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Adaptation Fund Board
Project and Programme Review Committee
Thirty-fourth Meeting
Bonn, Germany, 8-9 October 2024

PROPOSAL FOR ZAMBIA

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Regular Size Full Proposal

Country/Region: Zambia
Project Title: Climate Change Adaptation of Livelihoods through Rural Finance (CALRF)
Thematic Focal Area: Agriculture
Implementing Entity: International Fund for Agricultural Development (IFAD)
Executing Entities: Ministry of Green Economy and Environment
AF Project ID: AF00000280
IE Project ID: **Requested Financing from Adaptation Fund (US Dollars):** 10,000,000
Reviewer and contact person: Dirk Lamberts **Co-reviewer(s):** Imen Meliane
IE Contact Person: Paxina Chileshe-Toe

Technical Summary	The project "Climate Change Adaptation of Livelihoods through Rural Finance (CALRF)" aims to build and enhance resilience and adaptive capacities of 43,400 people (8,680 households) to cope with extreme weather events through institutional strengthening and promoting diversified, resilient and sustainable community livelihood options. This will be done through the three components below: Component 1: Building and promoting equitably diversified, resilient and sustainable community livelihood options (USD 6,260,000); Component 2: Strengthening technical, institutional and human capacity for improved implementation of adaptation measures in selected agro-pastoral landscapes in target provinces (USD 1,390,000); Component 3: Enhancing district-level planning and awareness-raising for evidence-based resilience and adaptive capacity building (USD 692,000). Requested financing overview: Project/Programme Execution Cost: USD 874,590 Total Project/Programme Cost: USD 9,216,590 Implementing Fee: USD 783,410 Financing Requested: USD 10,000,000

	The initial technical review raised several issues, such as the need to recognize the use of unidentified sub-projects (USPs), to provide more information on the blended finance facility and to justify the full cost of adaptation reasoning, as was discussed in a number of Clarification Requests (CRs) and Corrective Action Requests (CARs) raised in the review. The second technical review finds that the proposal has not addressed most of the CR and CAR requests. The substantive changes to the proposal have led to additional concerns regarding maladaptation, technical soundness of the interventions, not-justified use of USPs, among others, as is reflected in a number of additional CRs and CARs raised in the review.
Date:	28 January 2024

Review Criteria	Questions	Comments First Technical Review (Sep. 2023)	Comments Second Technical Review (Jan. 2024)	IFAD Response
Country Eligibility	1. Is the country party to the Kyoto Protocol or the Paris Agreement?	**Yes.**	**-**	
	2. Is the country a developing country particularly vulnerable to the adverse effects of climate change?	**Yes.** The ND-GAIN index ranks Zambia in the 137th position, being the 41st most vulnerable country and the 53rd least ready country to face climate change. Climate change impacts include extreme events hazards including droughts and prolonged dry spells, seasonal and flash floods and extreme temperatures. Climate change is also impacting important economic sector, especially agriculture, which supports roughly 85% of the country's population, employing 52% of the country's working-age population.	**-**	
Project Eligibility	1. Has the designated government authority for the Adaptation Fund	**Yes.** As per the Endorsement letter dated 10 January 2022.	**Yes.** As per the Endorsement letter dated 15 January 2024.	

	endorsed the project/programme?		There is a discrepancy between the executing entities identified in the proposal and those mentioned in the Endorsement letter. **CR5:** Please clarify the EEs.	
	2. Does the length of the proposal amount to no more than One hundred (100) pages for the fully-developed project document, and one hundred (100) pages for its annexes?	**Yes.** The length of the proposal amounts to 101 pages, inclusive of annexes.	**Yes.** The proposal amounts to 98 pages, with 65 pages of annexes.	
	3. Does the project / programme support concrete adaptation actions to assist the country in addressing adaptive capacity to the adverse effects of climate change and build in climate resilience?	**Yes, but more information is required.** The project supports concrete adaptation actions that are intended to address the climate change challenges in the target area and of benefit to the targeted communities. The activities in component 1 are detailed to a sufficient level for a fully-developed proposal. Activities in component 2 however lack important details, in particular the activity on the blended finance (2.1.2.1). Further details on the settings and modalities of such blended finance option is still required. It is also useful to outline how the 3 activities related to setting financing options would interact and complement each other. Most activities in component 2 remain as USP and the use of USPs is neither acknowledged nor justified in the proposal.	**No.** The clarifications that have been provided for the three components now show that it is unlikely that the project will support concrete adaptation actions. In addition, the proposal will likely lead to maladaptation. Regarding component 1: the fish-related activities presented lack all justification and basic information. No distinction is made between capture fisheries and aquaculture, which are fundamentally different practices apart from the fact that both may result in fish. The proposal does not present elementary, correct relevant technical information required for justifying any of the activities in this sector or to demonstrate that the proposed interventions will lead to building adaptive capacity. None of these activities are presented in an implementable format. There is an on certainty bordering likelihood that these fisheries and aquaculture-	CAR 1: Efforts have been made to rework the components: 1. The current version has strengthened and clarified the aspect of innovative rural financing for productive assets but also crop insurance building on the government's Farmers Input Support Program (FISP) (see components 1 and 2 for more concrete interventions anchored in financing measures that the project is proposing (from page 30 to page 39). Also the project has been reworked to demonstrate: a) Concrete activities to build adaptive capacities of communities in target districts; b) Industrial level support to service providers (HODI, RESLEI and the Copperbelt University) have been removed to ensure resources reach the target communities. Simple,

		CAR1: Please recognize the use of the USP modality in line with the Fund's guidance on USPs (https://www.adaptation-fund.org/wp-content/uploads/2021/05/Updated-guidance-on-USPs-.pdf). The proposal mentions that "RUFEP will apply IFAD's Social Environmental and Climate Assessment Procedures (SECAP)", please note that the use of USP requires undertaking an environmental and social risk and impact assessment in compliance with Fund's ESP, kindly refer to the above-mentioned guidance. **CR1:** Please provide more information on the settings and modalities of the blended finance activity, in particular, governance and management scheme of the facility, expected sources of additional funding, detailed list of the financing options that will be utilized and how the AF fund will be utilized and capitalized, with reflection on the sustainability of such facility. **CR2:** please provide more information on the financial providers expected to be involved in all activities of the project. The proposal suggested that these will be selected, please provide details on criteria to be used for their selection, and the risk assessment that would be undertaken.	related activities as described will lead to a loss of livelihoods assets and adaptation capacity for those involved, i.e. to maladaptation. This is yet exacerbated by the removal of the financing activities from the project and the lack of identification of project activities, whereby the activities of 1.2.1, 1.2.3, 1.3.1, 1.3.2, 1.3.3 and 3.1.1 are to be considered USPs. This amounts to 60 per cent of the activities budget. Similar considerations apply to the mango value chain. This includes a fruit processing plant to produce mango pulp, dried mango slices, jams, and jellies, and the necessary equipment for collecting and transporting the produce nationally and abroad. Such a plant would require a substantial investment – in the order of millions of USD – and a guaranteed supply of high quality fruit and fuel wood for operating the kilns. The proposal presents no information to support the feasibility of this activity. **CAR1: Not cleared.** The removal from the proposal of the financing activities of component 2 has left the proposal decapitated and incoherent, without clear focus and no longer relevant to its title. **CAR1bis:** Please modify the proposal to exclude the possibility of maladaptation. **CR 1: No longer relevant.** **CR 2: No longer relevant.**	inexpensive pieces of equipment have been proposed. Consistently, the budget has been revised (table on p.26) to reflect this change. c) Activities with USPs have been identified (see table on p.82) and appropriate measures to deal with them have been proposed in the ESMP that has been provided (Annex 2 – p121). d) The focus on capacity development has been strengthened to ensure: i) sustainability of financial services provided to communities and livelihood opportunities through crop and fish value chains; ii) eliminate chances of maladaptation (see activity description of components 1 and 2 from p.28 to p.39) and information provided on p.44 . **CAR1bis** Following the reintroduction of finance activities and identification of climate adaptive project activities as per CAR1 should exclude the possibility of maladaptation. Response to CAR1bis: As noted above, section 'Project design strategy to address and avoid maladaptation' has been included to explain how the project has addressed the pitfalls of maladaptation in the short and long term. Response to CR 1: Given review guidance provided, evolved country

				priorities and consultations with stakeholders, particularly the government, changes have been made to the project design to remove blended financing aspects – therefore, no longer relevant in the this version. Under component 2, the project aims to improve access to financial services for vulnerable communities in target districts and boost their investments in climate-sensitive sectors. It will focus on developing and supporting financial products and innovations to address climate-related needs, overcoming the barrier of insufficient funds for climate-resilient investments. Additionally, it will support farmers by providing small grants for climate-smart, low-cost irrigation systems and other production assets. This includes funding for simple crop processing, storage facilities, and irrigation systems. Response to CR 2: Under component 2, details have been provided for ZANACO, AGORA and Vision Fund Zambia. The selection of service providers has been detailed in the section on 'Environmental and Social Grant Screening Arrangements.'
	2. Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative	**Yes.** Section II-B outlines a number of social and environmental benefits, with some quantified estimations. The proposal includes general information on the expected beneficiaries, but does not identify particularly vulnerable communities, or marginalized	**No.** The previous version of the proposal included the following – now deleted – sentence: "In this regard, Component 2 complements Component 1 by focusing on a very socioeconomically debilitating aspect of vulnerable people's coping strategies, resilience and adaptive capacities to the challenges of climate change – innovative	CAR 2: As alluded to above, innovative financing has been reinstated in the current version. Indeed, components 1 and 2 complement each other. The sequential arrangement will ensure that activities proposed under component 1 are consolidated through dedicated local financing systems to build and enhance adaptive capacities in component 2.

	impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	groups, expect for a broad statement that women and youth are socially marginalized. No particular benefits are outlined for women and youth and no estimated are provided for such groups. It is unclear how the recommendation of the gender assessment have been integrated in the design of the project. **CAR2 (4):** please clearly identify particular benefits to women and youth and outline how their concerns and needs have been integrated in the design of the project. Please provide quantified estimates of benefits to these groups where possible.	financing to invest in climate-sensitive sectors that underpin livelihoods". The removal of the financing element from the proposal renders it greatly unlikely that the other components will achieve their envisaged outcomes. **CAR2 (4): Not cleared.**	While component 1 focuses on livelihood diversification, component 2 focuses on local financing to build and strengthen the ability of local communities to invest in climate-sensitive sectors of their rural socio-economies (see activity description of components 1 and 2 from p.28 to p.39).
	3. Is the project / programme cost effective?	**Yes.** As per the information provided in Section II-C.	**No.** The cost-effectiveness depended to a large extent on the now removed financing component. The feasibility of the remaining activities is not demonstrated, as is their cost-effectiveness. **CR6:** Please clarify the cost effectiveness of the project.	CR 6: As noted under project eligibility (3), the current version has scaled down from industrial level interventions targeting HODI, RESLEI and the Copperbelt University to ensure simple, affordable and user-friendly pieces of equipment are invested in – the project design has been deliberate in ensuring the affordable pieces of equipment (see p. 30, p.35 etc) such as sun-driers can be repaired by local communities themselves, and therefore, there will no need for outsourcing technical services to repair any tear and wear. Thus, cost-effectiveness has been further articulated and demonstrated as follows: 1. Community investments in climate-resilient productive assets that are affordable, user-

				friendly and easy to fix (30, p.35 etc). 2. Capacity development to community members on the use and maintenance of the pieces of equipment (activity description of components 1 and 2 p.28 to p.39). 3. Enhancing collaboration with extension services to institutionalize interventions in government systems that have already existing mandate to support smallholder producers (see delivery of activities through extension services p.32, p.33 etc) 4. A number of activities will be implemented in collaboration with different stakeholders who will bring their comparative advantage. The collaboration will reduce the cost in some respect compared to a scenario where all activities would be uniquely supported by the project (see role of HODI, RESEI and the Copperbelt University p.31, p74 under implementing partners).
	4. 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	**Yes.** The proposal provides an overview of the project's alignment with key national strategies and plans including the National Climate Change Response Strategy; the Nationally Determined Contribution (NDC); the National Policy on Climate Change (NPCC) and Zambia's National Agriculture Policy, among others.	**Partially.** The proposal – despite its substantive focus on fish – remarkably makes no reference to the *National Fisheries and Aquaculture Policy of Zambia*. The launch of this policy was widely publicized in June 2023. The same applies to the *National Fisheries and Aquaculture Policy Implementation Plan 2022-2026*. **CR7:** Please clarify how the project is consistent with all relevant national strategies and policies.	CR 7: The list of national standards and regulations as well as the table of national policies have been updated to ensure project consistency with policies and national standards (p. 57 and p.62).

	and other relevant instruments?			
	5. Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund?	**No.** The proposal provides a table of some standards and the relevant Authorities that the project will work with to ensure compliance. However the table is as per the AF ESP principles. Please note that the relevant national technical standards and regulations should be identified depending on the nature of the activities. If one specific activity of the project requires compliance with technical standards, the steps taken to comply with it and the nature of the authorization/clearance granted for the project to be implemented is explained. **CR3:** Please ensure that all the relevant national technical standards that may be needed to comply with by the project activities are identified, and compliance stated in a logical manner. In particular, please identify any financial standards or regulations that the project needs to comply with in the implementation of activities under component 2.	**No.** **CR3: Not cleared.** Despite the strong focus on food production and value chains, no reference is made to the *Food Safety Act, 2019*.	CR3: As noted above, the list of national standards has been updated, and the Food Safety Act, 2019 has been included (see paragraph 223).
	6. Is there duplication of project / programme with other funding sources?	**No.** The proposal presents a list of potentially relevant project and outlines the lack of duplication and complementarity. In addition, development partners will also be engaged through bilateral	**Unclear.** The focus of the project having shifted away from rural finance, it is now unclear to what extent there may be duplication or opportunities for complementarity with other projects. Despite the focus on fish production and processing, there is	CAR 3. Explanation provided to demonstrate complementarity rather than duplication of interventions by other initiatives. The table in section F, 'Duplication of project with other funding sources' has been undated with initiatives for complementarity (table on p. 63).

		meetings as well as project progress reviews and workshops to ensure coordination.	no mentioning of e.g. the ongoing AfDB USD 45 million *Aquaculture Enterprise Development Project*, the EU *Zambia Aquaculture Project Technical Assistance (ZAP-TA)* or the GIZ EUR 6 million *Sustainable Fisheries and Aquaculture in Zambia* project. **CAR3:** Please describe how there will be no duplication with other funding sources and how opportunities for synergies and complementarity have been identified and integrated in the project design.	
	7. Does the project / programme have a learning and knowledge management component to capture and feedback lessons?	**Yes.** Component 3 of the project is largely dedicated to knowledge management. Considering the capacity needs, the project management team will receive training on knowledge management to facilitate collection, analysis and dissemination of evidence, good practice and lessons. The lessons and knowledge from the project will be captured through specific activities that will complement the monitoring and evaluation system of the project.	**Unclear.** With the change to component 2, the potential for lessons learning for the project has considerably changed, but this is not reflected in the activities of Component 3. **CR8:** Please clarify the knowledge management component.	CR 8: As recommended, knowledge management has been included under component 3, and specific activities related to KM have been included under Output 3.1.1 'Planning and climate change awareness-raising mechanisms set up and institutionalized to enhance resilience and adaptive capacity building' (see p.40 and p.41).
	8. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations in compliance with the	**Yes.** As outlined in Section II-H consultation has taken place following the approval of the project concept and the process is summarized in section H with a brief summary of the inputs received. Evidence of gender	**Unclear.** The changes made to the proposal have only to a limited extent been carried through in this section of the proposal. **CR9:** Please clarify the consultative process that was held, removing no longer relevant aspects and showing	CR 9: The section on stakeholders has been updated to reflect the changes that have been done to the document (see p.68).

	Environmental and Social Policy and Gender Policy of the Fund?	consideration is included in the proposal.	that all relevant stakeholders were consulted in line with the current content of the proposed project.	
	9. Is the requested financing justified on the basis of full cost of adaptation reasoning?	**Unclear.** The proposal demonstrates that the project activities are relevant in addressing its adaptation objectives. However, it is not clear that, taken solely, without additional funding from other donors, they will help achieve these objectives. The blended finance facility in component 2 does not provide details on complementary sources of funding from the private sector. **CR4:** Please clarify if the project has co-financing, and if so, please provide more details on their sources, and availability. Please also demonstrate that the Adaptation Fund project would be able to deliver its outcomes and outputs regardless of additional funding.	**Unclear.** The proposal overall lacks sufficient details to be able to appreciate the full cost of adaptation. There appear to be substantial additional funding requirements for most the activities of component 1. The justification for the activities of component 1 relies in part on the establishment of an "emergency food security fund" (p. 61), which is not mentioned elsewhere in the proposal. **CR4: Not cleared.**	CR 4: The design and eventual implementation and successful delivery on its objectives, CARLF does not depend on external funding besides AF resources. This has been reflected in paragraph 241. As has been noted, whilst the core adaptation reasoning has remained, substantial changes have been made to the document to better capture the reasoning through activities largely focused on climate-resilient livelihoods, rural financing, capacity development and development plans that mainstream adaptation. The activities have been reviewed to reflect more concretely adaptation reasoning, ensuring consistency between adaptation challenges and proposed interventions (see component description p.30 to p.39, including associated activities). In the context section, information has been included detailing the drought that the country has had for the 2023/2024 and the financial gaps to enable the country respond to what was declared as a national disaster by the President in February 29, 2024. Therefore, this project comes at an opportune time when the government is desperately in need of resources to address the impacts of extreme weather events.
	10. Is the project / program aligned	**Yes.**	**-**	

	with AF's results framework?	The proposal specifies the alignment with Adaptation Fund revised strategic results framework in Part-III Section D.		
	11. Has the sustainability of the project/programme outcomes been taken into account when designing the project?	**Yes.** The project proposal addresses various key areas of sustainability: economic, financial, institutional and environmental as described in section II-J. It also explains how maintenance of potential installations under the project would be maintained.	**Unclear.** Further to the uncertainty regarding the full cost of adaptation reasoning, it is unclear if the current version of the proposal will indeed have the financial sustainability that is claims. Paragraph 189 states "Communities and financial and value chain providers as well as private sector investors will be delivering these interventions (…)" suggesting that indeed substantial additional financing is required for achieving the adaptive capacity that is envisaged. Without this additional funding, it is hard to see how many of the outcomes can be achieved or sustained. The technical issues identified with several of the proposed activities cast considerable additional doubts over the environmental sustainability of the project outcomes. **CR10:** Please clarify how the sustainability of project outcomes has meaningfully been taken into account in the design of the current proposal.	CR 10: Please, see the points that have been noted and elaborated under Project Eligibility (5) above. Essentially, the sustainability of project interventions will be ensured through community capacity development, enhancement of extension service providers (paragraph 111), institutionalisation of intervention in government systems to ensure continuity (paragraph 199), collaboration with other well established institutions to deliver services beyond the life of the project (paragraph 193), and community involvement, and investments in productive assets that will ensure communities continue using them to build resilience and reduce vulnerability (paragraph 203) Other additional details on sustainability are provided under section J. Sustainability of the project outcomes (paragraphs 276ff)
	12. Does the project / programme provide an overview of environmental and social impacts / risks identified, in compliance with the Environmental and Social Policy and	**Not Clear.** The proposal presents a summary of the risk assessment in Section II-K, however the summary of the risks do not correspond to the ones included in the Annex3 (table 28). For example, the table on cumulative impact in the annex mentions the risk of increased	**No.** The risks identification presented on p. 66-68 has several issues. (i) It is unclear which activities have been considered in the risks identification and if the USPs of activities 1.2.1, 1.2.3, 1.3.1, 1.3.2, 1.3.3 and 3.1.1 have also been included; (ii) the table concludes that for none of the	CAR 2 (14): Efforts have been done to review proposed activities in light of USPs consistent with the AF ESP. A table has been updated under section 'K. Overview of the environmental and social impacts and risks. Another table under section, 'Mainstreaming of AF ESP and GP into grant design, approval

	Gender Policy of the Fund?	gender based violence. Whereas the table in Section II-K does not raise any risk. **CAR2 (14)**: please ensure that the result of the overall risk assessment provided in the Annex is accurately reflected in the Section II-K. Additionally, while the project contains USPs, the use of this modality is not fully recognized in the proposal document. Please refer to **CAR1** above.	principles the project will present risks of negative impacts, which is not corroborated by the narrative clarifications in the table. E.g., UNHCR states that there are at least seven main population groups in Zambia. The risks finding states that "Technically, there is no group in Zambia that identifies itself an Indigenous People". Another example relates to child labour. No risk is found, however, the narrative states that "no child labour will be tolerated". That is a mitigation measure and should not be taken into consideration in the risk identification. Child labour – particularly in the agriculture sector that is the focus of the proposal – is known to be common in the project areas; (iii) There are several contradictions in the proposal. Paragraph 143 of the proposal includes a table with for each of the 15 ESP principles "areas of concern" that have been identified. These will be "cleared" with the competent authorities prior to implementation of an activity. Such 'concerns' are identified for nearly all the AF principles, some with multiple concerns, yet no risks have been identified in section II.K of the proposal. The 'concerns' listed include e.g. child labour and resettlement. **CAR 2 (14): Not cleared.** **CR 11:** Please clarify how risks findings are aligned with the AF ESP and GP.	process' (p.96 has been included demonstrating how the project will conduct the screening of grants for investment in climate-smart activities to build adaptive capacities. CR 11: The section, 'C. Describe the measures for environmental and social risk management, in line with the Environmental and Social Policy and Gender Policy of the Adaptation Fund' has been updated to clarify how risks findings are aligned with the AF ESP and GP (p.94 ff).

Resource Availability	1. Is the requested project / programme funding within the cap of the country?	**Yes.**	**-**	
	2. Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project/programme budget before the fee?	**Yes.**	**-**	
	3. Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme budget (including the fee)?	**Yes.**	**-**	
Eligibility of IE	1. Is the project/programme submitted through an eligible Implementing Entity that has been accredited by the Board?	**Yes.**	**-**	
Implementation Arrangements	1. Is there adequate arrangement for project / programme management, in compliance with the Gender Policy of the Fund?	**Yes.** The implementation arrangements include a description of the roles and responsibilities of the different entities and the various implementing partners that are involved in the project and incorporate gender responsive elements.	**-**	
	2. Are there measures for financial and project/programme risk management?	**Yes.** The proposal identifies some major risks and includes some	**-**	

		mitigation actions, as described in section III-B.		
	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?	**Yes.** An Environmental and Social Management Plan (ESMP) is included in Annex 3 of the proposal and identifies credible measures to manage the impacts for the environmental and social risks that have been identified. The ESMP: also contains clearly allocated roles and responsibilities as well as budget provisions for its implementation	**No.** Considering the extensive and as yet unjustified use of USPs, and the shortcomings in the risks identification in the revised proposal, it cannot be concluded that the proposed management measures are relevant or adequate. There is no process to identify environmental and social risks for any USPs. Paragraph 219 includes a long list of potential impacts from project activities, contradicting the findings presented in II.K. This section further includes a list of generic management measures that cannot be meaningfully linked to the activities. Annex 3 presents an ESMP that was designed for the project. It includes 8 pages of text copied from the AF ESP Guidance document. It also includes the risks findings stating that for none of the 15 AF ESP principles further assessment is needed (as there are no risks identified) or that the principle is not relevant. Nevertheless, a 5-page "Consolidated ESMP" is presented listing "ESMP Measures" and the parties responsible. The ESMP includes also a detailed description of a GRM. It includes statements like "This will be established in each participating country and at every sub-project	CAR 6: The document has been updated to comprehensively include relevant and adequate measures to manage environmental and social risks, identified in accordance with the AF ESP and GP. A comprehensive Environmental, Climate and Social Impacts Analysis as Annex 2 has been provided from p.121 The details include the following: • USP ESC Screening (p.137) • Anticipated Environmental and social risks per component (p.142) • General view of potential environmental and social impacts (p.144) • Table of AF E&S Screening: Environmental and social impacts of the different activities under CALRF project has been identified as summarized in this table (p.146) • Project environment and social impact assessment against 15 principles (p.150) • Consolidated ESMP detailing AF Principles, Preventive and mitigation measures, and Responsible (table on p. 154)

			Offices (sic)" (p. 149), suggesting that it lacks relevance to the proposal. It is entirely different from the proposed grievance mechanism of the proposal (paragraphs 206 and 207), which states that the project will utilize as much as possible a wide variety of external avenues to address complaints. **CAR 6:** Please include relevant and adequate measures to manage environmental and social risks, identified in accordance to the AF ESP and GP.	
	4. Is a budget on the Implementing Entity Management Fee use included?	**Yes.**	**-**	
	5. Is an explanation and a breakdown of the execution costs included?	**Yes.** The budget table includes a breakdown of the Execution costs.	**-**	
	6. Is a detailed budget including budget notes included?	**Yes.**	**-**	
	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?	**Yes.**	**-**	
	8. Does the M&E Framework include a break-down of how implementing entity IE fees will be	**Yes.**	**-**	

	utilized in the supervision of the M&E function?			
	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?	**Yes.**	**-**	
	10. Is a disbursement schedule with time-bound milestones included?	**Yes.**	**Yes.** However, the disbursement schedule contains errors. **CAR7:** Please present a disbursement schedule with correct figures.	CAR 7: As recommended, the disbursement table has been updated (p.114).

ADAPTATION FUND

FULLY DEVELOPED PROPOSAL FOR SINGLE COUNTRY

PART I: PROJECT INFORMATION

i. **Title of Project:** Climate Change Adaptation of Livelihoods through Rural Finance (CALRF)

ii. **Country:** Zambia

iii. **Thematic Focal Area:** Agriculture

iv. **Type of Implementing Entity:** Multilateral Implementing Entity

v. **Implementing Entity:** International Fund for Agricultural Development (IFAD)

vi. **Executing Entities:** Ministry of Finance and National Planning / Ministry of Green Economy and Environment/Ministry of Agriculture

vii. **Amount of Financing Requested:** 10 M (in U.S Dollars Equivalent)

viii. **Letter of Endorsement (LOE) signed:** Yes ☒ No ☐

ix. *NOTE: The LOE should be signed by the Designated Authority (DA). The signatory DA must be on file with the Adaptation Fund. To find the DA currently on file check this page: https://www.adaptation-fund.org/apply-funding/designated-authorities*

x. **Stage of Submission:**

xi. ☒ This proposal has been submitted before including at a different stage (concept, fully-developed proposal)

xii. ☐ This is the first submission ever of the proposal at any stage

xiii. In case of a resubmission, please indicate the last submission date: 15/01/2024

Please note that fully-developed proposal documents should not exceed 100 pages for the main document, and 100 pages for the annexes.

1. Project Background and Context:

Climate Vulnerability Context

1. The climate vulnerability context covers socio-economic and environmental context; climate historical trends and projections; and the impacts of climate variability and change in Zambia. It rationalizes and contextualizes the project objective to enhance resilience while building adaptive capacities of the poor and vulnerable communities in five provinces in Zambia.

1.1. Socio-economic and environmental context

2. With a population estimated at 19.3 million,[1] Zambia's economic progress has been unsteady. After 15 years of significant socio-economic progress and achieving middle-income status in 2011, the Government of the Republic of Zambia's (GRZ) economic performance has stalled in recent years. Between 2000 and 2014, the annual real gross domestic product (GDP) growth rate averaged 6.8%. The GDP growth rate then slowed to 3.1% per annum between 2015 and 2019, mainly attributed to falling copper prices and declines in agricultural output and hydroelectric power generation due to insufficient rains, and insufficient policy adjustment to these exogenous shocks. The debt situation in Zambia has far-reaching consequences on reaching SDG targets. Further, Zambia is burdened with external public debt of USD11.1 billion (54% of GDP), a fiscal deficit of 11.7% - that deprived the poor of resources for social services.

3. The economy of Zambia fell into a deep recession due to the adverse impact of the COVID–19 pandemic. Real GDP contracted by an estimated 4.9% in 2020, after growing by 4.0% in 2018 and 1.9% in 2019. The output contraction results from an unprecedented deterioration in all the key sectors of the economy. Manufacturing output fell sharply as supply chains were disrupted, while the service and tourism sectors were hurt as private consumption and investment weakened due to measures taken to contain the spread of COVID–19. Inflation has been rising, mainly driven by the pass-through effects of the kwacha depreciation and elevated food and transport prices. Following the outbreak of COVID–19, inflation rose to 17.4% in 2020 and is projected to remain above the target range of 6–8% in 2021.[2]

4. The economic impact of COVID-19 across the country has constrained GDP growth, and resulted in an increase in poverty. In addition, the COVID-19 pandemic pushed into contraction an economy that was already weakened by recent persistent droughts, falling copper prices and unsustainable fiscal policies. Economic activity through Q3 of 2020 contracted by 1.7%, as declines in industry and services outweighed growth in agriculture, mining, and services suffered from lower global demand and COVID-19 restrictions earlier in the year, respectively.

5. Despite impressive growth rates and the country reaching low middle-income status, Zambia continues to struggle to translate its economic growth into poverty eradication and reduction of inequalities. Poverty is increasing in absolute and relative terms. Poverty is primarily a rural phenomenon. 77.3% males and 83.4% females in rural areas are categorized as poor in Zambia. 64.4% and 67.3% of males and females, respectively are categorized as extreme poor.3 Zambia positioned at 151 out of 189 countries and territories in UNDP's 2023 HDI, with a value of 0.569, placing Zambia in the medium human development category.4 64% of Zambians living under $2 a day with over 40.8% of them considered to live in extreme poverty (under $1.25 a day) which is disproportionally high in female-headed households (56.7%). As the population grows, the country faces a widening gap between the richest and poorest – it is one of the world's most unequal societies with, 2021 data showing an income Gini coefficient of 0.57. Rising inequalities across the country have become a defining challenge of the Zambian development agenda. Inequalities faced by the poor, children and adolescents, youth, women, and people with

[1] Worldometer: Zambia's population
[2] AfDB (2022). Zambia Economic Outlook
[3] Zambia Statistics Agency. (2023). Highlights of The 2022 Poverty Assessment in Zambia
[4] UNDP (2024) *Human Development Report 2023/2024: Reimagining Cooperation in a Polarized World*. New York

disabilities are putting sustainable development at risk of undermining social progress, threatening economic and political stability, stirring social disharmony, and undercutting human rights. Accessing health services is a challenge, more so, in rural settings. The number of health facilities in rural areas is far too low than desired. The country also faces other social, economic, and political challenges including limited access to safe water, youth unemployment (17.9%), and child marriages, which has shown that 29% of women aged 20-24 years married by the age of 18.

6. Drought is endemic to Zambia, due in part to below-average precipitation, particularly during the seasonal rains. The country has a history of drought years: 1987/88, 1991/92, 1994/95, 1997/98, 2001/03, 2004/05, 2011/12, 2015/16 and 2018/2019. This sequence implies that the country experiences drought every 4 to 5 years, and the frequency is projected to increase in the future due to climate change. Drought brings reduced agricultural production from erratic rains, increased dry spells, water logging and false and late starts. Given that roughly 90% of cultivation in Zambia is rain-fed, small-scale agricultural producers are particularly vulnerable to drought. The severe drought of 2018/2019 affected 2.3 million people, who experienced increased food insecurity, with a sharp rise in food prices from the reduced agricultural production and harvest. Livestock production in the grazing areas in the western and southern parts of the country was particularly affected. Low water levels in major rivers and groundwater systems increased water insecurity. The country's aspiration to manage natural resources and respond to the challenges of climate change is stifled by weak governance linked to low institutional capacities and poor coordination mechanisms more effectively. Combined, these factors continue to undermine the country's resilience to natural and economic shocks. Climate-induced changes are already exerting considerable stress on the country's vulnerable sectors, hauling particularly the poor into further poverty.[5]

7. The ND-GAIN index ranks Zambia in the 137th position, being the 41st most vulnerable country and the 53rd least ready country to face climate change. Zambia's high vulnerability score and low readiness score place it in the upper-left quadrant of the ND-GAIN Matrix.[6] Consequently, it has both a great need for investment and innovations to improve readiness and a great urgency for action to respond to the impacts of extreme climate change-related events. This is particularly concerning because the country has to contend with territorial and demographic disparities in wealth distribution and economic development that have left rural poverty stubbornly high. Additionally, Zambia's external financial position worsened in 2020, with dwindling reserves (averaging 1.6 months import cover), remaining depressed in 2021 due to copper price and output fluctuations, rising public debt payments, and elevated non-oil imports. Despite falling revenues, government's expansionary fiscal policy for public investments resulted in widening fiscal deficits (8.3% of GDP in 2019 and 11% of GDP in 2020).

8. While there is economic instability, the natural resource base keeps being eroded. According to the Global Forest Watch, in 2010, Zambia had 22.4Mha of tree cover, extending over 30% of its land area. In 2020, it lost 163,000 ha of tree cover, equivalent to 59.7Mt of CO_2 emissions.[7] Deforestation in the medium and long terms erodes the productive capacity of land to maintain or enhance the stocks and flow of ecosystem services that underpin livelihoods but also contribute to several other environmental benefits. As ecosystem services erode, so does the ability of communities to adapt to the impacts of climate variation and change.

