. The province contains the Moatize coal basin, one of Africa's largest coal reserves, with an estimated 2.4 billion tons of deposits and responsible for the majority of Mozambique's coal production. Alongside mining, agriculture remains central to rural livelihoods. Tete accounts for about 15% of Mozambique's total agricultural land, making it one of the country's top three agricultural provinces by area cultivated. Its location also gives it strategic importance as a transport and trade corridor linking Mozambique with Zimbabwe, Zambia, and Malawi.
45. Agriculture in Tete is dominated by smallholders and plays a central role in the country's maize production. The province has approximately 595,000 smallholders, representing 14.2% of all smallholders in Mozambique. These smallholders collectively cultivate about 892,000 hectares of land (16.1% of all smallholder-cultivated land nationally) with an average farm size of 1.5 hectares. Tete plays a central role in Mozambique's maize production. Maize is cultivated by about 79% of smallholders and accounts for 28% of the country's maize production. The province also contributes significantly to the production of sorghum (27% of the country's production) and millet (51%), underscoring its strategic importance for national food security. Cassava and rice, in contrast, play only a minor role in the province's crop mix.
46. Smallholder production practices in Tete are comparatively more advanced than the national average, yet they remain far below their potential. Input use is higher: 29% of smallholders apply fertilizers (compared with 7.8% nationally) and 9.6% use pesticides (5.5% nationally), though most of these inputs are used by tobacco smallholders. Adoption of certified seed is also stronger, with 14.5% of

⁹ Figures differ slightly due to different data sources.

maize producers using improved varieties (9.7% nationally). Although most farming remains rainfed, 14.8% of smallholders use some form of irrigation, above the national average of 9.1%. Access to extension services is 6.2% of smallholders, only slightly below the national level (6.9%). Participation in producer organizations is somewhat higher than average, with 4% of smallholders belonging to a productive association compared with 3.5% nationally. Most of these are producer associations (roughly four out of five cases), while cooperatives remain limited in number and scope.

47. Livestock and inland fisheries are very important to Tete's rural economy. The province accounts for about 27% of Mozambique's pigs, 22.4% of small ruminants, and 16.3% of cattle, making it one of the country's leading livestock-producing regions. Most production occurs under traditional, low-input systems that rely on open grazing, crop residues, and fallows, with minimal supplemental feed or veterinary care. Productivity remains low due to poor nutrition, limited animal health services, and exposure to recurrent droughts that degrade pastures and constrain feed availability. Tete is also home to one of Mozambique's most important inland fishery systems, centered on the Zambezi River and the Cahora Bassa reservoir. More than 36,000 artisanal fishers (around 9% of Mozambique's total) operate seasonally across the province, mainly for self-consumption. Common species include tilapia, catfish, bream, and barbs. However, the sector faces serious challenges from hydrological variability, droughts, and flooding events that disrupt breeding grounds and catch stability.

B. Climate trends and projections

B.1. Overview of Climate Risks and Vulnerability

48. Mozambique and Angola have both been historically highly exposed to similar climate risks: rising temperatures and extreme heat, decreasing rainfall, and more frequent droughts and floods, though with different geographic patterns of vulnerability. In Mozambique, southern provinces face prolonged dry periods and recurrent droughts, central regions (such as Tete) experience cycles of drought and flood conditions, and northern provinces record localized increases in rainfall but greater variability. In Angola, southern provinces (including Huíla and Cubango) suffer prolonged droughts and extreme heat, while central and northern regions have been increasingly affected by shorter rainy seasons and more intense rainfall bursts that trigger flash floods.
49. Mozambique's exposure to physical climate risks is shaped by its geography. Mozambique's climate is predominantly subtropical, influenced by an extensive 2,470 km coastline, low-lying topography, and inland floodplains. Inland areas in the southern and central provinces (including Tete) are slightly cooler than the coast, with average summer temperatures of 24–26°C and winter temperatures of 20–22°C. Rainfall patterns vary significantly across regions: the north has seen localized increases, the center experiences high variability, and the south is marked by prolonged dry periods.
50. Mozambique has experienced escalating climate risks driven by rising temperatures, decreasing rainfall, and more frequent droughts and floods. Impacts vary sharply across regions: in the north, humid tropical systems sustain higher rainfall levels, while the central provinces sit in a transitional zone that alternates between flood and drought conditions. In the south, arid soils and low water-retention capacity amplify the effects of prolonged dry spells, making droughts more severe and recurrent. These trends, combined with multi-year droughts and intensified flooding, undermine Mozambique's economy.
51. Rising temperatures and an increasing number of extreme heat days have intensified in Mozambique. The country has seen a steady increase in average temperatures from 23.59°C in 1950 to 24.51°C in 2014, an increase of 3.5%. Additionally, the number of extreme heat days (i.e., days with average temperatures above 35°C) has risen by more than 60%, from 11.3 days in 1950 to 19.3 days in 2014. Topographic variation influences this trend: low-lying coastal zones are moderated by oceanic conditions, while inland provinces experience greater exposure due to their elevation, semi-arid soils, and reduced vegetation cover, which limit natural cooling and water retention.
52. Shorter and less reliable rainfall has also become a growing challenge. In parallel with rising average and extreme temperatures, the country has experienced a 5.6% decline in rainfall between 1950 and 2014. Precipitation patterns vary across regions and are influenced by geography: the northern

provinces benefit from more humid tropical systems, while the central region sits in a transitional zone between wet and dry climatic regimes, making rainfall less predictable. The south, with its arid soils and low water-retention capacity, is particularly vulnerable to prolonged dry spells.

53. Intense and frequent droughts and floods represent key extreme climate risks, particularly in inland regions. Droughts are the most frequent climate shocks in the country, particularly affecting the southern and central regions, and often lasting 3–4 years. Mozambique is also vulnerable to flooding during the rainy season and along major river basins such as the Zambezi. Low-lying topography, deforestation in upland catchments, and poorly maintained drainage systems magnify these risks, with flood events now averaging 25 days per year. Additionally, tropical cyclones are among Mozambique’s most destructive striking the coastline with increasing frequency and intensity. Their initial impacts are concentrated in coastal provinces, where low-lying topography and long shorelines expose communities to storm surges and high winds. Inland regions are less directly exposed to these surges, but experience severe secondary effects when cyclone-driven rainfall overwhelms major river systems such as the Zambezi and Limpopo and cause widespread inland flooding.
54. Angola’s history of exposure to climate shocks reflects its diverse geography. Like Mozambique, Angola experiences a variety of climates, ranging from humid tropical to dry tropical conditions. The country has a 1,600 km coastline. The north is dominated by rainforests and savannahs, while the south (including Huíla and Cubango) is semi-arid. The national climate baseline shows average annual temperatures varying between 20°C and 28°C across regions, with warmer conditions typically found in the northeast and south, while coastal and central highland regions tend to be cooler. Precipitation is highly seasonal and ranges from about 600 mm annually in the coastal areas to over 1,200 mm in the northern plateau and central regions.
55. Angola is experiencing rising temperatures, more frequent extreme heat days, declining rainfall, and recurrent multi-year droughts and flash floods. Regional variation is marked: southern provinces face greater heat stress due to semi-arid conditions, while northern and coastal areas are moderated by rainfall and ocean influences.
56. Rising temperatures and an increasing number of extreme heat days have become a key climate risk in Angola. Average annual temperatures have increased from 22.08°C in 1950 to 22.87°C in 2014, an increase of 3.6%, a trend comparable to Mozambique. Additionally, the number of extreme heat days has nearly tripled, from 2.4 days in 1950 to 6.8 days in 2014. Regional variation shapes these trends: the southern provinces experience more frequent extreme heat days due to their semi-arid landscapes and lower vegetation cover, while the northern plateau and coastal zones are moderated by higher rainfall and Atlantic Ocean influences. The central highlands also remain comparatively cooler, though still subject to gradual warming.
57. Shorter and less reliable rainfall is a growing concern in Angola. The country experienced a decline of 1.2% in rainfall between 1950 and 2014. In addition to declining totals, rainy seasons have shortened, although precipitation patterns vary across regions. Northern provinces benefit from humid tropical systems that sustain higher rainfall, while central areas experience marked year-to-year variability in both the amount and distribution of rainfall. Southern provinces, by contrast, lie in a semi-arid zone where total rainfall is low and which have seen more pronounced declines compared to the national average.
58. More intense and frequent droughts and floods are among Angola’s most significant climate risks. Drought is particularly severe in the southern provinces, where rising temperatures and declining rainfall contribute to more frequent extreme heat events, often lasting several years and repeatedly household food security. Additionally, precipitation now tends to fall within shorter periods, leading to sudden outbursts of intense rain during the wet season. This shift, driven by a warmer atmosphere, increases the risk of flooding and accelerates soil erosion.

B.2. Climate Risks and Scenarios

59. Mozambique and Angola face rising climate risks and worsening economic impacts driven by global emissions pathways. Both countries' climate trajectories depend on global greenhouse gas emissions pathways, as reflected in projections from Mozambique's Country Climate and Development Report (2023), Angola's Country Climate and Development Report (2024), and the IPCC's Sixth Assessment Report drawing on the Coupled Model Intercomparison Project Phase 6 (CMIP6) and its Representative Concentration Pathways (RCPs)¹⁰. In Mozambique, these climate risks will place mounting pressure on rural livelihoods, particularly in vulnerable central and southern regions such as Tete. Projections indicate steady warming under all scenarios, with rainfall becoming more variable and rainy seasons shorter. Extreme events are expected to intensify, from modest increases in flooding under RCP 4.5 to more frequent and damaging storms and multi-year droughts under RCP 7.0 and RCP 8.5. Angola will face similar risks, with southern provinces such as Huíla and Cubango experiencing more frequent droughts, and central and northern regions increasingly exposed to flash floods from intense rainfall concentrated in shorter periods.
60. Mozambique's climate trajectory points to the following key climate risks: a) rising temperatures and increased number of extreme heat days; b) shorter and less reliable rainfall; and c) more intense and more frequent drought and flooding. These shifts are expected to place mounting pressure on rural livelihoods, particularly in already vulnerable southern and central regions, including Tete:
- Rising temperatures and extreme heat are projected under all scenarios: Under RCP 4.5, average temperatures in Mozambique may rise by 1.2°C by 2050 and up to 2.1°C by 2100. The number of annual extreme heat days may increase by 22 days by 2050 and by nearly 20 days more by 2100, bringing the total to 59 days by century's end. Under RCP 7.0, warming is projected to rise by 1.2°C by 2050 and 3.7°C by 2100 with the number of extreme heat days increasing to 107 annually by 2100. Under RCP 8.5, temperatures are projected to rise by 1.5°C by 2050 and up to 4.8°C by 2100. Extreme heat days could reach 142 days annually by 2100.
 - Rainfall patterns are projected to become increasingly variable. Under RCP 4.5, total annual rainfall could fall by 2.4% by 2100. RCP 7.0 projects a decrease of 8.2% with more unpredictable rainfall onset and shortened seasons disrupting planting cycles.
 - Extreme events are expected to intensify under all scenarios. Under RCP 4.5, heavy rainfall and flooding events are expected to increase modestly, alongside more prolonged and recurrent droughts. Under RCP 7.0, droughts and flooding both become more frequent and damaging, accelerating soil erosion and crop losses. RCP 8.5 projects a higher share of Category 4–5 cyclones and resulting inland flooding, alongside more intense droughts driven by shorter rainy seasons. These compound risks pose escalating threats to rural infrastructure, soil health, and food production.
61. These climate shifts are projected to have severe economic impacts. Under the RCP 7.0 scenario, Mozambique's GDP is expected to be 9% lower in 2050 compared to a no-climate-change baseline. Climate-induced losses by 2050 are estimated at 12% in agriculture, 10% in industry, and 3% in services. These figures reflect the combined effects of reduced labor productivity, damage to infrastructure, and disruption to water and energy systems. The most extreme outcomes under RCP 8.5 could reduce long-term GDP by up to 15%, particularly when factoring in repeated climate shocks, displacement, and rising public health costs.

IPCC Scenario	Temp. Increase by 2050 and 2100	Total Extreme Heat Days by 2100	Rainfall Change by 2100	Extreme weather events	GDP Impact by 2050
RCP 4.5 (moder.)	1.19°C / 2.06°C	59.1 days/year	Slight decline expected (-2.4%), especially in south	Modest increase in flooding, more recurrent droughts	Up to -3%
RCP 7.0 (high)	1.22°C / 3.69°C	106.6 days/year	Stronger decline (-8.2%)	More frequent and intense storms, heavier rainfall	Up to -9%

¹⁰ RCP 4.5 represents a moderate-emissions pathway, assuming significant mitigation efforts.; RCP 7.0 is a high-emissions trajectory aligned with slower global action; RCP 8.5 represents a worst-case, very high-emissions scenario assuming no significant reductions in fossil fuel use.

RCP 8.5 (very high)	1.50°C / 4.83°C	142.7 days/year	-3.00% ¹¹	Higher intensity flooding and droughts	Up to -15%
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Table 1: Overview of key climate impacts in Mozambique

62. **Angola's climate is projected to suffer from a) rising temperatures and more extreme heat days; b) shorter and less reliable rainfall; and c) more intense and more frequent drought and floods**¹². These shifts are expected to exert negative pressure on Angola's rural economies, especially in inland and southern provinces (including Huíla and Cubango):
- Rising temperatures and extreme heat are expected to intensify across Angola. Under RCP 4.5, mean annual temperatures are projected to rise by 1.3°C by 2050 and 2.3°C by 2100, with extreme heat days increasing to 40 days per year by 2100. Under RCP 7.0, average temperatures are projected to rise by 1.5°C by 2050 and 4.1°C by 2100, with extreme heat days reaching 85 days annually by 2100. Under RCP 8.5, average temperatures may increase by 1.7°C by 2050 and 5.2°C by 2100. In this scenario extreme hot days are projected to increase to 119.7 days per year by 2100.
 - Rainfall patterns are projected to become shorter and more erratic. Under RCP 4.5, rainfall may decline by 3.1% by 2100, with localized declines in the South. Under RCP 7.0, rainfall may decrease further by 5.3% by 2100. Shorter rainy seasons, with later onset and earlier cessation, are also expected to reduce the length of the cropping season.
 - The risk of extreme weather events such as drought and flooding is also projected to increase. Under RCP 4.5, erratic rainfall patterns are expected to cause more frequent droughts, especially in the south. Under RCP 8.5, Angola is projected to face a higher likelihood of extreme and damaging events, including intense rainfall, multi-year droughts, and prolonged heat extremes. Flooding risks are also expected to rise, as more intense rainfall concentrated in shorter periods overwhelms river basins and triggers flash floods in central and northern regions
63. These changes are projected to have significant macroeconomic and sectoral consequences. By 2050, climate change could reduce Angola's GDP by approximately 3% under RCP 4.5 and by as much as 5.8% under RCP 8.5¹³.

IPCC Scenario	Temp. Increase by 2050 and 2100	Total Extreme Heat Days by 2100	Rainfall Change by 2100	Extreme weather events	GDP Impact by 2050
RCP 4.5 (moder.)	1.34°C / 2.33°C	40.1 days/year	Moderate (-3.1%), more erratic, localized declines in South.	More frequent droughts in south	~-3%
RCP 7.0 (high)	1.52°C / 4.12°C	85.1 days/year	Stronger decline (-5.3%)	Not available	Not available
RCP 8.5 (very high)	1.72°C / 5.15°C	119.7 days/year	-0.37% ¹⁴	Multi-year drought; more frequent and prolonged heat extremes	Up to -5.8%

Table 2: Overview of key climate impacts in Angola

B.3. Projected impact of climate risks in rural economies

64. **Mozambique and Angola's rural economies are highly vulnerable to climate change with major yield losses projected across staple crops, especially maize.** This vulnerability stems from its reliance on

¹¹ World Bank rainfall projections in Southern Africa are highly non-linear. Higher emissions (RCP 8.5) amplify both evaporation and extreme rainfall, so mean annual totals show smaller change than under RCP 7.0 even as extremes worsen and RCP 8.5 translates into a shorter more intense rainy season.

¹² The Angola CCDR provides projections under only two emissions scenarios (RCP 4.5 and RCP 8.5) and does not include the RCP 7.0. RCP 7.0 data has been separately extracted from the World Bank Climate Change Knowledge Portal. Angola's CCDR also contains less granular detail across several climate variables, including the absence of projections for temperature increases by 2100 and the number of extreme heat days by 2100.

¹³ The Angola CCDR does not provide a comparable figure for RCP 7.0. or estimates of GDP loss by sector, as compared with Mozambique's CCDR.

¹⁴ World Bank rainfall projections in Southern Africa are highly non-linear. Higher emissions (RCP 8.5) amplify both evaporation and extreme rainfall, so mean annual totals show smaller change than under RCP 7.0 even as extremes worsen and RCP 8.5 translates into a shorter more intense rainy season.

low-productivity, rainfed smallholder farming and limited adaptive capacity (see Section A2). In Mozambique, the yields of nearly all staple crops are projected to decline due to climate change, with heat- and drought-sensitive crops such as maize particularly at risk. Angola faces similar pressures, with staple crops such as maize, beans, and groundnuts also expected to decline. Livestock and fisheries are similarly characterized by low productivity, driven by traditional extensive systems, limited access to feed and veterinary services, weak technical assistance, and high exposure to droughts, floods, and water stress that will reduce animal health, forage availability, and fish stocks. Across both countries, rising temperatures, more extreme heat days, shorter and less reliable rainfall, and more frequent droughts and floods will increase production volatility, threatening food security and rural incomes.

65. Mozambique's rural economy is highly vulnerable and has low adaptive capacity to climate change, including agriculture, livestock and fisheries. Smallholder productivity is low as a result of limited use of inputs, lack of irrigation and mechanization, and weak or limited extension services (see Section A2). Yield losses and increased volatility in production are projected for nearly all staple crops, including maize, sorghum, soybeans, and groundnuts. Without adaptation, climate change is projected to lead to major declines in agricultural productivity. Under RCP 4.5, crop yields could decline by 4–7% by 2050, and under RCP 7.0, yields could fall by 10–20% by 2050. Drought-sensitive crops like maize are especially at risk, with projected yield reductions of 11% by 2050 (under RCP 4.5), and up to 45% in particularly exposed areas in the southern and central regions (under RCP 7.0).
66. Key drivers for yield losses are rising temperatures and the increased number of extreme heat days. These will increase production risks for heat-sensitive crops (especially maize) and accelerate the spread of pests such as armyworm and locusts. Shorter and less reliable rainfall and higher temperatures are expected to shorten growing seasons, reduce soil moisture (especially for rural households who lack irrigation), and, combined with rising evapotranspiration, disrupt seasonal planning and reduce planting windows. Recurring droughts, particularly in central and southern regions, are expected to heighten crop failure, water scarcity, and food insecurity. Additionally, more frequent flash flooding will damage standing crops, erode topsoil, increase post-harvest losses, and weaken smallholders' access to markets.
67. Rising temperatures, shorter and less reliable rainfall, and more frequent droughts and floods will also negatively affect livestock and inland fisheries productivity in Mozambique. Heat stress and water scarcity will reduce animal health, fertility, and milk yields, while drought-induced pasture degradation will limit forage availability and increase competition over grazing lands. Prolonged dry periods will exacerbate livestock mortality and heighten the risk of disease outbreaks as animals congregate around shrinking water sources. Flooding, meanwhile, can destroy animal shelters, contaminate water supplies, and increase the spread of vector-borne diseases. Inland fisheries are equally vulnerable: higher water temperatures, reduced river and lake levels, and erratic hydrological cycles will disrupt fish breeding grounds, alter migration and feeding patterns, and reduce fish stocks.
68. Angola's rural economy is also highly vulnerable to climate change, largely due to low productivity. This reflects its limited use of inputs, lack of irrigation and mechanization, and weak or insufficient extension services (see Section A2). Most staple crops, particularly maize, beans, and groundnuts, are projected to experience yield declines as average temperatures increase, rainfall patterns become more erratic, and droughts intensify, particularly in the southern and central provinces. While more resilient crops like cassava and millet may become more suitable in some areas, these gains are unlikely to compensate for broader nationwide losses. Under RCP 8.5, national yields could decline by up to 7% by 2050 compared to a no-climate-damage scenario. Total drought-related losses in agriculture could rise from about \$100 million per year in 2020 to \$700 million annually by 2100.
69. Drivers for yield losses are broadly similar to those in Mozambique. Rising temperatures and an increased number of extreme heat days are expected to impact all crops, especially those that are most heat-sensitive, like maize. Shorter and less reliable rainfall is projected to result in a more concentrated and unpredictable rainy season that will undermine crop growth cycles. Unreliable water

availability and increased extreme events will further constrain production. At the same time, rainfall is expected to become more concentrated within shorter periods, leading to more frequent and intense storms that degrade topsoil and reduce land productivity.

- 70. Rising temperatures, erratic rainfall, and more frequent droughts and floods will also reduce livestock and inland fisheries productivity in Angola, following a similar pattern as in Mozambique. Recurrent droughts and prolonged dry periods will degrade pastures, reduce water availability, and increase livestock mortality, while heat stress and disease outbreaks will further weaken animal health and productivity. Flooding and erratic rainfall will damage infrastructure, contaminate water sources, and heighten disease risks. Inland fisheries will face declining water levels and shifting hydrological cycles that disrupt breeding grounds and reduce fish stocks.

B.4. Projected Climate Change Impact in Target Regions

- 71. Tete in Mozambique and Huíla and Cubango in Angola are among the most climate-vulnerable provinces in their countries, shaped by their semi-arid soils, rainfall variability, and exposure to extreme heat. Tete combines drought-prone plateaus with flood-prone river valleys and has already warmed faster than the national average, with extreme heat days projected to more than double by 2100 under RCP 7.0, while rainfall is also projected to decline more steeply than nationally. Cuando Cubango¹⁵ faces recurrent multi-year droughts and flash floods, with extreme heat days projected to rise sevenfold by 2100 under RCP 7.0. Huíla, though more temperate due to its plateau location, is also experiencing rainfall declines three times greater than the national trend and will see significant increases in extreme heat days by century’s end under RCP 7.0. Across all three provinces, climate change will shorten growing seasons, intensify drought and flood risks, and increase crop and labor stress, undermining food security and rural economies.

- 72. Tete is characterized by a mix of river valleys and plateaus which results in dual risks: drought on the plateau and lowlands, and floods in river valleys. The province is located in central Mozambique. Much of the province lies on a plateau between 200 and 1,200 meters, which is rugged and semi-arid, with shallow sandy soils that have low water-retention capacity and which are prone to drought. The Zambezi River carves a deep valley through this plateau, running east–west and resulting in fertile alluvial soils, but also exposing these areas to flooding during heavy rains or cyclone-driven upstream flows. Tete is also among the hottest provinces in

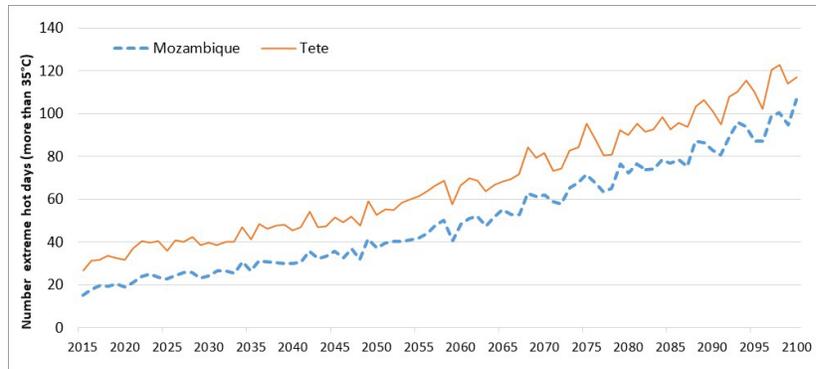


Figure 3: Projected number of extreme heat days under RCP 7.0 (2015-2100)

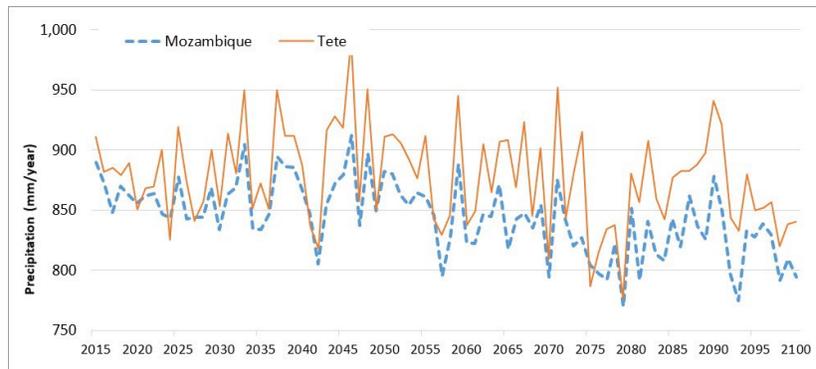


Figure 4: Projected average precipitation under RCP 7.0 (2015-2100)

¹⁵ No standalone climate projections are currently available for the Cubango Province due to the recent administrative division of Cuando Cubango in 2024.

Mozambique, with the valley's low elevation and semi-arid soils amplifying heat, while sparse vegetation reduces natural cooling. Summer temperatures often exceed 30 °C, and the province records some of the highest numbers of extreme heat days in the country. Compared with northern Mozambique, Tete receives less and more erratic rainfall, with most areas recording 600–800 mm annually. Limited soil water retention compounds this variability, creating frequent moisture stress and recurrent droughts.

73. Tete has warmed faster and experienced more extreme heat days than the national average, leaving the province highly prone to recurrent droughts. Between 1950 and 2014, average temperatures in Tete increased by about 4.4%, higher than Mozambique's national average of 3.5%. The number of extreme heat days rose by 10 per year over this period, compared with a national increase of 7 days. As a result, as of 2014, Tete experienced 31.2 extreme heat days, compared with a national average of 18.3 days. Rainfall in Tete decreased by 4.6% during the same period, slightly less than the national decline of 5.6%. Although many parts of Tete are semi-arid and drought-prone, the province's overall average rainfall remains above the national average (921 mm per year versus 856 mm). This reflects Tete's wetter Zambezi basin areas, while the plateau zones receive far less. Droughts already occur in the central region roughly four out of every ten years, and per capita water availability is projected to decrease further.
74. Tete is projected to continue to warm faster than the national average, face a sharper rise in extreme heat days, and experience greater rainfall declines and heightened drought risks. Under RCP 4.5, average temperatures in Tete are projected to increase by 9.5% by 2100, higher than the national average of 8.4%. Extreme heat days are also expected to rise faster in Tete than the national trend, increasing from 31.2 days in 2014 to 57.3 days in 2050 and 79.2 days in 2100, compared with 59.1 days in 2100 nationally. Under RCP 7.0, average temperatures are projected to increase by 15.6% in the province by 2100, slightly above the national increase of 15.1%, with extreme heat days reaching 117.1 days by 2100 compared with 106.7 days nationally. Rainfall is also projected to decline. Under RCP 4.5, Tete's rainfall may fall by 4.6% by 2100, compared with a 2.4% national reduction. Under RCP 7.0, Tete's rainfall could decline by 15.6% by 2100, versus 15.1% nationally. These averages mask strong spatial variations: plateau areas are likely to receive very little rainfall, while the Zambezi valley may experience heavier precipitation events that increase flood risks.
75. Cubango and Huíla in Southern Angola have endured recurrent drought for more than three decades, with particularly severe episodes between 2019–2022 and during the El Niño event of 2023–2024. Rainfall deficits have caused widespread crop failures (up to 40% in some areas) along with high livestock mortality and acute water shortages affecting an estimated 1.2 million people in provinces such as Huíla and Cubango. These shocks have driven food insecurity for nearly 3.8 million people, exacerbated malnutrition and disease.
76. Cubango is one of Angola's most climate-vulnerable provinces due to its highly seasonal rainfall regime, where short periods of intense precipitation coincide with prolonged dry spells. Cubango lies in the southeast and sits largely at elevations of 1,000–1,600 meters, with flat to gently undulating plains shaped by extensive river and wetland systems. The province is crossed by the Cuito and Cubango rivers, which form part of the Okavango basin and flow south into Namibia and Botswana. These waterways create pockets of flood-prone lowlands adjacent to otherwise drought-prone sandy plateaus. Soils are predominantly sandy, highly porous, and nutrient-poor, exhibiting low water-retention capacity even when abundant surface water is present. As a result, the province faces recurrent droughts across upland plains that rapidly lose moisture, while localized flooding occurs along major river corridors during intense rainfall events. Climate risks are exacerbated by high year-to-year variability: rainfall is concentrated between November and April and can produce sudden floods, while extended dry periods and multi-year droughts remain common, severely constraining agricultural productivity and water availability for rural communities.
77. Quando Cubango has warmed faster and experienced a much larger rise in extreme heat days than the national average, while rainfall has declined more sharply (note that no separate data is available for Cubango alone). Between 1950 and 2014, average temperatures in Cuando Cubango increased

by 4.0%, above the national average of 3.6%. The number of extreme heat days also rose by 10.8 days per year over this period, compared with a national increase of 4.4 days. As of 2014, the province had 18.4 extreme heat days, nearly three times the national average of 6.8. Rainfall declined by 2.8% during the same period, more than twice the country's 1.2% reduction. As of 2014, the province receives approximately 78% of the total average rain in Angola.

78. Projections indicate that Cuando Cubango will warm more rapidly than the national average, face a greater surge in extreme heat days, and endure sharper rainfall declines that exacerbate droughts. Under RCP 4.5, average temperatures are expected to increase by 11.2% by 2100, compared with 10.2% nationally. Extreme heat days are also projected to rise more than the national average, increasing from 18.4 days in 2014 to 47.7 days in 2050 and 70.5 days in 2100, compared with 19.8 days in 2050 and 40.2 days in 2100 nationally. Under RCP 7.0, average temperatures could rise by 21% in the province by 2100, compared with 18% nationally, with extreme heat days reaching 130.9 compared with 85.1 nationally. Rainfall is also projected to decline more than the national average. Under RCP 4.5, Cuando Cubango's rainfall is expected to decrease by 4.6% by 2100, compared with 3.1% nationally. Under RCP 7.0, rainfall could fall by 14.2% in the province by 2100, compared with 5.3% nationally.

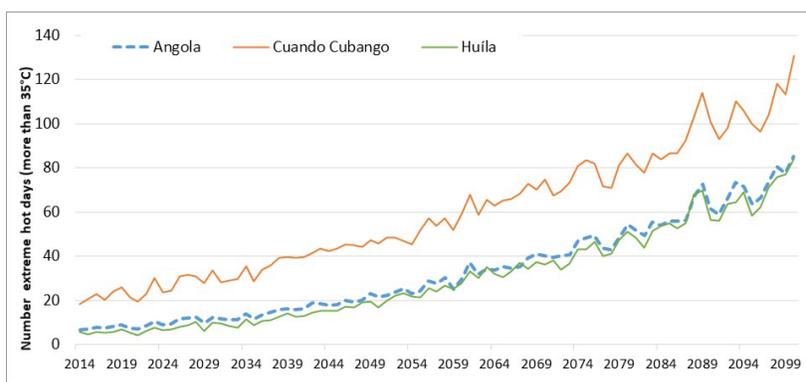


Figure 5: Projected number of extreme heat days under RCP 7.0 (2015-2100)

79. Huíla has a highly diverse geography that spans plateaus and semi-arid lowlands. It has overall moderate temperatures, but is prone to drought in the province's south and west, and flooding in river valleys. Much of the province lies on the central Angolan plateau at elevations of 1,000–2,300 meters, which gives it a cooler and more temperate climate than surrounding southern provinces. Fertile volcanic and lateritic soils in the highland areas support crop cultivation, while the southern and western zones transition toward semi-arid conditions with poorer sandy soils. Several rivers, including tributaries of the Cunene and Cubango basins, flow through the province, providing seasonal water sources but also contributing to localized flooding in valleys during heavy rainfall. The geography results in drought in the semi-arid southern and western districts, and flash floods in river valleys. Rainfall is markedly seasonal, concentrated between October and April, and varies from over 1,200 mm annually in the northern highlands to less than 600 mm in the south.

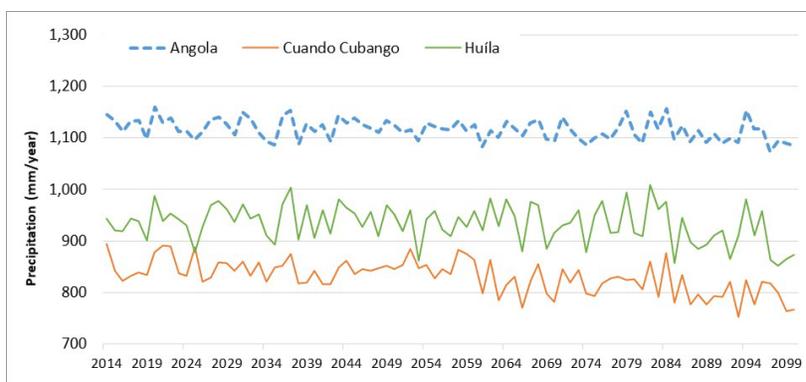


Figure 6: Projected average precipitation under RCP 7.0 (2015-2100)

80. Huíla warmed slightly faster than the national average, while rainfall fell three times more than the countrywide decline. Between 1950 and 2014, average temperatures in Huíla increased by 4.1%, above the national average of 3.6%. The number of extreme heat days rose by 4.8 per year, similar to the national increase of 4.4 days. As of 2014, the province experienced 5.7 extreme heat days annually, below the national average of 6.8. Rainfall declined by 3.6% during this period, triple the national reduction of 1.2%.

81. Huíla's projected average temperature increase is in line with national projections, while rainfall will continue to decline more steeply than nationally, compounding drought risks. Under RCP 4.5, average temperatures in Huíla are projected to increase by 10.9% by 2100, slightly above the national average of 10.2%. Extreme heat days are also expected to rise broadly in line with the national baseline, increasing from 5.7 days in 2014 to 15.7 days in 2050 and 36.9 days in 2100, compared with 19.8 days in 2050 and 40.2 days in 2100 nationally. Under RCP 7.0, average temperatures could rise by 19.7% in Huíla by 2100, compared with 18% nationally. The number of extreme heat days is projected to reach 84.2 in Huíla by 2100, close to the national projection of 85.1 by 2100. Rainfall is also projected to decline. Under RCP 4.5, Huíla's rainfall may fall by 4.8% by 2100, compared with 3.1% nationally, and under RCP 7.0, it is projected to decline more by 7.6%, compared with 5.3% nationally.

C. Barriers and Solutions

C.1. Proposed Climate Adaptation Solutions for Resilient Livelihoods

82. Mozambique and Angola face three major climate risks: rising temperatures and extreme heat, shorter and less reliable rainfall, and more intense and frequent drought and flooding. This exposure is aggravated by rural households' low adaptive capacity due to agriculture, livestock and fisheries low productivity and minimal marketable surplus, often with very low value addition. Climate change is expected to further reduce productivity and increase production volatility across rural economic activities.
83. Tete (central Mozambique), Huíla, and Cubango (southern Angola) rank among the most climate-vulnerable provinces in their respective countries. These regions are predominantly rural, with high poverty rates and heavy dependence on rainfed smallholder agriculture, complemented by extensive livestock rearing and inland artisanal fisheries that provide food and income. Tete combines drought-prone plateaus with river valleys that are vulnerable to flooding, and has already warmed faster than the national average, with extreme heat days projected to more than double by 2100 under RCP 7.0, while rainfall is expected to decline steeply. Huíla, also located on a plateau, is more temperate but faces similar risks to Tete's plateaus, with similar rainfall declines and increases in extreme heat days by century's end under RCP 7.0. Cuando Cubango (no climate projections were found for Cubango alone) faces a combination of recurrent multi-year droughts and flash floods, with extreme heat days projected to rise sevenfold by 2100 under RCP 7.0, the highest of the three provinces.
84. Adaptation solutions in Tete, Huíla, and Cubango must be tailored to their distinct climatic and ecological conditions while drawing on shared priorities for resilience. In Tete, these solutions should emphasize drought- and heat-tolerant crop varieties, water harvesting, and soil conservation on the plateau with flood-resilient crops in the flood-prone valleys. Livestock adaptation should focus on rotational grazing and small-scale water storage, while inland fisheries prioritize the sustainable management of the Zambezi River and Cahora Bassa reservoir. In Huíla, adaptation solutions should focus on drought-tolerant crops, improved drainage, and pasture management, along with the promotion of low-impact fishing along river systems. In Cubango, solutions should include soil and water conservation, moisture retention, and improved water security for livestock and fisheries through boreholes, small dams, and wetland restoration.
85. Adaptation solutions include a range of technologies, products, and services that help rural households reduce their exposure and vulnerability to climate hazards. Climate adaptation solutions fall into three categories:
- Technologies: Tools and equipment that apply scientific or technical methods to increase resilience, such as drip irrigation systems and weather monitoring devices.
 - Products: Physical inputs used to manage climate risks, including drought-tolerant seeds, fertilizers, livestock forage, and shade nets.
 - Services: Advisory, informational, or financial services that support adaptive decision-making, such as agro-weather forecasts, soil testing, and veterinary services.