9. In the project target provinces (Western, Southern, Central, Northern and Luapula); the rate of deforestation differs in some specific way: the rate in Western and Southern provinces is comparatively lower than in Central and Luapula provinces. This is because Western and Southern are already generally denuded and lie in the country's first agro-ecological zone that receives the least amount of annual rainfall. On the other hand, Central and Luapula provinces lie in the second and third agro-ecological zones, respectively. Deforestation rates are comparatively higher in these provinces than in Southern and Western provinces. Between 2001 and 2020, Luapula and Central provinces lost 277,000 ha and 212,000 ha of

[5] Irish Aid (2018). Country Climate Risk Assessment Report: Zambia
[6] The ND-GAIN Country Index: Zambia
[7] Global Forest Watch (n.d). Tree cover loss in Zambia

trees, respectively.[8] Unsustainable production systems such as chitemene system (slash and burn); fuelwood including charcoal production and expansion of agricultural farms which have all increased due to population growth but also limited access to electricity continues to contribute to deforestation in the provinces. It should be noted that charcoal production is demand-driven, particularly in urban centres. The electricity access rate for urban and rural areas is approximately 67% and 4.4%, respectively.[9] During drought years, the country experiences power-outages, increasing charcoal demand, particularly in urban centres. Therefore, limited access to electricity, lack of accessible alternative energy sources and power outages are important contributing factors to the country's deforestation rate.

10. Other environmental threats in Zambia include: habitat transformation; encroachment; genetically modified organisms; uncontrolled wild fires; climate change; invasive species; unsustainable utilization of natural resources; pollution; and diseases and pesticides[10] – given the country's low readiness and economic instability as indicated above, all these factors exacerbate the socioeconomic and environmental vulnerable context of the poor who are already vulnerable in rural areas.

1.2. Historical trends and projections in Zambia

11. Since 2000, Zambia has experienced nearly annual episodes of droughts, dry spells, and floods that have negatively impacted key sectors of the country's economy and led to significant economic and livelihood losses. For instance, the 2007/08 rainy season caused floods in several districts in the country, which affected an estimated 274,800 people (45,799.96 households) and caused extensive damage to human settlement and shelter, infrastructure, water and sanitation, health and nutrition, education and agriculture and food security. Climate change impacts may slow the development process of the country and could cost Zambia approximately USD $13.8 billion loss in GDP.

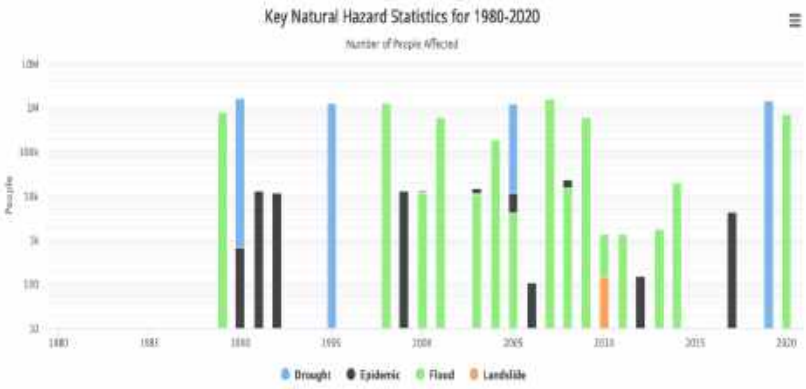


Fig. 3 *Overview of the most frequent natural disasters in Zambia and number of affected people*

12. Climate change is responsible for numerous environmental hazards, including more frequent and intense seasonal droughts, increased valley temperatures, prolonged dry spells, and flash flooding.[11] Over the past few decades, Zambia has experienced an increasing number of extreme climatic events (droughts, floods, extreme temperatures and dry spells), many of these with increased intensity and frequency. Their impacts are evident in climate-induced changes to physical and biological systems, which increasingly exert considerable stress on the country's vulnerable sectors, particularly agriculture.

13. Evidence shows that Zambia has over the past years, experienced several extreme events hazards including droughts and prolonged dry spells, seasonal and flash floods and extreme temperatures.[12] Some of these, especially droughts and floods, have increased in frequency and intensity over the last two decades and have adversely impacted on food and water security, energy and livelihoods of communities.

[8] Global Forest Watch (n.d). Tree cover loss in Zambia
[9] Government of Zambia (2021). Report of the committee on energy, water development and tourism on the report of the auditor general on the promotion of renewable energy sources in rural areas in Zambia, 2015-2019 for the fifth session of the twelfth National Assembly
[10] Government of Zambia (2015): Zambia's Second National Biodiversity Strategy And Action Plan (NBSAP -2) (2015-2025)
[11] Rosen, J.G., Mulenga, D., Phiri, L. et al (2021). "Burnt by the scorching sun": climate-induced livelihood transformations, reproductive health, and fertility trajectories in drought-affected communities of Zambia. BMC Public Health
[12] National Policy on Climate Change 2016

From 2000-2007, the intensity and frequency of droughts and floods and the number of people affected changed with a trend towards increased number of floods (see **Figure 3**).[13]

14. Zambia's development thrives on three principal economic pillars: agriculture; mining and tourism. Of these, agriculture and tourism are more highly influenced by the impacts of climate variation and change. For agriculture, it should be remembered that the sector supports roughly 85% of the country's population, employing 52% of the country's working-age population - a majority of whom are women and rural-dwelling residents.[14] This turns the spotlight on the socioeconomic implications of climate change impacts on the agriculture sector.

15. Other equally important sectors affected by climate variation and change include human and animal health, land, forestry, infrastructure development and water resources. All these sectors are climate-sensitive and vulnerable to the vagaries of climate variability, particularly changes in precipitation and temperature distribution in the country. On average for the period 1950-2016, precipitation has been decreasing by 1.1 mm yr^{-1}, while temperature has been increasing by 0.01 ^{o}C yr^{-1} in Zambia (Libanda et al., 2020).[15] With constrained asset portfolios, the impacts of climate change on livelihoods are more significant for rural households that depend on rain-fed agriculture.[16] With a projected significant increase in the number of consecutive dry days over Zambia, especially beginning from the year 2050 to the end of the century, the agriculture sector, ecosystem services and water resources management will negatively be impacted.[17] A closer look at Climate Analytics data shows that, overall, temperature is increasing on the one hand, while precipitation is declining on the other (Figure 4), with a steep decline in precipitation beyond around 2044.

[13] WB Portal for Climate Change.

[14] Rosen, J.G., Mulenga, D., Phiri, L. et al (2021). "Burnt by the scorching sun": climate-induced livelihood transformations, reproductive health, and fertility trajectories in drought-affected communities of Zambia. BMC Public Health.

[15] Libanda, B., Bwalya, K., Nkolola, N.B., Chilekana, N., 2020. Quantifying long-term variability of precipitation and temperature over Zambia. J. Atmos. Solar-Terrestrial Phys. 198, 105201. https://doi.org/10.1016/j.jastp.2020.105201

[16] Hamududu, B.H., Ngoma, H., 2020. Impacts of climate change on water resources availability in Zambia: implications for irrigation development. Environ. Dev. Sustain. 22, 2817–2838. https://doi.org/10.1007/s10668-019-00320-9

[17] Libanda, B., Ngonga, C., 2018. Projection of frequency and intensity of extreme precipitation in Zambia: A CMIP5 study. Clim. Res. 76, 59–72. https://doi.org/10.3354/cr01528

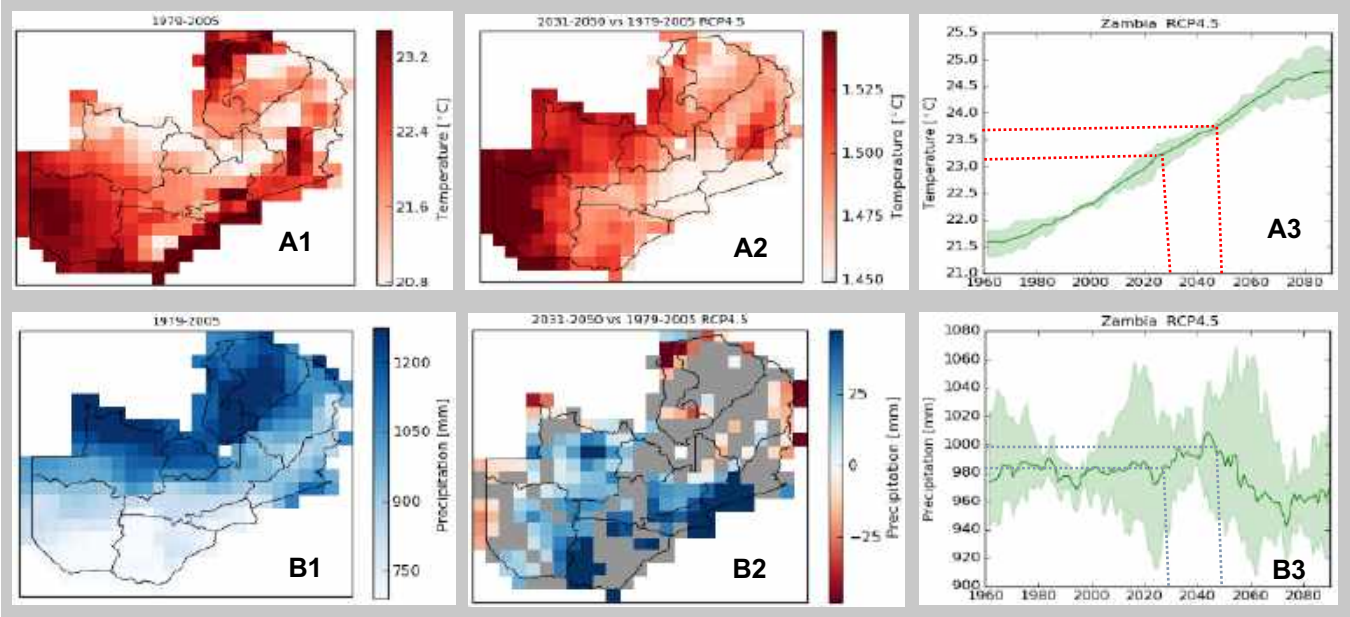


Fig. 4 *Under the RCP4.5 scenario 1979-2005 (A1) period is projected to get warmer in the 2031-2050 (A2) period, with temperature projected to continue to rise (A3). Across the country, the temperature variation will be between +1.45oC and +1.52oC. Under the same periods, rainfall pattern is projected to decline (B1 compared to B2), and this decline ranging between -25mm and 25mm is projected to be steeper after 2044 (B3).*

16. In other simulations, over the whole country, the number of wet days is likely to decline. In the near future, the number will reduce by 5 and 6 days, while in the far future it will decrease by 7 and 11 days for RCP 4.5 and RCP 8.5 respectively. The reduction in wet days will be stronger towards the south-west regions of the country. On average, for both RCP scenarios, there will be a general reduction in the annual precipitation, but with an increase in the northern and a decrease in the southern-western regions. In future projections, there was a reduction of precipitation in the onset of rain season and increase towards end of the season (**Figure 4 (A)**).[18] Taking maize as both a political and staple food crop in Zambia as an example, the implications of these projections will lead to low yields under water stress (Figure 3 (**B**)) and further lower yields under water and nutrient stress (Figure 3 (**C**)) - threatening food security, production landscapes and the ecosystem services and disease outbreaks.

17. The risk of crop failure in western and southern regions increases due to dry spells and heat stress, while crops in the northern regions will be threatened by flooding or waterlogging due to heavy precipitation. The simulated decline in the water-limited and water- and nutrient-limited maize yields varied from 15 to 20% in the near future and from 20 to 40% in the far future, mainly due to the expected temperature increases.[19] The failure of maize will lead to prices soaring, threatening civil strife.

18. At agricultural field level, the consequences of this scenario will lead to waterlogged fields, water shortages, destruction of crops and higher incidences of crop and livestock diseases. The increased incidences of adverse weather events lead to lower and less predictable incomes from agriculture due to production declines and variations, and as the alternative employment options are limited, climate change may lead to increased poverty and vulnerability for those who lack the capacity to adapt, and the resilience to rise and overcome the constrains. Climate resilient agriculture, supported by improved access to rural finance, which is targeted at investments that respond to changing climatic conditions, may become the main driver of sustainable rural development.

[18] Siatwiinda, M.S. et al. (2021). Climate change impacts on rain-fed maize yields in Zambia under conventional and optimized crop management. *Climatic Change 167: 39*

[19] Siatwiinda, M.S. et al. (2021). Climate change impacts on rain-fed maize yields in Zambia under conventional and optimized crop management. *Climatic Change 167: 39*

19. Overall, climate change is projected to affect the southern parts of Zambia more than the northern and on average, rainfall is expected to be more variable and rainy seasons are likely to shift.[20] Further, Zambia has witnessed crop failure in the western and southern parts, electricity rationing of up to 15 hours per day due to rainfall variability, and high volatility in the staple maize crop and maize meal prices due to supply shortfalls and limited irrigation.[21] Climate change scenarios typically result in a decline in Zambia's real annual GDP growth rate. Under unconstrained emissions, growth in GDP is projected to reduce much more at about 2% by 2050 compared to a 1% reduction under strict global mitigation by 2050. Another source has projected a $5 billion GDP deficit over a 10–20-year period due to the impact of climate change on agricultural productivity, poverty, energy production, healthcare costs, and loss of natural environments.[22]

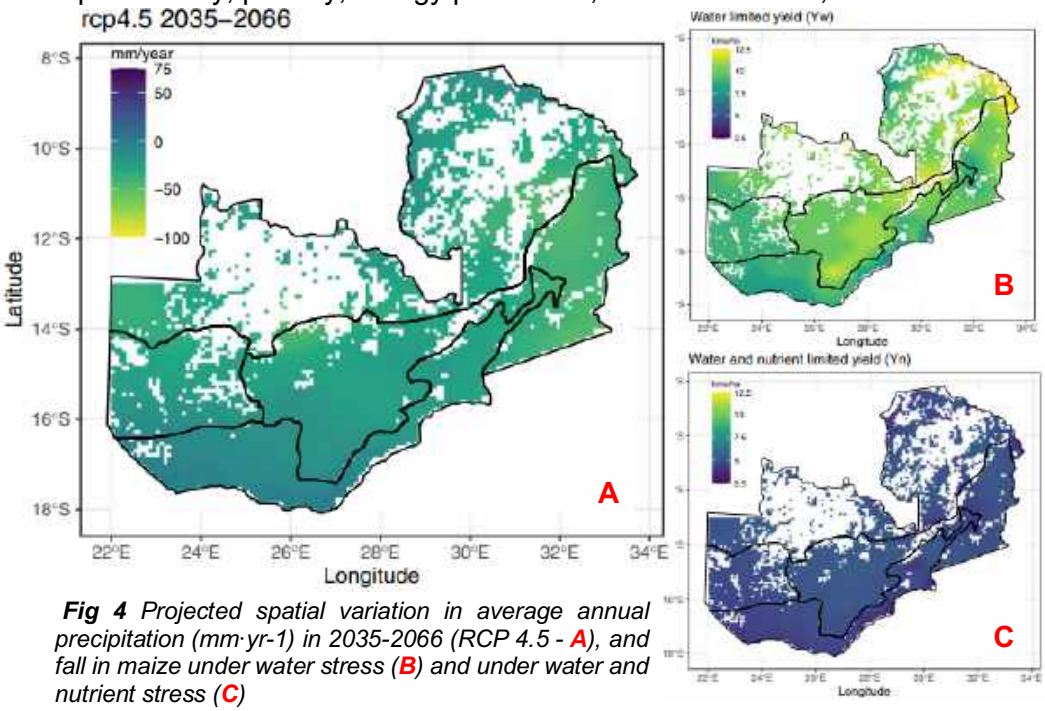


Fig 4 *Projected spatial variation in average annual precipitation (mm·yr-1) in 2035-2066 (RCP 4.5 - **A**), and fall in maize under water stress (**B**) and under water and nutrient stress (**C**)*

20. Under the 1.5°C and 1.3°C temperature pathways, the percentage differences between GDP per capita are about 11% and about 18%, respectively (see **Figure 5**).[23] Over the past 30 years, floods and droughts have cost Zambia US$13.8 billion – equivalent to 0.4% of annual GDP growth. Climate variability could cost Zambia US$4.3 billion in lost GDP over the next decade, reducing annual growth by 0.9%.[24]

[20] Ngoma et al., 2017; Hamududu and Ngoma, 2019; Mulenga et al., 2017
[21] Mulenga et al., 2019b; Chisanga et al., 2018
[22] Rosen, J.G., Mulenga, D., Phiri, L. et al (2021). "Burnt by the scorching sun": climate-induced livelihood transformations, reproductive health, and fertility trajectories in drought-affected communities of Zambia. BMC Public Health.
[23] Climate Analytics: The economic damages of 3°C warming for SIDS and LDCs - Zambia
[24] Makondo et al. 2014, MTENR 2007, Sishekanu 2013

21. The place of the agriculture sector in the country's economy is crucial. It provides employment to nearly 87-90% of the rural population,[25] and contributes between 16 to 20% to the country's GDP. The sector directly underpins livelihood of at least 50% of the population. Being sensitive to climate change, and almost entirely dependent on rain-fed agriculture, the resultant adverse impacts on water, crops, livestock and fisheries lead to reduced agricultural productivity – raising concerns about food and nutritional insecurity and food prices – and consequently, peace and calm in the country. Despite the centrality of agriculture in the national economy and rural development, the potential of the sector remains untapped owing to various factors which, among other challenges, include:

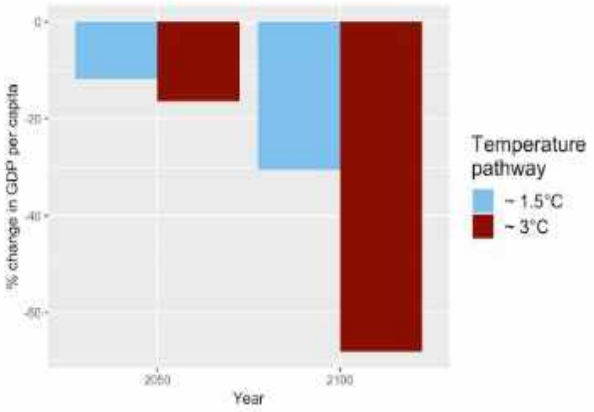


Fig 5. *Impact of climate change on GDP Zambia's GDP*

a. Gaps between climate change existing related policies and their implementation owing to inadequate policy coordination, inadequate technical capacity, resource mobilisation skills and effective decentralization;
b. Poorly coordinated extension services in some cases, and their complete lack in others – including lack of meaningful institutionalization of climate change;
c. Lack of financial services to enhance the ability of farmers to invest in more lucrative but also environmentally sustainable production systems per unit area;
d. Lack of investments in land restoration/rehabilitation (given the poor fertility status of soils, high level of deforestation rates); and
e. Poor infrastructure to support rural communities' access to markets and other services; market illiteracy exacerbated by low levels of formal education of most smallholders in rural areas; Generalized vulnerable context of rural communities with constrained livelihood options to adapt to climatic events such as floods and crop and animal disease outbreaks that have increased in frequency – among other challenges.

22. Since over 90% of smallholder production is rain-fed and the market conditions are poor, Zambian agriculture is vulnerable to climate shocks.[26] The impact on food security and nutrition in Zambia will be high because of already high poverty levels and low diversification in food production, particularly in rural areas.[27] Currently, about 63% of human energy requirements in Zambia come from cereals and yet cereals like maize – the staple food – are vulnerable to climate change and yields are projected to dwindle (see Fig 3). Thus, disruptions in cereal production and supply will impact food access.[28] Heavy reliance on maize compromises the country's efforts to build climate resilience and ensure sustainable food and nutrition security, as exemplified by Zambia's low ranking on the global hunger scale.[29]

1.3. *Agro-ecological zones and soils*

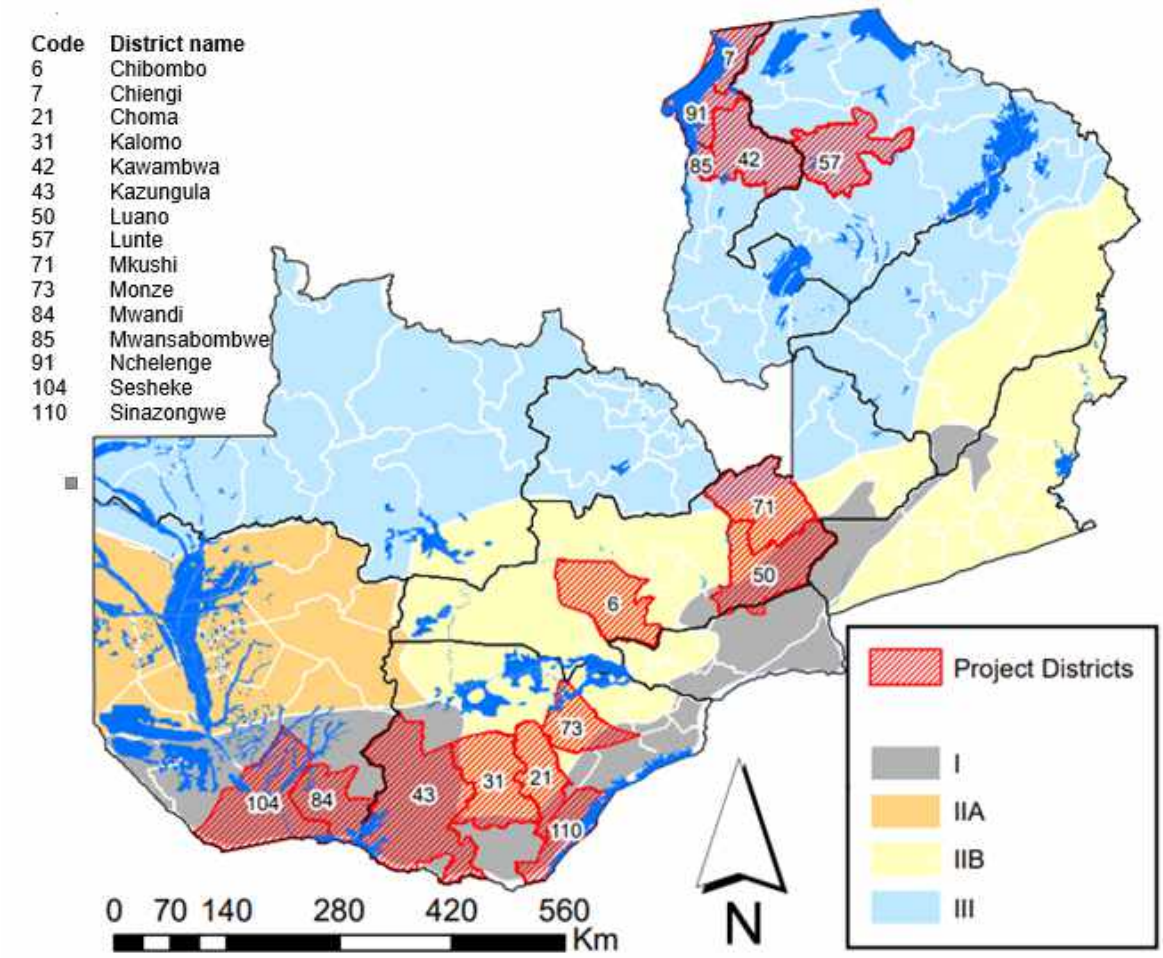
23. Zambia is classified into three main agro-ecological zones according to pedological characteristics, climatic factors, rainfall patterns and common agricultural practices. The three ecological zones extend from the west to the east of the country with Agroecological Zone I in the South, Agroecological Zone II north of Agro-ecological Zone II and Agro-ecological Zone III further to the north covering parts of the North-western, Northern, Luapula, and Muchinga Provinces with the highest rainfall (see map below).

[25] Aid Irish, 2017. Zambia Climate Action Report 2016 1–20
[26] GRZ, 2016a; GRZ, 2016b
[27] Verhage et al., 2019; Alfani et al., 2019
[28] Mwanamwenge and Harris, 2017
[29] Mwanamwenge and Cook, 2019; von Grebmer et al., 2019

24. Semi-arid Region I includes areas of southern, eastern and western Zambia: Zambia's valleys at 300-800 m altitude mostly lie in Region 1. Mean annual rainfall in Region I ranges from 600 to 800 mm. The growing season is relatively short (80 -120 days) and risky for crop production, as poorly distributed rains result in crops enduring frequent dry spells. Region I contains a variety of soil types, ranging from slightly acidic loamy and clayey soils with loam topsoil, to acidic sandy soils. Characteristics of these soils which have significant constraints for crop production, include: erosion, limited soil depth in hilly and escarpment areas, poor physical properties that make it difficult to till especially on cracking clay soils, crusting, and low water holding capacities in sandy soils.

25. Region II includes much of central Zambia, with most of Central, Southern, Eastern and Lusaka provinces. It contains the most fertile soils and most of the country's commercial farms. Annual rainfall in Region II averages 800-1000 mm, and the growing season is 100-140 days long. Distribution of rainfall is not as erratic as in Region I, but dry spells are common and reduce crop yields, especially on the sandier soils. Average mean daily temperatures range from 23- 26°C in the hottest month October to 16-20°C in the coldest months of June and July. The most common soils in Region II are red to brown clayey to loamy soil types that are moderately to strongly leached. Physical characteristics of the soils that affect crop production, include low water holding capacity, shallow rooting depth, and top soils prone to rapid deterioration and erosion. These soils also have low nutrient reserves and retention capacity, are acid, have low organic matter and nitrogen content, and are phosphorus-deficient.

26. Region III, the high-rainfall area, lies in a band across northern Zambia, including the Northern Luapula Copper belt, Northwestern provinces and some parts of the Central province. This region receives over 1000 mm of precipitation each year, and the growing season ranges from 120-150 days. Soils in Region III are highly weathered and leached, and characterized by extreme acidity. Consequently, the soils have few nutrients available for plant growth, and are high in exchangeable aluminum and manganese, both of which are toxic to most crops unless soils are limed to increase pH.



27. Map of Zambia showing the agroecological zones and the project districts

Major cropping systems

28. Region I has predominantly small-scale farmers in the major valley systems. In the Luangwa Valley, sorghum, finger millet and maize are the major starchy food crops, while groundnuts, cowpeas and pumpkins are also grown. Farmers use hand hoes for cultivation. Goats and chickens are commonly kept by farm households, and some farmers have a few cattle. Other areas of the region mainly produce bulrush millet, sorghum, and cassava. It should be added the soils are characterised by erosion, limited depth in hilly and escarpment areas, poor physical properties that make it difficult to till especially on cracking clay soils, crusting and low water holding capacities in sandy soils. In this agro-ecological zone lie Mwandi, Sesheke (of Western Province), Kazungula, Kalomo, Sinazongwe, Choma and Monze districts (of Southern Province) that have been targeted for the project implementation.

29. Zambia's large commercial farmers are concentrated in Region II. Their farming systems are mechanized and highly diverse, cultivating maize, soybeans, wheat, cotton, tobacco, coffee, vegetables, and flowers, and breeding livestock. Besides these large-scale systems, there are also small- and medium-scale farmers in the region. Maize is the main staple crop in these systems in Central and Eastern provinces. Beans, groundnuts, pumpkins, and cassava leaves are grown to diversify diets. Other crops include cotton, sorghum, soybeans and sunflower. Cattle, chickens, goats, pigs and sheep are common. Farmers also grow tobacco. Cattle are important for traction, meat, milk and manure. The major constraints to increase crop production in Region II are the lack of low-cost biocides to control pests and diseases, soil degradation, and the depletion of soil fertility. The most common soils in this zone are red to brown clayey

to loamy soil types that are moderately to strongly leached. Physical characteristics of the soils that affect crop production include low water holding capacity, shallow rooting depth, and top soils prone to rapid deterioration and erosion. These soils also have low nutrient reserves and retention capacity, are acidic, have low organic matter and nitrogen content, and are phosphorus-deficient. The zone has ample irrigation potential, which allows for a diverse mix of crop and livestock enterprises. In this agro-ecological zone lie Mkushi, Luano and Chibombo districts (of Central Province) that have been targeted for the project implementation.

30. The agro-ecological zone III, the high-rainfall area, lies in a band across northern Zambia, including the Northern, Luapula, Copperbelt, Northwestern provinces and some parts of the Central province. This region receives over 1000 mm of precipitation yearly, and the growing season ranges from 120-150 days. Small-scale farming predominates in Region III. Rural areas of this region have the lowest population density in Zambia. Farmers use very low-input, shifting and semi-permanent cultivation techniques. *Chitemene* and *ifundikila* are two widely used, traditional methods of cultivation. In Chitemene, trees are cut at 1 meter height, branches are heaped in piles and burned, and then crops are planted in the ash. *ifundikila* is used in cleared fields. Grass is cut and buried at the end of the rainy season and allowed to decompose. The composted material is spread before the next planting season onto frequently mounded fields.

31. Principal crops in the hand hoe system of Northern, Luapula and Northwestern provinces are cassava, landrace maize varieties, sweet potatoes, pumpkin, finger millet and beans. Most farmers have chickens and a few goats, but other livestock is uncommon. The existence of tsetse fly in some areas limits opportunities for cattle production.[30]

32. Soils in Region III are highly weathered and leached, and characterized by extreme acidity. Consequently, the soils have few nutrients available for plant growth, and are high in exchangeable aluminum and manganese, both of which are toxic to most crops unless soils are limed to increase pH. The major crops produced are cassava, maize, groundnuts, millet, sorghum, beans and sweet potatoes; and small-scale fishing and fish trading is also a source of income. Given the abundance of water in this area, there is potential for irrigation, and for fishing. In this agro-ecological zone lie Chiengi, Nchelenge, Mwansabombwe and Kawambwa districts (of Luapula Province) and Lunte (Northern Province) that have been targeted for CALRF implementation.

a. Impacts of climate change and climate variability

33. Due to climate change, Zambia has been experiencing more variable precipitation and temperatures. Weather patterns are characterized by events such as heavy rains, floods, droughts and prolonged dry spells, which are becoming more intense and frequent. Climate change has affected living conditions, especially on groups such as women and the poor. In the year 2020, Zambia experienced two extreme weather events, the El Nino Oscillation (ENSO) which significantly contributed to the increase in food insecurity and the flooding, which was experienced in some parts of the country that negatively affected the crop production as well as food security.

1.3.1 The economic implications of extreme weather events

34. Zambia has been a subject of discussion in international media for being in debt distress. As has been noted, the country's fiscal space has been under stress. The country has been under serious fiscal challenges, and therefore, this has crippled its own ability to respond to challenges of extreme weather events. As a case in point, the 2023/2024 farming season has suffered severe drought that has adversely affected 9.8 million people (nearly 51% of the total population), out of whom 6.6 million (nearly 34% of the total population) are need of urgent humanitarian assistance. One million hectares of planted maize has been adversely affected across 84 of the 116 districts of the country. The President Hakainde Hichilema

[30] Chikowo, R. Global Yield Gap Atlas: Description of cropping systems, climate, and soils in Zambia

revealed that the country urgently needs K23.5 billion ($969,764,132) to implement immediate life-saving humanitarian needs arising from the drought experienced in the 2023/24 farming season. The President Hichilema said out of the required amount, only K1.3 billion ($53,960,506) was available leaving a financing gap of K22.2 billion ($919,550,112).[31] The agriculture sector needs K2.5 billion ($103,545,757) to implement early recovery measures as well as build resilience against the effects of the drought while livestock and wildlife preservation will require K1.7 billion ($70,501,673). The water resources development and management, which is a key pillar of early recovery and resilience building, will require K3.02 billion ($125,216,178) out of which K569 million ($23,652,306) was available, leaving a funding gap of K2.4 billion ($99,648,328).

35. The direct economic losses from the agricultural and productive sectors (hydropower) are estimated to be 75 million USD on average per year, and to increase to 250 million USD under projected climate conditions (projected period 2051 - 2100, considering the IPCC scenario RCP 8.5 which foresees an increase in the global temperature between 1.5°C and 4°C by 2100) (UNDRR and CIMA, 2019). The total Average Annual Loss for the agricultural sector (crops) could rise dramatically under projected climate conditions from 29 to 180 million USD per year, indicating that a substantial part of the annual crop production could be lost due to intensified droughts in the projected climate.

1.3.2 Agriculture

36. Agriculture constitutes 13% of Zambia's GDP. It is estimated some 1.5 million smallholders who rely heavily on rain-fed maize production, which is the country's staple food and is particularly vulnerable to infestations. The smallholder farmers produce around 90% of the domestic food supply. However, they continue to face serious constraints. Over-reliance on rain-fed agriculture makes them particularly vulnerable to increased occurrence of climate-induced shocks such as floods, drought, prolonged dry spells and extreme temperatures. Diversity of household crop production is limited, with around 80% of households cultivating three or fewer crops. These largely, have made farmers (particularly female farmers who, in most cases are not able to quickly adapt to the changing environment) livelihoods more fragile, further compromising their adaptive capacity to climate-induced shocks and subsequently reducing their resilience to climate risks.

37. For most farmers, agricultural productivity and revenues are low, mainly due to exposure to climate-induced risks and limited access to improved inputs. The vast majority of agriculture has in the previous years, been vulnerable to shocks, such as drought, hydro-meteorological hazards (e.g. tropical cyclones) and their effects. Natural and climate-related disasters has increased in recent years, disproportionally affecting poor people. The impacts of climate change, such as floods and droughts, have led to persistent structural problems that account for, in part, poverty and food insecurity.

38. Recurring droughts, floods and topsoil erosion exacerbate the vulnerability of smallholder farmers to the adverse effects of climate change, reducing their adaptive capacity and making them more vulnerable to environmental and livelihood shocks. Pest infestations and livestock disease outbreaks compounded the situation. Unsustainable land use practices, such as "slash and burn" agriculture is seen as one of the root causes. The impact of climate-related disasters has a disproportionate effect on women and girls, leading to negative coping strategies, which tend to be more prevalent in households headed by women. Women constitute 64% of the rural population and approximately 80% of food producers.

39. Zambia is now anticipating further reverberations on agricultural productivity due to the impact of the COVID-19 pandemic and the Russia-Ukraine crisis, which have distorted agricultural markets and food systems.

40. Efforts at transforming smallholder farming as a business have been constrained by lack of organization capacity of the producers, inadequate access to productive assets, modern technology and

[31] Central Province Provincial Admin. 'Zambia Needs K23.5 Billion For Drought Intentions.'

market services. The input market needs to be better organized be more cohesive with farmers needing more capacity and information to respond appropriately. Access to adequate financing from financial institutions remains a challenge for farmers due to absence of considerable collateral, which jeopardizes their ability to expand production, increase yield and attract additional services from major players particularly private sector within value chains. This is an even higher challenge for women, who tend to have limited access and control over productive assets such as land than men, which makes it harder for women to secure financial support.

41. It is important to note that key to improving the food security situation in the country entails reviewing and adopting hybrid methods of increasing agricultural productivity. This includes partnering with farmers to find ways to sustainably intensify the production of key food crops in smallholder farming systems.

42. At the national level, Zambia will continue to be adversely affected by the Ukraine–Russia crisis. The prices of various commodities and services, including agricultural commodities, will be negatively affected. In the near term, the disruption of trade from the Black Sea region. Recent forecasts have shown that the conflict will likely to impact the imports of key commodities, mainly wheat sourced from Russia and agricultural inputs. For the 2022/2023 consumption year, there is a wheat deficit of about 95,000 t, which will need to be imported from elsewhere. This is not expected to be imported from South Africa as it also imports about half of its annual wheat needs. Global cereal supplies are expected to decline in 2022, with expected massive declines as a direct result of the Ukraine-Russia conflict. Global Cereal Price Index went down by 4.1% in June from May, but 27.6% above June 2021 levels, and global wheat prices were down 5.7% in June but 48.5% above June 2021. Consequently, the supply chain for commodities will be affected. The price of substitute goods such as soya beans and ground nuts for vegetable oil is expected to increase due to global shortages impacted by the crisis.

43. Despite the preponderance of agriculture in the Zambian economy, the sector's role and contribution to reducing rural poverty and increasing the adaptive capacity of communities remains insignificant. The increase in temperatures has complicated the control and management of pests and diseases. Droughts and flooding have also resulted in water insecurity, crop failure, reduced livestock production and the consequent food insecurity. Climate variability has kept a proportion of the population dependent on subsistence agriculture, below the national poverty line[32].

44. Changes in rainfall have been substantial with the north experiencing more intense rainfall, while the south has had decreased amounts.[33] The combined effect of increasing temperature and increasingly erratic rainfall imposes a severe challenge for the predominantly rain-fed crop and livestock production across the country – with impacts more severe in rural community where communities are poor.

45. A recent assessment of the vulnerability context of Zambia highlights the gravity of the country's vulnerability following droughts in some parts of the country and floods in others. About 2.3 million people

[32] National Policy on Climate Change
[33] Climate Service Center, 2016; IFAD/WFP 2016

between October 2019 and March 2020 were estimated to be facing the Integrated Food Security and Phase Classification (IPC) Phase 3 or worse food security situation (**Figure 6**). About 16% of the rural population is already in IPC Phase 3, marginally able to meet minimum food needs but only by depleting essential livelihood assets or through crisis-coping strategies. About 3% are in IPC Phase 4 and facing significant food gaps. Malnutrition is also expected to increase.[34]

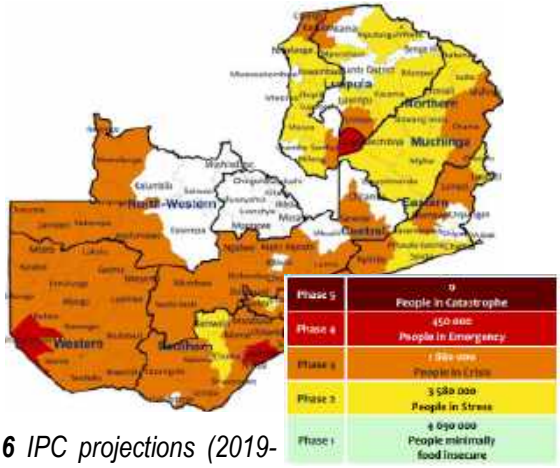


Fig. 6 *IPC projections (2019-2020)*

46. The devastating effects of erratic rains, dry spells, water logging, false and late start to the 2018/2019 rain season on agriculture production were the leading causes of reduced crop production contributing to the acute food insecurity conditions across the country. The 2020/2021 rain season has been the same. Prolonged dry spells affected Southern, Western and parts of Lusaka, Eastern and Central provinces, while flash floods, water logging and leaching were in the northern and eastern parts of the country.

47. In these provinces, there have been: i) drought conditions and dry spells that have led to a marked decrease in crop production; ii) erratic rains mostly in the south that resulted in reduced crop production; and iii) flooding that led to water logging and leaching of nutrients for crops; iv) poor quality of grazing land which affected not only domestic animals but also wild animals in some national parks, such as in Mosi-oa-Tunya in Southern Province; and iv) crop, animal and human disease outbreaks attributed to changing rainfall patterns and temperature regimes.

48. Climate change constitutes a significant and serious threat to sustainable development for Zambia with projections indicating increased poverty, increased incidents of crop failure, change in the length of the growing season, and a 13% reduction in water availability by 2050 relative to the 1960-2000 period.[35] According to the Climate Adaptation in Rural Development (CARD) assessment tool, these changes will significantly lead to reduction in yields of most crops in the country, including maize (>65% of cropped land and is the main staple crop), cassava, maize, sorghum, millet and groundnuts – crops, which are mostly grown by smallholder farmers in rural Zambia (see **Figure 7**),[36] and soy and wheat usually produced for sale by mostly medium to large-scale farmers.

49. Consistent with CARD (**Fig 7** above), another study[37] indicates that the production of various crops, particularly cereals (maize, millet, sorghum), legumes (beans, cowpeas, and groundnuts), and root crops (cassava) across Zambia is expected to be negatively impacted by increased temperatures and reduced or delayed rainfall, thereby causing a reduction in the extent of suitable production areas as well as reducing the productivity of remaining areas.

[34] Vulnerability Assessment Committee Results (2019): Zambia
[35] Ngoma et al., 2019; Hamududu and Ngoma, 2019; Verhage et al., 2018; Mulenga et al., 2017
[36] Developed by IFAD, the Climate Adaptation in Rural Development (CARD) assessment tool uses data that is based on the Inter-Sectoral Impact Model Intercomparison Project (ISIMIP) Fast Track output. Simulations use the greenhouse gas emission scenario RCP8.5, an emission scenario that leads to around 4°C global warming by 2100. The graph shown uses a no-irrigation scenario, with 2020 as the baseline year.
[37] Hunter et al. 2020. Research Highlights – Climate Change and Future Crop Suitability in Zambia. University of Cape Town, South Africa, undertaken in support of Adaptation for Smallholder Agriculture Programme' Phase 2. IFAD, Rome.

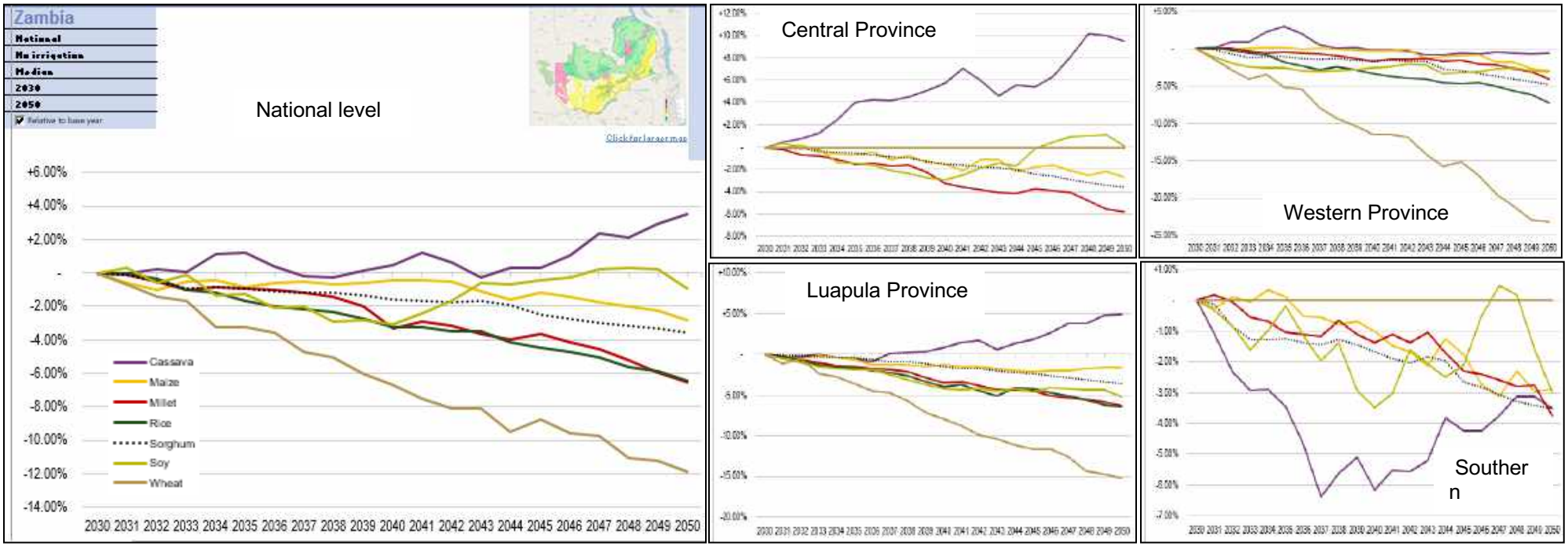


Fig. 7 Projected *reduction in yields of selected crops*

50. Under the 'no irrigation, medium risk' scenario, between 2030 and 2050, overall, cassava will be the best performing crop at national in Zambia. The yields of the rest of the crops (maize, millet, rice, sorghum, soy and wheat) are projected to dwindle. In terms of priority provinces, cassava yields are projected to increase the most in Central Province, followed by in Luapula Province. It will marginally increase in Western Province between 2030 and 2035, but then drop after 2036 and beyond. The worst performance of cassava is projected in Southern Province. It should be recalled that under the 'no irrigation, medium risk' scenario, it is apparent that drastic losses in yields are projected and expected in Western and Southern Provinces. These provinces lie within the first agro-ecological zones (most arid regions of the country with mean annual rainfall in ranging from 600 to 800 mm).

51. Production of maize, one of the most climate-vulnerable of Zambia's staples, is predicted to undergo minor or moderate decreases depending on the choice of varieties. Long-maturing varieties are predicted to undergo particularly negative impacts resulting from climate change, where it is predicted that annual production may decrease from ~33- 35% (Luapula, Northwestern) up to ~80-90% (Copperbelt, Muchinga). Production of beans, one of the most important subsistence crops, is predicted to undergo a decrease in annual production in all provinces, ranging from ~20 – 28% (Northwestern, Muchinga, Northern, Copperbelt, and Luapula) up to 50 – 65% (Eastern, Southern, Western). Conversely, certain climate-resilient species such as finger millet, sorghum, cowpeas and groundnuts are comparatively less affected by the predicted climate changes. They may serve as appropriate alternative staples to be promoted in areas where production of traditional staples is expected to become marginal or unsustainable. Valuable oil crops such as sunflowers and soyabeans are anticipated to maintain widespread areas of good or excellent suitability, while in the case of cassava, results indicate that some provinces may experience positive changes to potential production of cassava.38

52. In addition to the size of the population affected increasing (from about 1.23 million in 2004/05 and 1.44 million in 2006/07), the affected areas have changed – the 2006/07 flood affected 41 districts of the nine provinces. Recent years have also seen droughts within the rainy seasons, particularly in 2000/01, 2001/02 and 2004/05 and 2018/19.[39] The 2017/2018 rainfall season had prolonged dry spells, affecting mainly the southern half of the country. The intense drought in 2015/2016, due to a strong El-Niño, affecting most countries in Southern Africa, weakened the coping capacity and lowered many farmers' resilience towards ongoing dry spells. In Zambia, there have been floods in some places and droughts in others (see **Figure 8**).

Fig. 8 Examples of impacts of extreme weather events in target provinces

[38] Hunter et al. 2020. Research Highlights – Climate Change and Future Crop Suitability in Zambia. University of Cape Town, South Africa, undertaken in support of Adaptation for Smallholder Agriculture Programme' Phase 2. IFAD, Rome.
[39] https://climateknowledgeportal.worldbank.org/country/zambia/vulnerability


53. A tale of floods in some parts and droughts in others within the same Zambia in the same agriculture season.

Barriers to Climate Change adaptation in the Context of Climate Vulnerability

54. In the context of this project, the principal challenges and barriers that communities face to adapt to the challenges of climate variability and change are bifurcated into: i) lack of livelihood options evidenced through community reliance and specialisation in the exploitation of natural resources for their livelihoods, and ii) lack of innovative financing systems to build capacities to address challenges in climate-sensitive sectors.

Limited livelihood options and community reliance on the exploitation of natural resources

55. As has been noted, territorial and demographic disparities in wealth distribution and economic development in Zambia have left rural areas lagging behind. Additionally, rural livelihoods, including socio-cultural and traditional activities, almost entirely revolve around exploiting natural resources, principally land and forests and associated resources. In the words of Dewees et al,40 Zambian forests are a pharmacy, a supermarket, a building supply store, and a grazing resource, providing consumption goods not otherwise easily available, particularly in subsistence economies. All these environmental affordances hinge on the integrity of forests to maintain or improve the stocks and flows of ecosystems that underpin livelihoods.

56. It should be noted that the relationship between land and forest resources and rural livelihoods is socioeconomic that is intimately engraved in the cultural and traditional context of the people – built over years of interaction with the environment and structured and organized in traditional knowledge.41 Therefore, the disruption of the socioecological context due to rising temperatures, floods in some areas and droughts in others, poor soil fertility status and human and animal disease outbreaks, among other factors, seriously threatens communities socioeconomically, culturally and traditionally. The overreliance on the exploitation of natural resources for survival is inevitable for rural communities because communities have lean asset portfolios. In other words, they have specialized in natural resources-based livelihood income streams in the face of a climate change context that demands diversification to survive. Given the frequency and intensity of extreme weather events together with animal and crop (associated with changes in temperature rise and delays in rainfall onsets) and human disease outbreaks, it has become increasingly

[40] Dewees, P.A et al (2010). Managing the Miombo Woodlands of Southern Africa: Policies, incentives and options for the rural poor. Journal of Natural Resources Policy Research, 2(1), 57–73.

[41] Chilombo, A. (2021). Questioning the narrative of land marginality in large-scale land acquisition deals: case study of Nansanga Farm Block in Zambia, Journal of Land Use Science

a matter of 'specialize and die, or diversify and survive'42 the effects of climate variability and change – considering that diversification of livelihood activities is a survival strategy.[43]

57. Adaptation is neither free nor does it happen in a vacuum. Rural communities, isolated from centres of power with limited and unpredictable government support in terms of social services, do not have options and means to adapt to the impacts of climate change sustainably. The Government of Zambia does, in some cases, respond to emergencies such as floods through the Disaster Management Unit. However, it should be noted that the Unit works on a lean budget. The support to affected communities tends to be a one-time intervention without sustainability strategies – which is left to communities themselves to essentially figure out how they will cope with climate change related shocks beyond the government emergency support in the form of emergency food packages and tents. The approach is more reactive than proactive to ensure a broadened economic base with diversified livelihood income streams and capacities to enable affected communities cope better with the ever-changing vulnerable context.

Limited financing systems to build community adaptive capacities in climate sensitive sectors

58. Linked to limited livelihood options and community reliance on the exploitation of natural resources is the limited financing systems to build community adaptive capacities in climate-sensitive sectors. Access to financial services, is one of the biggest challenges that smallholder farmers face in rural Zambia. Smallholder farmers produce on customary land that cannot be collateralized to access financial services. Additionally, credit availability is a challenge in some geographically isolated rural communities. Therefore, smallholders cannot afford up-front cash outlays (e.g., input costs) and investment costs (e.g. seedlings, improved climate tolerant seeds, labor costs for construction of soil conservation structures, machinery and tools, vaccinations and pest control) associated with the implementation of climate-resilient farming practices, adoption of adapted varieties and improved breeding, crop diversification and agroforestry options. Plant and animal breeding is a powerful instrument but requires large investment over very long periods – beyond the reach of most smallholder farmers. Smallholders are increasingly aware of the impacts of climate change on their productivity and in some cases have some knowledge, albeit limited, of potential climate change adaptation options. The lack of financial resources and limited access to these resources by most smallholders is, therefore, a key constraint to building their resilience to climate change.

59. Zambia's financial sector provides opportunities for climate resilient agriculture investments including development and dissemination of services oriented to supporting various actors in climate risk management. Currently, the financial sector is dominated by the banking sector, but it consists of a broad array of financial institutions. The banking sector holds nearly 70% of financial sector assets, of which over 80% are held by subsidiaries of majority foreign-owned banks. Other major financial sector institutions include pension funds, microfinance institutions, insurance companies and building societies. Of the 18 licensed commercial banks, the government jointly owns five. (World Bank AgriFin Diagnostic Report, 2019).

60. Past IFAD interventions in Zambia, other funders' experiences, and from a sectoral analysis of constraints/ opportunities show that progress on building sustainable rural finance access can only be achieved through a holistic approach, involving several actors at different points in both the financing and product value chains. In this regard, it requires: (i) a flexible approach, through which financial institutions will be supported to try out and test new, promising avenues for expansion of services to the un- and under-banked rural population; (ii) addressing knowledge gaps through capacity building over time; (iii) addressing existing gaps in regulation and supervision through capacity improvement over time (iv) documenting and scaling up of innovative practices existing in Zambia and elsewhere and (v) providing

[42] Chilombo, A. & van der Horst (2021). Livelihoods and coping strategies of local communities on previous customary land in limbo of commercial agricultural development: Lessons from the farm block program in Zambia. *Journal of Land Use Policy*

[43] Tesfaye, Y. et al (2011). Livelihood strategies and the role of forest income in participatory-managed forests of Dodola area in the bale highlands, southern Ethiopia. *Journal of Policy Econ*. 13, 258–265.

international expertise to share best practices with the local counterparts. Experience has shown that thematic interventions are desirable, feasible and profitable in agricultural term finance. Such interventions may include supply/value chain finance, climate responsive financial products including, savings-based credit schemes and linkages with development programmes, mobile phone transactions, community-based finance, insurance, and others. In addition, the infrastructure of deposit-taking financial institutions in under-served rural areas is worth support, given the very good returns of such investments for the rural economy and the rural poor. The instruments and tools used to advance access to finance in the above areas may include, but not be limited to well-defined matching grants, selective capacity development, and strategic knowledge management.

61. This means that rural finance can play an important role in strengthening the adaptive capacities of rural communities isolated from steady and predictable government services. Improved financial services offer communities the ability to invest in more sustainable production systems, including investing in better sustainable land management systems. A more innovative, integrative, and participative approach to rural development therefore, needs to be designed to improve the identification and selection of suitable climate change adaptation action, which should in turn improve rural livelihoods. Such an adaptation measure must contribute to stabilizing and improving agriculture yields through rural finance available to smallholder farmers, enabling them to invest in appropriate technologies and know-how – leading to improving incomes.

62. It should be mentioned that where financial service providers exist or are accessible by smallholders, they lack the relevant knowledge and mechanisms to integrate climate change risk management in their agricultural and rural development product portfolios. Therefore, there needs to be a more connection between needs of smallholders and what financial service providers are seeking to provide. However, there are also potential opportunities that lie ahead. There are many benefits associated for e.g. with taking a “value chain approach” to climate resilience which may give special focus to local communities and the natural environment because of their essential roles within ‘’business’’ value chains. Though rarely quantified, ecosystems provide natural goods and services of considerable economic value to businesses, such as flood protection, water treatment and circularity. CALRF will use the ADAPT (**A**nalyze current baseline conditions, **D**evelop new approaches and technologies, **A**ssess feasibility, **P**rioritize solutions, approaches and practices, and **T**ackle existing barriers and risks) tool as a conceptual framework to guide the development of the project to ensure that all key processes are adhered to and support the coherence between what the project seeks to achieve and the climatic and socioeconomic contexts of priority districts.

63. Based on this conceptual underpinning, the project clusters activities by agro-ecological zones. For example, crop production interventions are concentrated in agro-ecological zone I and some districts in agroecological zone II. Horticulture interventions are also primarily focused on these agro-ecological zones. This approach directly addresses adaptation challenges associated with drought-prone districts within agro-ecological zones I and II. In agroecological zone III, given the abundance of freshwater resources and reliance on fishing, the fish value chain is focused on districts within this particular agroecological zone. While agroecological zone III is more prone to floods than droughts, it also experiences persistently high poverty levels, averaging 83%, with populations relying on exploiting natural resources, sometimes depleting resources such as fish.

64. In the context of land and associated resources, access to financial services is further constrained: i) by prevailing land tenure system – where, as mentioned above, customary land is viewed as too risky for financial service providers and cannot be collateralized (institutional and policy challenge); ii) lack of market literacy attributed partly to high illiteracy levels in rural areas; (technological and institutional gaps); and iii) extreme rural poverty and high unemployment in rural areas, which stifle the ability and limit the possibility of rural communities to access appropriate technologies and financial services – women, particularly bear the brunt of this challenge (linked to economic and social challenges).

65. Strengthening local institutional arrangements is crucial for enhancing community adaptive capacities in climate-sensitive sectors, especially in rural areas where trust, respect, and loyalty to community leadership are foundational. Effective governance of common pool resources is necessary to prevent overexploitation and the tragedy of ungoverned resources such as grazing grounds, fishing areas, and water points. Achieving this requires improving social organization, capacity development, and financial support for community-based organizations, farmer groups, and water user associations.

66. Furthermore, it is essential to accompany service provision with capacity development to enable beneficiaries to invest in climate-resilient agricultural production systems, including sustainable land management and integrated water management, as well as fishing practices. These areas are critical for rural livelihoods but are highly sensitive to climate change. Local institutional capacity development plays a significant role in ensuring equitable access to financial services and resources, bridging the gender divide, and promoting responsible resource management.

67. This holistic approach tackles institutional, socio-cultural, and financial challenges that undermine community and individual resilience to adapt to climate change impacts. Ultimately, community-level investments in rural Zambia can reduce risks for both service providers and beneficiaries, build resilience, and enhance adaptive capacities, helping communities and individuals better withstand socioeconomic and environmental shocks.

68. The design of CALRF is cognizant of the fact that land and forest resources are a lifeline of rural communities. However, the lifeline is under increasing threat from both anthropogenic factors (such as unsustainable agricultural production systems besides expansion of agricultural land, infrastructure development, fuelwood, illegal logging of high value tree species such as *Pterocarpus chrysothrix* – locally known as *Mukula*) and natural factors associated with climate change such as droughts, floods, temperature and diseases. Therefore, ecosystems services that underpin livelihoods are being modified due to anthropogenic and natural factors. Within this compromised ecological and socioeconomic context, communities are highly constrained, principally because of their specialisation in their livelihood income streams, which are tied to the integrity of natural resources.

69. In the Zambian context, climate-sensitive sectors are at the core of the socioeconomic struggles of the rural poor –sectors that have untapped potential and hold promise for reducing rural poverty, build resilience and increase people's adaptive capacities. Thus, Zambia's approach to climate change adaptation and mitigation needs to be holistically multisectoral to include, *inter alia* ecosystems, agriculture, water resources and health (Libanda, 2020).[44]

70. The project's approach will therefore reflect this complex interdependence between human wellbeing and the environment to continue providing the services to humans. The approach will account for the socioecological vulnerability to propose a suite of interventions that will build resilience and improve people's ability to adapt to the impacts of climate change in a sustainable manner – by targeting concrete actions in sectors that are climate-sensitive, coupled with financial and technical capacity development as enabling environments to support community investments in transformative sectors. As mentioned above addressing the uncertainties created by a changing climate requires robust risk management strategies. Adaptation need not be laborious or expensive, and there will be "low-hanging fruit," opportunities to increase resilience through low-risk and low-cost measures. Responding to the effects of a changing climate will also provide opportunities for climate resilient products and services and new markets.

Project Area and Target Group

71. CALRF will be implemented in 15 districts in five provinces, representing three agro-ecological zones. With varying degrees, agriculture is the main socioeconomic activity common to all the provinces –

[44] Libanda, B., 2020. Multi-model synthesis of future extreme temperature indices over Zambia. Model. Earth Syst. Environ. 6, 743–757. https://doi.org/10.1007/s40808-020-00734-9

highlighting the dependence of rural communities on land and forests for their livelihoods. These agricultural activities involve crop and animal production and fishing. Maize, being Zambia's staple food, is grown in all the five provinces.

72. Zambia has been hailed as one of the countries besides Mozambique and Nigeria with enormous potential to establish herself as an agricultural economy to compete on regional and international markets[45] However, realizing this potential remains a daunting challenge, due to a multitude of factors – ranging from limited funding of the agriculture sector, institutional and policy gaps, impacts of climate change, and land and forest degradation – that exacerbate soil fertility loss, among others. .

73. The absence of alternative and diversified income sources in the face of climate change, specifically extreme weather events, combined with the depletion of ecosystem services through deforestation and land degradation, undermines the adaptive capacities and resilience of rural communities, particularly those with limited asset portfolios. It should be noted that the climate-related risks to agricultural households in each province are a function of both the impact of climate change on crop production, as well as the adaptive capacities of each community to manage and respond to climate risks.[46]

74. Rural communities have a vulnerable context that needs to be addressed through broadening their socioeconomic base by diversifying livelihood options, but also improving their access to financial services and capacity to make better informed investment decisions in climate-sensitive sectors. These include agricultural production systems, land restoration and rehabilitation, infrastructure, among others. Other areas of interventions include the promotion of off-farm livelihood opportunities to lessen the reliance and overexploitation of natural resources – which lead to their degradation in some cases, and depletion in others.

75. The design of CALRF has largely been informed by lessons from the IFAD-financed Rural Finance Expansion Programme (RUFEP) that closed in last year, particularly component 2 on improving the financial inclusion of rural communities and their ability to invest in climate-sensitive sectors. Building upon RUFEP that has been supporting community access to financial services across Zambia, the implementation of CALRF will target the Central, Luapula, Southern and Western provinces. In this regard, RUFEP is not providing any cofinancing, and CARLF does not include any cofinancing – rather, it has been designed to capitalize upon RUFEP achievements, particularly with regard to community savings groups and financial institutions in the project area. In addition, CALRF will capitalize on existing institutional arrangements at national and sub-national levels, involving project partners such as community-based organizations and financial service providers in 15 districts CALRF and RUFEP districts overlap, creating opportunities for synergies in some cases and scaling up best practices in others. CALRF will build synergies with a new IFAD project, the Financial Inclusion for Resilience and Innovation Project for Rural Zambia (FIRIP), currently under design. In particular, FIRIP will provide improved access to a diverse range of financial services enabling rural smallholders and Micro, Small Medium Enterprises (MSMEs) to better manage risks, increase productivity, and invest in green and climate-resilient technologies. FIRIP will foster the expansion of client-centred financial services at scale by combining capacity strengthening of Financial Service Providers (FSPs) with improvements in the enabling environment.

76. In this regard, the choice of CALRF's districts has been underpinned by:

- The vulnerability of the socioecological systems in the districts and poverty levels that constrain people's ability to cope with the extreme weather events that Zambia has been experiencing in the past years;
- The viability and sustainability of alternative and diversified livelihood options that CALRF is proposing to build adaptive capacities and strengthen people's resilience;

[45] World Bank (2009). Awakening Africa's sleeping giant: Prospects for commercial agriculture in the Guinea Savannah Zone and beyond.
[46] Hunter et al. 2020. Research Highlights – Climate Change and Future Crop Suitability in Zambia. University of Cape Town, South Africa, undertaken in support of Adaptation for Smallholder Agriculture Programme' Phase 2. IFAD, Rome.

- The gravity of experienced and projected level of floods and droughts – evidenced by the number of affected people, the spatial and temporal scale of the impacts on land, food security, water supply and disease outbreaks; and
- The existence and or proximity of financial service providers and other partners to support the delivery of services and activities of CALRF.

77. **Target group**: The project seeks to support the diversification of livelihoods of rural communities in vulnerable socio-ecological contexts triggered by climate change (extreme weather events, animal and crop disease outbreaks associated with changing temperatures and rainfall patterns), anthropogenic factors (deforestation, land degradation, unsustainable production systems, poor and or non-infrastructure development), and generalized lean asset portfolios, which do not enable them to adapt to the impacts of extreme weather events and devastations of animal and crop disease outbreaks. In rural areas, where financial inclusion is significantly lower at 55.9% compared to the national average of 69.4% (an increase from 59.3% in 2015), the target population faces challenges accessing financial services. The growth is mainly attributed to increased uptake of mobile money services (Finscope, 2020). Access to formal credit for small-scale agricultural producers is, however, extremely low. The cost of credit is very high; most of the available credit is short-term and credit is not yet extensively distributed as a digital financial service, which would lower its cost. This affects rural communities, and women are particularly more affected compared to the men folk. De-risking market entry, cost sharing, market research, capacity building; and piloting new products and delivery mechanisms remain important areas to improve the current context of financial inclusion.

78. The target rural populations almost entirely depend on the use of natural resources, which are under immense pressure from both natural factors and anthropogenic impacts. **Figure 10**[47] shows a typical calendar of rural communities in central Zambia during the year (from January to December) -highlighting the lack of alternative livelihood income streams. This overreliance also reveals limited or non-existence of socioeconomic opportunities to diversify and depend less on the use of natural resources through agricultural activities – lack of diversified and off-farm livelihood opportunities locks vulnerable and poor communities in further socioeconomic doldrums.

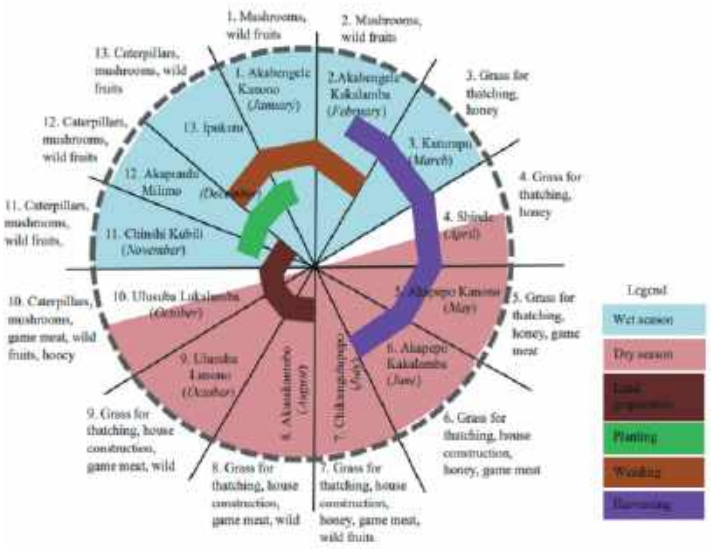


Fig. 10 *Community use of land and forest resources January - December*

79. It should be emphasized here that the specialisation in the use of natural resources in a rural context of economic scarcity characterizes people's vulnerability. The natural resources on which they almost depend for their survival are the mercy of the vagaries of extreme weather events, particularly droughts and floods. Droughts negatively impact productivity per area cultivated (and the sizes of land cultivated are already small, barely more than 2 ha – cultivated using primitive tools such as hoes and axes and only during the season which has also begun shrinking due to climate change) and availability of wild fruits which play a critical role as food in times of scarcity.

[47] Chilombo, A. (2021). Questioning the narrative of land marginality in large-scale land acquisition deals: case study of Nansanga Farm Block in Zambia, *Journal of Land Use Science*

80. Regarding floods, rebuilding life after property has been destroyed due to flash floods is a far-fetched dream for rural communities. The asset portfolio of selected districts as rural communities is too lean to enable people to rebound from extreme weather events easily. Therefore, building and increasing their resilience to unlocking vulnerability, it is important to support diversified and resilient livelihoods options. Diversification is key to avoid 'having all their eggs in one basket', which is their reliance on the exploitation of natural resources, which are also subjected to both climate change and anthropogenic pressures.