86. The Project will prioritize solutions that combine adaptation solutions specific to local climate risks in Tete, Huíla, and Cubango with indigenous and community-based practices, and generate quick financial returns at low-cost to rural households. Based on initial analysis from the World Bank and IFAD¹⁶ and on-the-ground experience of proposed implementing partners, the following climate-adaptation solutions are tentatively proposed, subject to further validation with implementing partners, consultation with smallholders and other local stakeholders, and more detailed agro-ecological and social analysis:

Key Climate Risk	Potential Climate Adaptation Solution
<p>Reduced rainfall and drought: Reduced yields in drought-sensitive crops (especially food staples like maize), shorter growing periods, disrupted planting schedules, and higher crop failure rates</p> <p>Rising temperatures and increased number of extreme heat days: Reduce crop yields, accelerate evapotranspiration, increase soil moisture loss, intensify water stress, and shorten growing cycles.¹⁷</p>	<p>Promote the adoption of drought- and heat-tolerant crop varieties:</p> <ul style="list-style-type: none"> - For maize, which remains the preferred staple crop for most smallholders, encourage adoption of better-suited varieties (e.g., early-maturing seeds, short-stem hybrids selected for stress tolerance) to reduce vulnerability. - Crop diversification: Encourage adoption of heat- and drought-resistant crops, with a focus on those already being grown by smallholders, such as groundnuts, cassava, beans, millet, and sorghum that are more resilient to drought and heat than maize. - Identify and promote other drought- and heat-tolerant indigenous crop varieties.
	<p>Integrate soil and water conservation agronomic practices to help retain soil moisture, improve soil structure, reduce evaporation, and enhance water infiltration:</p> <ul style="list-style-type: none"> - Introduce minimum or reduced tillage practices. - Explore the use of cover crops and crop residue retention. - Promote traditional and indigenous water conservation practices to help retain soil moisture, improve soil structure, reduce evaporation, and enhance water infiltration such as planting pits, contour ridging, or organic mulching.
	<p>Support acquisition of low-cost, quick-return climate-smart assets to reduce losses from drought and extreme heat:</p> <ul style="list-style-type: none"> - Basic on-farm infrastructure such as improved hand tools, protective crop storage, mobile drying racks, and lined compost pits. - In areas with access to shallow groundwater or seasonal runoff, support the use of affordable, low-tech irrigation systems that do not require access to electricity (e.g., treadle pumps or gravity-fed kits). - Explore rainwater harvesting technologies such as household rooftop tanks, lined ponds, and field basins. - Shading solutions, such as locally made shade nets or traditional agroforestry systems, to protect crops and reduce soil temperatures.
<p>Flooding: Seasonal and flash floods damage standing crops, wash away topsoil and nutrients, and destroy inputs and infrastructure.</p>	<p>Promote the adoption of flood-resistant crop varieties:</p> <ul style="list-style-type: none"> - Use early-maturing and waterlogging-tolerant crop varieties to shorten exposure to standing water and minimize yield loss. - Crop diversification: Foster the adoption of flood-tolerant root crops that can better withstand temporary waterlogging, with a focus on those already being grown by smallholders, such as such as cassava and sweet potatoes.
	<p>Integrate farm water management and drainage agronomic practices to reduce flooding damage:</p> <ul style="list-style-type: none"> - Promote field bunding, contour farming, and other soil-shaping techniques to control water flow and reduce runoff. - Support the construction and maintenance of small-scale drainage infrastructure, including furrows and diversion ditches. - Rehabilitate wetland buffers and natural waterways to absorb and slow floodwaters.
	<p>Protect soil and prevent erosion from flooding:</p> <ul style="list-style-type: none"> - Introduce green manures and fast-growing cover crops to provide surface protection and reduce soil erosion during rains. - Encourage the use of mulches or organic ground cover to reduce soil compaction and limit runoff velocity. - Promote vegetative buffers around fields and water bodies to reduce sediment loss and trap runoff.

¹⁶ See, for example, World Bank (2023) “Mozambique Country Climate Development Report”, (2022) “Angola Country Climate Development Report”, (2024) “Mozambique Agriculture Support Policy Review, (2021) “Angola Agriculture Support Policy Review”, and IFAD (2020) “Climate Change and Future Crop Suitability in Angola”.

¹⁷ Proposed solutions for drought and increased temperatures and extreme heat are presented together due to their substantial overlap.

	<p>Support acquisition of low-cost, quick-return climate-smart assets to reduce flooding losses:</p> <ul style="list-style-type: none"> - Provide elevated or flood-resilient storage systems to protect seeds, fertilizers, and harvested crops from water damage. - Support the use of raised seedbeds, planting on ridges, and drainage channels to reduce waterlogging in crops and root damage during heavy rains. - Introduce natural buffers, such as vegetative strips or contour hedgerows, to manage surface runoff and reduce erosion in flood-prone fields and retain topsoil.
	<p>Increase resilience of farm infrastructure against flooding:</p> <ul style="list-style-type: none"> - Elevate key farm structures (e.g., seed stores, drying platforms, livestock pens) above known high water marks. - Promote flood-proofed irrigation and storage facilities using materials less prone to rot, rust, or collapse in wet conditions. - Encourage raised walkways or stepping paths to maintain access to fields or homesteads during floods.
Cross-cutting solutions for all climate risks above	<p>Additional crop diversification to buffer against climate shocks that may affect a single crop (i.e., maize) and reduce the risk of total yield loss:</p> <ul style="list-style-type: none"> - Introduce intercropping and crop rotation systems in maize farms that include legumes such as beans, cowpeas, or groundnuts to enhance soil fertility through biological nitrogen fixation. - Explore mixed cropping, agroforestry, or small-scale horticulture alternatives to diversify income opportunities, improve household nutrition, and enable more efficient use of land and long-term soil health.
	<p>Improve soil fertility and structure to enhance crop performance and climate resilience.</p> <ul style="list-style-type: none"> - Expand access to organic fertilizers and manure. - Promote traditional and indigenous soil management practices that align with agro-ecological principles and contribute to long-term sustainability.
	<p>Provide reliable access to agro-weather services such as seasonal forecasts, short-term weather alerts, and crop advisories</p> <ul style="list-style-type: none"> - Based on this information, explore adjustments to crop selection and planting schedules to reduce crop exposure to extreme temperatures and avoid exposure to droughts and flooding. - Provide access to early warning systems to key crops (e.g., maize) and related crop pests, supported by community-level surveillance and advisory services. - Train smallholders in staggered planting techniques to mitigate risks of rainfall variability and temperature increases, and reduce the chance of total crop failure from false season starts or dry spells.
	<p>Invest in improved storage and drying technologies to reduce post-harvest losses:</p> <ul style="list-style-type: none"> - Promote the use of hermetic bags and metal silos to protect stored crops from pests, mold, moisture, and heat. - Support adoption of raised drying platforms, mobile drying racks, and tarpaulins to prevent contamination from soil, animals, and excess humidity. These practices are especially important for avoiding aflatoxin contamination in crops such as maize.

87. In addition to the agriculture climate solutions above, the project will promote climate adaptation solutions for other rural economic activities such as inland artisanal fisheries and smallholder extensive livestock. This may include the following climate adaptation solutions:

Livestock Adaptation Solution	Inland Fisheries Adaptation Solution
<ul style="list-style-type: none"> - Promote indigenous and crossbred livestock that tolerate heat, poor feed quality, and water scarcity in semi-arid provinces. - Apply rotational grazing, controlled bush clearing, reseedling, and restoration to improve pasture productivity and carbon sequestration. - Establish community grazing plans linked to seasonal rainfall forecasts. - Strengthen mobile veterinary outreach, vaccination coverage, and climate-linked disease surveillance. 	<ul style="list-style-type: none"> - Train fishers to use selective and low-impact gear that maintains breeding populations and minimizes bycatch during low-water periods. - Establish drying racks and smokehouses to reduce post-harvest losses and maintain food quality despite rising temperatures. - Explore co-management systems between local communities and authorities to regulate access, enforce seasonal closures, and prevent overfishing as river and lake levels fluctuate. - Restore and conserve riverine vegetation, wetlands, and floodplains that serve as fish

- Construct boreholes, small dams, and rainwater-harvesting systems to secure water for livestock during dry spells and reduce conflict over resources.	breeding and nursery grounds while reducing sedimentation and flood impacts.
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88. There are potential sources of income that can provide essential economic alternatives to climate-sensitive sectors, including agriculture, livestock, and inland fisheries. These additional income opportunities, such as handicrafts, construction, repair services, and small-scale trade, help rural households diversify income, reduce vulnerability to climate shocks, and sustain employment during agricultural off-seasons. Although often informal, they offer flexible work opportunities that absorb seasonal and climate-related labor shifts, contributing to more stable and climate-resilient rural economies.
89. Local DRM Committees and community savings groups are both critical to strengthening community-level rural resilience in Angola and Mozambique. DRM Committees build the foundations for community preparedness and response by coordinating early warning, evacuation, and local recovery, ensuring that communities act collectively and quickly when climate shocks occur. Community savings groups provide the financial means for households to prepare for and recover from such shocks, enabling members to save, access small loans, and invest in livelihood diversification or climate-resilient inputs. When supported together, these mechanisms create a reinforcing system: DRM Committees manage collective risk and planning, while savings groups strengthen household capacity to absorb and recover from losses.

C.2. MSMEs as agents to deliver climate adaptation solutions locally

90. Micro, small, and medium enterprises (MSMEs) play a central role in Mozambique’s and Angola’s economy, and are estimated to account for approximately 80% of all formal and informal jobs¹⁸. In the rural economy, MSMEs provide rural households with inputs, technologies, products and services to rural communities. These MSMEs include a wide range of actors, such as agro-dealers, input retailers, irrigation services, logistics providers, and mobile platforms. They are integral to rural supply chains and help to distribute inputs and bridging rural and urban economies. They are also typically locally owned, often operating informally, and embedded in specific geographies.
91. MSMEs in Angola and Mozambique are particularly well positioned to provide climate adaptation solutions and drive locally led adaptation (LLA) in rural economies due to their local presence, trusted relationships with rural households, and operational flexibility. An adaptation MSME is defined as a company providing technologies, products, or services to improve adaptation by improving users’ capacity to understand and respond to physical climate risks and related impacts, to capture related opportunities, or to contribute to the prevention or reduction of material climate risks and associated adverse impacts on assets, economic activities, people, or nature, while ensuring no harm and generating long-term value¹⁹. MSMEs’ close proximity to rural communities gives them strong insight into local climatic conditions, rural households’ risk perceptions, and other local production challenges. MSMEs also often supply affordable, accessible products to surrounding communities, including vulnerable groups. They can adapt quickly to shifts in market demand and consumer needs. In addition, MSMEs often provide valuable extension services to rural households, informing them about the advantages of implementing specific climate-resilient practices. The identification and selection of adaptation MSMEs will be informed by a targeted landscape assessment conducted during the Project Formulation Grant (PFG) phase and the early stages of implementation.

C.3. Barriers for the adoption of climate adaptation solutions

92. Rural households in target regions face several barriers that constrain their demand for climate adaptation solutions. Rural households face high upfront costs to integrate these solutions, limited access to inputs and information, and weak climate adaptation extension services, all of which reduce their demand for and ability to adopt adaptation solutions. These barriers are particularly relevant

¹⁸https://www.undp.org/sites/g/files/zskgke326/files/2025-06/baseline_study-mozambique.pdf and <https://documents1.worldbank.org/curated/en/099211002232321019/pdf/P17473710a423e0f31a6ea1021b36397f73.pdf>

¹⁹ As defined in the Adaptation Solutions Taxonomy developed by the Adaptation SME Accelerator Project.

when promoting a shift away from common crops and widely used agricultural practices. Similar challenges affect livestock and inland fisheries, where rural households often lack access to veterinary or fisheries extension services, improved breeds or gear, limiting their ability to adopt practices that enhance productivity and climate resilience.

93. Many adaptation solutions require high upfront capital and labor costs, but offer delayed returns, making them unaffordable to most rural households. Rural households face limited access to input markets, including improved seeds and fertilizer, livestock inputs such as feed and vaccines and fishing gear. Access to labor-saving equipment, such as jab planters, direct seeders, and rippers, is also limited due to high costs. Affordable credit is rare available, leaving most rural households without the support needed to cover upfront investments.
94. Rural household access to climate and agronomic information is limited. The adoption of adaptation solutions is frequently constrained by limited rural household awareness and poor access to relevant, and timely local data on their climate risks, soil health, and water availability, and its potential impact on economic activities. Rural households often struggle to identify the adaptation solutions available to them including appropriate inputs, planting and grazing schedules, or other practices suited to their ecological context. As a result, they often rely on informal knowledge systems and experience-based decision-making, which may not be sufficient to manage increasing climate variability.
95. Capacity building and extension services for rural households' climate adaptation remain weak. Public and private extension services are very limited in Mozambique and Angola, including the target regions. Extension services (sometimes provided by MSMEs, as mentioned above) are often inadequate or entirely absent in some areas. This leaves rural households without sufficient guidance and follow-up on how to integrate adaptation practices into their existing activities or prepare for sudden extreme events. Support is also lacking for techniques to add value to household production, and reduce post-harvest losses, such as improved storage, drying facilities, and handling practices.
96. Women smallholders face even greater barriers to accessing adaptation solutions in Mozambique and Angola. Women are disadvantaged by smaller and lower-quality landholdings, limited control over productive assets, and unequal access to credit, extension services, and inputs. In Mozambique, women are 3.4x less likely than men to receive credit and 13% less likely to access extension services, while in Angola, women are 50% less likely to obtain credit and 39% less likely to receive extension support. These gaps are reinforced by traditional gender roles and unpaid care responsibilities that restrict women's time, mobility, and participation in training or input markets. A gender-responsive approach is therefore critical to ensure that adaptation solutions are accessible, effective, and sustainable for women smallholders.
97. Even where rural household demand exists, there are significant barriers to MSME supply and maintenance of adaptation solutions. MSMEs' ability to deliver adaptation solutions and provide post-sales services is limited by multiple structural and operational barriers. As a business, MSMEs are often undercapitalized and operate on narrow margins. This reflects the low profitability of rural markets, particularly in remote or low-density areas which suffer from poor infrastructure, high transport costs, and low purchasing power and which restrict MSMEs to offering mostly low-cost, fast-moving inputs. These challenges are particularly acute in rural areas where logistics are more complex and customer density is low. Due to narrow margins, MSMEs typically have limited cash flows to build inventory or offer credit to their customers. As a result, few MSMEs are in a position to experiment with new offerings such as innovative adaptation solutions, which carry higher upfront costs, uncertain demand, and slower turnover.
98. Many MSMEs lack the technical capacity to provide extension services for the sustained integration of climate adaptation solutions. MSMEs' staff technical knowledge is often limited to staple crop inputs and traditional livestock and fishing practices, and few have been comprehensively exposed to or trained on adaptation solutions. Opportunities to upgrade skills are scarce, due to limited cooperation with universities and research institutions that could offer technical guidance to MSMEs.

99. Aggregating smallholder demand through producer associations or cooperatives can improve delivery economics and simplify logistics for MSMEs. However, most rural cooperatives and producer associations are underdeveloped and often lack the technical, financial, and managerial capacity to function as effective aggregators and partners in the delivery and integration of adaptation solutions. Without capacity building, few cooperatives are able to manage procurement, coordinate training, or support after-sales service for these solutions.
100. Rural households in Angola and Mozambique face multiple barriers to developing alternative sources of income that could strengthen climate resilience. Low skills and limited technical capacity restrict participation in trades such as carpentry, tailoring, and construction, due to the limited vocational programs or apprenticeships in rural areas. Business development support for micro enterprises also remains weak. Information gaps on viable income opportunities further constrain economic diversification. Limited access to finance also hinders enterprise development: most rural households lack savings, credit history, or collateral to start or expand small businesses, while community savings groups are too small to provide sufficient working-capital needs.
101. Community savings groups in rural Angola and Mozambique face major barriers to growth. Low financial literacy and management capacity hinder effective operations, as many lack training in financial management and bookkeeping. Poor governance, weak constitutions, and limited accountability reduce trust and participation. Most groups have little connection to formal finance, restricting access to capital for climate adaptation. Gender and social barriers further constrain impact, as women (often the majority of its members) face mobility, literacy, and time limitations, while social norms limit their leadership and financial control.
102. Local DRM Committees in Angola and Mozambique face major barriers to effective disaster preparedness and response. Most members are volunteers with limited technical skills, weak institutional capacity, and no standardized training or procedures. High turnover further erodes continuity. Poor data flow and the absence of risk-mapping tools hinder data collection and early warning systems. Committees also face equipment shortages and weak communication networks that delay response in remote areas. Limited coordination with civil protection agencies, meteorological services, and provincial authorities further reduces overall system effectiveness. Additionally, in Angola, many committees are new and lack DRM experience, facing significant start-up challenges.

Project/Programme Objectives:

103. The project will strengthen rural households' climate resilience and productivity in the provinces of Huíla and Cubango (Angola) and Tete (Mozambique) by empowering them to adopt and sustain climate adaptation solutions. It will address key regional climate risks, including rising temperatures, shorter and less reliable rainfall, and more frequent droughts and floods, by empowering rural households, communities, and MSMEs to overcome technical, financial, and institutional barriers to adaptation in rural economies. The specific objectives are to (1) strengthen demand, ownership, and integration of climate adaptation solutions by building household and community awareness, organizational capacity, and technical capacity to identify and integrate locally relevant adaptation solutions, and to adopt and alternative income opportunities; (2) scale the inclusive supply of adaptation solutions by strengthening MSMEs' technical, financial, and managerial capacity, enhance their access to climate finance, and introduce a performance-based financing mechanism that links compensation to verified, inclusive, and sustained delivery of adaptation solutions; and (3) foster adaptive learning and regional collaboration through community-led knowledge systems, innovation studios, and a Lusophone learning platform that enable continuous adaptation, peer learning, and knowledge exchange across Angola and Mozambique.

Project/Programme Components and Financing:

Project/ Programme Components	Expected Outcomes	Expected Outputs	Countries	Amount (US\$)
1. Strengthening local enabling conditions for the uptake and sustainability of adaptation solutions in rural communities	Strengthened community awareness, agency and ownership to lead the integration of climate adaptation solutions and alternative sources of income	Output 1.1: Climate literacy and access to climate information enhanced in target communities. Output 1.2: Community capacity for adaptation planning, risk reduction, and resilience building strengthened. Output 1.3: Climate-resilient and inclusive livelihoods strengthened and scaled at community level.	Angola, Mozambique	8,000,000 (4,000,000 Angola, 4,000,000 Mozambique)
2. Inclusive delivery and uptake of adaptation solutions by rural MSMEs for resilient livelihoods	Strengthened adaptive capacity of smallholders through inclusive delivery of locally relevant adaptation solutions	Output 2.1: Capacity of local MSMEs strengthened to supply adaptation solutions and quantify adaptation benefits aligned with community adaptation plans. Output 2.2: Performance-based financing mechanism implemented to incentivize affordable and inclusive solution deployment. Output 2.3: Climate-resilient and profitable micro-enterprises co-developed with rural households.	Angola, Mozambique	13,000,000 (6,500,000 Angola, 6,500,000 Mozambique)
3. Knowledge loops and adaptive partnerships for regional learning and synergies	Strengthened community-led and regionally connected learning systems and partnerships that drive adaptive learning innovation for climate resilience	Output 3.1: Knowledge and learning systems established and operationalized to support uptake, replication and scaling of adaptation practices Output 3.2: Local governance structures and local and regional partnerships for learning alliances and innovation Output 3.3: Community adaptation innovation studios conducted for peer learning, and exchange of experiences, innovations, and strategies across local, cross-border and international contexts Output 3.4: Adaptation knowledge products co-produced with communities, SMEs, and institutions to inform adaptation policy and investment at local, national, and regional levels	Angola, Mozambique	3,880,721 (1,940,360 Angola; 1,940,361 Mozambique)
6. Project/Programme Execution cost				2,392,007
7. Total Project/Programme Cost				27,272,728
8. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)				2,727,272
Amount of Financing Requested				30,000,000

Projected Calendar:

Milestones	Expected Dates
Start of Project/Programme Implementation	November 2027
Mid-term Review (if planned)	May 2031
Project/Programme Closing	October 2034
Terminal Evaluation	May 2034

Project Duration: 7 years (84 months) – including 6 months of project inception and start-up phase, and 6 months of project closure phase including final evaluation. 6 years of project activities.

PART II: PROJECT / PROGRAMME JUSTIFICATION

A. Describe the project/programme components, particularly focusing on the concrete adaptation activities, how these activities would contribute to climate resilience, and how they would build added value through the regional approach, compared to implementing similar activities in each country individually. For the case of a programme, show how the combination of individual projects would contribute to the overall increase in resilience.

A1. Proposed intervention

104. Rural communities in Tete (central Mozambique) and Huíla and Cubango (southern Angola) face three major climate risks: rising temperatures and extreme heat, shorter and less reliable rainfall, and more intense and frequent drought and flooding. They have low adaptive capacity due to low productivity, particularly for staple crops such as maize, and low livestock and inland fisheries productivity from limited access to feed and extension services, and dependence on natural pastures and water bodies that are highly sensitive to climate variability. Rural households also have limited opportunities to develop alternative income sources to smooth earnings during off-seasons. Finally, local DRM committees and community savings groups, which are essential for strengthening community resilience, have not received the necessary institutional support, funding, or technical assistance to grow sustainably and expand their impact.
105. To promote the sustained and inclusive adoption of climate adaptation solutions, the project will address key barriers to the adoption of climate adaptation solutions in rural economies by building an enabling local ecosystem that strengthens community demand, expands MSME supply, and reinforces adaptive governance. The project will improve rural households' awareness, capacity, and incentives to adopt climate adaptation solutions tailored to local ecological and livelihood conditions, while supporting MSMEs to provide affordable, context-appropriate solutions that respond to local demand. The project will also diversify rural livelihoods and improve individual and group financial and climate resilience through alternative income opportunities, community savings groups, and local DRM Committees. In parallel, the project will reinforce governance and policy feedback loops between national and community levels through knowledge exchange, adaptive learning, and multi-stakeholder coordination, ensuring that lessons from local practice inform broader action in Angola and Mozambique.
106. The project will be grounded in LLA principles by embedding participatory approaches throughout design and implementation. Delivery models will strengthen women's, youth's, and marginalized groups' access to adaptation solutions and alternative income opportunities. The project will support community resilience by creating or reinforcing local DRM Committees to strengthen community-level structures for coordinating preparedness, response, and recovery activities, and by facilitating the establishment and strengthening of community savings groups to build financial resilience and support investment in adaptation solutions. Rural households will gain access to locally relevant adaptation solutions that support climate-resilient livelihoods, while MSMEs and cooperatives will be equipped to meet this demand effectively. Together, these interventions will lay the foundation for an inclusive, sustainable, and climate resilient rural economy in rural Angola and Mozambique.
107. The project will promote climate adaptation solutions identified locally, context-specific, and innovative. Some of these solutions may have been successfully implemented in other regions and will be adapted to local agroecological conditions and the constraints faced by rural households in Angola and Mozambique. Formal linkages will be established between MSMEs and universities or research institutions to integrate climate-smart research into local extension services support. This will strengthen the flow of technical knowledge to rural adaptation MSMEs.
108. A regional, inter-country approach will address the shared climate vulnerabilities and systemic barriers faced by the target regions in Angola and Mozambique. Although the countries do not share a physical border, the inland provinces of Huíla, Cubango, and Tete experience similar climate-

induced stresses and face parallel development challenges. The shared language will facilitate peer-to-peer exchange, institutional coordination, and scaling of successful practices. The regional design will reduce duplication and leverage economies of scale by reusing delivery models and tools across geographies. Complementarities will be harnessed through joint capacity building, pooled technical assistance, and structured peer exchanges across both countries.

A2. Project Structure

109. This project is structured around three interlinked components to jointly encourage rural communities to adopt, sustain, and scale climate adaptation solutions. Component 1 will strengthen demand and ownership for locally relevant climate adaptation solutions and identify alternative income opportunities. It will deliver climate literacy and localized climate information services, co-develop inclusive Community Adaptation Action Plans (CAAPs), and strengthen community institutions such as DRM committees and savings groups to plan and coordinate adaptation actions. Component 2 will strengthen MSMEs as inclusive suppliers of climate adaptation solutions through technical assistance, enterprise development, training for extension support, and improved access to climate finance. Additionally, a performance-based grant financing mechanism will align MSME compensation to verified delivery and sustained use of adaptation solutions, with additional incentives for reaching women, youth, and marginalized rural households. Component 3 will establish knowledge loops and multi-stakeholder forums, organize community innovation studios, and launch a regional Lusophone platform to enable peer learning and links to universities, research institutions, and broader adaptation networks. Together, these interventions will create a mutually reinforcing local system where locally-led demand (Component 1), inclusive market supply (Component 2), and adaptive learning systems for regional learning systems and sustained climate resilience (Component 3).

Unidentified Sub-Projects (USP)

110. The project includes several interventions under Outputs 1.2 and 2.1 that fall under the Adaptation Fund's (AF) definition of Unidentified Sub-Projects (USPs). These include:
- The final selection and deployment of climate adaptation solutions for rural households;
 - The identification and support of MSMEs to deliver appropriate climate adaptation solutions;
 - The piloting and customization of climate services and digital tools tailored to rural households and MSMEs.
 - Identification of data providers to feed into community-level climate information services, including early warning systems and seasonal forecasts
 - Identification of universities, research and training institutions to co-develop Training of Trainer modules to institutionalize technical knowledge about climate adaptation solutions in local MSMEs, including after the project has concluded.
- These interventions are not pre-defined at the concept stage in order to uphold the principles of LLA and ensure the project remains responsive to localized climate risks, evolving community priorities, and dynamic technology and market environments. Site-specific vulnerabilities, institutional capacities, and socio-economic contexts vary significantly across the targeted districts—rendering a one-size-fits-all approach technically inappropriate and potentially maladaptive.
111. In accordance with the AF's Updated Guidance for Implementing Entities on USPs (Decision B.39/52), the use of USPs is justified on the basis that:
- The nature or location of certain sub-projects cannot yet be determined without the outcomes of participatory planning processes and climate risk assessments;
 - Deferring selection allows for demand-driven, inclusive co-design of adaptation solutions, resulting in higher uptake, social acceptability, and long-term sustainability;
 - The benefits of flexibility and responsiveness outweigh the increased safeguards complexity, provided that robust environmental and social safeguards are enforced.
112. All USPs fall within permissible categories defined in the AF guidance, including partially unidentified sub-projects and fully unidentified sub-projects within a fixed framework. They will be governed by a comprehensive Environmental and Social Management Framework (ESMF), which will be drafted during the full proposal stage. The ESMF will outline:

- A clear process for screening all USPs for environmental and social risks prior to implementation;
- Defined eligibility and exclusion criteria for sub-project types and locations;
- Stakeholder engagement provisions, including gender-responsive planning and accessible grievance redress mechanisms at all USP locations;
- Clear roles and responsibilities for UNIDO (Implementing Entity) and Executing Entities in safeguards implementation and supervision.

Budgetary provisions will be allocated to cover the full cost of USP safeguards screening, stakeholder consultations, gender and environmental assessments, and adaptive safeguards management. The Monitoring and Evaluation (M&E) system will track the identification, screening, implementation, and safeguard performance of each USP, with results disaggregated by sex and other social identifiers, in alignment with the AF's results framework. The final design, selection mechanisms, and safeguard measures for USPs will be elaborated in the full project proposal, ensuring compliance with the Environmental and Social Policy (ESP), Gender Policy (GP), and USP guidance issued by the AF.

USPs	Justification for non-identification at this stage (criterion i.)	Benefits for non-identification (criterion ii.)	Benefit/risk trade-off (criterion iii.)
<u>Output 1.1:</u> Climate literacy and innovation showcases conducted in target communities in Y1 and Y3	The identification of data providers to feed into community-level climate information services, must be identified on community demand for information on specific climate risks and local data sources already available. These will differ by district, and exposure to climate hazards. Pre-defining interventions would bypass this critical process.	Enables inclusive, context-responsive, and locally owned adaptation actions that align with LLA principles. Increases uptake, gender and youth inclusion, and long-term sustainability of solutions. Allows flexibility for emerging innovations.	All selected solutions will undergo safeguards screening under the ESMF, including environmental, social, gender, and digital inclusion checks. Only interventions passing these filters will be funded. Adaptive risk management will reduce potential harm.
<u>Output 1.2:</u> Community capacity for adaptation planning, risk reduction, and resilience building strengthened	The specific adaptation solutions to be supported must be co-identified with rural households through participatory planning, local climate risk assessments, and socio-economic profiling. These will differ by district, livelihood group, and exposure to climate hazards. Pre-defining interventions would bypass this critical process.	Enables inclusive, context-responsive, and locally owned adaptation actions that align with LLA principles. Increases uptake, gender and youth inclusion, and long-term sustainability of solutions. Allows flexibility for emerging innovations.	All selected solutions will undergo safeguards screening under the ESMF, including environmental, social, gender, and digital inclusion checks. Only interventions passing these filters will be funded. Adaptive risk management will reduce potential harm.
<u>Output 2.1:</u> Climate adaptation solutions delivered to rural households and rural communities, by local MSMEs identified, trained, and supported with financing and technical assistance by the project.	The MSMEs and climate adaptation solutions to be supported will be identified through open, competitive calls based on the demand defined in Output 1.1. Business models, product offerings, and technical capacity will vary by district and sector. Pre-selecting suppliers or technologies would limit responsiveness and may exclude better-suited local actors.	Enhances transparency, promotes rural innovation, and ensures that support reaches MSMEs capable of delivering context-appropriate, scalable, and gender-responsive solutions. Stimulates private sector-led adaptation.	Each MSME proposal will be screened against the project's ESMF and GP. Eligibility criteria, safeguards screening, and milestone-based funding will ensure alignment with AF policies and minimize environmental and social risks.

Table 5: Justification for USPs

Theory of Change

113. The Theory of Change outlines how the project's three interlinked components jointly interact to enable rural households to adopt, sustain, and scale climate adaptation solutions, while supporting communities to diversify livelihoods in ways that are financially sustainable, inclusive, and responsive to local climate risks and increase community resilience. Component 1 builds the social foundations for adaptation by empowering communities to understand climate risks, co-design adaptation plans, and implement adaptation solutions and alternative income opportunities in partnership with MSMEs

and cooperatives. It will support community resilience by creating or reinforcing local DRM Committees to strengthen community-level structures for coordinating preparedness, response, and recovery activities, and by facilitating the establishment and strengthening of community savings groups to build financial resilience and support investment in adaptation solutions. Component 2 strengthens MSMEs as inclusive and financially viable providers of adaptation solutions by combining enterprise support and extension capacity building with a performance-based grant financing mechanism that aligns MSME compensation with the verified and sustained uptake of adaptation solutions by rural households. Rural households will also co-develop micro-enterprises that combine adaptation solutions and value addition opportunities in agriculture, livestock, and inland fisheries to strengthen their productivity and profitability under climate stress. Component 3 connects local practice to regional and national systems by establishing knowledge loops, innovation studios, and co-produced knowledge products that enable continuous local learning, foster innovation, and inform policy. Together, these components ensure that adaptation solutions are rooted in LLA principles, demand-driven by local communities and rural households, financially sustainable, institutionally supported, and regionally connected, creating durable systems for climate resilience in Angola and Mozambique.

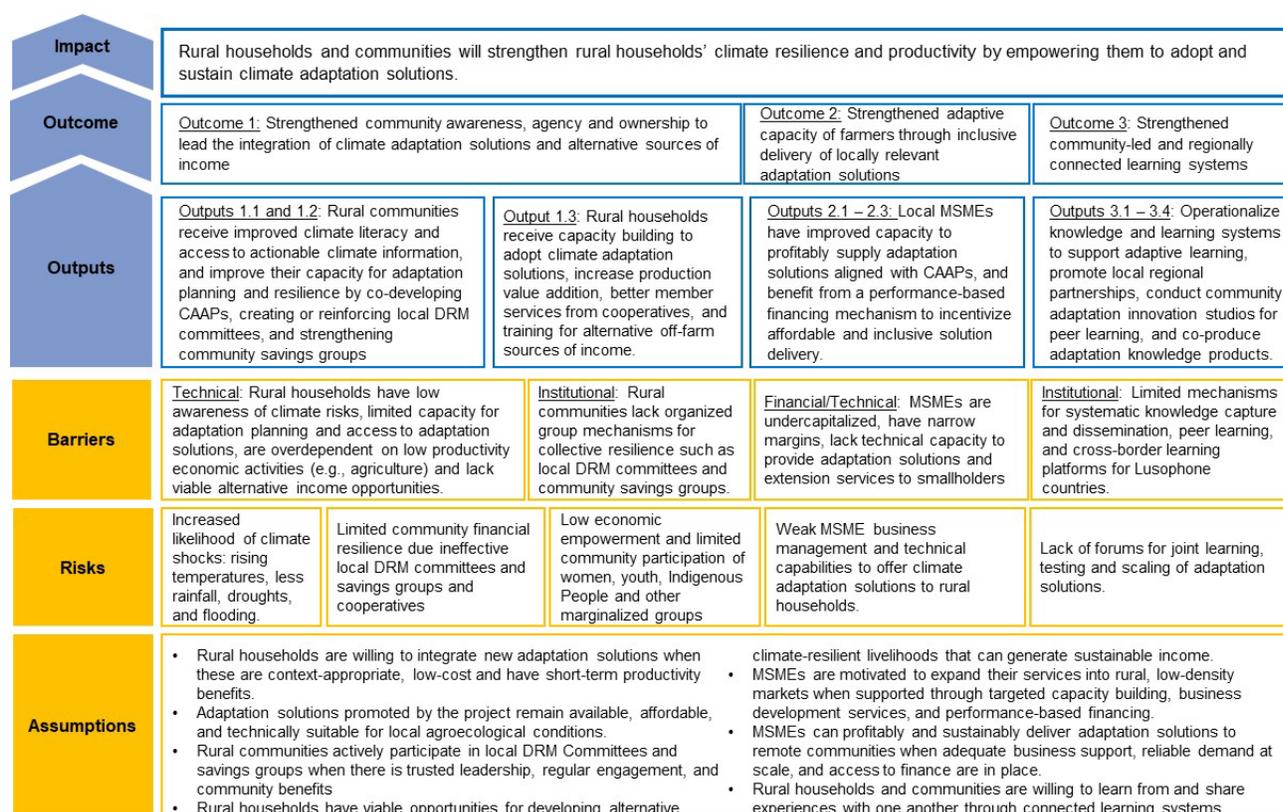


Figure 7: Theory of Change

114. Component 1: Strengthen local enabling conditions for the uptake and sustainability of adaptation solutions in rural communities

- IF communities receive tailored climate literacy programs and improved access to localized climate information services that strengthen their capacity to understand climate risks and adaptation alternatives,
- IF communities are supported to co-develop inclusive Community Adaptation Action Plans (CAAPs), set up and strengthen DRM committees and savings groups to plan, coordinate, and gain access to training and upskilling opportunities for non-farm employment and diversification,

- IF rural households and producer organizations receive capacity building, technical assistance, and targeted financial and mentoring support to adopt and scale adaptation solutions, and add value to their economic activities
- THEN rural communities will have the awareness, organizational capacity, income and economic options to adopt and sustain climate adaptation solutions and diversified income sources and more robust community-level resilience, reducing vulnerability and strengthening resilience to climate shocks,
- BECAUSE improved access to knowledge, inclusive planning, financial mechanisms, and viable livelihood opportunities, rooted in LLA principles and supported by strong community institutions, will create the enabling environment for communities to drive adaptation processes, overcome barriers to adoption and scale inclusive, climate-resilient, and profitable adaptation solutions.