81. Generally, livelihoods in the prioritized districts are largely agricultural, and reduced rainfall has led to crop shortages in recent years. For example Western (where Mwandi and Sesheke are CALRF districts) and Southern Provinces (where Monze, Choma, Sinazongwe, Kalomo and Kazungu are CARLF districts) are located in semi-arid regions, with mean annual rainfall ranging between 600 mm– 800 mm. Western Province, Zambia's largest administrative jurisdiction (with 14 districts), is where the country's logging and rice industries are concentrated. Southern Province is a maize- and sugar-producing region of Zambia and home to the country's premier tourist attraction, Mosi-oa-Tunya (Victoria Falls), which is shared with Zimbabwe. As throughout Zambia, a majority (~ 85%) of households employed in the agriculture sector in these districts are smallholder farms, with maize being the dominant agricultural crop, grown by over 82% of households. Both provinces have experienced rainfall anomalies over the last decade, including a particularly profound drought beginning in 2018–2019 that has persisted through 2020–21. Limited infrastructure and support for climate-responsive agricultural practices have also rendered these districts particularly susceptible to poorer crop yields in times of drought. Fewer than half (45%) and 40% of

Zambian farmers do not use fertilizer on their fields and plant hybrid maize seeds, respectively, rendering agricultural outputs particularly vulnerable to rainfall anomalies.[48]

82. The project recognizes the differential access to socioeconomic opportunities between rural communities and urbanites, but also cultural biases that limit women's access to building their resilience and adaptive capacities through equitable access to natural resources, financial services and decision-making processes regarding the management and governance of resources and livelihood options. In a similar vein, the project is cognizant of the role of the youth so that rural areas can reap the demographic dividend – however, opportunities for them to participate in socioeconomic activities are extremely limited, and in some cases, simply non-existent. Therefore, acknowledging the challenges of women and the youth, the project will be deliberate about engaging rural communities to ensure women and the youth get a fair share of the socioeconomic benefits of the project while playing their role in the implementation of the project to achieve its development objective. This will particularly be critical to ensure financial inclusion of women and the youth, and build their financial capacities and literacy alongside men. It should be mentioned that women have been shown to be more likely to make long term investments than men and lessons learnt in financial inclusion, show that women are more likely to repay debt than men.

83. All IFAD programmes in Zambia have targeted the rural poor and those adversely affected by climate change. As has been noted, CALRF will use the institutional arrangements of RUFEP while drawing lessons from it as well as from other IFAD-implemented projects in Zambia, particularly the following: Enhanced Smallholder Agribusiness Promotion Programme (E-SAPP); Enhanced- Smallholder Livestock Improvement Programme (E-SLIP); and Smallholder Productivity and promotion Programme (S3P). In this regard, the project will prove to be more cost-effective. In terms of the number of beneficiaries per province and district, the project will directly impact 43,400 people or 8,680[49] households as detailed in the table 1 below:

Table 1: Overview of the characteristics of the population in the targeted districts

Province	District	Est. beneficiaries		Total per province (% of pop.)	# of households	District population	Provincial head count poverty[50]
		Male	Female				
Central	Chibombo	4,500	4,500	9,000 (2%)	1,800	250,702	57%
	Luano					36,082	
	Mkushi					182,171	
Northern	Lunte	1,200	1,200	2,400 (25%)	480	9,480	83%
Luapula	Chiengi	6,000	6,000	12,000 (2.3%)	3,200	150,892	83%
	Mwansabombwe					57,879	
	Nchelenge					203,432	
	Kawambwa					113,881	
Southern	Monze	8,000	8,000	16,000 (1.6%)	2,400	224,680	59%
	Choma					217,385	
	Kalomo					277,172	
	Sinazongwe					127,053	
	Kazungula					154,995	
Western	Mwandi	2,000	2,000	4,000 (4.7%)	800	31,265	84%
	Sesheke					54,717	
Total	15	21,700	21,700	43,400	8,680	2,082,306	Av. 73.2%
			Grand total				

[48]Rosen, J.G., Mulenga, D., Phiri, L. et al (2021). "Burnt by the scorching sun": climate-induced livelihood transformations, reproductive health, and fertility trajectories in drought-affected communities of Zambia. BMC Public Health

[49] Estimates based on Zambia Statistics Agency, Ministry of Health (MOH) Zambia, and ICF. 2019. 2018 Zambia Demographic Health Survey Summary Report. Lusaka, Zambia: Zambia Statistics Agency, MOH, and ICF – who have estimated that the average household size in Zambia is 5.0 persons

[50] Estimates based on Mphuka, C. et al (2017). Economic growth, inequality and poverty: Estimating the growth elasticity of poverty in Zambia, 2006-2015

Project Objectives:

84. It has been shown that Zambia has experienced several extreme weather events, including droughts and prolonged dry spells, seasonal and flash floods and extreme temperatures - droughts in some areas and floods in others and temperature rise are projected to increase in frequency and intensity; potentially threatening food and water security, energy sources and livelihoods of communities. Almost entirely dependent on degrading natural resources, these rural communities hardly have any adaptive capacities to cope with extreme weather events owing to their lean asset portfolio. It should be reminded that the situation has been even direr given the COVID-19 pandemic to which the already meagre national financial resources were allocated at the expense of ensuring preparedness programs against climate change-related events. With an average poverty level as high as 73.2% of the population in the five target provinces, communities can hardly cope with external shocks on their already vulnerable and precarious socioecological context. The project's primary objective is to increase the resilience and build adaptive capacities of rural populations through access to finance for investments in adaptation solutions and best practices, enhanced by institutional and financial innovation mechanisms (products, systems). Empowering people in communities with relevant knowledge to shift towards investment in climate change adaptation is integral to the primary objective.

85. Within this complex vulnerable context, the overall objective of the project is to build and enhance resilience and adaptive capacities of 43,400 people (8,680 households) to cope with extreme weather events through promoting diversified, resilient and sustainable community livelihood options and facilitating access to finances for investments in climate-sensitive sectors.

Specific objectives

86. Building on the overall objective, the project has two specific objectives that reinforce each other to enhance the resilience and build community adaptive capacities to extreme weather events in five provinces in Zambia. These objectives are:

87. *Building diversified and sustainable socioeconomic livelihood opportunities for vulnerable and poor people in five provinces in Zambia*. This objective will be achieved through a holistic approach that will seek to address the key challenges that stifle people's ability to be more resilient to the extreme weather events – the challenges that also weaken people's adaptive capacities to external shocks linked to climate change phenomenon, such as droughts, floods, disease outbreaks, rise in temperature – and internal shocks such as unsustainable production agricultural systems, land degradation, deforestation, lack of access to markets and other social services due to lack of storage facilities among others. Interventions will improve the productive capacities of smallholders to ensure food and nutritional security, but also surplus to broaden and diversify income base and income streams, respectively. To be able to build and diversify livelihood opportunities, the project will invest in strategic concrete activities that will include the development of value chains that are appropriate to the different ecological zones in the country – focusing on fisheries and fruit trees.

88. *Supporting innovative financing opportunities for vulnerable community members in five provinces in Zambia.* This objective will focus on facilitating community access to financial services to capacitate them to make climate-resilient investments, including sustainable production systems or technologies. It builds on the first objective, and rationalised on the basis that financial resources can create multiplier effects that contribute to i) improving the management of natural resources with the right informed investment decisions (e.g. irrigation systems, climate resilient seed varieties); ii) increasing production levels and reaping the benefits of economies of scale; and iii) offering alternative means to fall back on should there be external shocks. Another rationale is that responding to the effects of a changing climate will also provide opportunities for climate resilient products and services and new markets. There are many examples worldwide of private businesses and value chain providers embracing such opportunities. Financial leaders

are developing innovative climate-insurance products for communities at increased risk of weather-related natural disasters; engineers are working on more-resilient construction materials and design standards, ICT (information, communications, and technology) suppliers are starting to offer equipment and smart networks to monitor and manage climate-related impacts, and new technologies are being developed and deployed to address increased water stress. Financial and value chain providers that have engaged early on with government on climate change impacts are positively influencing policy and developing new services. The economic possibilities for innovative, forward-looking communities and companies are extensive.

89. Project Components and Financing:

Project/ Components	Expected Concrete Outputs	Expected Outcomes	Amount (US$)
Component 1: Building and promoting equitable diversified, resilient and sustainable community livelihood options	1.1.1: Sustainable crop production systems implemented on at least 3,000 ha of land under the stress of extreme weather events and human exploitation (floods, droughts, erosion, deforestation etc.). 1.1.2: Targeted individual and community livelihood strategies of the vulnerable members in the target districts established focusing on fish and fruit tree value chains - strengthened in response to the impacts of climate change and extreme weather events. 1.1.3: Crop marketing services and infrastructure supported and strengthened in response to climate variability and change -associated extreme weather events and impacts	Outcome 1.1: Promoted and diversified livelihood options strengthen the resilience and build adaptive capacities of vulnerable communities (8,680 households) to climate change-related extreme weather events in five provinces in Zambia (Luapula, Northern, Central, Southern and Western), which are very vulnerable to the recurrent extreme weather events	5,757,000
Component 2: Innovative local financing systems to build community adaptive capacities in climate sensitive sectors	2.1.1 Financial Service Providers with promising adaptation financial products/services, and innovations relevant to climate-sensitive priority socio-economic sectors identified and supported to increase their community-level financing 2.1.2 Adaptation options based on district-level development plans supported, prioritized and implemented	Outcome 2.1 Vulnerable communities in target provinces access financial services and increase their investments in key climate-sensitive sectors.	1,857,000
Component 3: Enhancing district-level planning, awareness-raising and knowledge management for evidence-based resilience and adaptive capacity building	3.1.1 Planning and climate change awareness-raising mechanisms set up and institutionalized to enhance resilience and adaptive capacity building	Outcome 3.1 Improved knowledge and awareness of climate change risks to support effective evidence-based adaptation planning at district level	808,000
Project activity cost (A)			8,412,000
Project Execution costs (including M&E) (B)			804,590
Total Project Costs (A+B)			9,216,590
Project Cycle Management Fees charged by the Implementing Entity (if applicable) (8.5%) (C)			783,410
Total Amount of Financing Requested (A+B+C)			10,000,000

90. Using a broad set of practices, climate resilient agriculture sustainably increases productivity and resilience, reduce and/or remove greenhouse gas emissions where possible and enhances the achievement of food security and development goals.[51] It leads to sustainable food production, improved

[51] Jost, C. (2014). Climate Resilient Agriculture Module

food security and income for small-scale farmers and agro-pastoralists in disaster-prone areas. Agricultural producers become more resilient to climate related hazards and are able to contribute to restoring degraded natural resources that underpin their critical livelihoods. In this regard, adaptation options in the agriculture and forest sectors need to focus on interventions related to: afforestation and reforestation as adaptation opportunities; use of adapted crops and varieties; conservation agriculture; improvement of the functional connectivity of ecological networks; improvement of irrigation efficiency; rehabilitation and restoration of rivers and floodplains; adaptation of groundwater management; adaptation of fire management plans; adaptive management of natural habitats; agro-forestry and crop diversification; adaptation of drought and water conservation plans; establishment of early warning systems; monitoring, modelling and forecasting systems; adaptation of integrated land use planning; and water sensitive forest management. Infrastructure development including climate-resilient storage facilities are part of practical interventions to ensure enhanced resilience to the impacts of climate change and variation.

91. The afore-going adaptation measures constitute a suite of grey, green and soft adaptation interventions to: i) avoid or reduce exposure to climate risks (such as building new flood defenses, or changing location or activity); and ii) exploit new opportunities (such as engaging in a new activity, or changing practices to take advantage of changing climatic conditions that are exacerbated by anthropogenic activities such as unsustainable agricultural production systems, infrastructure development, fuelwood) – all these contribute to the elevated levels of deforestation in the country, estimated at 250,000 – 350,000 ha per year.[52]

A. Projected Calendar:

Milestones	Expected Dates
Start of Project Implementation	June, 2025
Mid-term Review (if planned)	September, 2027
Project/ Closing	June, 2029
Terminal Evaluation	September, 2030

PART II: PROJECT JUSTIFICATION

92. The project is designed to build the resilience and adaptive capacities of rural populations in a complex vulnerable context characterised by lean asset portfolios, continued resource degradation, isolation from political powers, limited financial resources to invest in socioeconomic climate-sensitive activities – and areas experiencing extreme weather events in terms of floods in some areas and droughts in others – and these are projected to continue in terms of frequency and intensity. To address the complex context in five provinces, the project proposes both concrete interventions, primarily meant to build the so much required socioecological resilience and adaptive capacities of affected poor communities. Additionally, the project is cognizant of the role of multi-stakeholder engagement, particularly the private sector, with their financial capacities and investment priorities to support building resilience in climate-sensitive rural enterprises. Finally, the project acknowledges the critical role of community capacities and institutional arrangements as enablers to sustain the transformative impacts of concrete interventions.

93. Consistent with the barriers that have already been identified, the project is designed around the following three components:

A. Component 1: Building and promoting diversified, resilient and sustainable community livelihood options;

B. Component 2: Innovative local financing systems to build community adaptive capacities in climate sensitive sectors; and

C. Component 3: Enhancing district-level planning, awareness-raising and knowledge management for evidence-based resilience and adaptive capacity building

[52] Government of Zambia (2014). National Forest Policy

94. Given the nature of the proposed interventions to respond to the adaptation challenges occasioned by extreme weather events in Zambia, CALRF uses USP modality in line with the Adaptation Fund's guidance on USPs as detailed here. Some of the activities related to land restoration under component 1, access to innovative local financing systems under component 2 need additional screening to ensure compliance with the AF ESP standards. The required layer of screening of some of the details against AF's ESP has not been possible at development stage, and therefore, the project has proposed mechanisms in the ESMP to address the issue of USPs.

95. The strategic orientations of the afore-mentioned components to address the climate variability and change resilience and adaptation challenges in the target districts are described below:

Component 1: Building and promoting equitable, diversified, resilient and sustainable community livelihood options ($5,752,000)

96. The project is proposed in 15 rural districts where communities almost entirely rely on rain-fed agriculture for their livelihoods. As has already been noted, the districts face important climate change related extreme weather events. This further worsens peasantry agricultural and pastoral activities that are highly dependent on climatic conditions. Therefore, aspects of food security are threatened, including its availability, access, utilization and stability. The scientific basis of component 1 is the understanding that Value chain financing (VCF) can increase access to agricultural finance for Zambian smallholder farmers, potentially improving their mechanization and productivity.[53] The ability of livelihood systems in the target districts to respond to shocks through various coping strategies is a key determinant of livelihood resilience and vulnerability – ensuring and allowing the spreading of risks over multiple activities, acknowledging that as diversification increases, vulnerability (should) declines because resilience and adaptive capacity are built. The project will therefore, support agricultural households in rural economies of target districts to adopt diversification that will lead to better risk-management and more resilient income streams. It is noted here that livelihood diversification strategies are implemented by households in rural areas as a response to threats and opportunities to manage risk and increase or stabilize income and consumption.[54]

97. In promoting equitable, diversified, resilient, and sustainable community livelihood options, the project will integrate a gender-sensitive approach. This will address challenges related to input supply, production, and market linkages, helping to improve differential access to markets and expand livelihood opportunities. Additionally, the project will facilitate market linkages between women farmers and markets, as well as broker connections between women and traders, such as marketing cooperatives.

98. For impact at scale that will build on social capital that exists within communities, the project under this component will seek to work with groups such as cooperatives or farmers organisations. Also, the project recognizes that community groups such as cooperatives function as social platforms for knowledge exchange and learning. Indeed, social capital can be a vehicle through which the accumulation of different forms of capital can be achieved and contribute to sustainable environmental management.[55] To this end, the component activities will support the clustering of smallholder farmers into viable farmer groups and or strengthening existing ones to facilitate effective and seamless capacity building and strengthening of individual targeted farmers on the different risk management elements the project will bring forth. Consequently, public and private sector partners will utilize the farmer groups to enhance their respective supply chains, and increase their ability to create stronger market linkages. The farmer groups will also be used to capacitate women and men, smallholder farmers, with agribusiness skills in order to increase their

[53] Middelberg, S. (2017). Value chain financing: evidence from Zambia on smallholder access to finance for mechanization. *Enterprise Development and Microfinance*, 28, 112-129. https://doi.org/10.3362/1755-1986.16-00027.

[54] FAO. 2016. Diversification under climate variability as part of a CSA strategy in rural Zambia, by Aslihan Arslan, Romina Cavatassi, Nancy McCarthy, Leslie Lipper, Federica Alfani and Misael, Kokwe. ESA Working Paper No. 16-07. Rome, FAO

[55] Regis Musavengane & Danny Mulala Simatele (2016) Community-based natural resource management: The role of social capital in collaborative environmental management of tribal resources in KwaZulu-Natal, South Africa *J. Dev Southern Africa*

ability to negotiate supply contracts with agro-dealers and processing firms, and forge linkages with financial institutions. It is envisaged that this linkage will help address key inefficiencies along value chains and facilitate the provision of incentives to smallholder farmers to manage risks that inhibit inclusive growth and agriculture diversification. To complement this, there will be more emphasis on supporting and application of a gender-sensitive value chain development approach that will seek to identify inherent market-based challenges that prevent smallholder farmers and other entrepreneurs from being competitive in their preferred value chains.

99. Broadly, the component will focus on supporting interventions that will improve water use, availability and efficiency; changing and or improving farming practices to conserve more soil moisture and nutrients, reduce runoff and control soil erosion; adjust timing of farming operations; support institutional arrangement to manage equipment and machinery hires for precise and prompt agricultural operations; promote drought tolerant varieties; promote early maturing crop varieties; improve soil conservation practices/technologies; improve sustainable land management; rain water harvesting; increase irrigation efficiency, market linkages, among others. These will be consistent with component 2 on financial support systems to promote and sustain investments in these interventions.

100.The decision regarding specific livelihood options has partly been informed by asset portfolios (including infrastructure development, crop production systems, among others) in the target districts, level of community awareness of the climate risks in their areas and the potential of the options to enhance the resilience and build adaptive capacities. Regarding asset portfolio, the project will support hardware interventions in infrastructure to support the diversification process of livelihoods by looking at both on and off-farm opportunities. Off-farm livelihoods can spur a non-farm rural economy with important positive knock-on effects that can trigger a more rapid poverty reduction than focusing on farming alone – further strengthening people's resilience and adaptive capacities. The project will support infrastructure development and raise awareness – the rationale is embedded in the understanding that rural adaptation cannot be separated from dealing with existing rural development problems, since the causes of those problems are also highly likely to be barriers to successful adaptation, especially for poor people.[56]

101. ***Value chains:*** Under this component, the project will collaborate with partners, notably the Copperbelt University, HODI and eReSEI in two important value chains that are relevant to addressing the impacts of climate change and extreme weather events in the selected districts. These value chains are related to aquaculture and fruit tree production.

102.**Aquaculture**: Luapula is the poorest province in Zambia, with 80% of the population in the poverty bracket, of which 62% are in extreme poverty[57,58]. Fishing is the main economic activity from which over 50% of the population earn their living[59,60]. However, several studies have shown that capture fisheries are facing challenges ranging from depletion of fish stocks resulting from unsustainable fishing practices to the threats of climate change, which are driving fluctuations in fish stocks, with major economic consequences for capture fisheries-dependent communities[61]. For example, a significant shift in temperature can have deleterious effects on fish[62,63] by degrading fish breeding sites, modifying its distribution and the productivity of other freshwater organisms[7], leading to reduced fish production and undermining fishing effort.

[56]Terry Cannon, T. (2013). Rural livelihood diversification and adaptation to climate change, in Jonathan Ensor, J. et al (eds), Community Based Adaptation to Climate Change: emerging lessons, Practical Action Publishing.
[57] World Bank (2012), Zambia Poverty Assessment: Stagnant Poverty and Inequality in a Natural Resource-Based Economy. Report No. 81001 – ZM
[58]Central Statistics Office (2015). Living Conditions Monitoring Survey Key Findings, Lusaka, Zambia
[59]FAO (1992), Tilapia Culture by Farmers in Luapula Province, Zambia. ALCOM Field Document No.9
[60]Civil Society for Poverty Reduction (2018). http://www.csprzambia.org/programs/luapula-province (Accessed on 21 November, 2020)
[61] Roessig, Julie & Woodley, Christa & Cech, Joseph & Hansen, Lara. (2004). Effects of global climate change on marine and estuarine fishes and fisheries. Reviews in Fish Biology and Fisheries. 14. 251-275
[62] Charles Nyanga (2016). Combating Climate Change. Fisheries and Aquaculture in Zambia. GRIN Verlag, 2020. ISBN 3346208192
[63] GRZ (2012) Technological Needs Assessment for Climate Change Adaptation in Zambia

103.The highlighted impacts of reduced fish catches are likely to leave the local people socio-economically vulnerable to the risks of climate change. For example, the projected impacts of climate change on fisheries will lead to low fish catches, undermine household incomes and exacerbate the already high poverty levels. Given the proportion of people that depend on the capture fishing industry in the province, there is an urgent need to increase the resilience of these communities to the shocks of climate change by building their capacity in fish farming practices as an alternative source of their fish needs. Unfortunately, lack of access to fingerlings and high cost of fish feeds remains the major problems among fish farmers in the province. To address this problem, the project will support initiatives such as the establishments of a local fish-hatchery and a local fish feed plant (to be implemented in Kawambwa, Mwansabombwe, Nchelenge and Chiengi districts). This will help to attract the local fishing communities to fish farming practices and would bring about the resilience to climate change by promoting (1) community-driven fish farming activities, as alternative to capture fishing, that would be more sustainable source of their nutrition and income, (2), sustainable capture fishing practices and management of fish breeding sites. Community reliance on capture fisheries is expected to reduce. This is in line with the 2022-2026 National Fisheries and Aquaculture Policy implementation plan for Zambia.

104. Fruit tree value chain Zambia's climatic conditions are fairly favourable for the production of fruits. For example, Mango (*Mangifera Indica)* is a fruit that is widely produced in all rural districts of Zambia, yet over 80% of the fruit goes to waste every year due to its highly perishable nature and the lack of appropriate technologies to preserve, process, add value to the raw fruit and commercialize it across the prioritized districts. It is estimated that rural small-scale farmers in Zambia produce about 19,000 tons of mango annually. Of this, less than 2,000 tons are sold every year due to lack of market linkages despite the high demand, but also a large portion of the fruit rots as fresh fruit on the ground. With so much potential to contribute to community income streams, the community members lack basic, affordable equipment and technical know-how to preserve the fruit for sale. IIn addition, there is a growing market for mango juices, nectars and snacks in Zambia and in Southern African Region. Others include macadamia nuts and Hass avocado trees that will be focused more in Luano Valley in Luano district. Luano Valley, is ideal for macadamia nut cultivation, attracting small-scale farmers due to the high market value and global demand for the nuts. However, the initial costs of establishing orchards are high, requiring significant investment in seedlings, irrigation, and agricultural inputs. Proper processing facilities are needed to prevent post-harvest losses, which are currently an issue in rural areas. The global demand for macadamia nuts, driven by their health benefits, presents an opportunity for small scale farmers and establishing local solar-powered processing facilities can increase the crop's value. The project will support the expansion of macadamia plantations in Luano Valley by providing quality seedlings and inputs, investing in local processing units, and developing market linkages to ensure farmers receive fair prices. Additionally, it will offer technical knowledge to enhance productivity and profitability, strengthening community resilience to climate change. Similar to macadamia nuts, the project will support the development of Hass avocado orchards in the Luano Valley by providing farmers with quality seedlings and necessary agricultural inputs. Hass avocados are highly perishable, leading to potential waste without proper storage and processing. The project will also invest in local solar powered processing units to reduce post-harvest losses, develop market linkages to ensure fair prices, and offer training on best agricultural practices, pest management, post-harvest handling, and value addition techniques along the value chain. The project will therefore support plantations, small-scale processing, and market development, among other targeted interventions.

105.Under this component, to promote and diversify livelihoods options to strengthen the resilience and build adaptive capacities of vulnerable communities (8,680 households) to climate change-related extreme weather events in five provinces in Zambia, the project will focus on the following outputs and activities.

106.**Outcome 1.1:** Promoted and diversified livelihood options strengthen the resilience and build adaptive capacities of vulnerable communities (8,680 households) to climate change-related extreme weather

events in five provinces in Zambia (Luapula, Northern, Central, Southern and Western), which are very vulnerable to the recurrent extreme weather events

107.***Output 1.1.1*** *Sustainable crop and fish production systems implemented on at least 3,000 ha of land under the stress of extreme weather events and human exploitation (floods, droughts, erosion, deforestation etc.):* Addressing impacts of climate change needs to be systemic, and the approach needs to focus on both humans and their production landscapes. Part of this requires valorizing the role that communities can play in coping with extreme weather events, including the ability of communities to identify adaptation pathways. This is important because though communities experience impacts of climate variability and change in their production landscapes such as crop failure, disease outbreaks, identification of the adaptation pathways and owning the strategies and processes of doing so are serious challenges. This output will focus on sustainable crop production systems and practices that will have positive impacts on the crop production landscapes. Key activities will include:

108.**Activity 1.1.1.1: Conduct detailed value chain mapping and development of fruit tree and fish value chains**. The project aims to support local communities in target areas with broadened income streams building on resource endowment in the districts, but also the socioeconomic activities prevalent in the districts to facilitate adoption, sustainability and scalability of interventions.

109.Zambia has favourable climate for fruit production. Horticulture is suitable in all the target districts. Luapula province is endowed with fresh water resources, including Lakes Bangweulu, Mweru and Mweru Wantipa. The province also the following rivers: Luapula, Chambeshi, Kalungwishi and Lufubu. The province is also home to the Bangweulu wetlands. All these water bodies provide essential resources for fishing, agriculture, and transportation, and contribute enormously to the biodiversity, economy and livelihoods. The value chain analysis will include several key aspects, including current production and productivity levels, market size, value chain actors, obstacles faced by smallholders in participating in value chains, environmental impacts, and prospects for value addition. The activity will therefore entail:

- Collaborating with and supporting the Copperbelt University to conduct a detailed value chain analysis for fish. In the case of aquaculture, the project will focus on endemic fish species found in the target areas with good productivity potential in aquaculture, such as the cichlid species (notably *Oreochromis macrochir and Coptodon rendalli*) that hold significant market value in the target districts (Kawambwa, Mwansabombwe, Nchelenge, and Chienge districts of Luapula Province).The project will support local community groups in undertake and improve pond and cage fish farming productivity using the fish hatchery as source of fingerlings and fish feed and further aid them access premium markets as envisaged in the 2022-2026 National Fisheries and Aquaculture Policy and the National Fisheries and Aquaculture Policy Implementation Plan.
- Collaborating with and supporting HODI and Really Sustainable Environmental Initiatives (ReSEI) to conduct a detailed value chain analysis for fruit trees (notably mangoes, oranges, lemons, papaya, macadamia nuts and avocadoes) in 15 target districts.
- Building on the value chain analyses, establish crucial parameters to improve the efficiency of priority value chains by working with the Copperbelt University (on fish value chains) and HODI and Really Sustainable Environmental Initiatives (ReSEI) on fruit trees.
- Providing specialized training to producers in efficient production methods to enhance productivity while upholding environmental sustainability.
- Undertaking risk assessment to identify and analyse risks, including environmental (climate change, water scarcity), economic (market volatility, price fluctuations), and operational risks (supply chain disruptions, disease outbreaks), and develop risk mitigation strategies, such as diversification, insurance schemes, and improved farming practices.
- Training communities in risk management, and sustainable fishing practices, and provide technical support to enhance production efficiency and market access. Beneficiaries will also be

trained in digital literacy; financial savings with the intent to manage losses brought about by less severe but more frequent weather events.

110.**Activity 1.1.1.2**: **Support towards land rehabilitation and restoration**: This activity will focus on supporting land rehabilitation and restoration through various approaches, covering an area of 1,000 hectares. Specifically, the project will promote the adoption of the Assisted Natural Regeneration (ANR), to facilitate the successful regrowth and replenishment of indigenous species. At the broader level, the project will support the implementation of agro-forestry practices through intercropping food crops with Acacia species, particularly *Faiderbia albida (Faidherbia* is the ideal tree to intercrop with cereal crops like maize, sorghum, and millet.) and *Gliricidia* (commonly known as 'fencing plant,' the plant improves soil fertility and yields in addition to reducing soil erosion and control pollution). As such CALRF will support farmers in planting fruit trees to enhance nutrition and also facilitate income generation by selling surplus fruits. Furthermore, the project will support the adoption of restorative activities in the target 15 districts through the local agriculture extension officers and traditional leaders.

111.By implementing the above-mentioned activities, the project will contribute towards the restoration and rehabilitation of the landscapes in the target districts while fostering sustainable agricultural practices and benefiting local communities. The activity will therefore entail:

- Strengthen extension services through training programs, involving traditional leaders (chiefs, and village heads). This will be key to project sustainability.
- Adoption of ANR for indigenous species – *Brachystegia, Julbernardia, and Isoberlinia* species.
- Intercropping food crops, particularly maize, millet and sorghum with acacia tree species
- Support the production of mangoes, oranges, lemons, papaya and avocadoes
- Production of fodder, with a clear focus on velvet beans, cowpeas, red sunhemp, Rhodes grass and *panicum maximum*

112.**Activity 1.1.1.3 Support towards livelihood diversification:** Actions to improve livelihood diversification will include promoting off-season agriculture, providing training to farmers in sustainable practices, offering business support, initiating agroforestry initiatives, and establishing market linkages. These activities will be implemented across three provinces including five districts in Southern, two in Central and three in Western. The activity will therefore entail:

- Support towards climate and regenerative agriculture practices focusing on crop rotation, minimum tillage, cover cropping, and water management techniques to ensure off-season production. This will be delivered through extension services at the Ministry of Agriculture.
- Updating existing manuals on agriculture water management and natural resources management to be used as the basis for local-level training sessions with farmers.
- Agroforestry initiatives will be promoted, encouraging target communities to establish nurseries for the production of tree seedlings. Priority will be given to multi-purpose tree species, including Acacia *spp, Moringa oleifera, gliricidia sepium, faidherbia albida, Sesbania sesban*, and *Pericopsis angolensis* – the target will be to establish nurseries capable of producing tree seedlings for a 1,000-hectare area.
- Proving farmers with training in business management to enhance their entrepreneurial capabilities.

113.**Activity 1.1.1.4: Facilitate investments in climate smart agriculture on 2,500 ha, focusing on climate resilient seed crop varieties:** To achieve this, the project will focus on improving farmers' access to locally adaptable seed and pasture varieties and enhance their crop production capabilities. The project will collaborate with selected value chain actors to increase access to support services such as finance, insurance, and extension. Specifically, CALRF will collaborate with the Zambia Agricultural Research

Institute (ZARI) and seeds producing companies such as Kamano Seed[64] Company to facilitate the production of climate-resilient seeds in the 15 target districts, ensuring that farmers can access high-quality seeds tailored to their local conditions. The project will train selected local farmers as seed growers, enabling them to produce and supply climate-resilient seeds within their communities. It is envisaged that this localized approach will establish a reliable seed supply chain that will ensure consistent access to seeds for farmers. Furthermore, the project will train farmers in sustainable agriculture production, business management, and group governance. As outlined in Activity 1.1.1.3, district agriculture extension and market officers will be engaged to facilitate training sessions covering various topics. During these sessions farmers will be trained on the use of climate-resilient seed varieties, integrated pest management (IPM) techniques, agricultural entrepreneurship, market literacy, and business management. By equipping farmers with these skills, CALRF will enable them to engage in climate-smart agriculture, enhance their yields, and effectively market surplus produce. The activity will entail:

- Training of farmers as seed growers in collaboration with seed companies and agriculture extension officers from the Ministry of Agriculture.
- Support extension service officers to work with seed companies to deliver tailored extension services covering planting of climate-resilient seeds (timing, crop husbandry practices, post-harvest handling, integrated pest management (IPM) techniques, agricultural entrepreneurship and business management, and market literacy – equipping farmers with the knowledge to meaningfully engage in climate-smart agriculture, enhance their yields, and effectively market surplus produce.
- In collaboration with extension officers, promote crop diversification, composting and mulching on 1,500 ha
- In collaboration with seeds companies using out-growers scheme, support the multiplication and distribution of drought-resilient seed crop varieties on 1000 ha that are suitable to the three ecological zones of Zambia.

114. ***Output 1.1.2 Targeted individual and community livelihood strategies of the vulnerable members in the target districts established focusing on fish and fruit tree value chains and strengthened in response to the impacts of climate change and extreme weather events*:** This output will focus on key concrete livelihood needs that require diversification to enhance resilience and build adaptive capacities. Under this output, the project will address the insufficient supply of climate resilient inputs particularly legumes and small grains such as cowpea, groundnuts, and sorghum. To this end, this activity will facilitate the formation of Community Seed Banks within the seed producer groups to enhance the accessibility and availability of diverse inputs to smallholder farmers in drought-prone areas. Community Seed Banks will play a vital role in ensuring seed security and ultimately food and income security. Further, the community seed banks will also address the aspect of timely input provision at an affordable cost to smallholder farmers. A mechanism will be put in place where targeted farmers will pay back a portion of their harvest to the community seed banks to maintain seed stock, which can be used to support more farmers in a time of need. To ensure that the intervention has a lasting impact, the activity will leverage on key partnership mainly the Seed Control and Certification Institute (SCCI) and Zambia Agriculture Research Institute (ZARI) to ensure capacity enhancement of the community seed breeders to improve the supply chain of seed. This will be accompanied by capacity development of targeted extension services.