115. Component 2: Inclusive delivery and uptake of adaptation solutions by rural MSMEs for resilient livelihoods

- IF local MSMEs are identified, vetted, and equipped with the technical, financial, and managerial capacity to supply adaptation solutions aligned with CAAPs, and their staff are trained to provide extension and after-sales services through partnerships with research and training institutions,
- IF MSMEs gain improved access to climate finance through tailored guidance, dialogue with financial institutions, enabling them to expand their operations and serve rural communities sustainably,
- IF a performance-based financing mechanism is designed and implemented to incentivize inclusive, affordable, and accountable delivery of adaptation solutions, with additional rewards for reaching women, youth, and marginalized rural households, and
- IF climate-resilient and profitable rural micro-enterprises are co-developed with rural households, building on deployed adaptation solutions and value-added opportunities to strengthen household productivity and resilience,
- THEN local MSMEs will become financially sustainable and technically capable to become inclusive suppliers of climate adaptation solutions that improve the adaptive capacity and livelihoods of rural households, while rural households will co-develop micro-enterprises that strengthen their productivity and profitability under climate stress,
- BECAUSE MSMEs will have the technical and business capacity and financial incentives to tailor their adaptation supply to community demand and climate risks, resulting in a sustainable locally-led market that sustains the delivery and uptake of adaptation solutions beyond the project's lifecycle.

116. Component 3: Knowledge Loops and Adaptive Partnerships for Regional Learning and Synergies

- IF inclusive community-led knowledge and learning systems are established and operationalized to capture lessons from implementation, and local institutions and community representatives are trained to manage and sustain these systems,
- IF regular multi-stakeholder forums, community innovation studios, and a regional Lusophone platform enable participatory experimentation, peer-to-peer exchanges, and collaboration with research and innovation networks, and
- IF actionable adaptation knowledge products are co-produced and disseminated to communities, MSMEs, and policymakers through accessible formats and established learning platforms,
- THEN Angola and Mozambique will develop inclusive, community-led, and regionally connected learning systems that foster continuous adaptation, innovation, and evidence-based policymaking for climate resilience,
- BECAUSE structured learning systems, participatory innovation spaces, and regional partnerships will ensure that adaptation is continuously updated with evidence, scaled through peer-to-peer exchange, and anchored in local and regional systems, creating a durable ecosystem for adaptive learning and decision-making.

Component Overview

Component 1: Strengthen local enabling conditions for the uptake and sustainability of adaptation solutions in rural communities

117. Component 1 will strengthen community awareness, agency, and ownership to increase the demand for locally relevant climate adaptation solutions, increase community resilience, and identify alternative sources of income, directly addressing barriers identified in Section C3. Climate literacy campaigns and access to local climate information services will improve awareness, strengthen adaptive capacity, and enable households to make informed decisions based on climate risks and opportunities. This will help rural households overcome low climate-risk awareness and improve access to localized information for resilience planning. Rural communities will co-develop CAAPs for rural economic activities such as agriculture, livestock, and fisheries, to increase household awareness and demand for adaptation solutions. These plans will use participatory approaches to ensure that women, youth, and marginalized groups identify and prioritize feasible adaptation practices and address social inequality in access to adaptation opportunities. The component will also build the adaptive capacity of rural households through practical training and capacity building on locally identified climate adaptation solutions, in collaboration with local MSMEs (engaged under Component 2). It will further provide targeted support for value addition and improved market participation. Producer associations and cooperatives will be strengthened to improve governance and access to these solutions. The project will support community resilience by creating or reinforcing local DRM Committees to strengthen community-level structures for coordinating preparedness, response, and recovery activities, and by facilitating the establishment and strengthening of community savings groups to build financial resilience and support investment in adaptation solutions. Finally, training and upskilling activities will expand climate-resilient income opportunities and reduce household dependence on climate-sensitive rural activities such as agriculture, livestock, and fisheries.

Outcome 1: Strengthened community awareness, agency and ownership to lead the integration of climate adaptation solutions and alternative sources of income

Output 1.1: Climate literacy and access to climate information enhanced in target communities

118. *Activity 1.1.1* – Develop and deliver inclusive climate literacy materials tailored to the specific contexts and languages of target communities, covering climate risks, impacts, and practical adaptation options. Campaigns will be delivered through schools, radio, and community sessions to ensure broad and equitable outreach. By combining locally relevant content with multiple dissemination channels, the project will implement a comprehensive awareness program that empowers vulnerable populations to understand climate risks, strengthen their adaptive capacity, and make informed decisions to adopt climate-resilient practices and solutions.
119. *Activity 1.1.2* – Identify and, where necessary, support the establishment of regional sources of local climate data and partnerships with data providers to feed into community-level climate information services, including early warning systems and seasonal forecasts. Information will be translated into clear, actionable messages and disseminated through trusted local channels (e.g., community leaders, WhatsApp groups, local radio) to ensure accessibility for all groups, including women, youth, and marginalized households and will be leveraged in rural household capacity building (Activity 1.3.1) and training MSME extension services staff (Activity 2.1.2). Community members will be supported to improve their ability to interpret and apply the information, such as preparing for extreme weather and adjusting planting calendars.

Output 1.2: Community capacity for adaptation planning, risk reduction, and resilience building strengthened

120. *Activity 1.2.1* – Co-develop inclusive Community Adaptation Action Plans (CAAPs) to select climate adaptation solutions for rural economic activities, including agriculture, livestock, and fisheries (see Context Analysis, Section C1, for preliminary list of solutions) that incorporate climate literacy learnings (Output 1.1) and reflect local climate risks, agroecological conditions, and livelihood realities. The process may include the prior formulation of Participatory Community Land Use Plans to identify specific zones for rural economic activities and conservation, and mitigating land-use conflicts and provide the land-tenure clarity required for long-term investments in climate adaptation solutions. The CAAP co-development will also include participatory risk and vulnerability assessments, an analysis of potential impacts on community livelihoods, and gender and social inclusion evaluations to ensure that

diverse perspectives and needs are captured. Communities will be guided to identify and prioritize locally relevant adaptation solutions and diversification opportunities, as well as the resources and capacities required for implementation.

121. *Activity 1.2.2* – Create or reinforce local DRM Committees to strengthen community-level structures for coordinating preparedness, response, and recovery activities. Committees will receive equipment and training in risk assessment, early warning, contingency planning, and coordination with local authorities, and access to local climate data generated (Activity 1.1.2), thus enabling effective household mobilization and support before, during, and after climate shocks. The committees will also be linked with formal government DRM systems to promote long-term sustainability and alignment with national disaster management frameworks.
122. *Activity 1.2.3* – Facilitate the establishment and strengthening of community savings and loans groups as a mechanism for building financial resilience and supporting investment in adaptation solutions, especially as the financial support from the performance-based mechanism slowly phases out (Output 2.2). These self-managed groups will be trained in transparent governance, record keeping, and revolving fund management to ensure accountability and equitable access. Adult literacy and numeracy modules, including financial literacy, will be integrated where needed to strengthen management skills. To promote women’s participation, the project will apply gender-sensitive facilitation, aligning meeting times and modalities with household responsibilities. Where possible, the project will also explore facilitating formal engagements with financial institutions.

Output 1.3: Climate-resilient and inclusive livelihoods strengthened and scaled at community level.

123. *Activity 1.3.1* – Provide capacity building to rural households for the adoption of climate adaptation solutions for key rural economic activities such as agriculture, inland fisheries, and livestock, and best use of local climate information services. Demonstration plots and farmer field schools will showcase improved practices and technologies, incorporating climate adaptation solutions identified in the CAAPs (Activity 1.2.1) and delivered by MSMEs (Activity 2.1.2), while producer-to-producer exchanges will promote peer learning and strengthen local ownership. The delivery of this capacity building will be provided in coordination with MSME extension services staff.
124. *Activity 1.3.2* – Support rural households to identify and benefit from value addition opportunities in key rural economic activities such as agriculture, livestock and fisheries, especially for women, youth, and marginalized communities. Market assessments will identify viable opportunities for value addition and access to markets, and determine the technical training needs of rural households (e.g., post-harvest storage, product quality control, food safety standards, processing, and packaging). Beneficiaries will also receive business training and technical assistance in business planning and financial literacy to ensure their financial viability and climate adaptability. This targeted support will allow beneficiaries to gradually scale up their value-added activities. In parallel, mentoring and peer-to-peer exchanges will strengthen capacities, foster innovation, and build confidence among emerging entrepreneurs.
125. *Activity 1.3.3* – Strengthen and, where necessary, establish associations and cooperatives of rural producers to enhance their role as vehicles for the adoption and scaling of adaptation solutions. Support will include assistance with formal registration, training in governance, financial management, and business planning, as well as guidance on developing inclusive leadership structures that actively involve women and youth. To improve market participation, associations and cooperatives will be supported to negotiate off-take agreements, build linkages with buyers, and access financial services. Collective action will also be promoted through peer learning and joint investments that reduce individual risks and costs.

Component 2: Inclusive delivery and uptake of adaptation solutions by rural MSMEs for resilient livelihoods

126. Component 2 will empower local MSMEs to become inclusive suppliers of adaptation solutions. By providing capacity development to MSMEs and implementing a performance-based grant financing mechanism, this component addresses supply-side and inclusion barriers identified in Section C3. These interventions will ensure that rural households gain affordable access to adaptation solutions while fostering the long-term financial sustainability of the transactions between these households and MSMEs. MSMEs will receive technical assistance, business development services, and targeted training for extension officers. This support will improve MSMEs’ operational, financial, and service-delivery capacity and lower the operational costs that currently limit MSMEs’ ability to deliver and

maintain adaptation solutions in rural markets and enable them to serve remote, low-income customers more efficiently and mitigates the low capacity of current extension networks. Training-of-Trainers (ToT) modules will be developed in partnership with research and training institutions to promote the systematic integration of updated adaptation practices beyond the project's duration. The component will also introduce a performance-based financing mechanism linking MSME compensation to the verified delivery, sustained use, and functionality of climate-adaptation solutions. The mechanism will include additional incentives for reaching women, youth, and marginalized smallholders, addressing persistent inclusion and equity gaps. Component 2 will also co-develop rural microenterprises with rural households that combine adaptation solutions and value addition opportunities in agriculture, livestock, and inland fisheries to strengthen rural household productivity and profitability under climate stress.

Outcome 2: Strengthened adaptive capacity of smallholders through inclusive delivery of locally relevant adaptation solutions

Output 2.1: Capacity of local MSMEs strengthened to supply adaptation solutions and quantify adaptation benefits aligned with community adaptation plans

127. *Activity 2.1.1* – Strengthen organizational capacity of local MSMEs to deliver adaptation solutions to rural households. A targeted landscape assessment will be conducted at the full proposal phase and the early stages of implementation to identify and vet a roster of eligible MSMEs. Selection criteria will include their operational presence in target areas, alignment with community priorities, demonstrated potential to deliver or scale adaptation solutions, and a clear commitment to inclusive service delivery. Tailored technical assistance and enterprise support will be provided to strengthen business models, management capabilities, and delivery capacity of climate adaptation solutions and quantify adaptation benefits. Training will also focus on improving operational efficiency, financial management, and customer outreach, ensuring MSMEs can reliably serve rural households directly or through associations and cooperatives. While this activity prioritizes established rural MSMEs, it will also identify and nurture early-stage businesses and start-ups to expand the pipeline of local adaptation providers. By building the institutional and technical capacity of local MSMEs, this activity will create a sustainable supply base of adaptation solutions that are accessible, inclusive, and responsive to community priorities identified through adaptation planning.
128. *Activity 2.1.2* - Build the capacity of MSME staff to provide effective extension and after-sales services to rural households to ensure the sustained adoption of adaptation solutions and mitigate the low capacity of current extension networks. Training will cover the use and integration of climate adaptation solutions in existing rural economic activities, the installation, maintenance, repair and recycling of technologies and, where relevant, climate-smart agronomic advice and the interpretation of local climate data and use of local climate information services. Inclusion training will be delivered to ensure that service models reach women, youth, and marginalized smallholders. By equipping MSME staff with these practical skills, the project will bridge a critical service gap, improve trust between providers and rural households, and enhance the long-term functionality and impact of adaptation solutions.
129. *Activity 2.1.3* – Develop Training of Trainers (ToT) modules to institutionalize technical knowledge in MSMEs to strengthen the capabilities of MSME extension networks. The modules will cover technical know-how to support the integration of climate adaptation solutions by rural households, and business management and customer support to strengthen service quality. The project will engage universities and research and training institutions to co-develop these modules and ensure ongoing access to technical expertise and the systematic integration of updated agronomic practices into local MSMEs after the project has concluded.
130. *Activity 2.1.4* – Improve the ability of local MSMEs to access formal financial services to support business growth and expand the delivery of adaptation solutions in rural communities. Access will be facilitated by linking MSMEs with financial institutions. MSMEs will also receive tailored training and guidance on proposal development, loan application procedures, development of credit histories, and financial management and business planning.

Output 2.2: Performance-based financing mechanism implemented to incentivize affordable and inclusive solution deployment

131. *Activity 2.2.1* – Design a performance-based grant financing mechanism that rewards MSMEs for the verified delivery and sustained use of adaptation solutions by rural households. Initially, the mechanism will offset most or all of the cost of adaptation solutions. This support will decrease as rural households

realize productivity gains and begin to co-finance a larger share of the solution costs and will encourage rural households to progressively purchase adaptation solutions. This will support the transition toward a commercially viable, self-sustaining market relationship between rural households and MSMEs. The mechanism will be co-designed with communities and MSMEs to ensure that the adaptation solutions supported locally are affordable, inclusive, and aligned with local priorities and align with relevant national rural financing strategies (e.g., Mozambique's Strategic Plan for Agrarian Sector Development, PEDSA II). The financing mechanism will include eligibility criteria, performance indicators and verification procedures (e.g., delivery quality, accessibility for vulnerable households, continued functionality of solutions over time). To strengthen equity, the mechanism will also include additional incentives for MSMEs that reach women, youth, and marginalized smallholders.

132. *Activity 2.2.2* – Deliver affordable adaptation solutions to rural households leveraging the performance-based financing mechanism. MSMEs and local communities will be compensated based on the verified delivery and continued use of solutions. The mechanism will slowly phase out financial support for the purchase of solutions when rural households start to benefit financially from integrating adaptation solutions in their activities. The mechanism will be iteratively refined using community feedback, while independent Monitoring, Reporting, and Verification (MRV) systems, such as community monitors and third-party auditors, will ensure transparency and credibility.
133. *Activity 2.2.3* – Capture and disseminate lessons from the design and implementation of the performance-based financing mechanism to inform scaling and replication. Documentation will focus on the effectiveness of incentives in driving MSME engagement, the affordability and accessibility of solutions for vulnerable households, and the role of community feedback and independent verification in ensuring accountability. Lessons will be shared through activities in Component 3.

Output 2.3: Climate-resilient and profitable micro-enterprises co-developed with rural households

134. *Activity 2.3.1* – Facilitate training and upskilling for alternative climate-resilient sources of income and employment pathways. Building on CAAAPs (Activity 1.2.1), the project will identify locally-relevant alternative climate-resilient income opportunities (e.g., handicrafts, construction, repair services, or small-scale trade), and commercial opportunities to leverage climate data (Activity 1.1.2) or to support value addition on rural economic activities (Activity 1.3.2). The project will also provide training and mentoring to rural households, particularly youth, develop the skills necessary for these alternative employment pathways. Training will focus on practical, market-relevant skills and include modules on entrepreneurship, financial literacy, and business development to support self-employment and micro-enterprise creation. Additionally, partnerships with local MSMEs will promote apprenticeship opportunities, facilitate on-the-job learning, and encourage inclusive hiring practices to expand employment options for trained participants.
135. *Activity 2.3.2* – Based on the successful training and upskilling for alternative climate-resilient sources of income and employment pathways, co-develop rural micro-enterprises with rural households to benefit financially from alternative climate-resilient income opportunities and from commercial opportunities to leverage climate data and value addition on existing rural economic activities. Micro-enterprises will account for women, youth and marginalized groups' additional technical constraints and socio-cultural barriers.
136. *Activity 2.3.3* – Assess the financial performance of the micro-enterprises, document and share innovative micro-enterprise business models for replication and facilitate peer learning and knowledge exchange through field demonstrations and cross-provincial exchanges.

Component 3: Knowledge Loops and Adaptive Partnerships for Regional Learning and Synergies

137. Component 3 will strengthen community-led and regionally connected learning systems to ensure adaptive, evidence-based, and inclusive climate action. Community-led knowledge systems will capture lessons from implementation, integrate new climate information, and support adaptive management and coordination across components. Community representatives and local institutions will be trained to manage these systems using simple feedback tools, while multi-stakeholder forums will connect MSMEs, communities, and public institutions for joint learning and coordination. Innovation studios will provide participatory spaces for rural households, MSMEs, and local institutions to test and scale adaptation ideas. A regional Lusophone platform will enable cross-border peer learning and link to research partners and broader adaptation networks. Co-produced knowledge products, such as handbooks, briefs, and videos, will translate project evidence into practical guidance for communities,

MSMEs, and policymakers and be disseminated through existing training and learning platforms. Together, these activities will establish a sustainable learning ecosystem that anchors adaptation in locally led practice, promotes cross-border collaboration, and connects Angola and Mozambique to regional and global knowledge networks on climate adaptation.

Outcome 3: Strengthened community-led and regionally connected learning systems and partnerships that drive adaptive learning innovation for climate resilience.

Output 3.1: Knowledge and learning systems established and operationalized to support uptake, replication and scaling of adaptation practices

138. *Activity 3.1.1.* Establish and operationalize inclusive community-led knowledge and learning systems to support iterative the uptake, replication and scaling of adaptation practices and integration of new climate information.
139. *Activity 3.1.2.* Provide training for community representatives and local institutions to manage and sustain learning systems, including simple community feedback tools (e.g., scorecards, focus groups) to capture rural household perspectives.

Output 3.2: Local governance structures and local and regional partnerships for learning alliances and innovation

140. *Activity 3.2.1.* Facilitate regular multi-stakeholder forums at provincial and national levels to connect MSMEs, communities, and government institutions for sharing of lessons learned, emerging climate needs, and opportunities for innovation.
141. *Activity 3.2.2.* Provide targeted institutional support (e.g., training in coordination, communication, and knowledge management) to sustain learning alliances beyond the project.

Output 3.3: Community adaptation innovation studios conducted for peer learning, and exchange of experiences, innovations, and strategies across local, cross-border and international contexts

142. *Activity 3.3.1.* Organize community-centered innovation studios as participatory spaces where rural households, MSMEs, and local institutions can identify and test adaptation ideas, including scaling adaptation solutions, expanding profitable MSME last-mile delivery models, and replicating successful alternative sources of income.
143. *Activity 3.3.2.* Establish a regional Lusophone platform to facilitate peer-to-peer learning exchanges across target provinces and between Angola and Mozambique, with emphasis on farmer-to-farmer and MSME-to-MSME exchanges, including dedicated spaces for women- and youth-led innovation, and explore linkages to broader SADC and global adaptation networks.
144. *Activity 3.3.3.* Link innovation studios with universities, research institutions, and NGOs to bring technical expertise and foster innovation partnerships.

Output 3.4: Adaptation knowledge products co-produced with communities, SMEs, and institutions to inform adaptation policy and investment at local, national, and regional levels

145. *Activity 3.4.1.* Produce actionable and user-friendly knowledge products on climate adaptation solutions and alternative sources of income for local communities in local languages, such as producer handbooks, booklets, flyers, brochures, and demonstration videos, and disseminate information locally in revised capacity building (Output 1.1), and through the regional Lusophone platform (Output 3.3).
146. *Activity 3.4.2.* Engage policymakers, development practitioners, investors, and technical specialists (e.g., agronomy and climate experts) through roundtables and targeted dissemination using policy briefs, technical notes, and other formats to ensure uptake of project evidence.

B. Describe how the project /programme would promote new and innovative solutions to climate change adaptation, such as new approaches, technologies and mechanisms.

147. The project promotes new and innovative solutions to climate adaptation by building rural markets for context-specific, affordable, and scalable adaptation solutions. It will support rural communities and MSMEs to jointly identify and test adaptation solutions tailored to local ecological and social

conditions with a participatory approach grounded in LLA principles and accounting for traditional adaptation solutions.

148. The project will promote innovative technology-based solutions, such as solar-powered irrigation, livestock cooling equipment and flood-resilient infrastructure. It will support digital innovations including remote sensing and modelling for drought detection and water management, and digital platforms that deliver actionable local climate data, pest and disease early warnings, and decision-making tools for planting, grazing, and water use. These technologies will be adapted to the ecological realities of Huíla, Cubango, and Tete, where high climatic variability and limited infrastructure limit the range of potential climate adaptation solutions.
149. At the delivery level, the project will design an innovative performance-based financing mechanism that incentivizes MSMEs to serve remote, low-income rural areas. Payments will be tied to the verified delivery and sustained use of adaptation solutions by rural households, ensuring accountability for both reach and durability. Additional incentives will reward MSMEs that provide equitable access to women, youth, and marginalized households.
150. The project will also foster innovation through its institutional and learning systems. It will establish adaptive learning networks that connect MSMEs, communities, and research institutions through innovation studios, participatory experimentation, and a regional Lusophone knowledge platform. These systems will accelerate the diffusion of locally validated adaptation practices, promote cross-border learning, and strengthen evidence-based policymaking. Together, these measures will transform innovation from isolated pilots into a sustainable, locally driven model that links community priorities with market incentives and regional collaboration.

C. Describe how the project/programme would provide economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project/programme would avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy of the Adaptation Fund.

151. The project is designed to deliver integrated economic, social, and environmental benefits for climate-vulnerable rural communities in Angola and Mozambique. It is expected to reach approximately 5,700 rural households, with a projected gender distribution of 50:50 and at least 30% youth participation in the provinces of Huíla and Cubango in Angola and in the province of Tete in Mozambique. It will also benefit approximately 160 rural MSMEs, at least 50% of which are expected to be women- or youth-led. These impact estimates will be further refined during stakeholder consultations and research during the PFG phase.
152. Economic benefits: The project will enhance rural household profitability and livelihood resilience by expanding access to affordable, context-specific climate adaptation solutions, including climate-resilient inputs and livestock extension services. Household income among participating rural households is projected to increase by 20%-40% (compared with a 'Business as Usual' scenario)²⁰, based on improved rural households' profitability, reduced climate-related losses, value addition to rural economic activities, and additional income from alternative livelihood opportunities. Additionally, the project will enable MSMEs to sustainably serve remote areas and will keep adaptation products affordable for rural households while supporting MSME growth and long-term financial sustainability. It will also promote the scaled delivery and uptake of adaptation solutions through strengthened cooperatives and producer associations.

²⁰ Yield and profitability improvements for conservation agriculture based on: CIMMYT (2019) "Sustainable Intensification Based on Conservation Agriculture: The Business Case" (for Mozambique) and CIMMYT (2014) "Adoption of Drought Tolerant Maize Varieties in Angola"

153. Social benefits: The project's participatory approach grounded in LLA principles will ensure women, youth, and marginalized groups are central to decision-making and capacity development. The project will directly benefit an estimated 2,850 women and 1,710 youth through its work in rural households, MSMEs, and savings groups. Targeted support will help women entrepreneurs and youth-led MSMEs, while gender-sensitive training, financial literacy, and flexible delivery models will expand equitable participation in enterprise development, climate adaptation, and access to extension services. Additionally, the project will create or strengthen 120 community savings groups and 120 local DRM Committees to enhance financial inclusion and collective resilience.
154. Environmental benefits: The project promotes the sustained adoption of climate adaptation solutions that improve soil health, reduce erosion, and conserve water, thus enhancing environmental sustainability and resilience. It will support the adoption of climate-smart practices across an estimated 8,550 hectares of smallholder cultivated land²¹ with improved practices, such as minimum soil disturbance, mulching, and improved water management.
155. Environmental and social risk management: Implementation will follow a comprehensive ESMF consistent with the AF's ESP and GP. This includes the screening of all activities, including: USPs against AF safeguard principles; application of gender and vulnerability analysis during design and implementation; deployment of grievance redress mechanisms accessible at the community level; and continuous monitoring of environmental and social indicators, disaggregated by gender. These systems will ensure the project avoids, minimizes, or mitigates negative impacts and that any residual risks are managed adaptively throughout implementation.

D. Describe or provide an analysis of the cost-effectiveness of the proposed project/programme and explain how the regional approach would support cost-effectiveness.

156. The project is designed to achieve high adaptation impact at low unit costs by building on existing community systems, mobilizing local private actors, and applying results-based financing to reward the verified delivery of adaptation benefits.
157. Cost-efficiency begins with project design. By aligning interventions with locally identified climate priorities through participatory co-design and planning, the project reduces the risk of misdirected investments and ensures high uptake of adaptation solutions. Solutions will be tailored to specific agroecological zones and livelihood systems, minimizing costly retrofits or duplication.
158. The project channels adaptation solutions through local MSMEs rather than creating new delivery structures. By supporting enterprises already active in rural markets, it reduces transaction costs and avoids parallel systems. MSMEs can deliver context-appropriate adaptation products more efficiently and at lower cost than traditional top-down models. The project will also strengthen producer associations to deliver adaptation solutions at scale, leveraging their networks to improve outreach and reduce per-unit delivery costs.
159. The performance-based financing mechanism further strengthens cost-effectiveness. Payments will be linked to verifiable delivery and sustained use of adaptation solutions, ensuring funds are disbursed only upon demonstrated results. Verification will rely on representative sampling and digital monitoring tools, reducing the cost of compliance and verification without compromising data quality.
160. Cost savings will also be achieved through standardized, modular approaches. Common training materials, enterprise development tools, and climate information systems will be adapted for multiple value chains and provinces, reducing per-unit delivery costs while maintaining local relevance. Shared platforms will lower the cost of capacity-building, monitoring, and technical assistance.

²¹ Assuming average cultivated area of 1.5 hectares per household.

161. The regional design enhances cost-effectiveness by capturing economies of scale and replicable solutions in Angola and Mozambique. The two countries share a common language and agroecological challenges, and comparable climate adaptation needs, enabling shared use of technical tools, standardized training curricula, and monitoring systems. A joint Lusophone technical assistance pool will reduce translation, administrative, and procurement costs while accelerating cross-border learning and replication of successful models.

E. Describe how the project/programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist. If applicable, please refer to relevant regional plans and strategies where they exist.

162. The project is fully aligned with the national and subnational sustainable development and climate adaptation priorities of Angola and Mozambique. It supports both countries' strategies for climate-resilient rural transformation, inclusive economic growth, and sustainable natural resource management.

163. In Mozambique, the project contributes directly to the objectives of the National Adaptation Plan (NAP). It supports the NAP's key pillars of improving access to adaptation solutions and increasing adaptive capacity among vulnerable communities. Through its performance-based financing mechanism, the project operationalizes the NAP's call for climate-resilient livelihoods by enabling MSMEs to supply rural households with climate adaptation solutions that are tailored to local agroecological conditions. The project is also consistent with Mozambique's Updated Nationally Determined Contribution (NDC, 2021), which prioritizes adaptation in agriculture, water, and disaster risk management, by strengthening climate literacy and co-designed local adaptation planning, promoting climate adaptation solutions, supporting MSME delivery of these adaptation solutions, and creating and strengthening local DRM Committees.

Additional policies and strategies	Project alignment
National Strategy for Adaptation and Mitigation of Climate Change (ENAMMC), 2013–2025	Project responds to calls for resilient rural development, climate information, and local implementation by supporting local planning, advisory, and uptake of climate adaptation solutions.
Master Plan for Disaster Risk Reduction (INGD), 2017–2030	Project integrates seasonal advisories and risk-informed planning, and strengthens adaptation service delivery to reduce climate risk.
Law No. 10/2020 – Disaster Risk Reduction and Management Law	Aligns with national DRM mechanism by creating and strengthening local DRM Committees that improve community risk communication and improve coordination with municipal public bodies.
Strategic Plan for Agrarian Sector Development (PEDSA II), 2030	Expands rural access to climate adaptation inputs by partnering with MSMEs and supporting linkages with research institutions, and will align with relevant national rural financing strategies.
National Plan for Sustainable Water Management (PNGRH), 2018	Aligns with water-resources planning and basin priorities by promoting on-farm water management.
National Biodiversity Strategy and Action Plan (2015–2035)	Supports ecosystem resilience and sustainable land use by promoting low-impact, biodiversity-positive climate adaptation solutions, such as soil cover and water efficiency.

164. In Angola, the project aligns closely with the National Strategy for Climate Change (ENAC, 2018–2030), which prioritizes the mainstreaming of adaptation across key sectors, the strengthening of its institutional capacity, and the promotion of sustainable, low-carbon growth. The project supports ENAC's objectives by integrating climate resilience into smallholder agriculture, livestock, and artisanal inland fisheries, strengthening early warning and climate information services, and enhancing community-level adaptive capacity. It will also support community resilience by creating or

reinforcing local DRM Committees, and by facilitating the establishment and strengthening of community savings groups to build financial resilience and support investment in adaptation solutions

165. It also supports the implementation of Angola’s Updated Nationally Determined Contribution (NDC, 2025) by advancing adaptation priorities in agriculture, water, forestry, and disaster risk management. The project promotes climate-smart practices, supports MSMEs to deliver sustainable inputs and services, and the creation and strengthening of local DRM Committees. These interventions reinforce local adaptation capacity, private-sector participation, and the integration of climate risk management into regional and municipal development planning, particularly in vulnerable provinces such as Huíla and Cubango.

Additional policies and strategies	Project alignment
Strategy of Long-Term Development “Angola 2025”	Project promotes diversified, resilient rural development by supporting MSME delivery of climate adaptation solutions and community planning for resilience.
National Action Programme to Combat Desertification (PANCOD), 2018-2028	Promotes climate adaptation solutions that support soil restoration and drought risk reduction.
National Development Plan for the Agriculture Sector, 2018–2022	Improves rural productivity, access to inputs and market linkages by supporting rural MSMEs through capacity building and performance-based finance.
National Adaptation Programme of Action (NAPA), 2011	Operationalizes community-level activities and access to information to support rural climate adaptation.

166. The project is also aligned with key Southern African regional adaptation frameworks, including the Southern African Development Community (SADC) and the Permanent Okavango River Basin Water Commission (OKACOM) strategies, which prioritize climate-resilient agriculture, integrated water resource management, sustainable natural resource use, and regional knowledge exchange. It contributes to these priorities by promoting community-driven and evidence-based adaptation solutions, strengthening cross-border learning, and enhancing institutional coordination through innovation studios, multi-stakeholder forums, and a regional Lusophone platform.

F. Describe how the project/programme meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.

167. The project will be implemented in full compliance with applicable national technical standards, regulations, and policies. Project implementation in Angola will comply with relevant national technical standards, ensuring that interventions are consistent with the country’s environmental, agricultural, and water management frameworks. By adhering to these standards, the project will ensure that all its activities are environmentally sound and legally compliant. This safeguards ecosystems, prevents maladaptation, and strengthens the legitimacy of project interventions in the eyes of national authorities. Furthermore, observance of biosafety rules on GMOs and input supply will reinforce trust in the quality and safety of technologies disseminated under the project.

Policy / Standard	Purpose of the Policy	Relevance to the project
Environmental Framework Law – Law No. 5/98	Establishes principles for environmental protection, quality of life, and sustainable use of natural resources.	Guides environmental due diligence for all activities, frames screening and mitigation for community-level measures and MSME-delivered technologies.
Basic Law on Forests and Wildlife – Law No. 6/17	Provides conservation and sustainable-use norms for forests and wildlife.	Informs sustainable sourcing and proposed climate adaptation solutions

Water Law – Law No. 6/02	Sets fundamental principles for integrated water resources management and licensing.	Any small-scale water harvesting solution will respect licensing and use provisions. MSMEs comply with use and service rules where applicable.
Presidential Decree No. 82/14	Regulates general use of water resources, including supply/wastewater aspects.	Ensures compliance for community-level water uses and MSME-installed devices.
Law No. 15/05 (Basic Agricultural Development Law)	Sets the legal basis for agricultural development and producer organizations.	Aligns with the project's support to producer associations and rural households to adopt resilient practices and inputs.
Decree No. 92/04 (GMO restrictions)	Restricts production/importation of GMO crops.	Project's seed-related activities comply with biosafety restrictions; MSMEs supply permitted, non-GE seeds/inputs.

168. Mozambique has developed a robust set of technical standards and regulations governing environmental management, disaster risk reduction, and the use of natural resources. Compliance with these technical standards is central to the project's approach. Proposed activities, including small-scale water harvesting, MSMEs input supply, and community-level training, will be screened to ensure alignment with regulatory frameworks. This will facilitate collaboration with relevant government agencies for oversight, quality assurance, and long-term maintenance.

Policy / Standard	Purpose of the Policy	Relevance to the project
Environmental Law – Law No. 20/97	Establishes the legal basis for environmental management; applies to all activities with environmental impact.	Overarching framework for environmental due diligence of project activities and MSME delivery.
EIA Regulation – Decree No. 54/2015	Sets categories, licensing, and oversight for Environmental Impact Assessment (EIA).	Screening of any sub-projects/works; determines if EIA is needed for specific activities.
Environmental Quality & Effluent Emissions – Decree No. 18/2004 (amended by 67/2010)	Establishes environmental quality standards and effluent limits for air/water.	Ensures MSME installations and any activities adhere to applicable emission/quality thresholds.
Water Law – Law No. 16/91	Declares water as public domain; defines allocation/authorizations and user obligations.	Governs authorizations for rainwater harvesting and use where required; informs local water-use practices.
Water Policy – Resolution No. 42/2016	Sets national policy for water resources, supply and sanitation management.	Aligns with project's small-scale water activities.
Biosafety Regulation on GMOs – Decree No. 71/2014	Establishes biosafety controls for GMOs.	Seed and other farm input complies with biosafety law.
Food Safety Management Systems – NM ISO 22000	National adoption of ISO 22000 through INNOQ (standards authority).	Guides MSME handling of inputs/food-grade storage and processing where relevant to post-harvest solutions.

169. The project will also be implemented in full compliance with the ESP of the AF. The project will adopt a risk-based screening process for all activities and USPs, guided by the ESP. Activities deemed high-risk will either be redesigned or excluded. The ESMF will specify roles and responsibilities for safeguards oversight, ensure the accessibility of the grievance redress mechanism in all project areas, and include gender-responsive monitoring and reporting. In addition, the project will ensure full compliance with the AF's GP, to guarantee women and youth equitable access to adaptation solutions, grant support, and decision-making processes. All sub-projects will be assessed against the AF's GP, with clear indicators on participation and benefit-sharing.

G. Describe if there is duplication of project/programme with other funding sources, if any.

170. The design process ensured that all proposed activities complement and build on existing initiatives rather than replicate them. The project creates clear synergies and value added through its focus on

community-led planning and learning systems, MSME-supported last-mile delivery, and performance-based financing of adaptation solutions.

171. In Angola and Mozambique, the project builds on and complements a broad portfolio of adaptation and resilience programmes supported by the AF, Green Climate Fund (GCF), Global Environment Facility (GEF), EU, and bilateral donors. By linking to these initiatives, the project will avoid duplication and maximize complementarities, leveraging existing extension networks, producer cooperatives, and community structures.