[64] Kamano Seed is an indigenous Zambian Seed business and is registered with Seed Control and Certification Institute (SCCI), a regulatory wing of the Ministry of Agriculture that supervises the production and distribution of seed in Zambia. It has been operating since 2004. Kamano's focus is on the production and supply of climate-smart resilient seed products. Kamano works with smallholder farmers at the village level, particularly women and youths, through training in agro-business, seed supply, as well as out-grower schemes which have dedicated field officers to offer agronomy advice. Kamano has 8 seed crop products that it offers to the market. Legumes include groundnuts, soya beans, cowpeas, beans while cereals include white maize and Bio Fortified Vitamin A, sorghum, rice, and millet

115.Additionally, under this component, the project will develop two important value chains that are responsive to the ecological zones in the selected districts of the project. These value chains will focus on fish production and fruit trees as they hold potential to strengthen the adaptive capacity of rural communities in the target districts.

116.Key activities will include:

117.**Activity 1.1.2.1: Build capacities to improve extension services in target districts**: In improving the capacity of extension services in the targeted districts, project efforts will focus on addressing the challenges faced by agriculture extension officers in providing efficient agricultural extension services to farmers. Currently, many agricultural camps are either unmanned, or have limited resources such as transport and training materials to deliver extension services effectively. In addition, most government extension officers would benefit from a refresher training so they can stay current with emerging trends and practices in sustainable agriculture.

118.The activity will therefore entail:

- Offering a comprehensive refresher training course on sustainable agriculture targeting to 1,500 camp extension officers from the 15 districts. This training will equip them with the necessary knowledge and skills needed to provide effective extension services to farmers in a practical manner;
- Supporting functional institutional alignment to strengthen extension service delivery; and
- Updating the training manuals on sustainable agriculture in collaboration with the Ministry of Agriculture and the Ministry of Fisheries and Livestock. This will ensure that the extension officers have access to relevant and up-to-date extension techniques tailored to the local agro-ecological conditions

119.**Activity 1.1.2.2: Promote adoption of sustainable agricultural practices in mixed crop and fish systems:** To promote the adoption of sustainable agricultural practices, the project will emphasize a mixed farming production system, involving a combination of crops and fish as well as promoting diversified and integrated interventions based on specific household cases. This will be done by (1) increasing access to more productive and drought-tolerant seeds through establishing community seed banks, and (2) promoting the stocking of climate-resilient fish species. As a way of ensuring farmers' continued access to extension services and markets, the project will collaborate with the government agriculture extension officers in the targeted districts together with selected input suppliers, as outlined in Activity 1.1.1.1. In view of the low literacy levels among the target farmers, a combination of theoretical and practical training approaches will be implemented. As such, theoretical training will be conducted by the camp extension officers using updated manuals, while demonstration plots will be used to showcase the practical aspects.

120.To unlock the fish and fruit tree value chains, the project will focus on addressing the issues that affect smallholder value chain profitability, particularly women and youths. These challenges include limited access to inputs, finance, training, poor infrastructure such as market access. In the case of aquaculture, the project will focus on endemic fish species found in the target areas, such as the cichlid species (*notably Tilapia baloni, Tilapia jallae, Oreochromis macrochir and Coptodon rendalli*) that hold significant market value in the target districts. The project will establish fish farms specifically for the endemic cichlid species. The project will empower capture fishing communities as direct beneficiaries, clustered in the five districts (50% women and 30% youth groups) in fish farming activities. These groups will be deliberately targeted, as they are the most vulnerable to the risks of climate change. Each beneficiary represents a household of at least six dependents and all the target this will translate to over 18,000 indirect beneficiaries. This represents 3.42% of population in the target districts to benefit through improved household incomes and nutrition. The start-up capital or benefits (inclusive of initial fingerlings and fish feed per beneficiary) will be given to individual families or groups with established fish ponds, fish pens or fish cages. From the initial beneficiation and every time they harvest and sell their fish, the families or groups will be supported through

tailored training to reinvest part of the profits towards purchasing some of the inputs like fingerlings and fish feed to ensure the business is on course for self-sustainability. When their business becomes sustainable, some of the profits could be directed towards increasing the number of fish ponds, fish pens or fish cages, and more could be invested in alternative livelihood streams – which will eventually enhance beneficiaries' ability to cope better with impacts of extreme weather events. Based on this logic, the fish farming businesses of beneficiaries is designed to be sustainable before the end of five years. The activity will therefore entail:

- Facilitating (1) improved access to more productive and drought-tolerant seeds, (2) establishing community seed banks, and (3) promoting the stocking of climate-resilient fish species.
- Establishing a fish hatchery and feed plant to address the shortage of fingerlings and fish feed, respectively
- Providing of initial free tilapia fingerlings and fish feeds from the established hatchery and feed plant, respectively
- Facilitating the establishment of community-driven market linkages to premium fish markets through strengthening cooperatives among fish farming groups
- Strengthening market links – emanating from the establishment of the fish feed production plant that will create a readily available market for local crop farmers who will be engaged to supply raw materials for feed production.
- In collaboration with the Copperbelt University, raise awareness on sustainable fishing practices to enhance fish catches in capture fisheries. This will be done through training to encourage the sharing of knowledge and lessons among stakeholders and develop community-driven profit reinvestment plans to ensure sustainability and multiplier effect to capture more beneficiaries.
- Providing support towards fish production focusing on fresh water endemic fish species that are found in the target areas, namely the cichlid species (notably *Tilapia baloni, Tilapia jallae, Oreochromis macrochir and Coptodon rendalli*), including processing using simple, affordable and hygienic solar driers. Besides being a source of protein, these species hold significant market value in the target districts. The project will establish fish farms specifically for the endemic cichlid species.
- Collaborating with the government agriculture extension officers in the targeted districts together with selected input suppliers, as outlined in Activity 1.1.1.2 to enhance farmer access to extension services in crop husbandry of drought-tolerant seeds, community seed banks and fish production.

121.***Output 1.1.3*** *Crop and fish marketing services and infrastructure supported and strengthened in response to climate variability and change -associated extreme weather events and impacts:* This output will support and enhance diversified livelihoods to ensure that the livelihood options become more socioeconomically lucrative with improved systems of production and access to markets. Key activities will include:

122.**Activity 1.1.3.1: Support local level processing and marketing:** To promote local level processing and value addition, this activity will address the issues limiting farmers' ability to add value to their produce and access profitable markets. As such, the project will enhance farmers' ability to engage in value addition activities to expand their marketing opportunities. Therefore, based on farmer preferences, project efforts will assess the potential for value addition within selected agro-enterprises, focusing on fruit trees and fish value chains in compliance with Food safety Act (2019), the project will work with the Copperbelt University (on fish value chains) and HODI and Really Sustainable Environmental Initiatives (ReSEI) on fruit trees. The activity will therefore entail:

- Establishing small, community-owned processing units for drying, juicing, and preserving local fruits
- Supporting the use solar dryers and simple affordable manual juicers to keep costs low and operations sustainable.
- Training local farmers in packaging and branding to enhance the market appeal of processed fruit products.
- Developing local markets through partnerships with local shops, schools, and health centers, emphasizing the nutritional benefits of the products

- Implementing training programs in business management, marketing, and product quality control
- Setting up small-scale, low-cost smoking and drying units for fish and low-cost processing units to add value to local fish mango, macadamia, and Hass avocado harvests through use of solar drying racks, and traditional smoking kilns which are affordable and require minimal maintenance
- Creating and strengthening farmer cooperatives to collectively market the products, ensuring better prices and market reach
- Conducting capacity-building workshops on sustainable fishing practices, value addition, and market linkage development
- Provide microfinance options and grants to community groups to set up processing units.
- Facilitate access to micro-grants and financial products tailored for fish processors and marketers.

123. The project will therefore, focus on small-scale, affordable processing and marketing strategies to enhance the resilience of rural populations in Zambia, providing them with sustainable income sources and improving their adaptive capacities to climate change. Activities proposed under component 1 will be consolidated through dedicated local financing systems to build and enhance adaptive capacities in component 2. Thus, components 1 and 2 complement each other. While component 1 focuses on livelihood diversification, component 2 focuses on local financing to build and strengthen the ability of local communities to invest in climate-sensitive sectors of their rural socio-economies.

124. The focus of component complements the government's effort of providing inputs to a certain category of farmers through the Farmer Input Support Program (FISP). CARLF, through innovative financing systems will cover Agro-dealers, agriculture-based SMEs and farmers groups that are not eligible for FISP. Additionally, CARLF will focus on fish and fruit value chains, agroforestry, legumes and promoting access to climate resilient seeds which are not otherwise easily accessible. FISP focuses on commercial crops (maize, wheat, soy).

Component 2: Supporting community adaptive capacities in climate sensitive sectors ($1,852,000)

125. Generally, inadequate finance, knowledge gaps, and institutional constraints are important factors that limit countries' ability to reduce vulnerability to the current or expected impacts of climate change, like weather extremes and hazards, sea-level rise, biodiversity loss, or food and water insecurity.[65] This is particularly the case in Zambia, where it has been established that poor liquidity and low levels of financial inclusion constrain smallholder farmers – and this leads to lower output, lower sales, and less likely participation in market policies like the Food Reserve Agency.[66] Building on the liquidity constraints among smallholders farmers, the scientific basis of component 2 is the understanding that lack of formal financial access impacts small-scale farmers' ability to deal with and recover from shocks, including extreme weather events, and that increasing farmers' access to financial services at community level will not only raise their productivity, e.g. improve access to inputs but also their resilience.[67]

126. Lack of financial resources reduces communities' resilience and their ability to respond to the challenges of climate change promptly and squarely. It is recalled that lack of financial resources is tantamount to lack of access to socioeconomic livelihood options, beyond non-monetized and non-marketed non-wood forest products. The project will engage with various financial service providers to design, pilot and scale innovative and inclusive financial products, delivery platforms and channels to increase access to climate change responsive financial services.

[65] Fila, D., Fünfgeld, H. & Dahlmann, H. Climate change adaptation with limited resources: adaptive capacity and action in small- and medium-sized municipalities. *Environ Dev Sustain* **26**, 5607–5627 (2024). https://doi.org/10.1007/s10668-023-02999-3

[66] Melkani, A., Mason, N., Mather, D., Chisanga, B., & Jayne, T. (2021). Smallholder Market Participation and Choice of Marketing Channel in the Presence of Liquidity Constraints: Evidence from Zambian Maize Markets. . https://doi.org/10.22004/AG.ECON.315273.

[67] Moonga, B., & Qutieshat, A. (2023). Analysis of Challenges and Opportunities for Small-Scale Farmers through Input Supply Programs in Zambia. *European Modern Studies Journal*. https://doi.org/10.59573/emsj.7(2).2023.01.

127.CALRF will provide grant support to selected partner agencies to increase the financial inclusion of rural households, especially smallholder farmers. The financial services provided need to be physically and financially accessible and sustainable. Preference will be given to financial services based on savings, which create a safety cushion for households in case of stress and allow investments in improved technologies. A bonus will be applied for the inclusion of micro-insurance services, which have the potential of protecting households from the effects of extreme weather events, such as droughts and floods.

128.Financial institutions that have successfully delivered inclusive financial products, platforms, distribution channels and networks during the implementation of RUFEP will be prioritized for partnership to deliver financial services on the last rural mile. The RUFEP model was designed to deliver inclusive financial products and services using demand and market driven approaches that guarantee sustainability. The quality and success rate of the projects funded by RUFEP confirms a robust due-diligence and project oversight process. Applying a similar process, the CALRF implementing partners will be selected based on their responsiveness to the needs of target beneficiaries and adherence to the AF 15 Environmental and Social Policy (ESP) standards. [68] The selection will be done by the Project Management Unit (PMU) with a technical review and due diligence done by IFAD to ensure compliance with the AF 15 ESP standards.

Applying organisations must submit a Concept Note (CN), which is reviewed by the Internal Review Committee (IRC) within the PMU. Approved applicants are asked to submit a detailed proposal. Each proposal is subject to rigorous internal review by the IRC and technical review by external experts. The proposal, and recommendations from the IRC and external review panel, is then assessed by an independent Project Vetting Committee (PVC) with the authority to review and approve, defer approval or reject the applications. The PVC will comprise the PMU, Zambia Environmental Agency and Ministry of Health and financial service providers (see details below). Both the CN and the proposal must rhyme with project goals, development objectives, chosen strategies and meet the terms and conditions of the grant agreements. The process identifies risks, embeds mitigation strategies and provides the indicators that are monitored to guarantee compliance.

129.The vetting process of beneficiaries will use the Adaptation Fund's 15 ESP standards to enhance the sustainable development benefits and avoid unnecessary harm to the environment and affected communities. Through the 15 standards, the project will identify and manage the environmental and social risks of their activities, by assessing potential environmental and social harms and then by identifying and implementing steps to avoid, minimize, or mitigate those harms. As part of the technical external review, prior to the approval and onboarding of projects, the PMU will collaborate closely with financial service providers (e.g., ZANACO, AGORA, Vision Fund Zambia) to assess the financial viability of each application, ensuring compliance with each of the 15 standards, as applicable.

- ZANACO: This is a home-grown bank that places importance on improving lives and meeting the needs of Zambians in the communities in which the bank operates by promoting sustainable change. In pursuit of its Corporate Social Responsibility objectives, ZANACO has identified four pillars of focus: environmental sustainability, education, financial education/ literacy and health. For example, ZANACO launched its inaugural ZANACO Green Innovation Challenge in August 2023 in partnership with Water for Water. The challenge aims to advance innovation in sustainability by identifying, supporting and celebrating Zambian owned green initiatives and businesses. The businesses are mentored and taught on how to make their business bankable whilst focusing on

[68]As applicable, the application for financial support for investments in adaptation activities will have to pass the tests as per each applicable standards. These standards are: Compliance with the Law, Access and Equity, Marginalized and Vulnerable Groups, Human Rights, Gender Equality and Women's Empowerment, Core Labour Rights, Indigenous Peoples, Involuntary Resettlement, Protection of Natural Habitats, Conservation of Biological Diversity, Climate Change, Pollution Prevention and Resource Efficiency, Public Health, Physical and Cultural Heritage, and Agricultural Lands and Soil Conservation.

addressing one of the following three: SDG 6: clean water and sanitation; SDG 12: responsible consumption and production; and SDG 13: climate action

- AGORA: Agora Microfinance Zambia is a microfinance institution dedicated to serving low-income, rural households in Zambia with appropriate financial products. It contributes to the economic well-being of the poor through effective provision of appropriate financial services.

- Vision Fund Zambia: Vision Fund serves low income clients living in vulnerable and rural communities by offering financial and livelihood solutions, delivered through our Network, World Vision and partners; empowering families to create income and jobs; and unlocking economic potential for communities to thrive. The products and services offered fall into five broad categories: microloans, savings programmes, micro-insurance, training and education. Benefits include sustainable livelihoods, increased economic well-being, improved community well-being, and decreased dependence on outside aid and restoration of hope and dignity. Inspired by Christian values, Vision Fund Zambia is dedicated to working with the most vulnerable families and communities regardless of religion, race, ethnicity gender, to create lasting change in their lives.

130. Increased incomes from agriculture also lead to investments in other sectors in rural areas and support the ability of households to make strategic long-term decisions and improve their overall resilience to external shocks by investing in both on and off-farm socioeconomic opportunities. Thus, farmers are able to contract labour for planting/harvesting; transport goods to markets; make/receive payments; manage peak season incomes to cover expenses in low seasons; invest in education, shelter, and health; or deal with emergencies – all of which are critical in enhancing community resilience and building adaptive capacities.

131. In this regard, Component 2 complements Component 1 by focusing on a very socioeconomically debilitating aspect of vulnerable people's coping strategies, resilience and adaptive capacities to the challenges of climate change – innovative financing to invest in climate-sensitive sectors that underpin livelihoods. CALRF recognises the importance and role of designing, developing, piloting and rolling-out of financial services such as insurance, savings, lease financing and refinancing to support businesses to adapt to climate change risks. In the context of the target districts, the project is cognizant of the need for cost-effective digital finance technologies that eliminate the need for users to travel long distances, frequently cycling or walking and then using motor vehicles with a huge carbon footprint to access financial services.

132. Through this component, the project will seek to support households to build a stronger financial base for investing in their livelihoods with improved access to financial resources for market-led, climate-smart, nutrition-sensitive production of selected horticultural and fish value chains; timely access to agriculture inputs (certified seeds) and information on sustainable production. Beneficiaries will be offered a tailored support package consisting of the fore-going. To implement activities to this effect, the project will use a cluster-based model that will involve private sector engagement as service providers (e.g. Zambia State Insurance Company (ZSIC), NICO Insurance Zambia, Hollard Zambia, Madison Insurance, and Mayfair Zambia – see details under Activity 2.1.1.1). Overall, the model is intended to produce sustained improvements in livelihoods and value chain development that will ensure resilience-building to current and future climatic shocks and increasing in scale without resource degradation. It should be noted that provision of financial services will be on a need-basis, following an in-depth assessment and appraisal by a financial service provider, following the Adaptation Fund 15 Environmental and Social Policy standards.

133. The target districts and communities are in remote areas with poor quality and degrading natural resources, limited communication facilities and transportation networks and weak institutions. The areas are also highly underserved - with formal financial institutions avoiding failing to offer sustainable services in rural areas (e.g., rural or agricultural development banks). Land tenure issues where customary land cannot be collateralized to access financial services compound the vulnerability of rural communities. It should be reiterated here that while rural communities in the target districts live below the poverty datum line, they are also faced with extreme weather events that are erode even the meagre means of livelihoods

they have. In this context, it is impossible for them to (re)build their resilience and adaptive capacities by investing in production landscapes and other sectors sensitive to climate change and climate variation.

134.Embedded in Component 2 is the need to increase the capacity and knowledge of farmers to access relevant and additional financial services (insurance) needed to protect their livelihood gains from climate-related impacts. This is particularly important given the increasing frequency of floods, droughts, changing rainfall conditions and other unpredictable events that will threaten the crops of vulnerable farmers. Most of these farmers do not have the knowledge or resources to access the types of products that provide the safety net needed to cope with changing climate conditions. Access to finance is also critical for adaptation, as it provides farmers with the additional capital needed to invest in adaptive changes that will only show returns after the growing season.

135.Under Component 2, to facilitate vulnerable communities' access to financial services and increase their investments in key climate-sensitive sectors in the target districts, the project will focus on the outputs and associated activities below.

136.**Outcome 2.1.** Vulnerable communities in target provinces access financial services and increase their investments in key climate-sensitive sectors.

137.***Output 2.1.1 Adaptive and climate related*** *financial products/services, and innovations relevant to climate-sensitive priority socio-economic sectors identified and supported to increase their community-level financing*: Lack of financial resources to invest in climate-resilient production systems is one of the most serious hurdles that rural poor people face. This output will focus on providing financial products to capacitate primarily cooperatives to invest in climate-sensitive agricultural production systems. Targeting cooperatives is strategic. From experience, cooperatives formed in response to a particular project tend to perform poorly. Already existing ones perform better for the following reasons:

- They have organizational structures that exist to which members already subscribe;
- Membership in already existing cooperatives is voluntary, therefore, the level of commitment and ownership are higher and are founded on members' willingness to work with others for an end that includes common socioeconomic interest beyond personal interest; and
- Members in already existing cooperatives share a common understanding, a common dream that is often consolidated and sustained by existing social networks. Newly formed ones tend to lack social capital and strong networks. Within local communities, the absence of social networks and social capital within a cooperative guarantees failure.

Under this output, CALRF will collaborate with financial service providers (FSPs) to provide tailored financial products, user-friendly platforms and distribution channels. In addition, the FSPs will promote digital and financial literacy to ensure effective demand for their services. CALRF will leverage the Digital Financial Services that RUFEP assisted to create in rural areas to offer cash in, cash out payment services, and make transfers.

*138.*Micro leasing of solar driven productive assets will be promoted to enhance smallholder farmers' capacity to irrigate crops all year round, store and preserve produce and facilitate value addition through simple, inexpensive and easy to operate processing pieces of equipment. A key lesson learnt from RUFEP has been that women are more likely to repay loans than men. Second, local communities struggle to comply with repayment conditions due to poverty, often resulting in default. CALRF will utilize this lesson to encourage the design and development of collateral-free products, particularly for women and youth.

*139.*Key activities will include:

*140.***Activity 2.1.1.1: Provide tailored financial support to agro dealers and value chains SMEs and strengthen crop weather insurance:** Agro-dealers, agriculture-based SMEs, and smallholder farmers are interdependent players in the production chain of fish and crops. However, given their scale of

production, their adaptive capacities to climate change remain very low, and the failure of one of them disrupts the production chain which depends on their interdependence. Therefore, under the activity, the project will seek to enhance their economic stability and resilience to overall: i) reduce their vulnerability to climate risks; ii) secure livelihoods; and iii) promote sustainable agricultural practices. This activity will leverage the financial and risk assessment for fish and horticulture value chains under 2.1.1.1, to develop customized financial products in partnership with selected FSPs. The primary focus of this activity will be on: i) financial support to agro-dealers, agriculture-based SMEs and farmer groups including cooperatives; and ii) strengthening crop weather insurance and capacity building and training. The activity will therefore entail:

- In collaboration with FSPs, the project will support tailored financial products, notably microfinancing. These will aim at improving access to capital for purchasing climate-resilient inputs, expanding climate-friendly practices, notably adopting and scaling up production systems that bolster agricultural productivity, strengthen resilience to climate change, and mitigate the adverse impacts of these changes, all while fostering food security and sustainable development.
- Training on financial literacy in compliance with the national financial inclusion strategy
- Technical assistance to agro-dealers, agriculture-based SMEs and farmer groups including cooperatives to integrate climate considerations in their production systems.
- Processing partnership agreements with identified insurance providers (Zambia State Insurance Company (ZSIC), NICO Insurance Zambia, Hollard Zambia, Madison Insurance, and Mayfair Zambia) to offer affordable and accessible micro-insurance plans that cover a range of weather-related risks, such as droughts and floods on crops.
- Crop weather micro-insurance: developing and promoting crop weather insurance products, particularly Rainfall Index Insurance (provides coverage based on a pre-determined rainfall index for a specific location and period. Pay-outs are triggered if actual rainfall falls below or exceeds the set threshold, indicating drought or excessive rainfall.), Temperature Index Insurance (covers crops against temperature extremes by using a temperature index. Payments are made when temperatures exceed or fall below specified limits, which can harm crops), and Drought Index Insurance (specifically designed to cover losses due to drought. The policy uses soil moisture levels, satellite data, or rainfall indices to determine drought conditions and trigger payouts) – the type of insurance will consider local climatic conditions and the specific needs of smallholder farmers. Thus, this activity will reflect the three ecological zones in Zambia.
- Conducting awareness campaigns to educate farmers on the benefits and mechanisms of crop weather insurance.

141. The project acknowledges that crop weather insurance products will help farmers mitigate the financial risks associated with adverse weather conditions, ensuring greater stability and resilience in agricultural production. CALRF will ensure that the design of these products takes a climate resilience angle and supports climate mitigation initiatives such as increasing access to renewable energy and hardy seed varieties. Efforts to increase access to climate-smart agriculture inputs will include, designing custom-made input financing products and supporting the bulking of input purchase at the farmer level. This approach will enable farmers to adopt sustainable practices and use high-quality inputs that promote ecological farming methods. An index-based weather insurance scheme, which has high potential for reaching many smallholder farmers with affordable rapid-response insurance, will be established in partnership with selected insurance service providers. Bundled with the input financing, this insurance will protect farmers against climate-related risks, ensuring financial security and encouraging sustainable farming practices. An initial partial subsidy of the insurance premium may be included to increase acceptance of the scheme.

142. To guarantee the financial sustainability of the tailored financial products, a thorough risk assessment will be undertaken in order to establish the risk-sharing mechanisms aimed at mitigating the potential financial losses for both the smallholders and the insurers. Regarding environmental sustainability, the project will prioritize climate-smart technologies and practices The promotion and design of weather index insurance will primarily emphasize agricultural practices that incentivize farmers to adopt climate-resilient

techniques, demonstrating potential in reducing their vulnerability to extreme weather events, such as floods, droughts, and pest or disease outbreaks, which impact various regions of the country during the same agricultural production season. These considerations will be embedded in the insurance products. Furthermore, the focus on renewable energy solutions will contribute to reducing the carbon footprint associated with conventional farming methods. CALRF will also emphasize sustainable management practices, such as water conservation, water harvesting, soil health improvement, and biodiversity conservation, to ensure the long-term ecological integrity of the mixed cropping system.

143. **Activity 2.1.1.2 Support to financial services for productive assets:** The project's efforts under this activity will aim at increasing farmer's access to production assets for climate-smart, and low-cost irrigation systems. It will provide small grants to smallholder farmers to invest in production assets to build resilience and reduce vulnerability in production systems. This will include procuring and installing small, simple and affordable crop processing and storage facilities, smallholder irrigation systems and water supply. Youth and women will be deliberately targeted in the small grant scheme; ensuring 30% youth and 50% women beneficiary ratio. Besides improving the production side, the envisaged equipment will also reduce post-harvest losses. Under this activity, the project will cooperate with financial service providers to facilitate the delivery of financial services to target beneficiaries. This collaboration includes offering technical support, such as financial literacy, market and business plan development, and savings accounts to assist farmers in managing their income and planning for future investments. It is crucial to note that financial resources allocated for enhancing beneficiaries' access to climate-smart production assets will not be transferred to or managed by service providers on behalf of the beneficiaries. This measure is in place to ensure that resources are duly received by the intended beneficiaries. The project will train farmers in climate-smart agriculture practices such as water use efficiency, and soil conservation practices. The project will collaborate with local NGOs and government agencies to offer technical expertise and implement community-led training on water management and sanitation practices for long-term benefits. Key elements of this effort include:

- Partnering with financial service providers to facilitate the delivery of financial services to target beneficiaries. This includes offering technical support such as financial literacy, market and business plan development, and savings accounts to help farmers effectively manage their income and plan for future investments.

144. Moreover, the activity will therefore entail providing small grants:

- To farmer groups for purchasing processing equipment and materials for storage facilities, and development of micro-savings and schemes tailored for smallholder farmers to invest in irrigation systems.
- For the construction of small-scale affordable cisterns as part of water harvesting efforts;
- For installing matching grants for rainwater harvesting systems (for domestic water supply and small-scale backyard irrigation) and developing community-managed irrigation schemes (including the installation or strengthening of water users' associations) to improve water availability. Given the drought that has ravaged the country's agricultural productivity, investments in water harvesting and irrigation will be critical in reducing dependency on erratic rainfall.
- Fmatching grants or establishing small, community-owned processing units with simple equipment for threshing, milling, and drying crops.
- For constructing low-cost, improved storage facilities (ventilated storage cribs to protect harvests from pests and spoilage.
- For matching grants foraffordable, small-scale irrigation systems such as drip and sprinkler systems and treadle pumps and gravity-fed irrigation systems to enhance water efficiency and crop yields.

Component 3: Enhancing district-level planning, awareness-raising and knowledge management for evidence-based resilience and adaptive capacity building ($808,000)

145.Vulnerable communities in the target districts experience floods, droughts, change of rainfall season onsets, disease outbreaks – and are able to tell the frequency and intensity of these phenomena. However, this community-level knowledge of climate related changes is based on past experiences of the different phenomena. In terms of planning and improving people's ability to cope, community-level knowledge is not informing enough partly because it is limited to the specific areas of immediate experience. Cognizant of this limitation and the impact that this has on planning, resilience and building adaptive capacities, the project under component 3 will develop key aspects of knowledge required to support well-informed, systematic, evidence-based adaptation activities, raise awareness among the target populations on the impacts of climate change, production landscapes (crop production), and food security and nutrition. The project will also support enhancing capacity for understanding climate change risks, responses and planning approaches, for systematic and effective sub-national planning in the targeted 15 districts.

146.Additionally, in light of the importance of information to cope with the impacts and or extreme weather events, the project under this output will support incorporation of climate information services in the programming to mitigate the impact of shocks, by transferring knowledge and information to smallholder farmers. This will enable them to make – well-informed easily accessible, timely and relevant decisions to cope with negative effects of increased climate variability, which will ultimately limit the economic and social damage caused by shocks. Access to early warning systems such as climate information is a critical risk reduction strategy that allows vulnerable smallholders to manage climate risks through better choices on inputs and practices. To achieve this, the Ministry of Green Economy will be at the core of the implementation of this activity in close collaboration with Ministry of Agriculture in providing a comprehensive system of farmer tailored agro-meteorological advisory messages, with seasonal weather and crop forecasts to smallholder famers. Part of this process will include installation of rain gauges to augment the national system, not just for weather information collection but for training farmers in the recording, interpretation, and dissemination. This will form part of the Community Agrometeorological Participatory Extension System that will enhance farmer-to-farmer extension support done through producer groups.

147.To ensure that the district administrations have improved knowledge and awareness of climate change risks to support effective evidence-based adaptation planning at sub-national levels, the project will focus on the output with its associated activities below. Also, the successful implementation of CARLF, particularly with its USPs, will hinge on the project's knowledge management which will give an opportunity for the project to gather best practices and lessons that will be circulated to stakeholders but also to form basis for adaptive management. Appropriate knowledge management tools, including knowledge dissemination mechanisms will be developed to ensure the project, lessons and best practices reach out to communities, government agents, and other key stakeholders in an effective and timely fashion.

148.**Outcome 3.1** Improved knowledge and awareness of climate change risks to support effective evidence-based adaptation planning at district level

149.*Output 3.1.1 Planning and climate change awareness-raising mechanisms set up and institutionalized to enhance resilience and adaptive capacity building:* This output will build on output 1.1.1 to ensure community awareness of the challenges and risks of climate change, including building the capacities climate change impact communication by relevant stakeholders to more effectively respond to impacts, and easy access to information systems. Key activities will include the following:

150.**Activity 3.1.1.1: Strengthen climate change and extreme weather-related information systems in 15 target districts**. This activity will include training in climate change and systematic adaptation planning and policy process to reach direct beneficiaries and district extension officers who will be trained in using the information to prioritize adaptation options in component 1: The activity will therefore entail:

- Interactive Voice Response (IVR) Systems: The project will support the creation of a system in partnership with Zamtel to enable farmers to call a toll-free number to receive weather forecasts and agricultural advice in their local languages (Bemba, Lozi and Tonga). This service will be accessible even to those with basic mobile phones, not necessarily smart phones.
- Farmer Field Schools (FFS): The project will support on-ground training sessions that integrate weather and climate information with practical agricultural advice. These schools help farmers understand and apply climate data to improve resilience and preparedness.
- Community Radio Broadcasts: Riding on the existence of local radio stations in target districts, the project will support regular weather and climate updates broadcasted in local languages through community radio stations. This service will ensure that even those without mobile phones or internet access receive crucial information.

151. This activity focuses on the delivery of weather, climate and hydrological, and early warning services to ensure users have access, understand, and use these information services for decision making and risk preparedness. The objective is to deliver user-friendly and tailored weather, climate, and early warning services for climate adaptation, resilience, and disaster preparedness. During consultations, it was clear that most community members recognize that weather patterns have changed, including late yet short rainy seasons, extreme temperatures and frequency in floods. Traditional knowledge for reading seasonal changes can't be relied upon anymore. Therefore, more versatile and easily accessible information systems are required to inform community members with simple phones. Information will be spread through meteorological departments in collaboration with the Ministry of Agriculture and Environment Department – ensuring information on weather changes according to district geographical locations is accurate and reliable;

152. **Activity 3.1.1.2: Conduct 30 climate change risk awareness-raising campaigns in the 15 target districts:** This activity will primarily focus on campaign planning and designing, community engagement information dissemination to significantly raise awareness about climate change risks, empowering communities with the knowledge and skills needed to adapt and build resilience. Two campaigns will be conducted per district; one in the first and the second campaign in the second half of the project. Enhanced understanding and proactive measures will lead to more sustainable and secure livelihoods in the face of climate challenges. The activity will highlight and support practical steps individuals and communities can take to mitigate climate risks and adapt to changing environmental conditions. The activity will therefore entail:

153. Developing a comprehensive monitoring and evaluation system (M&E) for assessing the effectiveness project implementation including developing M&E framework and indicators to measure progress towards to build and enhance resilience and adaptive capacities of 43,400 people (8,680 households) to cope with extreme weather events through promoting diversified, resilient and sustainable community livelihood options and facilitating access to finances for investments in climate-sensitive sectors.

154. The project will develop a gender-responsive and inclusive comprehensive campaign strategy tailored to the specific needs and contexts of each district, and create engaging educational materials, including brochures, posters, radio broadcasts, and social media content, in local languages (Bemba, Lozi and Tonga) to ensure broader accessibility and consumption.

155. The project will organize inclusive and participatory community meetings, workshops, and interactive sessions to educate residents about climate change risks and their impacts on agriculture, water resources, health, and livelihoods. In this regard, the project will collaborate with local leaders, schools, and community-based organizations to mobilize participation and foster community ownership of the campaign. As a delivery mechanism, the project will use a mix of traditional and digital media to reach diverse audiences, ensuring that messages are culturally relevant and easily understood.

156. The activity will train local volunteers and community leaders to become climate change ambassadors, equipping them with the knowledge and tools to continue raising awareness and supporting adaptation efforts.
157. Additionally, the project will have a website to showcase its implementation. It will also produce information at midterm to disseminate achievements. Finally, it will periodically run programs on radio and national TV stations to disseminate best practices and lessons learnt.

158. ***Output 3.1.2*** *Adaptation options based on district-level development plans supported, prioritized and implemented:* Institutionalizing climate-resilience strategies in development plans powerfully ensures sustainability and coordinated approach in responding to the impacts of climate change – particularly at local level where, despite experiences of extreme weather events, responses can be piece-meal to a perennial phenomenon. The key activities under this component will be structured around:

159. **Activity 3.1.2.1: Support the development of 15 strategies at district and community-levels to incorporate climate change priorities and support capacities for implementation:** Weak institutional and policy gaps at subnational levels limit the ability of communities to receive the support they need to prepare to particularly extreme weather events which tend to be sudden and unforeseen (due to limited warning system in many places). This activity across all participating districts will therefore build an enabling policy and institutional environment to mainstream climate change priorities in district level development planning, including in the use of government-provided Community Development Funds. The activity will therefore entail:

- Conducting a rapid assessment of existing capacities per district to aid the development of tailored capacity development interventions.
- Based on the assessment, identifying key climate change challenges but also priorities based on their level of vulnerability to set clear adaptation and resilience targets.
- Supporting training workshops of 15 District Development Committees and community leaders on climate change adaptation, mitigation strategies, and policy integration to review and consolidate district development plans to mainstream and prioritize adaptation and resilience targets and allocate sufficient resources to climate adaptation initiatives – this will be critical given low technical capacities at subnational levels for the implementation of climate change adaptation in Zambia. These workshops will focus on understanding climate impacts and developing tailored strategies for each district and community.
- Providing technical support through experts and consultants to assist in drafting and refining district-level climate change strategies. This will include data analysis, climate risk assessments to feed into district-level action plans that align with national climate policies.

Project design strategy to address and avoid maladaptation

The IPPC (2022)[69] report defines maladaptation as actions that may lead to increased risk of adverse climate-related outcomes, including via increased greenhouse gas emissions, increased or shifted vulnerability to climate change, more inequitable outcomes, or diminished welfare, now or in the future. Most often, maladaptation is an unintended consequence. The design process of the project was alert to the potential pitfalls of well-intended adaptation activities that seek to address vulnerabilities yet fall short and exacerbate socioeconomic and environmental vulnerabilities - with adaptation efforts remaining

[69] IPCC, 2022: Summary for Policymakers [H.-O. Pörtner, D.C. Roberts, E.S. Poloczanska, K. Mintenbeck, M. Tignor, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem (eds.)]. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 3–33, doi:10.1017/9781009325844.001.

insufficient. Schipper[70] describes three forms of maladaptation: infrastructural, institutional, and behavioral – these manifests in one or more of the following:

- Not understanding what drives vulnerability to climate change and not addressing it in an adaptation strategy, or implementing a strategy that opens the door for these drivers to thrive or spread;
- Not recognizing the right actors: either the ones who are in need of adaptation or the ones who are behaving in a way that is making a situation worse for another group;
- Not understanding the wider drivers of development;
- Investing heavily in infrastructure or permanent land use changes; reduced soil nutrients due to lack of flood water/nutrient replenishment; high opportunity and/or sunk costs;
- Adaptation strategies are implemented for their short-term benefits, such as migration or selling of assets; and
- Adaptation strategies are implemented for their ease of access, desire for cash incomes, or a lack of skills to otherwise diversify, such as abandoning farming to begin wage labour.

Recognizing the potential pitfalls of well-intended adaptation activities, the design process as reflected in the proposed project activities:

- The project has focused on local level activities that address the adaptation challenges in the target districts
- The project has conducted extensive consultations with different stakeholders, identifying the right stakeholders to support the implementation of the project activities. The stakeholder consultation and mapping has reflected an understanding of the development needs and drivers in the target districts
- The project has focused on supporting affordable and user-friendly pieces of equipment to support the climate-vulnerable agriculture sector to ensure long term and sustainable responses to extreme weather events in the target districts. Coupling such investments with various capacity building, the project has overall, been designed to 'capacitate communities to fish, rather than giving them fish' in the effort to address and avoid maladaptation. Through this approach, none of the investments is expected to remain 'white elephant.' Thus, the project is designed to reduce vulnerability while addressing the negative impacts of climate change.

B. Economic, social and environmental benefits

160. The design of CALRF is informed by socioeconomic and environmental vulnerable contexts of target districts – paying particular attention to marginalized and vulnerable members who constitute women, the youth and those living below the poverty datum line. The exclusion of women and youth is partly a socio-cultural phenomenon – women are ascribed certain statuses and roles that keep them away from accessing and using resources for their socioeconomic prosperity. To contribute to addressing women and youth exclusion, the project will be deliberate about ensuring overall 30% youth and 50% women beneficiary ratio. Typically in rural Zambia, leadership positions largely remain a privilege of men to the exclusion of women and the youth. In this regard, they are socioeconomically marginalized. This exacerbates the vulnerability of women and the youth in rural areas where poverty levels already are stubbornly high. To ensure the vulnerable and marginalized groups access benefits, CALRF will employ participatory approaches and will continue, during project implementation, to engage these groups in decisions regarding the choice and prioritization of activities, monitoring systems and grievance mechanisms. The project will strive to ensure vulnerable groups will equitably benefit from all proposed project activities and reflect context-specific eco-zonal characteristics, local institutions and individual and community asset portfolios.

Socio-economic benefits

[70] E. Lisa F. Schipper E.L.F (2020) Maladaptation: When Adaptation to Climate Change Goes Very Wrong, *Journal of One Earth*, Volume 3, Issue 4, 2020, Pages 409-414, https://doi.org/10.1016/j.oneear.2020.09.014.

161. CALRF will have the following Social and Economic and Environmental benefits:

162. The project is designed to provide social and economic benefits to vulnerable communities in the target districts. It should be noted that the social and economic wellbeing are intricately linked. The project will contribute to social and economic wellbeing of the target communities, thus contributing to the overall prosperity of individuals and communities.

Economic benefits:

163. Overall, the implementation of this project will have positive economic impacts associated with the implementation of the project including (i) job creation; (ii) Improvement of women's incomes and development; and (iii) Improvement of farmers' production and incomes.

164. The project will continue to be inclusive and will ensure that the different categories of beneficiaries participate, are included and benefit from the project activities. Communities have been part of consultations that have informed the design of this project – and therefore, they will also be part of the benefit sharing mechanisms of socioeconomic and environmental benefits. It should be noted that the project will work with producer groups/cooperatives. Therefore, the project will strengthen existing benefit sharing mechanisms in groups. The quantitative estimates are as below:

165. Some 4,000 households (or 46% of the target households) are food secure during extreme weather events in 7 districts. The project will ensure that at least 2,000 households to be food secure during extreme weather conditions are female-headed, and 1,200 are either youth-headed or the youth are the ones that provide for the family.

166. About 2,000 jobs created through the support towards value chains. Of these jobs, 1,000 jobs will be reserved uniquely for women, and at least 600 for the youth, or households where are the ones that provide for the family.

167. 29% of target population access financial resources through proposed local level financing system for them to invest in climate resilient production assets. Of these, 14.5% will be females and 6% will be the youth.

168. At least 4,000 smallholders (or 46% of the target households) within the target districts have affordable and accessible insurance plans that cover a range of weather-related risks, such as droughts and floods on crops (through project facilitation and collaboration with companies such Zambia State Insurance Company (ZSIC), NICO Insurance Zambia, Hollard Zambia, Madison Insurance, and Mayfair Zambia). Of these envisaged beneficiaries, 2,000 (that is, 50%) and 1,200 (that is, 30%) will be the youth. This benefit will be linked to the assessment of value chains that will support the creation of market products to benefit producer groups to access financial resources from financial service providers – thereby enabling 100% crop insurance scheme against the impacts of climate change or extreme weather events (floods and droughts). For participating householders, this will ensure 100% return from their production costs in the event food crops fail due to extreme weather events.

169. 8,680 households have access to early warning systems, preparing them to take adaptive measures, including changing geographical locations to avoid floods – thereby avoiding loss of property, animal life and crops. Access to warning information will help communities to bounce back since it helps to avoid loss of the assets.

170. The design of the project includes direct financial compensation and access to employment (e.g value chains) or training opportunities (stakeholder and government personnel at subnational levels) that will have an overall positive economic implication on the beneficiaries.

171. Increased access to improved financial services and enhanced incomes: Limited access to financial services of any form in rural areas limits vulnerable people's ability to cope with the impacts of climate change. To the benefit of 4,000 households, CALRF will support food security and livelihood recovery through counter-cyclical financing. The project will also finance market driven- profitable climate resilient business solutions to insulate communities from complete socioeconomic collapse in case of extreme

weather events such as droughts and floods or disease outbreaks, which can decimate fields of crops. Furthermore, the project will facilitate improved access to agricultural grants and the procurement and installation of small crop processing and storage facilities. These will enhance and diversify incomes of beneficiaries to improve their ability to cope with impacts of extreme weather events.

***Social benefits**:*

172.As alluded to above, economic benefits have an overall positive impact on the social context of individuals and their communities. Economic wellbeing leads to poverty reduction, particularly for vulnerable community members. The project notes that effective benefit sharing requires clear communication and transparency in decision-making, as well as the involvement of community members in the design and implementation of mechanisms. By promoting inclusivity and collaboration, benefit sharing in this project will help to build trust and foster a sense of ownership among community members, leading to more sustainable and equitable resource management practices but also the sharing of socioeconomic benefits. It has already been mentioned that the project will prioritize supporting farmer groups and cooperatives as these have a better multiplier effect on investments in communities. During the vetting process to deal with USPs, one of the criteria the project will evaluate proposals and expressions of interest will based on women and youth representation in the farmer groups and cooperatives. Also, the project will look at existing benefit sharing mechanisms and responsibilities in groups – these will be part of proposal and expressions of interest vetting process.

173.It should be noted that due to their limited access to resources, decision-making power, and economic opportunities, women, the youth and the differently abled tend to be more vulnerable in the target districts. Despite their significant contributions to the conservation and management of natural resources, they often face discrimination and marginalization in accessing these resources. Women, in particular, face gender-based violence and cultural norms that restrict their mobility and decision-making power. Youth face high unemployment rates, limited education opportunities, and a lack of representation in decision-making bodies. To address these issues, it is important to promote gender-sensitive mechanisms to include and engage women and youth in decision-making processes of project activities, and create economic opportunities that are inclusive and empowering. For this project, this will be in all project activities so that they have access to food, financial resources, jobs (even those that do not require formal skills), markets, capacity and training programs and extension services as well as climate-resilient varieties. They will be supported to join existing cooperatives though some are already members in producer groups. To achieve this, the project has been designed with various training opportunities including the following:

- Training communities in financial literacy, risk management, and sustainable fishing practices, and provide technical support to enhance production efficiency and market access.
- Training of farmers as seed growers in collaboration seed companies and agriculture extension officers from the Ministry of Agriculture.
- Awareness-raising on sustainable fishing practices and the benefits and mechanisms of crop weather insurance.
- Conducting capacity-building workshops on sustainable fishing practices, value addition, and market linkage development, including training local farmers in packaging and branding to enhance the market appeal of processed fruit products.
- Training on financial literacy in compliance with the national financial inclusion strategy
- Technical assistance to agro-dealers, agriculture-based SMEs and farmer groups including cooperatives to integrate climate considerations in their production systems.
- Training on: i) operating and maintaining processing equipment and proper storage techniques to extend shelf life; and ii). irrigation management and maintenance to ensure sustainable use

174.All these training opportunities will have 50% and 30% women and youth participation ratio – ensuring that the knowledge gaps are narrowed among men, women and the youth, but also that these opportunities will create ‘democratic space’ for women and the youth to express themselves and design their socioeconomic futures and priority livelihood activities to reduce their vulnerability and enhance their ability

to cope with extreme events. Thus, training opportunities will important social events for women and youth emancipation besides knowledge gaining and exchange.

175. During consultations, beneficiary groups (women, youth, differently abled) have been identified as priority groups based on their socioecological vulnerabilities. Through consultations, priority intervention areas have been informed in the development of the project. In the section under activities, references have been made to community reflections on their pressing challenges. The actual beneficiaries within the target districts of the different project activities will be identified at the start of the project. Building on observations during community consultations, the criteria will focus on factors related to land size or number of animals, type of housing, level of education, etc.) and associated with assessments of maturity, residence or motivation. The vulnerability criteria will be at two levels: ecological vulnerability (households in degraded production landscapes but also more exposed to extreme weather events); and socioeconomic (asset portfolio of the individual/household). This is very critical because, based on field observation during community consultations, no homogeneity can be among community members. Therefore, the triaging process is critical. These levels of screening will ensure inclusion of the most vulnerable and most deserving.

176. Overall, the implementation of this project will have positive social impacts associated with the implementation of the project including (i) increased capacity of stakeholders for the development and implementation of resilient approaches to the adverse effects of climate change; (ii) contribution to food security; (iii) Improving the nutritional health of populations; (iv) reducing rural-urban migration; and (v) enhancement of social capital and improvement of community life, including for the marginalized and vulnerable community members.

177. *Solid targeting strategy based on participatory community mobilisation, engagement – CALRF is anchored on participatory approaches,* and as such, the dynamism of targeting will be dependent on the community mobilisation and engagement under component 1. The combination of social inclusion strategy, beneficiary selection criteria and community engagement technique will ensure that all views are given due consideration, including those of the marginalized and vulnerable members of communities. CALRF will work with community members and associations including representatives of various community organisations from the districts for orientation sessions to (i) inform the communities about the objectives and criteria for participation; (ii) seek community consensus about the relevance of the planned activities and ascertain their interest in participating in the different interventions; (iii) hold separate consultations with different target groups, including women, youth and persons with disabilities to collate their experiences and expectations of the programme and (iv) identify key issues and determine how the concerns will be addressed through the various project components.

178. The project will put several measures in place to minimize risk of elite capture. This will be achieved through close supervision and monitoring through community facilitators, beneficiary feedback and a grievance redress system. Furthermore, the economic homogeneity of members will provide insulation against elite capture. Additional measures will include rotation of leadership to ensure the village poor are equally represented in leadership positions within the participating community organisations. The Gender Action Learning System (GALS) approach, which gives individuals a strong sense of agency and empowerment, will further help to mitigate against this risk. GALS, is an innovative community-led methodology that comprises a series of tools enabling household members to negotiate their needs and interests, and find innovative, gender-equitable solutions, in livelihoods planning and value chain development.

179. The project will adopt a gender sensitive approach and will ensure that women participate in and benefit as much as men benefit from the project intervention. A gender strategy is under development to support the targeting mechanisms under the RUFEP; and a gender assessment and action plan will be advanced under CALRF. The main factors of exclusion of women and young women will be taken into account throughout the project implementation, including the weight of customs and traditions, early marriage, and the lower level of education, which weakens their access to socio-economic opportunities.

In addition, the GALS will enable both the most disadvantaged and minorities to be included in the dynamics of the project, while addressing the root causes of gender inequalities and fostering collaboration between the generations. The project will also ensure that women are represented in the project decision-making processes.

180. The purpose of the GALS methodology is to give women more control over their lives and to catalyze and support a sustainable movement for gender justice. GALS promotes equality in rights and opportunities by:

- Empowering the most vulnerable women and men to develop, negotiate, implement and monitor their own plans for increasing productivity/quality and incomes, reducing livelihood risks and increasing gender equality within households;
- Bringing about significant changes in property rights, gender-based violence and participation in economic decision-making;
- In the context of value chain development, engaging with and gaining commitment of more powerful private-sector actors (particularly for mango and rice) at the local and national levels to develop win-win strategies for value chain development that address gender issues and promote inclusion of the most vulnerable.

181. *Community ownership, including vulnerable groups of adaptation processes associated with climate change:* Knowledge is power. Through the capacity building activities, the project will empower vulnerable community members to make their own decisions about the investments in enhancing the resilience of their livelihoods. The end line investments are expected to ensure increased land under climate resilient practices, sustainable land and water resources development, soils fertility improvement, improved ecosystems and services, reduced post-harvest losses and diversification of livelihoods thus reducing vulnerability and any potential negative impacts from agricultural activities.

182. *Gender inclusion*: Zambia is in the medium category with a SIGI gender index value of 35% - and women score as low as 0%, 25% and 25% on legal framework access to non-land assets, to land assets and to financial services, respectively – compared to men.[71] The project will be deliberate about gender inclusion in the project activities, including strategic decision-making processes that will ensure equitable representation of both men and women and the youth in accessing socioeconomic benefits from the project activities – particularly, access to financial services and support. This will be consistent with Zambia's National Gender Policy of 2014 and the Gender Equity and Equality Act of 2015 that aim at gender equality in the development processes by redressing existing gender imbalances, and promoting gender equity and equality, respectively. Additionally, guided by IFAD's mainstreaming agenda for gender and youth as well as IFAD's targeting policy, the project will aim to reach at least 50% women among the beneficiaries and 30% youth. Social inclusion, particularly of vulnerable and marginalized groups will be part of the targeting strategy for the project.

183. The design of CALRF has considered the fact that Zambia is still emerging from the COVID-19 pandemic. The pandemic has resulted in the loss of human lives and rural livelihoods across Africa, and Zambia has not been exempted. The way in which COVID-19 affects men and women is, however shaped by intersecting vulnerabilities and social differences in socioeconomic status, sex, and gender identity. COVID-19 pandemic has heightened or sharpened labour burdens for household more generally, and for women specifically. Some of these relate to care burdens and labour market engagement. Female-headed households face unique challenges than their male counterparts and that there might be pre-existing conditions that shape their vulnerability beyond the pandemic.[72] Additionally, there are problems to do with access to productive and livelihood resources such as land, which further constrains women's ability to cope with the impacts of extreme weather events within the COVID-19 pandemic context. Stay-at-home orders and social restrictions have increased unpaid care workloads, which have fallen disproportionately

[71] OECD (2019). Social Institutions and Gender Index (SIGI): Zambia country profile

[72] Manda, S. (2022). Impact of COVID-19 Pandemic on Rural Livelihoods in Zambia: A Gender and Wellbeing Perspective. Working paper, IDRC-Oxfam

on women. As has already been alluded to, the CALRF will be deliberate about its equitable approach in supporting diversified, resilient and sustainable livelihood options so that the benefits pay gender dividends.

184. Improving food security and nutrition: CARLF will support intensification of food crop and pasture production in target districts as well as climate-smart agriculture, including the use of climate-resilient varieties to boost agricultural production and more effective use of agricultural inputs. These activities will positively impact 8,680 households in 15 rural communities in ways that will avert food insecurity and poor nutrition linked to climate change extreme events. The project is posed to secure people's livelihoods by providing support to farmer groups so that they are able to better adapt to climate change and improve their agricultural practices. This will ensure more availability of food crops with surplus for sale, which will improve the purchasing power of households. Increased agricultural yields, diversification of income generating activities and the establishment of catalytic financing will equally contribute to enhancing the purchasing power of households, enabling them to buy other foods thereby rendering households more food and nutritionally secured.

185. Through the knock-on effects of improved livelihood income streams, communities will potentially have more investment options into off-farm enterprises/activities - which limit the exploitation of natural resources. In this regard, the Adaptation Fund investments in the selected districts will yield socioeconomic benefits and contribute to protection of land and associated resources from over-exploitation.

Environmental benefits

186. *Land rehabilitation and restoration of modified ecosystems:* These two processes can have immense benefits to communities and the environment that might have been modified by natural or human factors. It should be noted that ecosystem restoration as a nature-based solution, can help address global challenges of biodiversity, climate change, and sustainable development.[73] Given the role and reliance on land and associated resources, healthy ecosystems can contribute to ending poverty, combat climate change while supporting biodiversity conservation. CALRF will use mixed approaches including assisted natural regeneration, agroforestry practices, fruit plants and fodder seeds to ensure land rehabilitation and land restoration and avoid forest and degradation on 1,000 ha that would otherwise lead to the loss of the socioeconomic and environmental productivity of land – thus leading to carbon emissions and loss of biodiversity loss.

187. *Support towards climate and biodiversity-positive sustainable agricultural production systems:* CALRF will support food crop production systems that do not impose any harm to environment, biodiversity, and quality of agricultural crops. Producing crops sustainably increases the ability of the system to maintain stable levels of food production and quality for long term without increasing the demand and requirements of agricultural chemical inputs to control the system. CALRF's approach will ensure support to production systems that keep the soil alive with organic matter, integrated pest management and reduction in usage of pesticides, protecting biodiversity, ensuring food safety and food quality, improving nutrient quality, and fertilizing the soil with organic fertilizers. It should be noted that sustainable agricultural production leads to lowering of greenhouse gas emission and overall carbon footprint. Sustainably produced crops and food are more beneficial to consume by humans as compared to commercial crops. Sustainable usage of resources ensures the pollution-free environment for our future generations.[74] The project will support sustainable crop production systems on at least 3,500 ha of land under the stress of extreme weather events in the target districts. The project's support towards Integrated Pest Management, rainwater harvesting systems and agro-forestry – linked to nurseries at community level on 1,000 ha, and climate smart agriculture (CSA) on 2,500 ha, focusing on climate resilient seed crop varieties and pasture production adaptable to the ecoregions of the 15 districts, and land rehabilitation and restoration using mixed approaches including assisted natural regeneration, agroforestry practices, fruit plants and fodder seeds on 1,000 ha will have positive benefits on the environment.

[73] UN Ecosystem Restoration, UNEP & FAO (n.d). Preventing, halting and reversing the degradation of ecosystems worldwide
[74] Imad R. S. (2016). Sustainable Crop Production System *Plant, Soil and Microbes* pp 103–116

188. As noted above, the project will primarily focus on climate resilient seed crop varieties and pasture production, land rehabilitation and restoration (including the use of assisted natural regeneration, agroforestry practices) to generate global environmental benefits – with social and economic benefits to the communities. The envisaged CSA practices will contribute to enhancing soil health, reduce erosion, and preserve biodiversity. By adopting climate-resilient crop varieties and efficient water management techniques, smallholders will contribute to mitigating the environmental impacts of climate change. CSA also emphasizes the use of organic fertilizers and integrated pest management, reducing reliance on chemical inputs and minimizing water pollution. Moreover, CSA encourages the adoption of renewable energy solutions, such as solar-powered irrigation systems, reducing greenhouse gas emissions that are associated with traditional agricultural practices. Through the implementation of CSA on 2,500 ha and the afore-mentioned environmental benefits, the project will contribute to preserving ecosystems, mitigating climate change, and ensuring the long-term sustainability of agriculture in the target districts.

189. Finally, CALRF will support the adoption of sustainable agricultural practices (including procuring more productive and drought-tolerant seeds, crop diversification, composting and mulching) on 1,500 ha. The combined effect of these interventions will have an overall positive impact on the environment while broadening the socioeconomic base of communities in the target districts – thus, having double impact on social and environmental wellbeing.

190. *Mechanisms for equitable distribution of benefits*: The project has been designed to address challenges related to limited livelihood options that amplify community reliance on and exploitation of natural resources, and limited financing systems to build community adaptive capacities in climate sensitive sectors in target districts. CALRF will therefore target vulnerable communities. To ensure more effective and equitable distribution of benefits, the project will employ a geographical targeting mechanism considering the climatic challenges and the socioeconomic context of communities (see section on Project Area and Target Group). This mechanism will ensure (a) identification of eligible priority zones of intervention; (b) continued coherence with national priorities; (c) development of context-specific pro-vulnerable household and individual resource allocation targets; and (d) orientation and facilitation of efforts, particularly to identify 'benefit-deserving and eligible' communities, households and individuals that may require additional training to access benefits. Point (d) will also ensure avoidance of 'elite capture' where more privileged members of communities in the target districts take front rows in accessing and using benefits. Linked to geographic targeting, CALRF will also build participatory and inclusive processes at the community level: (a) mobilizing and identifying needs of communities; (b) forming functioning community management committees; and (c) establishing social control mechanisms.[75]

191. *Avoiding or mitigating negative impacts*: The implementation of CALRF will ensure the following to avoid or minimise negative social or environmental impacts: i) inclusive and representative community engagement in project activities; ii) continued consultations and engagement with beneficiary communities, including vulnerable groups; iii) collaboration with national and local authorities during the project cycle; iv) technical assistance throughout the project cycle on all technical matters related to the project; v) implementing CALRF's activities in accordance with national standards and safeguards consistent with national strategies; vi) establishing a robust complaints and feedback mechanism; and vii) screening project activities for environmental and social risks in accordance with the AF and IFAD Environmental and Social Policies.

C. Cost-effectiveness of the proposed project

192. In demonstrating cost-effectiveness, the development of CALRF embeds sustainability and describes a comparison to an alternative scenario that would prove less cost-effective. Additionally, the project design has been done in such a manner as to maximize the benefits from 'concrete' interventions under

[75] Julie Van Domelen. (2007). Reaching the Poor and Vulnerable: Targeting Strategies for Social Funds and other Community-Driven Programs

components 1 and 2 to directly benefit the most vulnerable populations. The project has limited the 'soft' interventions to those activities required to support the appropriate and enabling environment for the implementation of the 'concrete' interventions in components 1 and 2. 'Soft' interventions in component 3 support the planning and climate change awareness-raising processes, which are meant to facilitate the implementation and solidification of concrete activities in components 1 and 2. In this regard, the project has been designed to 'put money where the climate adaptation mouth is.' The choice of proposed activities has been done in consultation with communities and different stakeholders – and therefore, the prioritization of concrete interventions over soft ones with community support will ensure sustainability of what the project will achieve. This approach is strategically cost-effective. The alternative approach would have been to focus solely on 'soft' interventions such as policy alignment and capacity development through trainings – which are important, however insufficient for the socioecological systems in the target district.

193.Overall, the project is building a system to strengthen the smallholders' ability to better cope with the impacts of climate change. It will build capacities and infrastructure which will help to sustain the adaptive capacities of communities beyond the life of the project by working with existing systems, including the government and finance service providers. In this regard, the project will continue to provide services in a sustainable manner. It is not a 'hand-out' project, but one that strengthens communities to be able to cope with impacts of climate change. In the short and long terms, the interventions will remain cost-effective. The delivery mechanism will include a market-driven approach to work with already existing players to provide financial services to communities – making it overall, cost-effective, ensuring that operational costs are at a minimum and the rest of the resources go to building adaptive capacities of communities.

194.As has already been noted, CALRF builds on the successes and lessons of RUFEP that has been working with different partners at national and subnational levels to promote the rural poor and vulnerable people's access to sustainable financial services and products. From the onset, it has a choice from a network of over 50 proven partners to 'ride on and hit the ground running.' This will significantly shorten the learning period and facilitate community mobilisation. Building on RUFEP in this regard, will therefore, prove to be cost-effective in that no additional costs in terms of financial resources and time will be required for identification of partners. Experience has shown that completely new areas require more community mobilization and engagement, advocacy for the project, stakeholder identification and social buy-in and acceptance. To varying levels, these social and participatory processes have financial and time costs. In the case of CALRF, these processes will not have the same level of complexity, thus contributing to project cost-effectiveness. It has already been mentioned that in the consultation processes, stakeholders (e.g. Zambian Rainbow Development Foundation in central province) who were involved in RUFEP have been involved in the design of CALRF – and that has been an opportunity to share experiences regarding community engagement, socioeconomic and ecological vulnerability contexts of target communities, among others. CALRF consolidates the achievements of RUFEP, and scales its interventions to primarily address the adaptation challenges at micro level – communities. *The alternative scenario* would have been duplicating what RUFEP has done in the target districts and collaborating with a new cohort of partners, some of which may not be based in the target districts. The duplication would be a waste of financial resources, while collaborating with other new partners would have lengthened the learning curve. In project management, controlling for time, knowledge level of partners and financial costs can make a huge difference in cost-effectiveness of the project. RUFEP, using the proposed model, was able to reach over 685,000 households at a cost of US$22 per beneficiary.

195.Linked to this point is that the project will build capacities of 500 relevant stakeholders using national experts who have been involved in the implementation of RUFEP. These capacities will be used to strengthen policy mainstreaming to support adaptation implementation at local levels. Capacities through awareness-raising will also support rural communities to cope better with risks and develop agile adaptive strategies, including migrating to higher lands to avoid floods which destroy their property, crops and lead to ill health. For example, rebuilding the asset portfolio after floods and or droughts for those who did not have knowledge or any level of awareness and did not take any actions would be more expensive than a household that moved to a higher land. Knowledge is power, and the context of the design of this project,

awareness-raising will empower rural communities to risk less and pay less for the impacts of extreme weather events associated with climate variability and change. It should be noted that community access to the information they need in a timely and more easily understandable way will support their ability to make informed decisions regarding their livelihoods and agricultural practices, thus enabling them to adapt to a changing climate. Consequently, communities are expected to increase their yields and reduce the losses and food and nutrition insecurity. *The alternative approach* would have been to focus on concrete adaptation measures without awareness-raising which would not give beneficiaries the ability to make informed decision and know how to respond in the face of extreme weather events, particularly floods.

196.From the sustainability angle to demonstrate cost-effectiveness, it is reiterated here that CALRF is a people's process and community-level project. The project support towards targeted climate sensitive capacity needs assessment to support the selection of farmer groups and households (ensuring participation of women, youth and other vulnerable community members), enhancing knowledge through trainings of smallholder farmers in climate smart agriculture trainings around selected value chains (promote climate resilient varieties, soil management, water use efficiency etc.), formation of commodity based cooperatives/ farmer organisations, facilitate their access to production inputs (linkage to Farmer Input Support Program and agro dealers) and facilitate linkages to larger agro input suppliers and Support bulk purchase of production inputs, and capacity development of individual and farmer groups in entrepreneurship and market literacy, group business management, group governance, and advocacy, and promoting diversification livelihood strategies beyond farm level interventions among others are meant to expand socioeconomic opportunities of local communities – thus, the project will put the resources where it matters the most for local communities. Socioeconomic interventions will be targeted and tailored interventions that will squarely speak to the adaptation challenges of communities in CALRF's catchment districts. Therefore, there is both a social and economic incentive for community engagement, community ownership and sustaining of project outcomes beyond the life of the project – that is, there is enough reason to believe that there will be abundant community care to reduce the cost of project activities. *The alternative approach* would be to invest limited resources in all sectors without prioritization. Conducting a needs assessment will therefore make it cost-effective and efficient so that priority areas are prioritized.

197.As a people's process and community-level project, the project activities will be cost effective compared to larger scale procurement processes that have neither community input and involvement nor local context. CALRF builds on community decision-making, local know-how and networks and facilitation, where the maximum value of every dollar is spent to maximize the socioeconomic benefits of vulnerable community members in vulnerable district - in a transparent decision-making process that reflects community struggles but also aspirations for improved ability to adapt to the impacts of climate change and extreme weather events. *The alternative approach* would be to rely on external resources without community involvement and capacity development so much so that even quick fixes would have to be done by outsourcing labour. The approach of community will also ensure sustainability.

198.In addition to the foregoing, CALRF has a deliberate focus on building and strengthening both formal and informal institutional mechanisms to ensure sustainability (for example, innovative financing with linkages among stakeholders, improving capacity of public extension systems to enhance knowledge through trainings of smallholder farmers in climate smart agriculture training around selected value chains, promote climate resilient varieties, soil management, water use efficiency etc.).Building capacities to improve extension services in target districts of 150 staff; management of post-harvest losses; crop disease outbreaks (crop husbandry services in general and aquaculture, among others).This level of institutional strengthening and capacity development creates opportunity for stakeholder collaboration and produce more lasting positive impact on the project while minimizing any chances for maladaptation which would otherwise be wasteful of resources. *The alternative scenario* of only supporting with livelihood opportunities and infrastructure without capacity development of communities and their allied stakeholders would only hold during the life of the project. Beyond the life of the project, all achievements would not be sustained but would simply crumble.

199. In sum, CARLF's cost-effectiveness is summarized in the following succinct points:

- The project will provide support towards community investments in climate-resilient productive assets that are affordable, user-friendly and easy to fix.
- Capacity development to community members on the use and maintenance of the pieces of equipment will ensure that repairs and maintenance are not outsourced which would make operations cost-effective and a financial burden on the users.
- Enhancing collaboration with extension services to institutionalize interventions in government systems that have already existing mandate to support smallholder producers – no additional costs will be required to operationalize the project interventions.
- A number of activities will be implemented in collaboration with different stakeholders who will bring their comparative advantage. The collaboration will reduce the cost in some respect compared to a scenario where all activities would be uniquely supported by the project.
- Resource allocation and investments in concrete interventions that have the potential to transform and enhance the resilience of the socioecological context of the targeted district – in this regard, a transformed and resilient socioecological context due to concrete interventions will not be prohibitively expensive to 'repair' compared to a system or context that has not had concrete interventions;
- Capacity development and sustainability ensure continuity and minimal additional support – this is the 'teaching someone to fish vs giving someone fish' aspect that will ensure cost-effectiveness. The alternative would have been a 'hand-out' approach to respond to emergencies without capacitating communities to better cope with extreme weather events that befall them;
- 'Forewarned is forearmed' – consistent with point two above, through knowledge and early response through capacity building, social and economic benefits, the communities will be better able to cope with the extreme weather events – i.e preventing the worst from happening that would be more expensive to repair;
- Community engagement and participation that will ensure that local resources are used as opposed to 'high tech' procurement processes that would have meant more expensive processes to administer and maintain; and
- CALRF has a blueprint in RUFEP which means that the learning curve is neither steep nor long, overall, making the implementation of the project cost-effective.