Project / Programme	Project objectives	Synergy Opportunities
Angola		
ADSWAC – Resilience building as climate change adaptation in drought-struck SW African communities (AF; Angola–Namibia) (2021–ongoing)	Enhance adaptation capacity and resilience of communities in transboundary regions; climate-resilient agriculture and water management; rural capacity building.	Coordination on community planning tools in Cubango, small-scale water management and agriculture inputs. This project is executed by ADPP Angola, sister organization of the EE in Mozambique.
CREW Angola – Empowering Women Groups to Build Resilience to Climate Impacts in Cunene (GCF SAP044, OSS) (2025–ongoing)	Support to women-led micro-enterprises and local adaptation actions in Cunene.	Complements the project’s inclusion focus and potential coordination with the proposed project’s capacity building and performance-based financing to women-led enterprises. This project is executed by ADPP Angola, sister organization of the EE in Mozambique.
FRESAN – Strengthening Resilience and Food & Nutrition Security (EU/FAO/UN agencies; Cunene, Huila, Namibe) (2017–2024)	Improve food & nutrition security, promote climate-resilient agriculture and institutional capacity building in drought-prone south.	Coordination on similar extension service providers and community support, shared lessons learned for the development of community platforms and affordable MSME delivery.
GEF-7 Dryland Sustainable Landscapes – Angola Child Project (FAO) (2021–2027)	Integrated landscape management to reduce land degradation and enhance community resilience in Miombo-Mopane dry forests.	Coordination and shared lessons learned for soil and water conservation, livelihoods diversification, and potential sharing of training materials.
MOSAP II – Smallholder Agriculture Development and Commercialization (World Bank) (2015–2022)	Increase smallholder productivity and market access; support producer organizations and extension services.	Potential synergies by tapping into market access and extension services platforms to support its communities.
Mozambique		
LINK – Building climate resilience by linking climate adaptation and social protection (GCF SAP042) (2024–2029)	Integrate adaptation into Mozambique’s social protection and support locally led adaptation.	Leverage LINK’s social protection activities for further support on community climate literacy and implementation of CAAPs.
Climate-resilient food security for women and men smallholders through integrated risk management (GCF SAP011, WFP) (2019–ongoing)	Community-based resilience for smallholders in semi-arid areas; integrated risk management for food security.	Integrate any relevant lessons learned in encouraging MSMEs to deliver climate inputs and promote its sustained use by smallholders.
Scaling up local adaptation and climate-risk informed planning for resilient livelihoods (UNDP-GEF)	Strengthen resilience of local communities and sub-national governments with improved local adaptation planning.	Build on local planning instruments and knowledge products already developed.
Mozambique Disaster Risk Management & Resilience Program (World Bank P166437) (2019–ongoing)	Strengthen national DRM capacity, risk financing, resilient infrastructure/communities.	Coordination at a community level for the development of actionable community climate data, early warning systems, and strengthening of local DRM Committees.
Ecosystem-based Adaptation (EbA) in the Greater Maputo Area (UNEP/partners) (2019–2023)	EbA solutions in 7 communities including local adaptation plans, developing	Coordination and shared lessons learned on the development and implementation of CAAPs.

	resilient livelihoods, and improved institutional capacity.	
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H. If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.

- 172. The project will embed learning and knowledge management across all components, ensuring that evidence and experience inform continuous improvement, scaling, and replication. Lessons will be systematically captured from community co-design processes under Component 1, which include climate literacy, CAAPs, and capacity building on adaptation solutions; MSME engagement and performance-based financing mechanisms under Component 2; and adaptive governance and regional cooperation under Component 3 through knowledge loops, innovation studios, and the Lusophone platform. These lessons will be shared to strengthen coherence across interventions and inform broader policy and practice on climate adaptation in Angola and Mozambique.
- 173. A structured learning agenda will guide this process, focusing on four core themes:
 - Effectiveness of LLA and participatory planning mechanisms, including the design and implementation of CAAPs.
 - Inclusive business models, operational efficiencies, and milestone-based grant support for MSMEs delivering adaptation solutions.
 - Performance and accessibility of localized climate information services, including early warning systems and digital advisory tools.
 - Gender and social inclusion outcomes, particularly the extent to which women, youth, and marginalized smallholders benefit from MSME-delivered adaptation solutions and community institutions such as savings groups and DRM committees.
- 174. Robust data collection and feedback methods will include field missions, participatory monitoring sessions, and community scorecards to document user experiences track MSME performance, and assess changes in adaptive capacity. These insights will be consolidated into practical knowledge products such as case studies, toolkits, and technical manuals that capture the technical, financial, and social lessons learned in implementing of the proposed activities to support rural resilience.
- 175. Knowledge dissemination will be tailored to different audiences through multiple channels:
 - Local stakeholders: farmer field schools, demonstration plots, extension materials, and community radio broadcasts in local languages to encourage peer learning and adoption.
 - MSMEs: innovation studios, business-to-business exchanges, and training workshops.
 - Regional and international partners: contributions to SADC and OKACOM, global adaptation platforms such as the Africa Adaptation Knowledge Network (AAKNet) and WeADAPT.
- 176. The project will also leverage UNIDO’s Climate Adaptation Innovation and Learning (CAIL) platform and other institutional knowledge mechanisms and forums to disseminate findings and connect with global adaptation initiatives. Lessons learned will be shared through UNFCCC processes, Africa Climate Week, and COP side events promoting South–South cooperation and the replication of successful Lusophone adaptation models.
- 177. Adaptive learning cycles will be institutionalized through Component 3’s knowledge loops and community innovation studios, ensuring that evidence from implementation is fed back into community planning and MSME operations. This will create a continuous feedback link between evidence generation, adaptive management, and decision-making, enhancing the project’s long-term effectiveness and scalability.

I. Describe the consultative process, including the list of stakeholders consulted, undertaken during project/programme preparation, with particular

reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy of the Adaptation Fund.

178. As part of the concept proposal development, the project team has engaged in consultations with Angola's and Mozambique's Designated Authorities (DAs) to understand national priorities, identify key gaps and barriers to adaptation, and explore stakeholder interest. Initial feedback from both countries has been highly positive, with stakeholders viewing the project as an innovative, market-driven model that advances national priorities for climate-resilient rural economies, MSME development, and LLA. This feedback has informed the design of the Concept Note. The proposed interventions are closely aligned with national adaptation and development priorities and will be further refined through continued engagement during the Full Proposal.
179. In December 2025, the project team will conduct structured consultation interviews with national and subnational stakeholders in both countries to validate the proposed interventions and inform the detailed design of the Full Proposal. Tentative participants will include representatives from the Ministries of Environment and Agriculture, technical experts from rural development and disaster risk management research institutions, as well as producer associations, MSME associations, local development partners, and civil society groups. The consultations will gather insights on climate risks and their impacts on the rural economy, identify preferred adaptation solutions to mitigate those risks and barriers for rural households to adopt them, and determine the role of MSMEs and producer associations in overcoming those barriers, including addressing gender and social inclusion. The consultations will also assess the potential impact of community institutions such as local DRM committees and savings groups to strengthen rural resilience.
180. During the Full Proposal, the project team will conduct an inclusive consultative process to ensure that the project design reflects the priorities, needs, and preferences of stakeholders at all levels, while also identifying barriers that limit households from accessing climate adaptation solutions and MSMEs from supplying them. The process will also assess the role of community savings groups and local DRM Committees in strengthening financial resilience, early warning, and coordination for adaptation planning. All findings will be documented and will serve as the foundation for the finalized project design, Gender Action Plan (GAP), and ESMF, making the consultation process an integral part of the project's safeguard, gender, and inclusion architecture.
181. At the community level, consultations will be held with a representative sample of vulnerable rural households, women's and youth associations, and other marginalized groups across target provinces. Through focus group discussions and key informant interviews, consultations will map livelihood challenges, capture adaptation priorities, and identify barriers to accessing climate solutions, including affordability, availability, awareness, and technical capacity. Feedback will also inform the prioritization of value chains for climate-resilient investment and guide how adaptation solutions can be bundled, financed, and delivered for community uptake. The results will feed directly into the development of the GAP and ESMF, ensuring that community voices shape gender-responsive programming and safeguard provisions.
182. To ensure that gender dynamics are meaningfully addressed based on local contexts, consultations will be designed to capture the differentiated experiences, needs, and barriers faced by women and men. Separate women-led focus groups will be organized to encourage open dialogue, particularly in contexts where gender norms, social expectations, or limited legal protections may restrict women's participation in mixed settings. The consultations will specifically assess how gender dynamics should inform project design and identify gender-specific barriers to be addressed through project activities. These dynamics may include time burdens from unpaid care work, unequal access to land, finance, and inputs, and limited decision-making power, and how they contribute to women's disproportionately high poverty rates and to their greater vulnerability to climate change and reduced capacity to integrate adaptation solutions. The consultation process will also explore structural constraints to women's entrepreneurship, including persistent barriers to starting, expanding, and sustaining businesses compared to men, particularly due to unequal access to capital, training, and

professional networks. Identified constraints will inform activity design, including targeted support to women-led MSMEs. Additionally, the consultations will also examine gender-specific barriers to participating in savings groups with findings used to shape targeted actions under the project's GAP.

183. At the district and provincial levels, consultations will be held through bilateral meetings and multi-stakeholder workshops with relevant public institutions, research organizations, and traditional authorities. These sessions will validate proposed interventions, identify delivery pathways for adaptation solutions, assess how to facilitate MSME engagement, and strengthen coordination with community savings groups and local DRM Committees.
184. A regional validation workshop will be convened during the PFG phase for representatives from Angola, Mozambique, and other regional bodies. This forum will confirm alignment with regional adaptation frameworks and private-sector engagement platforms, validate the GAP and ESMF at the policy level, and identify opportunities for cross-border learning, and replication of successful models.
185. The consultation process will also introduce and promote the project's grievance mechanism to ensure transparency, accountability, and trust from the outset. All findings will be consolidated in consultation reports, annexed in the final project proposal, detailing stakeholders consulted, consultation dates, key discussion topics, and how inputs have informed project planning and design.

J. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

186. Rural communities in Tete, Huíla, and Cubango face increasing climate risks manifested in rising temperatures, prolonged dry spells, fewer and more erratic rainfall, and recurrent droughts and floods. These impacts directly threaten food security, rural livelihoods, and the national economy.
187. Baseline (without AF support): Without AF support, rural households will continue to rely on outdated and low-resilience practices with minimal access to adaptation solutions or actionable climate information. Climate literacy will remain low and alternative income options will remain underdeveloped due to limited training. MSMEs will remain undercapitalized and unable to deliver adaptation solutions, while producer cooperatives will continue to have weak capacity and poor connections to suppliers and extension services. Community savings groups and local DRM committees will lack the resources and coordination needed for effective preparedness and response for community resilience. Cross-border knowledge exchange between Angola and Mozambique will remain absent, limiting replication and regional learning. As a result, rural households will continue to suffer from low productivity and low income and rural economies will suffer from rising food insecurity, degraded ecosystems, and heightened vulnerability of women, youth, and marginalized groups.
188. Adaptation alternative enabled by AF resources through this project: With AF support, the project will deliver the following adaptation outcomes. Under Output 1.1, rural households will receive climate-literacy campaigns and improved access to local climate information. Under Output 1.2, rural communities will co-develop CAAPs, while local DRM Committees are created or reinforced, and savings groups are established and supported. Under Output 1.3, rural households will strengthen their capacity to adopt adaptation solutions, identify and pursue value-addition opportunities, receive upskilling for alternative climate-resilient income sources. Under Output 2.1, MSMEs will receive business management and technical assistance to deliver adaptation solutions and extension services to rural households, along with support to access finance. Under Output 2.2, MSMEs will access performance-based grants for the verified delivery and sustained use of adaptation solutions to rural households. Under Output 2.3, rural households will also co-develop micro-enterprises to strengthen their productivity and profitability under climate stress. Outputs 3.1–3.4 will establish knowledge and learning systems, run innovation studios and a Lusophone platform, and co-produce knowledge products.

189. Incremental reasoning: AF resources are essential to finance the incremental costs of adaptation that are not addressed by a development-only baseline. Without concessional support, rural households will remain unable to absorb the upfront costs to adopt adaptation solutions, diversify income sources, or access localized climate information. Development finance might provide loans to support MSME growth or rural livelihoods but will not fund the additional costs of business capacity building and technical assistance required to deliver adaptation solutions in remote, low-income areas. Community savings groups and cooperatives will continue to operate without climate-sensitive approaches or resources to strengthen resilience and improve member services. Local DRM Committees will remain reactive, lacking capacity to integrate early-warning data and preventive adaptation measures. Cross-border cooperation between Angola and Mozambique will remain limited, missing opportunities to share evidence, coordinate strategies, and scale adaptation knowledge and delivery systems.
190. The proposed project is fully self-contained under the AF resources. AF resources will fully cover the incremental costs required to shift from a baseline scenario to a climate-resilient pathway. All proposed activities, outputs, and outcomes are designed to be implemented without reliance on co-financing or additional funding. While the project will align with national strategies and institutions, its outcomes are not dependent on them and will be fully achieved through the AF grant alone.

K. Describe how the sustainability of the project/programme outcomes has been taken into account when designing the project/programme.

191. Sustainability has been embedded in the design of the project to ensure that adaptation outcomes generate lasting benefits for rural households, MSMEs, and community institutions beyond the project's duration. The design integrates economic, institutional, social, and environmental sustainability. By combining individual and community capacity building and market incentives, the project ensures that climate resilience is self-sustaining, replicable, and scalable within and beyond the target provinces.
192. Economic sustainability is achieved by strengthening local MSMEs (Output 2.1) as profitable suppliers of adaptation solutions at scale, thereby establishing market-based pathways that enable them to continue selling to rural households after project completion. The performance-based financing mechanism (Output 2.2) rewards MSMEs for the verified delivery and sustained use of solutions, fostering accountability, profitability, and reinvestment in adaptation markets. Capacity building in business and operations management for MSMEs will result in more profitable enterprises and more financially sustainable adaptation business models beyond the lifespan of the project. As MSMEs expand their operations through the project's activities, economies of scale will further increase their financial resilience. Improved access to finance will foster further growth and investment. The project also promotes profitable adaptation solutions that enhance rural households' productivity and profitability, creating stronger market incentives for their continued adoption and reinvestment. Strengthened community savings groups and producer cooperatives (Outputs 1.2 and 1.3) build financial resilience and self-reliance at the local level, enabling communities to maintain and expand investments in adaptation solutions without donor support. Capacity building in climate-resilient enterprises ensures diversified income streams that reduce dependence on sectors that are highly exposed to climate change and enhance long-term livelihood stability.
193. Institutional sustainability is reinforced through locally co-designed CAAPs and strengthened local DRM Committees and savings groups (Output 1.2), which institutionalize community-led planning and preparedness mechanisms that will persist beyond the project period. Integration of project outcomes into district and provincial planning frameworks, as well as alignment with Angola's ENAC (2018–2030) and Mozambique's NAP (2023), promotes long-term institutional ownership and policy continuity. Partnerships with research institutions and training centers (Outputs 2.1 and 3.3) build a durable ecosystem of technical expertise that supports continuous MSME and community capacity development. The Lusophone knowledge platform (Output 3.3) anchors regional cooperation and peer-to-peer learning between Angola and Mozambique, providing a mechanism for sustained knowledge exchange and replication of successful models.

194. Social and environmental sustainability is embedded through LLA principles, ensuring that rural communities, especially women, youth, and marginalized groups, co-design, implement, and monitor activities, reinforcing ownership and equity. Gender-responsive facilitation of savings groups, training programs, and MSME support expands access to finance, information, and employment and promotes gender empowerment. Environmental sustainability is strengthened through the promotion of climate adaptation and resource-efficient solutions, such as soil and water conservation and rotational grazing, all of which restore ecosystem functions critical for resilient livelihoods.
195. Learning and adaptive management mechanisms ensure that outcomes remain dynamic and adaptive. Robust knowledge and learning systems (Outputs 3.1–3.4) capture lessons from implementation and feed them back into planning and decision-making. Innovation studios and multi-stakeholder forums institutionalize iterative learning between rural households and communities, MSMEs, and public institutions, embedding adaptive management within national systems. Knowledge products and data from the project will inform replication and regional learning, ensuring that adaptation pathways remain evidence-based and aligned with evolving climate risks.

L. Provide an overview of the environmental and social impacts and risks identified as being relevant to the project/programme.

196. The project will fully comply with the AF’s ESP and GP. In line with UNIDO’s Environmental and Social Safeguards Policies and Procedures, the project has been preliminarily screened and classified as a Category B project, given that it involves community-level interventions with potential site-specific, limited, and manageable environmental and social risks.
197. An ESMF will be developed during the full proposal stage to guide screening, assessment, and management of risks. The ESMF will ensure that all project-supported activities are environmentally responsible, socially inclusive, and legally compliant with Angola and Mozambique regulations and AF requirements. Interventions will be categorized by risk level (low, moderate, high), and high-risk activities will undergo more detailed assessment, possible redesign, or exclusion. The ESMF will:
- Provide tools for systematic safeguards screening of all sub-projects, including USPs;
 - Include clear eligibility and exclusion criteria to prevent activities with unacceptable risks;
 - Require inclusive stakeholder consultations with diverse sub-groups such as single mothers and youth, ensuring that Free, Prior, and Informed Consent (FPIC) is obtained where relevant;
 - Outline procedures for grievance redress accessible at community level;
 - Integrate gender-responsive and youth-inclusive safeguards measures; and
 - Establish monitoring and reporting mechanisms for adaptive risk management.
198. At this stage, no activities are anticipated to result in irreversible or large-scale environmental or social impacts. Risks are site-specific and manageable, with mitigation measures embedded in project design. All identified risks will be reassessed during the full proposal stage, and the ESMF will be developed to ensure robust safeguards compliance throughout implementation.

Checklist of environm. and social principles	No f required for compliance	Potential impacts and risks
Compliance with the Law	-	LOW RISK – The project aligns with both national laws and regulations and has endorsement from the DAs of both countries. All activities will comply with the respective legal frameworks governing agriculture, livestock, inland fisheries, MSME operations, environmental protection, and climate adaptation. MSMEs engaged under the project will adhere to national standards on biosafety, input quality, trade, and occupational health and safety.

Access and Equity	-	LOW RISK – The project prioritizes equitable access to adaptation solutions for rural households, MSMEs, women, and youth. However, socio-economic barriers may limit participation of marginalized groups if not proactively addressed. The project will use inclusive targeting, transparent selection of MSMEs, and participatory planning to ensure equitable benefit distribution.
Marginalized and Vulnerable Groups	-	MEDIUM RISK – Women, youth, and vulnerable rural households are disproportionately vulnerable to climate change. Without safeguards, these groups could face barriers to accessing adaptation solutions. Targeted interventions will ensure inclusivity through targeted outreach, tailored capacity building, affirmative action in MSME support, affordability initiatives in the performance-based mechanism, and community-level engagement strategies.
Human Rights	-	LOW RISK – The project upholds Angola’s and Mozambique’s human rights commitments and does not involve activities that would infringe on rights related to land or labor. Instead, it is designed to strengthen livelihoods, enhance resilience, and empower vulnerable groups. Information will be provided in local languages, and participation will be voluntary and inclusive.
Gender Equity and Women’s Empowerment	-	MEDIUM RISK – Structural barriers such as limited land ownership rights and access to inputs may prevent women from fully benefiting. The project will mainstream gender equity through a GAP, deliver tailored mentorship, aim for minimum quotas for women’s participation, and ensure women’s active participation in decision-making and access to climate solutions.
Core Labour Rights	-	LOW RISK – All project staff, MSME partners, and facilitators will operate under national labour law. Informal labour arrangements are common among MSMEs and rural households. Risks include inadequate occupational health and safety standards and potential child labour in informal enterprises and rural households. The project will promote compliance with international labour standards, provide training on safe practices, and ensure occupational health and safety measures are enforced.
Indigenous Peoples	-	LOW RISK – Angola and Mozambique have communities with strong traditional resource management practices. In Cubango and Tete, traditional or Indigenous communities may be present. Risks of exclusion exist if culturally appropriate engagement is not ensured. The project will apply participatory, culturally sensitive approaches and obtain FPIC, if required. Materials will be adapted to local languages and customs.
Involuntary Resettlement	X	NO RISK – The project does not involve land acquisition or displacement. All interventions will be designed to avoid resettlement and to safeguard community and household land tenure rights. All sites for community structures or micro-works will be based on voluntary land use agreements.