200. In the Seventh National Development Plan (NDP), the estimated loss of annual economic growth in Zambia due to climate change is 0.4% of GDP.Rainfall variability alone could lead to a loss of 0.9% of GDP growth.[76] This is about $223[77] per capita that will be lost annually. For the total number of direct beneficiaries of this project (43,400 individuals or 8,680 households), the loss associated with climate variability would be about $9,678,200 annually. In this project, addressing climate variability and change focusing on diversifying livelihood options (monetary and non-monetary terms) that will enhance resilience and build community adaptive capacities beyond GDP parameters, the cost is $5.8 m – building asset portfolios with potential to enhance and strengthen adaptive capacities of the vulnerable and poor communities will be direct beneficiaries plus more indirect beneficiaries beyond a decade.

201. The project proposes facilitating financial access to enable communities to invest in climate-sensitive areas by creating a catalytic fund. Running the fund to benefit participating members will be far much cheaper and nothing close to commercial banks that charge interest rates in the order of 30 to 35%. The fund will contribute to the community's awareness of adaptation and climate change impacts. This will be complemented and enhanced through training on accessing innovative financing for adaptation.

202. Thus, learning from past and on-going interventions, community engagement, capacity and institutional development for sustainability, improved access to financial services, including a catalytic fund,

[76] Makondo et al. 2014, MTENR 2007, Sishekanu 2013

[77] This is based on the current population estimation of Zambia (~19.2 million people) and the projected loss in GDP over the next decade.

and early interventions in climate change critical sectors are strategic ways to make CALRF more cost-effective.

203. In light of the above, by focusing and prioritizing concrete adaptation measures over soft interventions (and this is reflected in the project activity costs allocated to components 1 and 2 compared to component 3 which is focused on soft interventions), the project is overall seeking:

204. Avoiding and mitigating future costs associated with damage and loss of property and environmental degradation owing to the impacts of climate change and extreme weather events;

205. Identification of priority activities and vulnerable people and their socioecological systems to ensure more targeted interventions that respond to the specific challenges related to climate change and extreme weather events;

206. Building on the model of RUFEP, drawing on 'in-house' technical support options and capacity building expertise which will be cheaper than outsourcing and 'starting from scratch' which would lengthen the learning curve;

207. Building capacity of direct beneficiaries and district level institutional structures to strengthen partnerships for sustainability – building local level structures and partnerships will reduce the need for additional capacity development in the future to address the impacts of climate change;

208. Community involvement in concrete activities for the project will ensure that the technical selection of interventions reflect pragmatism (what communities are capable of managing with minimum or no additional technical support beyond the life of the project), and cost effectiveness. The involvement of communities is cost-effectiveness strategy for this project.

209. In addition to the points above, the table below includes the cost-effectiveness of the project.

Component	Without project	With AF project	Difference
Component 1: Building and promoting equitable, diversified, resilient and sustainable community livelihood options	Limited livelihood options and community reliance on the exploitation of natural resources: Poverty in Zambia is more acute in rural areas where nearly 60% of the people experience food insecurity, particularly during the lean season. This is largely due to a combination of factors, including poverty, low agricultural productivity, climate change, and limited access to markets and services. Food insecurity in rural areas results in malnutrition, particularly among children, women and the elderly, and can exacerbate poverty and contribute to poor health and reduced quality of life. Therefore, there is limited space for communities to have diversified resilient livelihoods to see them through in times of extreme weather events, but they are not able to invest in adaptation measures.	Through this project, rural community-based organisation groups (women, youth & and other producer groups) will own adaptation processes associated with climate change; 2,500 ha of land will be brought under sustainable crop and pasture production systems, livelihood strategies of the vulnerable members in the target districts will be established and strengthened in response to the impacts of climate change and extreme weather events; and infrastructure for crop marketing will be supported to increase 'the buffer socioeconomic' space for rural communities. The approach is preventive than curative, making it cheaper compared to repairing and addressing disasters because community ability to adapt have been extremely weak. This approach is likely to reduce the cost of addressing the impacts of climate change by almost 50%.	Through this project, diversified livelihood options will be promoted and strengthened, including building the resilience and adaptive capacities of vulnerable communities (8,680 households) to climate change-related extreme weather events in five provinces in Zambia (Luapula, Northern, Central, Southern and Western), which are very vulnerable to the recurrent extreme weather events.
Component 2: Innovative local financing systems to	Limited financing systems to build community adaptive capacities in climate sensitive sectors: Accessing financial services in rural Zambia remains a significant challenge for	Through this project, financial services will get within the reach of communities in rural areas to enable them make investments in sectors that sustain their livelihoods	Vulnerable communities in target provinces access financial services and increase their investments in key climate-sensitive

build community adaptive capacities in climate sensitive sectors	many rural communities, limiting their ability to invest and improve their livelihoods. The major challenges include limited financial infrastructure, low levels of financial literacy and awareness, high transaction costs, and low levels of trust in formal financial institutions. These barriers prevent rural communities from accessing loans, savings and insurance products, and make it difficult for them to invest in their businesses or to diversify their livelihoods. This lack of access to financial services undermines rural communities' ability to cope with shocks and risks, such as those posed by climate change, and limits their potential to grow and develop their communities.	but which are also sensitive to climate change. Therefore, the ability to invest in strategic sector is key to wealth creation that lessens reliance on the exploitation of natural resources. This has two wins: it lessens the rate of environmental degradation, and second, when resources are degraded due to extreme weather events, financially empowered communities who have invested in other sectors will not be impacted the most in a very direct way. Rehabilitating land and forests that have been degraded in an expensive undertaking compared to interventions that seek to invest in these resources to prevent them from being degraded. For example, investing in agroforestry system in Zambia per ha is about 80 - $100. Rehabilitating the same size that is degraded is nearly $250 300.	sectors. This ability to make investments in key climate-sensitive sectors is a game changer that will transform livelihoods and production landscapes.
Component 3: Enhancing district-level planning, awareness-raising and knowledge management for evidence-based resilience and adaptive capacity building	Limited in some cases and non-existence in others of institutional capacities particularly at sub-national level to implement adaptation measures, including information access to support community ability to prepare for extreme weather events – leading to loss of property, human and animal lives that could have been avoided had people had access to early warning information. This is costing the government and other partners resources to respond to flood victims, diverting already meagre resources from other equally important sectors.	The project will build capacities at different levels, including 150 personnel at district levels in all the target districts. Training local capacity with familiarity with local contexts is desirable for different reasons: extension services can be done with a clear understanding of the sociocultural context and in the language that communities understand (ensuring effective communication – encouraging adoption). Second, local expertise is always cheaper than hiring international expertise. The building of local capacity will be cost-effective by 3 to 5 times that it would be to hire international experts.	Improved knowledge and awareness of climate change risks to support effective evidence-based adaptation planning at district level

D. Project consistence with national or sub-national sustainable development strategies

210.The GRZ has demonstrated its commitment towards achieving the Sustainable Development Goals (SDGs). In the 8th NDP, the GRZ strategic interventions are economic transformation and job creation, human and social development, environmental sustainability and good governance environment. It also reflects the prioritization of Zambia's international and regional commitments under various frameworks, including the last decade of action towards the realization of the SDGs and the African Union Agenda 2063.

211.The GRZ national agriculture policy is focused on improving support for small-scale farmers and creating conditions for them to contribute to the growth of the agriculture sector more effectively, this pillar on the Government's commitment to implement a comprehensive agriculture support programme (CASP) beginning in the 2022/2023 farming season. To bridge economic transformation and agricultural production, the Government has prioritized the promotion of value-addition in agriculture and agricultural mechanization. The Government also promotes farm block development with special focus on diversification of crops and expansion of the livestock and fisheries sub-sectors.

212.The GRZ National Fisheries and Aquaculture Policy (NFAP) was developed to provide a governing framework for the implementation of fisheries and aquaculture programmes in Zambia. This Policy will lead to a fisheries and aquaculture transformation which is key to boosting productivity and increasing fish production. Through this transformation the subsector will contribute to accelerating economic growth, ending hunger and malnutrition. The Policy will also be a building block for attaining the long-term Vision 2030.

213.National priorities on climate change have been elaborated through several key documents, between 2007 and 2016. The table below details key national strategies and documents that are more directly relevant to the implementation of CALRF.

214.**Zambia National Policies and Strategies Consistent with CARLF**

National document	Explanation
Zambia 8th National Development Plan (2022 -2026)	With the theme, 'Socioeconomic Transformation for Improved Livelihoods,' the National Development Plan is anchored on four pillars for the country's sustainable development. These pillars are: Economic Transformation and Job Creation, Human and Social Development, Environmental Sustainability, and Good Governance Environment. CARLF is particularly relevant to Strategic Development Area 3: (Environmental Sustainability), Strategy 1 that relates to strengthening climate change adaptation. The design of CARLF is related to the following priority programs under strategy 1 of Strategic Development Area 3 of the Plan: (a) institutional framework strengthening b) climate change mainstreaming c) long-term adaptation planning d) nature-based solutions e) sustainable land, forest and water management f) sustainable agriculture g) climate-resilient infrastructure development)
Zambia National Adaptation Programme of Action (NAPA) in 2007	The NAPA highlights that communities are vulnerable to climatic hazards (drought, flooding, extreme temperatures and prolonged dry spells), which precipitate widespread crop failure, negatively impact food and water security and affect the sustainability of rural livelihoods. It recognizes agriculture as one of the five sectors most vulnerable to climate change impacts.[78] CALRF therefore, is relevant to reducing the agricultural sector's vulnerability through support towards climate-smart agriculture in the target districts, climate resilient varieties, multiplication and dissemination and integrated pest management and soil management, among others.
National Climate Change Response Strategy (NCCRS) in 2010	The NCCRS mission is "to ensure that the most vulnerable sectors of the economy are climate proofed and sustainable development achieved through the promotion of low carbon development pathways".[79] Key actions planned under NCCRS include: to develop sustainable land use systems to enhance agricultural production and ensure food security; to ensure sustainable management and resilience of water resources; and to develop a less carbon-intensive and climate change-resilient energy infrastructure and grow using a low carbon path.[80] CALRF is relevant to NCCRS through support to activities related to community-level coping and management strategies of climate change adaptation initiatives, land rehabilitation and restoration and adoption of sustainable agricultural practices (including procuring more productive and drought-tolerant seeds); aquaculture; crop

[78] MTENR 2007

[79] Overall, NCCRS addresses five focal areas: adaptation and risk reduction, mitigation and low carbon development, cross cutting issues, governance issues and finance/investment framework. The NCCRS further identifies priorities for adaptation and mitigation, and proposes an institutional structure for CC in Zambia (the National Climate Change and Development Council). The planning process also recognizes the efforts being made to establish the National Climate Change Development Council for CC coordination in the country as stipulated in the NPCC. Furthermore, the National Designated Authority (NDA) for the Green Climate Fund has already been designated and is expected to play a key role of "clearing house or entity" for CC projects to be funded from GCF in Zambia. The process is on-going to select a National Implementing Entity (NIE) and establishing a National Climate Change Fund (NCCF).

	diversification; install composting and mulching facilities; provide soil testing services; bee-keeping; among others.
Nationally Determined Contribution (NDC) in 2015 and updated in 2020	The NDC intends to reduce CO_2 emissions by implementing: (i) sustainable forest management; (ii) climate-smart agriculture (CSA); and (iii) renewable energy and energy efficiency. Measures identified based on vulnerability assessment of seven key economic sectors (agriculture, water, forestry, energy, wildlife, infrastructure and health) comprise three goals that have strong synergies with mitigation: (i) adaptation of strategic productive systems (agriculture, forests, wildlife and water); (ii) adaptation of strategic infrastructure and health systems; (iii) enhanced capacity building, research, technology transfer and finance.[81] The enhanced finance for adaptation entails looking at different mechanisms including the development of an insurance market against climate change induced risks. CALRF is relevant to the NDC through activities related to intensification of food crop and pasture production in target districts, land rehabilitation and restoration using mixed approaches including assisted natural regeneration, agroforestry practices, fruit plants and fodder seeds, sustainable agricultural practices (including procuring more productive and drought-tolerant seeds); aquaculture; crop diversification; install composting and mulching facilities; provide soil testing services; bee-keeping; and climate smart technologies e.g. Decentralized Renewable Energy sources, Solar Irrigation systems, Solar Cooling Systems, climate tolerant seed varieties and livestock breeds, improved storage and agro-processing units.
National Policy on Climate Change (NPCC) in 2016:	In line with the Vision "A prosperous and climate resilient economy by 2030", the NPCC aims to provide a framework enhancing coordination between sectoral initiatives while promoting a long-term vision to promote sustainable development. The NPCC also provides a framework for attracting finance and investments to achieve sustainable development goals, guiding principles, policy objectives and implementation framework, which are targeted at reversing the negative effects induced by climate change. The NPCC targets investments in climate resilient and low carbon development pathways in order to generate co-benefits and provide incentives for addressing climate change more effectively, including measures promoting environmentally friendly investments in all relevant sectors and facilitating the acquisition of resources for climate change programmes through innovative financial instruments. CALRF is relevant to the NPCC through activities related to building capacities to improve climate change support and extension services in target districts, improving phytosanitary services, scaling up climate smart technologies, identifying and improving innovative financing tools to integrate climate risk management and monitoring of climate change adaptation investments, and strengthening climate change and extreme weather-related information systems to reach target audience and train them in using the information to prioritize adaptation.
Zambia National Agriculture Policy (ZNAP - 2013):	The policy included promotion of sustainable land management technologies, afforestation, community woodlots and agro-forestry, sustainable utilization of rangeland (grassland ecosystem) and pastures for livestock production; and promotion and strengthening of agricultural production methods that are resilient to climate change; promotion of climate change adaptation awareness; integrating climate change adaptation measures in policies, plans and programmes; promotion of environmentally friendly and climate-resilient farming systems. Therefore, CALRF is relevant to ZNAP through activities related to initiatives for boosting community-level adaptation and management strategies of climate change impacts, strengthening sustainable crop production systems under the stress of extreme weather events and human exploitation (floods, droughts, erosion, deforestation), adoption of sustainable agricultural practices (including procuring more productive

[81] GRZ 2015

	and drought-tolerant seeds); aquaculture; crop diversification; install composting and mulching facilities, value addition of selected products, establishing crop and livestock production and environmental data hub in target provinces, and developing market linkages for small-scale farm producers (including facilitating improved access to agricultural grants).
National Land Policy of 2017	The National Land Policy provides for the protection of natural resources, environment and landscape management. The policy also provides for the protection of wetlands. The usage of pesticides and other agrochemicals has a potential to cause land contamination if not properly disposed of after usage.
Zambia National Adaptation Plan (NAP) (2023)	The NAP sets clear goals and objectives for adaptation, which include reducing vulnerability, enhancing adaptive capacity, building resilience, and ensuring sustainable development in the face of climate change. NAP's objectives are: To identify the country's vulnerabilities to climate change and develop medium and long-term adaptation actions to minimise the impacts. To integrate climate change adaptation into the national, sectoral and sub-national planning and budgeting processes. To strengthen institutional and technical capacities for the implementation of identified priority adaptation actions. To strengthen institutional coordination mechanisms for climate change adaptation actions at national, sectoral, and sub-national levels; and To leverage emerging opportunities for resource mobilization for the implementation of the prioritized adaptation actions to address current and projected climate risks.
Zambia National Resettlement Policy (ZNRP) (2015)	The ZNRP acknowledges that the number of internally displaced persons (IDPs) is likely to increase due to the effects of climate change. Furthermore, through the framework of Disaster Risk Management, the government (through the office of the Vice President–Disaster Management and Mitigation Unit) works with local leaders to identify populations residing in hazard prone areas (mainly flood prone) with a view of relocating them to high grounds. The overall goal of the policy is to establish and protect resettlement schemes that are economically productive, socially secure and environmentally sustainable for persons settled voluntarily or involuntarily. ZNRP's objectives are: To effectively manage the resettlement schemes and protect against illegal allocation of land in resettlements. To create opportunities for self-employment on land for the target groups. To improve access to public social services by creating viable settlements as opposed to unplanned scattered settlements. To create new growth points for rural investment and development by providing social and economic infrastructure thereby stimulating economic growth.
Zambia Disaster Management Act (ZDMA) (2010)	The Act, No. 13 of 2010 provides for all legal basis for all operations of disasters and emergencies. The Act has been enacted to: Provide for the maintenance and operation of a system for the anticipation, preparedness, prevention, coordination, mitigation and management of disaster

	situations and the organisation of relief and recovery from disasters; Establish the National Disaster Management and Mitigation Unit and provide for its powers and functions Provide for the declaration of disasters; Establish the National Disaster Relief Trust Fund; Provide for the responsibilities and involvement of the members of the public in disaster management; and Provide for matters connected with, or incidental to, the foregoing.
Zambia Climate Change Gender Action Plan (ccGAP) (2018)	The Plan aims to ensure that Zambia's climate change processes mainstream gender considerations to guarantee that women and men can have access to, participate in, and benefit equally from climate change initiatives.
Zambia National Drought Plan (ZNDP) (2018)	The ZNDP intended to contribute to the protection of Zambia's land from over-use and drought for it to be able to provide the required ecosystem services. The Plan has been developed in order to contribute to risk reduction and preparedness.
Zambia National Disaster Management Policy (ZNDMP) (2005)	The formulation of ZNDMP was intended to deal with weaknesses identified in the by then disaster management regime especially: Lack of a disaster management policy that leads to an ad-hoc management of crisis situations. Lack of a legal framework that gives legal authority to the operations of the disaster management system; Vulnerability to subjective political influence which threatens credibility of programs and sometimes complicates implementation of programs; Coordination which was inadequate, and hence posed a substantial risk of costly duplication of efforts among key players. Lack of reliable information about hazards, risks, vulnerabilities and resources; Absence of legal authority on the part of the Chief Executive Officer responsible for disaster management and mitigation unit negatively affected the timely and effective response to emergencies.
2009 National Policy on Environment (NPE - 2009)	The NPE intends to reduce GHG emissions, and CALRF is relevant to this goal through activities related to climate smart technologies, land rehabilitation and restoration using mixed approaches including assisted natural regeneration, agroforestry practices, fruit plants and fodder seeds, and those related to the identification of community-level growth production areas and systems that are resilient to climate change.
National Forestry Policy (2014)	The 2014 Policy encourages participatory forest management anchored on the active participation of local communities, traditional institutions, private sector and other stakeholders in the management and utilization of forest resources at all levels of decision making, implementation, monitoring and evaluation. The policy also encourages the definition of stakeholder roles, resource tenure, costs and benefit sharing mechanism related to forest resources management, investments and forest industries development. CALRF is relevant to the National Forest Policy through activities related to supporting towards climate-smart agriculture in the target districts, land rehabilitation and restoration using mixed approaches (including assisted natural regeneration, agroforestry practices, fruit plants and fodder seeds), adoption of sustainable agricultural practices (including procuring more productive and drought-tolerant seeds, aquaculture; crop diversification; install composting and mulching facilities); development strategies at district and community-levels incorporating climate change priorities and support capacities for enforcement, establishing crop and livestock production and environmental data hub in target, and development of tools for knowledge generation and management.
National Forest Act (2015)	That Act provides for the participation of local communities, local authorities, traditional institutions, non-governmental organisations and other stakeholders in sustainable forest management; provide for the conservation and use of forests and trees for the sustainable management of forests ecosystems and biological diversity. CALRF is relevant to the National Forest Act through activities related to supporting

	towards climate-smart agriculture in the target districts, land rehabilitation and restoration using mixed approaches (including assisted natural regeneration, agroforestry practices, fruit plants and fodder seeds), adoption of sustainable agricultural practices (including procuring more productive and drought-tolerant seeds, aquaculture; crop diversification; install composting and mulching facilities); development strategies at district and community-levels incorporating climate change priorities and support capacities for enforcement, establishing crop and livestock production and environmental data hub in target, and development of tools for knowledge generation and management.
National REDD+ Strategy 2015	Guided by effectiveness, efficiency, fairness, transparency, accountability, inclusiveness and sustainability, the strategy seeks to realize a prosperous climate change resilient economy by 2030, anchored upon sustainable management and utilization of Zambia's natural resources. Relevant to the CALRF are the following strategic objectives: By 2030, good agricultural practices that mitigate carbon emissions adopted; By 2030, threatened and unsustainably managed national and local forests are effectively managed and protected to reduce emissions from deforestation and forest degradation and contribute with ecosystem services across selected landscapes; and By 2030, selected high value forests in open areas are effectively managed and monitored. CALRF is relevant to the National REDD+ Strategy through activities related to supporting climate-smart agriculture, land rehabilitation and restoration using mixed approaches including assisted natural regeneration, agroforestry practices, adoption of sustainable agricultural practices, strengthening climate change and extreme weather-related information systems, training in the use of climate change data to prioritize adaptation options but also adaptation planning, including support towards policy, legal and regulatory environment for innovative financing, and establishment of a crop and livestock production and environmental data hub in target provinces.
National Fisheries and Aquaculture Policy Implementation Plan 2022-2026	The Plan outlines a clear linkage of the policy objectives, measures, activities and strategies, upon which the key performances indicators were developed.it also provides for annual targets, responsible institutions, and the estimated costs over a period of five years. The plan will achieve the following outcomes: 1) improved food and nutrition security; 2) Efficient and effective extension service delivery; 3) Improved information generation, management and innovation; 4) Improved and developed fisheries and aquaculture value chain; 5) Improved aquatic animal health; 6) Sustainable fisheries and aquaculture development; and 7) Integrated fisheries and aquaculture development.
National Fisheries and Aquaculture Policy (NFAP):	The Policy provides guidance on the implementation of fisheries and aquaculture programmes in Zambia. The Policy will lead to the transformation of the capture fisheries and aquaculture sub-sector which are key to boosting production and productivity in the agricultural sector. Through this transformation, the sub-sector will contribute to accelerating economic growth, ending hunger and malnutrition and improving household and national income through both domestic and international trade. Through this Policy, Government intends to transform and modernize the fisheries and aquaculture sub sector, focusing on increasing production and productivity in a sustainable and inclusive manner, in order to overcome the current fish deficit and make the country a net exporter of fish. In this way, the country will realise its aspiration of becoming a regional breadbasket, and increasing fish exports to the rest of the world. CALRF is relevant to the NFAP through activities related to building capacities to improve extension services in target districts; and conducting detailed value chain mapping and development fish value chain.

215. E. Relevant national technical standards

216. In addition to details that have been provided in the table above, CALRF has been prepared to remain compliant with the following policies provisions that are linked to rural financial policies:

217. The Water Resources Management Act No. 21 of 2011: The Act further outlines the requirement for the sustainable use of the water resources and ensure that the right to draw or take water for domestic and commercial purposes, without any change in quality of water. The support towards irrigation systems will have to seek clearance from the Water Resources Management Act provides for the establishment of the Water Resources Management Authority (WARMA) – this will be done by the service provider, and the procurement processes will ensure adherence to national procurement standards overseen by the Zambia Public Procurement Authority.

218. The Occupational Health and Safety Act, No. 36 of 2010: The Act requires that health and safety committees are formed at workplaces in order to manage the welfare of workers. The Act also stipulates the requirements that the employer should adhere to in order to manage such risk. The Act also outlines the duties of the manufacturers, importers and suppliers in relation to managing occupation Health and Safety risk. This will be required for the project given works on crossing points and infrastructure development. The service provider will directly ensure safety as a social safeguard issue. The service provider will also ensure that employees respect labour laws, including exclusion of child labour and paying at least minimum wage to employees.

219. The Town and Country Planning Act: The Act provides for the preparation, approval and revocation of development plans, for the control of development and subdivision of land, for the assessment and payment of compensation in respect of planning decisions, for the preparation, approval and revocation or modification of regional plans. The project will be compliant for activities related to infrastructure development.

220. The Environmental Management Act No.12 of 2011: This Act provides for sustainable management of natural resources and the protection of the environment. The Act further provides for prevention and control of pollution and it establishes the functions of the Zambia Environmental Management Agency (ZEMA) such as screening and providing guidance of environmental and social impact assessment.

221. The Environmental Management (Licensing) Regulations, of 2013: This regulation provides for the control of any discharges of water pollutants, air emissions, pesticides and other toxic substances and ozone depleting substances into the natural environment.

222. Plant Pest and Diseases Act, Cap 231: This Act provides for the eradication, and prevention of the spread of plant pests and diseases in Zambia and for the prevention of the introduction into Zambia of plant pests and disease, and other matter hereto. The Act further provides guidance for designation of certain pests and diseases vectors that require destruction.

223. *Food Safety Act, 2019*: Implemented by the Food Safety Coordinating Committee, the Food Safety Act, 2019 provides for the protection of the public against health hazards and fraud in the manufacture, sale and use of food; provide for a streamlined process for regulatory clearances for regulatory health requirements for food premises; establish the Food Safety Coordinating Committee and provide for its functions and powers; provide for health inspection reports and report notices; establish the National Food Laboratory; repeal the Food and Drugs Act, 1972 and sections 79 and 83 of the Public Health Act, 1930; and provide for matters connected with, or incidental to, the foregoing.

224. *The National Strategy on Financial Education for Zambia (2019–2024 NSFE II)*: The Strategy sets out a framework for improving financial education in Zambia. The primary objective of the strategy is to empower Zambians with knowledge, understanding, skills, motivation and confidence to help them to secure positive financial outcomes for themselves and their families. The implementation of the Strategy involves the provision of financial education for all age groups, including children, youth, and adults.[82]

[82] Government of Zambia (2019): The National Strategy on Financial Education for Zambia.

225. *The National Financial Sector Development Policy (2017):* The Policy aims at having a well-developed, competitive, and inclusive financial system that supports efficient resource mobilisation and access to financial services and products by all. This takes cognizance that a well-developed and functioning financial sector would support the attraction and mobilisation of savings and investments, allocate resources for development, and build the trust and confidence of a wide and diversified consumer base. The Policy aims to achieve the following as objectives: to develop a competitive and resilient financial sector; to develop and maintain an enabling regulatory environment for the financial sector; to make the financial sector more inclusive and deepen the financial markets; to develop MSMEs and rural finance; to enhance financial infrastructure in accordance with international best practices; to increase financial literacy and strengthen consumer protection, and to facilitate effective and sustainable partnership in the provision of financial products and services.[83]

226. *The Second National Financial Inclusion Strategy (2024–2028):* The vision for financial inclusion in Zambia is to have universal access to and usage of a broad range of quality and affordable financial products and services through widespread and accessible delivery channels; diverse, innovative, customer-centric products; finance for SME and agricultural sector growth, and financial consumer protection and capability. The implementation of the strategy focuses on 'high priority, high impacts' interventions that include: migrating government-to-person and person-to-government payments to digital platforms; issuing agency and mobile banking regulations; designing, test, and launch simplified and tailored products for unserved and underserved consumers, including via mobile-based channels; reviewing and finalizing the credit reporting bill; promoting utilization of the movable property security interest register to increase asset-based lending, especially to SMEs; and building capacity of regulators to undertake financial consumer protection supervision.[84]

227. *The Rural Finance Policy and Strategy of (2012)*: The policy acknowledges that increasing access to financial services by rural households in Zambia is cardinal for the country to reduce poverty, create employment and wealth and attract meaningful industrial development in rural areas that can lead to sustainable economic growth for the entire country. Rural financial services in Zambia are underdeveloped, with few rural financial service providers. Most microfinance institutions operate in urban or peri-urban settings only, while cooperatives ceased to play their erstwhile predominant role in rural financing and commercial banks have closed many rural branch offices citing operational costs. With the vision to have a vibrant and well-resourced rural communities that enjoy prospects of sustained socioeconomic development, the policy seeks to: develop and maintain an enabling, predictable and coherent policy, legislative and regulatory environment for rural finance that supports national development priorities; ensure a soundly based regulatory and supervisory system for all financial services; facilitate the provision of affordable and easily accessible rural finance products and services; endure policy coherence with regard to rural finance across the government; facilitate effective and sustainable partnership with the private sector and other non-state actors in the provision of rural finance; and ensure that there is equity in access to rural finance focusing on bridging existing geographical, social and gender gaps in access to resources.[85]

228. *The Micro, Small and Medium Enterprise Development Policy (2008)*: This Policy provides for the active support and participation of all key stakeholders in the development of Micro, Small, and Medium Enterprises (MSMEs). The hallmark of this Policy is partnership and an enabling environment. The objectives of the Policy include: creation and development of viable MSMEs that contributes towards annual employment creation and towards Gross Domestic Product; increasing utilization and value addition of local raw materials in identified regional areas; strengthening forward linkages between MSMEs and large scale companies by facilitating an annual increase in subcontracting of MSME by large scale

[83] Government of Zambia (2017): National Financial Sector Development Policy
[84] Government of Zambia (2017): National Financial Inclusion Strategy
[85] Government of Zambia (2012): National Financial Inclusion Strategy

companies; improve productivity in the MSME sector; and enhancing Local Economic Development thereby stimulating broad based economic growth.[86]

229.The environmental and social impact screening will be conducted for the project activities to ensure adherence to national regulations and IFAD's Social, Environment and Climate Assessment Procedures (SECAP). The Adaptation Fund grant proceeds will not be used to finance any activities that induce environmental and social risks and negative impacts. The screening will anticipate potential risks and impacts, gaps and needs that may be required to be addressed at any stage of the project, including an integrated assessment of compliance with the Zambian and Adaptation Fund environmental and social safeguard policies and procedures. During the inception phase of the CALRF, a gap analysis will be conducted during the development of the Environment, Social and Climate Management Plan (ESCMP). The ESCMP will also articulate the agreed common approach to environmental, social and climate risk management.

230.The project will fund small scale infrastructure such as ponds for aquaculture, construction of storage facilities and processing plants for value addition and post-harvest loss reduction. These will be screened through the environmental Zambian law, which identifies projects or development activities which require an Environmental Impact Assessment (EIA) based upon the following main principles: 1. Type of activity undertaken. 2. Extent of natural resources exploitation. 3. Location. 4. Type of energy used to operate. Zambia Environment Management Agency's (ZEMA) EIA system classifies the projects into three categories based on different levels of EIA requirements according to severity of possible environmental impacts and location of the establishment and its proximity to residential settlements:

231.Category (A): projects with minimum environmental impacts. These are required to complete an environmental impact assessment form A. Given the scale of activities financed through the matching grants, most will fall under this category for the agricultural value chains being targeted.

232.Category (B): projects with potential adverse environmental impacts yet less adverse than category C. These are required to complete an environmental impact assessment form B. Very few activities may fall under this category and support will be provided by the project to undertake any studies that would be required to ensure adherence to the national standards.

233.Category (C): projects, which have highly adverse impacts. These are required to prepare a full EIA study. None of the CALRF activities will fall under this category.

234.The project activities will fall under Category A for the ZEMA and under the moderate classification for IFAD's SECAP due to the small size and location of investments in non-sensitive geographic areas. The screening of the investments will include risk and adverse impact minimization measures. Financial Service Providers (FSPs) capacity will be built to ensure adherence to the national regulations and IFAD's SECAP.

235.In response to the impacts of climate change, the Zambian government has put in place regulatory and legal frameworks, a climate change responsive policy, reviewing existing sectoral policies to accommodate climate change and developing national response strategies. To date, the government has enacted the NPCC that provides for a coordinated response to climate change, mainstreaming climate change in economically important and vulnerable sectors of the economy by 2030 and a NDC to UNFCCC Policy effected in 2016. CALRF is aligned with the updated NDC as elaborated in the earlier sections and will contribute to achieving articulated targets.

236.Regarding Financial Management, the CALRF Project Implementation Unit will develop policies and procedures that shall be in accordance with provisions of the Public Finance Management Act No.1 of 2018 and IFAD guidelines on Financial Management and Administration. The Financial statements shall be prepared in accordance with the International Public Sector Accounting Standards (IPSASs), Cash Basis of Accounting and shall be subject to Audit by the Office of the Auditor General, which is the Supreme Audit Institution with the mandate to Audit proceeds of all public finances in Zambia. The PIU will be responsible

[86] Government of Zambia (2008): The Micro, Small and Medium Enterprise Development Policy

for overall financial management of the project. It will be responsible for the release of funds against agreed plans, drawn out of the approved AWPBs, disbursement of funds to implementing agencies and coordinate monitoring and financial reporting for the project as a whole. Project financial reporting will be through quarterly interim financial reports (IFRs) in line with IFAD guidelines. To ease financial reporting, all required information would be mapped in the accounting system such that financial reporting would only entail extracting data from the accounting system with minimal refinements.