Protection of Natural Habitats	-	LOW RISK – All activities are small-scale and expected to be located away from protected or critical habitats. To minimize any negative impact on natural habitats. The project will ensure site-specific safeguards screening, apply ecosystem-based approaches, and avoid activities that cause habitat loss.
Conservation of Biological Diversity	-	LOW RISK – Introduction of new adaptation solutions carries some risk of impacting biodiversity if not properly managed, especially GMOs. All inputs will be screened to avoid invasive species or unsustainable practices. The project will also encourage the use of local biodiversity-positive practices.
Climate Change	-	LOW RISK – The project is designed to enhance adaptation and reduce vulnerability in rural households and is not expected to generate significant GHG emissions. However, deployment of new adaptation solutions may potentially result in localized emissions risks. The project will prioritize low-carbon, renewable energy solutions, and energy efficient technologies.
Pollution Prevention and Resource Efficiency	-	LOW RISK – Improper disposal of inputs or waste from MSMEs and rural households could cause pollution. The project will minimize waste, promote circular economy principles and water-use monitoring, enforce waste management plans, and ensure efficient use of resources.
Public Health	X	NO RISK – The project is expected to generate positive health outcomes by improving food security and reducing climate-related stressors. Health safeguards will ensure that no solutions negatively affect local health.
Physical and Cultural Heritage	X	NO RISK – The project will not impact cultural heritage sites. Screening and community consultations will ensure protection of culturally significant areas.
Lands and Soil Conservation	-	LOW RISK – The project is expected to deliver positive impacts by promoting soil and water conservation practices, but there is a minor risk if solutions are mismanaged. Where relevant, the project will apply contouring, mulching, and cover crops to ensure soils are conserved and erosion risks reduced. Additional safeguards will ensure sustainable land practices are applied.

PART III: IMPLEMENTATION ARRANGEMENTS

199. The project will be implemented by the United Nations Industrial Development Organization (UNIDO) as the accredited Multilateral Implementing Entity (IE). UNIDO brings extensive experience in designing and executing climate adaptation interventions that integrate climate resilience, sustainable livelihoods, and MSME engagement. In Mozambique, the project's Executing Entity (EE) will be Ajuda de Desenvolvimento de Povo para Povo (ADPP), a nationally recognized non-governmental organization nominated by the Ministry of Land and Environment in Mozambique. ADPP Mozambique has a strong track record of project implementation across sustainable agriculture, environment, and public health, and currently implements over 60 projects in the country funded by multilateral and bilateral donors. During the PFG phase, UNIDO will carry out a fiduciary and operational assessment to reconfirm ADPP Mozambique's capacity to execute its responsibilities under this project. In Angola, the Ministry of Environment has identified preferred candidates and UNIDO is engaging with these

organizations to assess their interest, technical capacity, and alignment with the project’s scope. Similar to ADPP Mozambique, a fiduciary and operational capacity assessment will be conducted for the selected Angolan EE during the Full Proposal. To support the uptake, replication and scaling of the project’s adaptation solutions across the target regions, UNIDO will also serve as the EE for Component 3. Given its longstanding technical presence and institutional relationships in the region, UNIDO is well positioned to facilitate the translation of community-based learning into national and regional adaptation dialogue, while supporting peer exchange and coordination across the two country interventions. UNIDO will maintain a strict functional separation between its role as the Implementing Entity and its role as the Executing Entity for Component 3 to ensure rigorous governance and transparency. These functions will be performed independently, with separate management arrangements to ensure impartial oversight and accountability throughout the project.

200. As the IE, UNIDO will also be responsible for the project’s Monitoring, Evaluation, and Learning (MEL). A Project Steering Committee (PSC) will provide oversight and strategic guidance. Co-chaired by representatives from the governments of Angola and Mozambique, including any relevant technical focal point, and coordinated by UNIDO, the PSC will ensure the project remains aligned with national priorities and technical standards. The Project Management Unit (PMU) will consist of three interconnected teams: one hosted by the selected EE in Angola, one hosted by ADPP Mozambique, and one hosted by UNIDO Headquarters in Vienna, Austria. UNIDO will ensure effective collaboration among the three PMU teams and foster integrated delivery, knowledge exchange, and reporting throughout the project lifecycle. The Terms of Reference and the modus operandi of the three PMU teams, and their hosting arrangements between the two national EEs, will be determined during the PFG. UNIDO will retain overall oversight of project implementation, ensuring that all activities comply with the AF ESP, GP, and implementation standards. UNIDO will be accountable to the AF for all financed activities. It will manage financial oversight, monitoring of delivery, and consolidated reporting to the Fund, including commissioning of the project’s mid-term and terminal evaluations.

201. The Government of the Republic of Mozambique agrees to apply to the present project, mutatis mutandis, the provisions of the Standard Basic Assistance Agreement between the United Nations Development Programme and the Government, signed and entered into force on 15 September 1976. The Government of the Republic of Angola agrees to apply to the present project, mutatis mutandis, the provisions of the Standard Basic Assistance Agreement between the United Nations Development Programme and the Government, signed on 18 February 1977.

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

202. The project is aligned with the AF Strategic Results Framework. Component 1 supports AF Outcome 3 by strengthening awareness and ownership of adaptation solutions among rural households and communities. It enhances climate literacy and access to climate information (Output 1.1), strengthens community capacity for adaptation planning, risk reduction, and resilience building (Output 1.2), and supports the adoption of climate-resilient and inclusive livelihoods through capacity building, value addition, and strengthened producer associations (Output 1.3). Component 2 aligns with AF Outcome 6 by building the capacity of local MSMEs to supply context-appropriate adaptation solutions (Output 2.1), by operationalizing a performance-based financing mechanism to ensure affordable, inclusive, and sustainable delivery of these solutions to rural households (Output 2.2). It also supports the co-development of rural micro-enterprises that combine adaptation solutions and value addition opportunities in agriculture, livestock, and inland fisheries to strengthen rural household productivity and profitability under climate stress (Output 2.3). Component 3 supports AF Outcome 8 by establishing inclusive knowledge and learning systems to support the uptake, replication and scaling of adaptation practices (Output 3.1), local governance structures and partnerships for learning alliances and innovation (Output 3.2), establishes community adaptation innovation studios and a Lusophone platform for peer learning (Output 3.3), and produce and disseminate adaptation knowledge products with communities, MSMEs, and institutions (Output 3.4).

Project Objective(s)	Project Objective Indicator(s)	Fund Outcome	Fund Outcome	Grant
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			Indicator	Amount (USD)
Improve the adaptive capacity and resilience of rural households in Tete (Mozambique), and Huíla and Cubango (Angola).	Number of rural households that adopt at least one climate-resilient practice or improve the community resilience (i.e., CAAPs, local DRM committees, and savings groups), disaggregated by gender and youth	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	Indicator 6.1: People adopting improved and/or new climate-resilient livelihood practices	24,880,721
Component 1: Strengthening local enabling conditions for the uptake and sustainability of adaptation solutions in rural communities				
Outcome 1: Strengthened community awareness, agency and ownership to lead the integration of climate adaptation solutions and alternative sources of income	Number of rural households with improved awareness of climate change risks and how to address them individually (e.g., adoption of adaptation solutions, alternative sources of income) or collectively (e.g., local DRM committees and saving groups), disaggregated by gender and youth.	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes	Indicator 3.1: People with strengthened awareness of climate change risks and how to better address them	8,000,000
Component 2: Inclusive delivery and uptake of adaptation solutions by rural MSMEs for resilient livelihoods				
Outcome 2: Strengthened adaptive capacity of smallholders through inclusive delivery of locally relevant adaptation solutions	Number of rural households that adopt at least one climate adaptation solution, disaggregated by gender and youth.	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	Indicator 6.1: People adopting improved and/or new climate-resilient livelihood practices	13,000,000
Component 3: Knowledge loops and adaptive partnerships for regional learning and synergies				
Outcome 3: Strengthened community-led and regionally connected learning systems and partnerships that drive adaptive learning innovation for climate resilience	Number of knowledge products and lessons shared disseminated and number of learning events facilitated to share them	Outcome 8: Innovation for effective, long-term adaptation to climate change accelerated, encouraged, and enabled to scale up	Indicator 8.1: Innovations successfully reaching scale up that demonstrate local innovation participation and/or local innovation benefit	3,880,721

Project Output	Project Output Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)
Component 1: Strengthening local enabling conditions for the uptake and sustainability of adaptation solutions in rural communities				
Output 1.1: Climate literacy and access to climate information enhanced in target communities.	Number of rural households that have received climate literacy or improved access to climate data	Output 3.1: Targeted population groups	Indicator 3.1.1: People participating in activities to improve awareness of climate risks and how to address them	1,800,000
Output 1.2: Community capacity for adaptation planning, risk reduction, and resilience building strengthened.	Number of rural households that have benefit from improved community resilience through CAAPs, local DRM committees, and savings groups.	participating in adaptation and risk reduction awareness activities		2,000,000
Output 1.3: Climate-resilient and inclusive livelihoods strengthened and scaled at community level.	Number of rural households that receive capacity building for climate adaptation solutions, disaggregated by gender and youth.			4,200,000
Component 2: Inclusive delivery and uptake of adaptation solutions by rural MSMEs for resilient livelihoods				
Output 2.1: Capacity of local MSMEs strengthened to supply adaptation solutions and quantify adaptation benefits aligned with community adaptation plans.	Number of rural households that have access to climate adaptation solutions and receive extension services from MSMEs, disaggregated by gender and youth.	Output 6.1: Targeted individual and community livelihood strategies	Indicator 6.1.1: People receiving targeted support for new and/or improved livelihoods to	5,000,000

Output 2.2: Performance-based financing mechanism implemented to incentivize affordable and inclusive solution deployment	Number of rural households that adopt at least one climate adaptation solution, disaggregated by gender and youth.	strengthened in relation to climate change impacts, including variability	manage climate risk	7,000,000
Output 2.3: Climate-resilient and profitable micro-enterprises co-developed with rural households	Number of rural households that adopt a climate-resilient and profitable farming model, disaggregated by gender and youth.			1,000,000
Component 3: Knowledge loops and adaptive partnerships for regional learning and synergies				
Output 3.1: Knowledge and learning systems established and operationalized to support uptake, replication and scaling of adaptation practices	Number of learning events facilitated to manage learning systems and share lessons learned	Output 8.2: Innovations identified and piloted which build the adaptation innovation evidence-base and institutional capacity	Indicator 8.2.1: Innovation-focused knowledge products disseminated and/or learning events facilitated that support and enable innovation capacity at a local, national, and/or regional level	1,000,000
Output 3.2: Local governance structures and local and regional partnerships for learning alliances and innovation	Number of learning events facilitated to support local governance structures and local and regional partnerships			750,000
Output 3.3: Community adaptation innovation studios conducted for peer learning, and exchange of experiences, innovations, and strategies across local, cross-border and international contexts	Number of learning events facilitated for peer learning			1,130,721
Output 3.4: Adaptation knowledge products co-produced with communities, SMEs, and institutions to inform adaptation policy and investment at local, national, and regional levels	Number of knowledge products disseminated and number of learning events facilitated to share them			1,000,000

PART IV: ENDORSEMENT BY GOVERNMENTS AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government²²

<i>H.E. Gustavo Sobrinho Dgedge, State Secretary Land and Environment, Ministry of Agriculture, Environment and Fisheries (MAAP), Mozambique</i>	Date: December 10, 2025
<i>Carla Esperança Narciso Pompilio da Silva Balça, Senior Climate Change Specialist, Ministry of Culture, Tourism and Environment, Angola</i>	Date: October 29, 2024

B. Implementing Entity certification

<p>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 (Mozambique: National Adaptation Plan 2023, National Development Strategy (ENDE) 2025-2044; Angola: ENAC 2018-2030, National Development Plan 2023-2027; SADC Climate Change Strategy 2015) and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme 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 project/programme.</p>	
<p><i>Ganna Onysko</i> <i>Ms. Ganna Onysko</i> Senior GEF, GCF, AF Coordinator Division of Funding Partner Relations Directorate of Global Partnerships and External Relations United Nations Industrial Development Organization - UNIDO Implementing Entity Coordinator</p>	
Date: February 9, 2026	Tel. and email: g.onysko@unido.org
Project Contact Person: Sunyoung Suh, Project Manager	
Email: s.suh@unido.org ; CC : Mr. Manuel Bueno, Senior Climate Finance Expert, TCS/CMP/CTI (m.bueno@unido.org) Ms. Najlae Boumia, Project Associate, TCS/CMP/CTI (n.boumia@unido.org) Ms. Eleonora Gatti, Head, TCS/CMP/CTI (e.gatti@unido.org) Mr. Alois Mhlanga, Director, TCS/CMP (a.mhlanga@unido.org)	

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



ADAPTATION FUND



REPÚBLICA DE ANGOLA
MINISTÉRIO DO AMBIENTE

Letter of Endorsement by Government

29th of October 2024

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

Subject: Endorsement for, "Enhancing Rural Access to Climate Adaptation Technology, Products and Services in Southern Africa" (A2A)

In my capacity as designated authority for the Adaptation Fund in Angola, I confirm that the above regional 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 the country.

Accordingly, I am pleased to endorse the above project/programme proposal with support from the Adaptation Fund. If approved, the project will be implemented by United Nations Industrial Development Organisation (UNIDO) and executed by an executing entity that is to be determined.

Sincerely,

A handwritten signature in black ink, appearing to read 'Carla'.

Carla Esperança Pompílio da Silva Balça

National Focal Point to the Adaptation Fund



REPUBLIC OF MOZAMBIQUE
MINISTRY OF AGRICULTURE, ENVIRONMENT AND FISHERIES
OFFICE OF THE MINISTER

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

N/Ref: 337/MAAP/GM/90/2025 / SETA Maputo, 10th December 2025

Subject: Endorsement for the Project “Enhancing Rural Access to Climate Adaptation Technologies, Products and Services (A2A)”

In my capacity as designated authority for the Adaptation Fund in the Republic of Mozambique, I confirm that the above regional 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 the Republic of Mozambique.

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 United Nations Industrial Development Organization (UNIDO) and co-executed by Ajuda de Desenvolvimento de Povo para Povo (ADPP Mozambique) and UNIDO, and the monitoring of implementation actions will be coordinated by the Ministry of Agriculture, Environment, and Fisheries of the Republic of Mozambique.

Sincerely,

Gustavo Sobrinho Dgedge
State Secretary of Land and Environment
Ministry of Agriculture, Environment, and Fisheries





Revised PFG Submission Form¹
Project Formulation Grant (PFG)

Submission Date: 9 February 2026

Adaptation Fund Project ID: N/A

Country/ies: Angola, Mozambique

Title of Project/Programme: Enhancing rural access to climate adaptation technology, products and services

Type of IE (NIE/RIE/MIE): MIE

Implementing Entity: United Nations International Development Organization (UNIDO)

Executing Entity/ies: Ajuda de Desenvolvimento de Povo para Povo Mozambique (ADPP Mozambique),^{2,3}

A. Project Preparation Timeframe

Start date of PFG	July 2026
Completion date of PFG	April 2027

B. Proposed Project Preparation Activities (\$)

List of Proposed Project Preparation Activities	Output of the PFG Activities	US\$ Amount	Budget note⁴
1. Stakeholder consultations and validation workshops	1. Stakeholder valuation report	25,000	\$20,000 Costs for engagement of expert(s) and/or service provider(s) to conduct stakeholder consultations and validation workshop in Angola and Mozambique, including travel \$5,000 Costs for 2 national validation workshop in Angola and Mozambique

¹ As presented in AFB/PPRC.33/40 Annex 1.

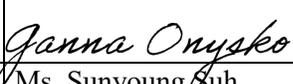
³ Please note that ADPP Mozambique will be contractually engaged as a service provider/contractor for a portion of PFG activities in accordance with UNIDO's procurement policies, rather than as an Implementing Partner under UNIDO's grant manual.

⁴ The proposal should include a detailed budget with budget notes indicating the break-down of costs at the activity level. It should also include a budget on the Implementing Entity management fee use.

2a. Conduct CRVA, develop Environmental and Social Management Framework (ESMF) including for USPs, and Gender Action Plan	2. Fully developed proposal document and associated annexes in compliance with UNIDO and AF guidelines and policies	84,090.91	\$16,000 Cost for engagement of CRVA, gender and ESS expert(s) and/or service providers
2b. Institutional capacity assessment for national Executing Entities			\$30,000 Costs for engagement of gender expert(s) and/or service provider(s)
2c. Writing and revision of the main proposal document including all annexes			\$38,090.91 Costs for engagement of expert(s) for writing, coordination and finalization of Concept Note
Project Formulation Grant		109,090.91	
Implementing Entity Fee	IE administrative and technical support for project development, monitoring and supervision, and compliance	10,909.09	
Total Project Formulation Grant		120,000	

C. Implementing Entity

This request has been prepared in accordance with the Adaptation Fund Board's procedures and meets the Adaptation Fund's criteria for project identification and formulation

Implementing Entity Coordinator, IE Name	Ms. Ganna Onysko Senior GEF, GCF, AF Coordinator Division of Funding Partner Relations Directorate of Global Partnerships and External Relations United Nations Industrial Development Organization - UNIDO Implementing Entity Coordinator	
Signature		Date: 9 February 2026
Project Contact Person	Ms. Sunyoung Suh	
Telephone	+43 1 26026 3956 s.suh@unido.org	
E-mail	TO: g.onysko@unido.org CC: gef@unido.org / glo@unido.org / f.haidara@unido.org	