237.The project has an ESMF and will always refer to it during the implementation of activities to ensure compliance with all the environmental and social safeguards – it should also be mentioned here that the ESMF has a grievance redress mechanism (GRM) embedded in it. Additionally, to ensure compliance to the national standards, the project will collaborate with national authorities. As per project development and implementation modalities, the project will apply to relevant authorities for clearance before implementation. The project will engage the relevant authorities for guidance on the nature of certification that will be required for an activity to be implemented. This can only be done before the activity is implemented. The table below summarizes the potential areas of concern that the project will apply for clearance:

(ESP AF PRINCIPLES)	Areas of concern	Authorities to be consulted/for clearance	Law legislation
Compliance with the law	Compliance with the national law: requisite permits and licences to operate.	Police department Legal	Employment Act, No. 15 of 2019
Access and equity	access by women and youth to training, equipment, infrastructure and services,	Ministry of Gender and Child Development	Zambia's Act of Gender equality and equality (Act No.22 of 2015)
Marginalized and vulnerable groups.	Inclusivity of stakeholder engagement processes Inclusion of women and youth in decision making structures.	Ministry of Gender and Child Development	Zambia's Act of Gender equality and equality (Act No.22 of 2015)
Human rights			
Gender equity and women empowerment	Inclusion of women and youth in decision making structures. Level of participation of women and youth, Occurrence of GBV/SEAH	Ministry of Gender and Child Development.	Zambia's Act of Gender equality and equality (Act No.22 of 2015)
Core labour rights	Working conditions and standards of labour. Freedom of association and freedom to form unions, Use of child Labour in agriculture	MoA	The Occupational Health and Safety Act, No. 36 of 201
Ethnic diversity		None	
Involuntary resettlement	Removal/alteration of usual source of livelihood. Forced migrations. Dissatisfied PAPs.	MoA, The Ministry of Lands and Natural Resources	Land Act, Chapter 184 of the Laws of Zambia
Protection of natural habitat	Vegetation clearing, Construction activities impacts, Land exposure for agricultural purposes, Soil erosion. Deterioration of soil characteristics, flora and fauna	Ministry of Green Economy and Environment. MoA, ZEMA	Zambia's Environmental Management Act - 2011
Conservation of biological diversity	Noise and vibration levels from construction activities, Contamination of rivers and soils. Flora and fauna,	Department of National Parks and Wildlife Police department	Zambia's Environmental Management Act - 2011

(ESP AF PRINCIPLES)	Areas of concern	Authorities to be consulted/for clearance	Law legislation
	Interference with nesting sites. Migratory routes, Animal habitats, Poaching	District Administrators , ZEMA	
Climate change	Land clearing for developmental/agricultural purposes, Stocking levels by the farmers.	ZEMA MoA	Zambia National Policy on Climate Change 2016.
Pollution prevention and resource efficiency	Discharges from agro-processing facilities, Oil and grease leak and spills prevalent in most work areas like the farm sheds. Use of agro-chemicals (Fertilisers and Herbicides)	Health ministry MoA Ministry of Green Economy and Environment	Zambia's National Public Health Act No.19 of 2020 Environmental Protection and Pollution Control 1990
Human Health	Incidences of communicable diseases. Reports of injuries, Public health Waste management at Sub-project sites.	Ministry of Health ZEMA	The Occupational Health and Safety Act, No. 36 of 2010.
Physical and cultural heritage	Archaeological Findings during excavations. The presence in or near the project area of areas of physical and cultural heritage	National Museums Board of Zambia, ZEMA	National Heritage and Conservation Act of 1989

F. Duplication of project with other funding sources, if any

238.There is no duplication with other funding sources. On the contrary complementarity is established through the choice to ride on investments already made by other projects in the country – ensuring synergies, complementarities and drawing lessons from community engagements to build and strengthen resilience while reducing vulnerability.

239.The project has been designed to complement other initiatives to build the resilience to climate related shocks by focusing more on the concrete adaptation measures to respond to the impacts of climate change and extreme weather events in the selected districts. This complementarity and synergies will not be by means of cofinancing as CARLF has been designed to 'stand on its own' to deliver adaptation benefits in the target 15 districts. On particular importance, the CARLF has drawn lessons from the tabulated projects below, and will continue to seek complementarity from them to avoid duplication and waste of resources particularly with regards to sharing lessons for activity implication.

240.Table showing projects for complementarity

No.	Project title	Project description	Areas of complementarity and justification
1.	Rural Finance Expansion Programme (RUFEP) – IFAD-implemented	The Programme is aimed at promoting access to and usage of sustainable financial services and products by poor rural men, women and youth in Zambia. The program is structured around (i) Strategic Partnerships; (ii) Innovation and Outreach Facility (IOF) and (iii) Knowledge Management and Programme Implementation.	The project will build on networks and partnerships in the finance space within the target districts to create the catalytic funding needed by the target beneficiaries. CALRF will therefore work with various service providers which will include new and already existing partners of RUFEP network in complementarity with

No.	Project title	Project description	Areas of complementarity and justification
			Savings and Credit Cooperative Societies (SACCOs). These will be selected using a competitive process.
2.	Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II (SCRALA) – IFAD-implemented	The project is US$32 million GCF-funded to indirectly support three million small-scale farmers in building climate resilient lives. Implemented by the Ministry of Agriculture, the project is helping farmers in 16 districts across five provinces (predominantly in the south) cope better with climate change threats through modern technology, sustainable growing techniques and better understanding of climate issues. To broaden the reach of weather updates, the project partners with community radio stations to interpret and broadcast weather information in local languages and intends to train the presenters on how to better interpret the information	In terms of communicating weather updates, SCRALA collaborates with radio stations to disseminate information in local languages but also to train journalists. Building on this focus, CALRF will train communities in target districts in using climate-related information to prioritize concrete adaptation options, develop the taxonomy of viable climate change adaptation investments options and support district level to enhance climate change and systematic adaptation planning
3.	Zambia Strengthening Climate Resilience (PPCR Phase II) - World Bank-implemented	Financed by the Climate investment Funds and implemented by the World Bank and African Development Bank, the project seeks to strengthen Zambia's institutional framework for climate resilience and improve the adaptive capacity of vulnerable communities in the Barotse sub-basin	PPCR II focuses in Western province, particularly in the Barotse sub-basin. CALRF will build on PPCR II's lessons particularly regarding participatory adaptation and management of community adaptation sub-grants to build resilience and build adaptive capacities.
4.	Zambia Integrated Forest Landscape Project (ZIFLP) - World Bank-implemented	This project is supported by the Zambian government in partnership with World Bank meant to improve landscape management and increase environmental and economic benefits for the targeted rural communities in Eastern province. It is designed around improving an enabling environment for livelihood investments, improving rural livelihoods, conservation of ecosystems and reducing emissions and providing assistance in case of emergency relief or disaster	ZIFLP is implemented in Eastern Zambia. CALRF will complement ZIFLP's lesson regarding community engagement to enhance conservation of ecosystem services while simultaneously improving rural livelihoods – including local-level institutional arrangements that support the achievement of both goals.
6.	Transforming Landscapes for Resilience and Development (TRALARD) - World Bank-implemented	This is a $100 million World Bank-funded project in Northern, Muchinga and Luapula provinces that is supporting the sustainable use of natural resources for livelihoods, and help the government of Zambia respond adequately and timely to a crisis or emergency	CALRF will seek to rehabilitate degraded lands, repair 5 crossing points and diversify livelihoods. CARLF's approach has drawn on community mobilization and targeting strategy in TRALARD which has also focused more on cooperatives and service providers on the ground than individuals. Focusing on

No.	Project title	Project description	Areas of complementarity and justification
			cooperatives or groups of people offers a better multiplier effect of a project's achievement. It should be noted that TRALARD and CARLF overlap in terms of geographical coverage in Luapula province.
7.	UNEP Ecosystem-based Adaptation project UNEP - Implemented	UNEP is now supporting the Government of Zambia to improve the climate resilience of local people living near wetlands by strengthening the capacity of local communities and local governments to implement ecosystem-based adaptation interventions. This is being achieved by piloting ecosystem-based adaptation measures in sites across the Bangweulu and Lukanga wetlands (and adjacent forest ecosystems) and by providing training to the local and national governments on adaptation planning and implementation.	CALRF will complement knowledge and lessons learned on the benefits and execution of the nature-based solutions with an aim of promoting the upscaling of such approaches in other areas. The idea of CALRF to use practices such as agroforestry and crop mixed systems is drawn from NbS in the UNEP project understanding that NbS are more cost-effective to create multiple benefits for humans and the environment.
8.	Climate Smart Agriculture, executed by Save the Environment and People Agency (SEPA)	SEPA is working with traditional leaders, women, youths, farmers and extension officers to try and deepen the understanding on how the community can best protect the environment through building the capacity of communities and deepening their understanding of sustainable environmental protection and sustainable natural resources management as well as close gaps between good and bad environmental practices.	Building on this focus, CALRF will train communities in target districts in entrepreneurship, capacity building, tree planting, sustainable agriculture, water and sanitation, climate change issues in the project areas. CALRF's inspiration from SEPA relates to community engagement mechanisms to strengthen community ownership.
9.	Smallholder Productivity and promotion Programme (S3P) – IFAD implemented	S3P was designed and implemented to sustainably achieve food and nutrition security and increased incomes among targeted beneficiaries through attainment of the Programme Development Objective of increased productivity, production and agricultural sales. It was implemented in Luapula, Muchinga and Northern Provinces of Zambia and it closed on 31.12.2019	CALRF will build on the capacities created by S3P in the two provinces targeted for implementation. S3P promoted environmentally friendly agricultural practices, such as Conservation Agriculture, organic farming (that included composting and discouraged use of chemicals), agro-forestry and system for crop intensification. S3P has a legacy in Luapula where it will overlap with CALRF
10.	Enhanced-Smallholder Livestock Improvement Programme (E-SLIP) – IFAD implemented	The development objective of ESLIP is to sustainably improve the production and productivity of major livestock among targeted household beneficiaries (female and male smallholders) in selected provinces and districts though the Programme has a national scope.	CALRF will complement the work done by ESLIP through support to cattle raising communities through the insurance and capacity development for improved crop husbandry. Drawing on E-SLIP,

No.	Project title	Project description	Areas of complementarity and justification
		The Programme prioritizes districts that are prone to outbreaks of Contagious Bovine Pleuro-pneumonia (CBPP), and/or East Coast Fever (ECF).	CALRF will support producers with fodder production using Velvet beans, Cowpea and Red Sunhemp, Rhodes grass and *Panicum maximum.*
11	Support to Climate Adaptation through Rural Finance (SCARF) – IFAD implemented $20 m (Funded by the Global Agriculture and Food Security Program)	The project seeks to build resilience and adaptive capacity of the project beneficiaries in response to global food crisis and persistent climate change challenges through increased productivity and production of basic food commodities. The project will boost food and nutritional security and household incomes particularly for vulnerable households (youth and female headed households) adversely affected by the global food crisis.	CARLF will be scaled up and catalysed through SCARF particularly with regards to activities promote resilient seed varieties, links to markets, and capacity development in all the 15 districts.
12.	Zambia Growth Opportunities Program (ZAMGROW)	This is World Bank-$300 million funded Program with foci on: i) enhanced policies and institutions for accelerating diversified, resilient and inclusive agricultural growth; ii) improved services for accelerating diversified, resilient and inclusive agricultural growth; and iii) improved rural infrastructure and assets for accelerating diversified, resilient and inclusive agricultural growth. The program seeks to promote agricultural diversification, sustainability and jobs in the agri-food sector in Zambia.	CARLF is designed to be partly implemented through extension officers at the Ministry of Agriculture, and will create gender-responsive job opportunities through crop and fish value chains to complement ZAMGROW. Also, ZAMGROW is strong on improving rural infrastructure, and CALRF seeks to improve market access – therefore, will synergize and ride on the infrastructure and partners of ZAMGROW

241. CALRF will continue drawing lessons from the afore-mentioned interventions. The lessons will be used to ensure synergies in some cases, and scaling up and out in others to avoid duplication. It should be also mentioned that different areas of interventions will be used as an opportunity for scaling up and out best practices that will be relevant to the proposed project. The engagement strategy will be at one important level: i) development partners implementing the projects will be engaged to provide technical advice during meetings as well as during project progress reviews/evaluation such as mid-term reviews, and inception workshop. It should be noted that development partners will also be engaged through bilateral meetings and also project progress reviews and workshops to which they will be invited – this will be part of the mechanism of engaging with partners. Regarding coordination, the implementation arrangement sufficiently details partners who will be involved and their roles. Essentially, the project management unit will coordinate the engagements with development partners.

The effort to build on lessons from other on-going and recently closed projects and initiatives is important and strategic in that it will help to focus on scaling up best practices while avoiding pitfalls from other interventions. Also, drawing on lessons from other interventions allows for avoidance of duplication of efforts. None of the referenced projects in the table above will provide additional financing to complement the implementation of CALRF. In this regard, for the design, eventual implementation and successful delivery of its objectives, CARLF will entirely depend AF resources. It has been designed and costed as such.

G. If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned

242.Component 3 on enhancing district-level planning and awareness-raising for evidence-based resilience and adaptive capacity building is dedicated to ensuring that the project more effectively captures, stores, shares and utilizes relevant information and best practices. Better knowledge management for the project will lead to more informed decision making, increased efficiency, and improved outcomes. Effective knowledge management will enable the project to synergize better with other projects. This will foster a culture of continuous improvement and innovation, allowing the project to adapt to changing circumstances and better manage the complex and dynamic environment of natural resources as they get affected by different factors such as extreme weather events.

243.The project under component 3 will develop key aspects of knowledge required to support well-informed, systematic, evidence-based adaptation activities, raise awareness among the target populations on the impacts of climate change, production landscapes (for crop production), and food security and nutrition. The project will also support enhancing capacity for understanding climate change risks, responses and planning approaches, for systematic and effective sub-national planning in the targeted 15 districts as part of knowledge management but also awareness-raising. This will be critical to enhance people's ability to access information for them to make informed decisions.

244.The Ministry of Green' Economy and Environment, Zambia National Information Service (ZANIS) in close collaboration with the Ministry of Agriculture will be developing a comprehensive farmer tailored agro-met information package, including, seasonal weather and crop forecast to smallholder famers. Part of this process will include installation of rain gauges to augment the national system, not just for weather information collection but for training farmers in the recording, interpretation, and dissemination. This will form part of the Community Agrometeorological Participatory Extension System that will enhance farmer-to-farmer extension support done through producer groups.

245.To ensure that relevant project stakeholders, particularly the target population have improved knowledge and awareness of climate change risks to support effective evidence-based adaptation planning at sub-national levels, some of the knowledge products will include training guides and manuals in financial and market literacy, community agricultural entrepreneurship. The project will build information hubs as one stop shops, website for the project, Videos and multimedia, knowledge-sharing platforms – and reports which will be shared in the print media and TV (see activity 3.1.1.3) in collaboration with ZANIS. It should be pointed out that training materials, reports, video and multimedia will include translations into local languages to ensure the information is close to the people and they are able to understand it correctly.

246.Finally, though component 3 is the one with the knowledge management aspects, activities under other components will contribute knowledge products to the overall knowledge management strategy.

247.In terms of learning and knowledge management, CALRF will ensure these standard project aspects are fully operationalized as part of the implementation strategy. To this effect, the project will develop a knowledge management strategy (KMS) during design and early project implementation. The KMS will spell out and provide guidance regarding processes for generating, capturing, sharing and disseminating lessons. The KMS will also set out how lessons from the project will be integrated with existing knowledge and how this will inform adaptive management of the project itself. The project KMS will adopt a three-thronged approach that focuses on knowledge generation, knowledge use and enabling environment.

248.The project interventions will generate a number of knowledge products such as training manuals, training reports, practical guidelines and manuals on resource access, use and management in climate change vulnerable contexts, market literacy, community engagement and response to extreme weather events, catchment management plans. Other knowledge generation and learning activities include the

contribution to a taxonomy of viable adaptation options for financing, identification and effective dissemination of climate change adaptation financing products including digital finance, incentives for investing in climate change-sensitive sectors (such as CSA, including aquaculture). Videos and photos from the fields where the project activities will be implemented will be useful tools. Good practices and key lessons from project interventions will be identified, documented as case studies, bulletins, pictures, and videos. In addition, the project will also produce learning documents, evaluation reports and policy briefs. Knowledge generation will be the responsibility of the project management team.

249.Considering the capacity needs, the project management team will receive training on knowledge management to facilitate collection, analysis and dissemination of evidence, good practice and lessons. Different methods will be used to collect evidence and lessons, which include key-informant interviews, surveys and focus group discussions. Collection of evidence and lessons learnt will be included as regular part of M&E and thus will be done during annual reviews, mid-term and end of term project evaluation. The lessons learnt will assist in replication and scaling up of activities but also to facilitate intra and inter-district sharing of lessons – particularly important given the different agro-ecological zones of the target districts.

250.The lessons and knowledge from the project will be captured through specific activities that will complement the monitoring and evaluation system of the project. Under component 3 on project management, coordination, and monitoring, all activities related to KMS will be structured to ensure lessons are captured, disseminated and inform the adaptive strategy of the project – including strengthening the capacities of relevant stakeholders to implement project adaptation activities effectively and build socioeconomic but also ecological resilience.

251.Channels of dissemination will include capacity building workshops, dialogues, rural finance network forums, and project level sensitization and awareness raising sessions. Social media platforms, including print media, TV talks and radio programs will also be part of the dissemination channels and mechanisms. By working with other partners, including the private sector, lessons and best practices from the project will be disseminated. Finally, the knowledge generated will also be disseminated through IFAD's website.

H. Consultative process, including the list of stakeholders consulted

252.The development of this proposal has gone through two stages: the first stage constituted the design of the Concept Note that was approved by the Adaptation Fund Board. The development of the concept note was a product of substantive consultations with different stakeholders. Consultative meetings were held with National Designated Authority (NDA), the Ministry of Agriculture at national level (including Zambia Agricultural Research Institute), Zambia Development Agency (ZDA) and the Ministry of Commerce, Trade & Industry, and with community. A wide stakeholder meeting took place during the RUFEP supervision mission in November 2021. The meeting was an online planning meeting, and the invitees were able to discuss version 0 of the Concept Note.

253.Several stakeholders have been involved at different levels in the development of the document, building on initial engagements at Concept Note. These have included the Ministry of National Development Planning, which previously hosted the NDA, District Development Coordinating Committees (DDCCs) which include the district councils and all relevant government line departments (i.e., fisheries, forest, agriculture, community development & social welfare, chiefs and traditional affairs, and local civic leaders). Other institutions consulted include women and youth groups. At district level, meetings were held with all key members of the DDCC to discuss the climate change adaptation needs in different locations.

254.The development of the current version has benefitted from consultations with insurance companies to understand their level of involvement in the agriculture sector, particularly with regards to the smallholder farmers who are financially constrained and do not have any collateral assets. Insurance companies consulted and mapped include Zambia State Insurance Company (ZSIC), NICO Insurance Zambia, Hollard

Zambia, Madison Insurance, and Mayfair Zambia. Besides the private sector, additional consultations have been had with other government agencies to confirm their roles in the implementation of the project activities. These have included the Ministry of Health, the Ministry of Finance and National Planning, Ministry of Agriculture, Ministry of Green Economy and Environment, Ministry of Fisheries and Livestock, Ministry of Small and Medium Enterprises (MSME) and the Bank of Zambia.

255. The main inputs received from the consulted communities were the confirmation of the vulnerabilities of their livelihoods to climate change. Some communities, particularly those in Luapula province are dependent on fisheries mainly from the lakes and projected impacts of climate change on fisheries will lead to low fish catches, undermine household incomes and exacerbate the already high poverty levels. Household incomes in fishing-dependent communities are further compromised by reduced market value of the fish due to poor post-harvest handling. Therefore, climate smart fish farming provides an opportunity for building the resilience to climate change. Other communities are dependent on crop and small-ruminant production – productivity dwindling due to rainfall variability both in terms of quantity and onset shift (with some delay estimated at one to two months), land degradation but also frequent crop and animal disease outbreaks. Communities therefore called for building their skill base in CSA, reduction in post-harvest losses and livelihoods diversification to cushion the socioeconomic burdens imposed by the impacts of climate change on the sectors that support their survival.

256. Preliminary consultations with rural communities, constituting the vulnerable and marginalized community members have therefore, inspired the design of this project. The community meetings were held in the afternoons to allow women to participate as they are occupied with other responsibilities in the mornings, particularly working on farms, collecting firewood or drawing water from water sources, which usually are far away from homesteads. In addition, separate meetings were held with women and youth to ensure effective participation.

257. The second stage of engagement with different stakeholders followed after the approval of the Concept Note – that is, stakeholder consultations to support the full development of the proposal. As during the Concept Note development stage, the mechanisms and techniques for holding consultations with stakeholders were tailored to stakeholder types or categories. For example, to ensure meaningful women participation and involvement in the consultations, two strategies were used in communities: first, women were met separately from men to allow them to speak freely and propose activities that were culturally-responsive to their roles as women, including proposing how they can be more effectively be involved in a cultural context that does not cause problems with their spouses. Second, the time chosen to hold community meetings with women was 'off-peak' vis-à-vis their drudgeries to ensure that they did not have to choose between attending the project group meetings and staying home to cook, or draw water or work in their fields.

258. For an adaptation project such as CALRF, participatory engagement of women has been critical. This is because the impacts of climate change affect women is some different ways than that of men. For example, drought, specifically, threatens agricultural productivity, resulting in heightened food insecurity and diminished household incomes; these processes can catalyze other downstream risks, like early marriage and transactional sex, associated with poverty.[87] That is, the consultation process took into account the understanding that the impacts of climate change as well as the coping strategies and access to natural resources are gendered. Women and children dominate the collection and sale of mushrooms, vegetables, and fruits within households, while men dominated honey collection and charcoal production.[88]

[87] Rosen, J.G., Mulenga, D., Phiri, L. et al (2021). "Burnt by the scorching sun": climate-induced livelihood transformations, reproductive health, and fertility trajectories in drought-affected communities of Zambia. *BMC Public Health*

[88] Kalaba et al. (2013). Contribution of forest provisioning ecosystem services to rural livelihoods in the Miombo woodlands of Zambia. *Journal of Population and Environment*

259.To ensure presence of the vulnerable (specific reference here is being made to women, the youth, the differently-abled and the poor with no socioeconomic survival capital in communities), communities were first sensitized through traditional leaders. Traditional leaders supported consultations, and the process rode on the respect that they are accorded in communities to ensure that the vulnerable were not excluded.

260.At national, provincial and district levels, consultations were facilitated by the Ministry of Finance and National Planning, Ministry of Environment and Green Economy and the Ministry of Agriculture that have presence at all the three administrative tiers. They were the locator stakeholders that helped to convene other stakeholders to participate in the consultations. For these, consultations took a hybrid format where some officers and other partners were physically present in one room, while others joined virtually. The first stakeholder consultation for the full development of CALRF was opened and closed by the Director from Ministry of Agriculture. It should be pointed out that CARLF has received great support from the Government of Zambia, and it is hoped that the level of commitment demonstrated hitherto will be useful in ensuring the sustainability of the project outcomes.

#	Stakeholders	Contribution to the proposal development
1	Government authorities: NDA, Ministry of Green Economy, Ministry of Finance and National Planning, Ministry of Agriculture, Ministry of Fisheries and Livestock, Ministry of Commerce, Trade & Industry, Zambia Development Agency	To ensure the project proposal remains consistent with Government development priorities and policies, particularly in addressing adaptation challenges. To identify current challenges and opportunities for synergies.
2	Development partners: FAO, World Bank, the EU, USAID, WFP, WWF, IFAD-funded programmes (RUFEP, E-SAPP, E-SLIP)	To identify ongoing interventions in the areas of climate change adaptation and rural finance to avoid duplication of effort, To ensure the project's rationale and proposed approach are technically sound, To identify opportunities for synergies.
3	Private sector: RUFEP's current network of financing partners and potential partners to be selected through a competitive selection process	To identify opportunities for private sector engagement in financing adaptation activities.
4	Civil society: CHAZ, NACRO, Zambia Rainbow Development Foundation	To take stock of ongoing activities related to adaptation and rural finance and identify opportunities for scaling up successful approaches.
5	Smallholder farmers and farmer' groups: beneficiaries from IFAD-funded programmes	To identify needs and current challenges affecting potential beneficiaries at individual and farmer' group levels.
6	Vulnerable groups in communities located in all the target districts of the five priority provinces.	To assess the vulnerabilities of the livelihoods with respect to climate change, gather information on current strategies of coping with climate change and assess needs of communities to improve their resilience to climate change. The communities in these districts are among the potential beneficiaries of the economic benefits, and their contributions during consultations have shaped the activities of the project. The community members will be involved in project activity implementation and their capacities developed at various levels, including in the monitoring and evaluation of the progress of the project
7	Implementing Partners, The Copperbelt University, HODI and RESELI	Identify value chains and develop them within priority districts for implementation for meaningful impact in terms of addressing adaptation gaps.

261.Various issues were discussed that related to community involvement in the life of the project starting from planning and implementation. One issue relevant to safeguards was raised where particularly communities in cooperatives/producer groups raised concerns over benefit sharing mechanisms. One way that will be overcome as a challenge is to digitize financial systems of cooperatives and producer groups to increase transparency. Beneficiary sharing mechanisms will be strengthened in all cooperatives that the project will support. This will be critical to curb community-level 'elite capture.' Related to this was with the private sector that communities felt would not support them with financial services because they are too poor to have anything to be collateralized for them to access financial services. In response, financial service providers will conduct assessments to enable them to develop products and services that suit the context of smallholders in rural areas. On the part of the financial service providers, they raised a concern on the project's ability to provide insurance on behalf of communities in the first year before the Adapt Fund becomes functional. The premise is to support a people's process for the project to achieve its objective by ensuring that communities buy into the idea of the project and their ownership is enhanced. During consultations, it was understood that some project districts have more vibrant social groups such as cooperatives while in others, these would need to be formed and strengthened. Experience shows that community ownership of projects is through social groups such as cooperatives where members share a common vision of their contexts. It should be stated here that social cohesion is an extremely important cord that binds people together in achieving goals beyond an individual person or household.

262.The role of social cohesion reflected by individual willingness to belong to a group such as a cooperative should not be downplayed in understanding enabling community-level social dynamics for project success. Therefore, the needs of cooperatives will need to be assessed, and based on the assessment, their social structures will need to be strengthened and their capacities developed to ensure project absorption at community level. This will strengthen and sustain community involvement in the project through planning, executing activities and monitoring of project activities. Given the predominance of youth and young population within the prioritized districts, it will be imperative to deliberately involve young women and men during the community level project consultations and planning, and identify opportunities for their engagement during implementation and monitoring; as well as in the knowledge dissemination and awareness-raising aspects of the project.

263.Stakeholder consultations also informed rapid vulnerability assessment with community members to identify vulnerabilities and prioritize activities to address the vulnerability with community inputs. The outcomes of the consultations have been integrated in the project, and relate to the proposed activities, community benefits, the role of women and other vulnerable groups and how the project will be deliberate in ensuring their inclusion in project implementation. Other issues raised during the consultations included the challenges that communities have had to contend with due to COVID-19 pandemic, difficulties in access markets for the produce, physical and economic isolation from government systems to support communities in times of difficulties such as extreme weather events, and limited extension worker support.

264.CALRF seeks to work closely with communities in their socioecological and economic context. The project will do so by closely working with other partners who are already in the target districts. Even at design stage, CALRF has collaborated with these community-level partners to conduct stakeholder consultations with communities. For example, CARLF has collaborated with The Zambian Rainbow Development Foundation (ZRDF) - an organisation working in Luano and Mkushi Districts (CALRF-targeted risks) (see Annex 3 of community consultations). ZRDF focuses on livelihood and food security, Economic Empowerment, Education support and Health support. The organisation promotes community-led and owned development project and uses participatory approaches in all of its interventions.

265. In the implementation of project activities related to the value chains, the project will collaborate with The Copperbelt University, HODI and ReSEI – as important implementing partners in their areas of expertise. The Copperbelt University will partner with CARLF on fisheries, and HODI and ReSEI will collaborate with the project on fruit tree value chain development.

266.At national level, issues raised by stakeholders present during the consultation process included the ones in the Table below. Consultations in pictures, including lists of attendees are in annex 4 of this document.

267.Table highlighting a summary of key issues raised during stakeholder consultations

Issues raised	How issues how have integrated in the project
Soil and land degradation affecting both crop and livestock production	The project intends: To rehabilitate and restore degraded land using mixed approaches including assisted natural regeneration, agroforestry practices, fruit plants and fodder seeds on 1,000 ha.
High poverty levels in rural isolated areas that make it difficult for climate change affected households to cope with the extreme events	The project intends: To support tailored financing solutions for agricultural mechanization and climate smart technologies e.g. Decentralized Renewable Energy sources, Solar Irrigation systems, Solar Cooling Systems, climate tolerant seed varieties and livestock breeds, improved storage and agro-processing units.
Traditional customs and practices that keep women from playing certain key roles in society, including the manner of using natural resources	The project intends: To conduct a targeted climate sensitive capacity needs assessment to support the selection of farmer groups and households (ensuring participation of women, youth and other vulnerable community members). To support the adoption of sustainable agricultural practices (including mulching, procuring more productive and drought-tolerant seeds) on 1,500 ha; aquaculture; crop diversification; install composting and mulching facilities; provide soil testing services; bee-keeping; among others to benefit 1,000 households (50% of which will be female-headed and 30% youth or households where the youth are the bread-winners).
Rural areas have bad road networks, and often the rural areas are cut off from the socioeconomic hubs, which makes it difficult for people to access socio-economic opportunities, including markets for their produce, meagre as this call.	The project intends: To identify and prioritize to repair 5 critical crossing points to facilitate market linkages between producer groups and buyers. To support local level processing and marketing (branding and labelling) of selected crop products, including enhancing phytosanitary services. To support the procuring and installation of small crop processing and storage facilities, smallholder irrigation systems, water supply and sanitation infrastructure, among others.
'Elite capture' that keeps away women, youth and the differently-abled and other vulnerable people from meaningful participation in project implementation activity and inequitable distribution of benefits.	The project intends: Promoting diversification livelihood strategies beyond farm level interventions (promotion of off-season production using irrigation–rainwater harvesting systems - agro-forestry – linked to nurseries at community level on 1,000 ha for the benefit of women, youth and other vulnerable people. Conduct a targeted climate sensitive capacity needs assessment to support the selection of farmer groups and households (ensuring participation of women, youth and other vulnerable community members).

268.In addition to the issues raised that are tabulated above, it should be mentioned that elite capture and lack of inclusive mechanisms in the socio-cultural settings in the targeted districts is common phenomenon. This excludes women, the youth and the differently-abled from participating meaningfully in development projects. There is no 'positive discrimination' in rural areas in favour of vulnerable groups. Therefore, this issue was raised particularly by this group of vulnerable people (women, the youth and differently-abled). The youth reported that they are excluded when it comes to accessing financial services because they are

perceived to lack financial knowledge, experience in managing finances or enterprises, mobile – and sometimes, they are simply viewed as financially undisciplined. Overall, the youth have a high risk profile in the financial market.

269.It was also mentioned that because FSPs target affluent individuals capable of paying back, women, the youth and differently-abled face exclusion from accessing financial resources. This is because women, the youth and differently-abled are hardly involved in economically lucrative activities for them to be 'trusted' by FSPs. The project therefore, will be deliberate about their involvement in the project activities, particularly in the access of financial resources and services under component 2 – as has already been noted in the description of Component 2. Their involvement in the project will include prioritization of project activities, implementation and monitoring, besides accessing the social, economic and environmental benefits. For example, they will be represented in the Technical Advisory Group of the project so that their interests are duly reflected in the implementation of the project (see women, youth and differently-abled groups in the implementation arrangement section). In addition financial products and delivery mechanisms tailored to the persona of these marginalised groups will be designed, developed, tested and then scaled with the removal of the said barriers as a key objective. These will, among others, include one off grants, Groups Savings, SACCOs and Income Generating Activities.

I. Justification for funding requested, focusing on the full cost of adaptation reasoning

270.The project design considers the socioecological vulnerability context of 15 districts in five provinces in Zambia – floods (which have led to loss of and unquantified damage to property and crops) in some districts and droughts (leading to food and nutrition insecurity, disease outbreaks, poor quality grazing grounds etc.) in others, deforestation and land degradation (poor soil fertility) and average poverty level of 73.2%, among others. The extreme weather events are projected to increase in both intensity and frequency, coupled with increase in temperature and reduction in precipitation. In this vulnerable context, the project targets building adaptive capacity and enhancing climate resilience of local communities through implementing concrete adaptation interventions.

271.By focusing on building and improving the portfolio of livelihood options, the project takes a holistic and multisectoral approach that addresses key adaptation barriers in the districts – including building capacities, raising awareness regarding climate change risks and coping strategies, concrete livelihood strategies to improve community and household-level adaptive capacities (through both on and off-farm activities) while facilitating community members' access to financial services to invest in climate-sensitive sectors (sectors such as agriculture which are viewed as risky particularly when it is about smallholder farmers on customary land that cannot even be collateralized) that underpin their livelihoods. Community-based climate adaptive actions on the ground will improve sustainable natural resources management and enhance agricultural productivity by these communities while contributing to strengthening ecosystem resilience in production landscapes. Climate-responsive practices such as climate smart agriculture, agroforestry interventions will not only improve agricultural productivity, but also make production more reliable, contributing to household food and nutritional security.

272.The justification for the request for funding is more comprehensively structured in the table below:

273.Table showing project outcomes with AF funding compared to no funding scenario

Component	Project Outcome	Baseline scenario (without AF funding)	Alternative AF scenario
Component 1: Building and promoting	Outcome 1.1:Promoted and diversified livelihood options	With women in their role and activities related to natural resource extraction, the overreliance on the exploitation of	The project under AF scenario will support the diversification of livelihood option to build their

Component	Project Outcome	Baseline scenario (without AF funding)	Alternative AF scenario
equitable diversified, resilient and sustainable community livelihood options	strengthen the resilience and build adaptive capacities of vulnerable communities (8,680 households) to climate change-related extreme weather events in five provinces in Zambia (Luapula, Northern, Central, Southern and Western), which are very vulnerable to the recurrent extreme weather events	natural resources for survival is inevitable for rural communities because communities have lean asset portfolios. That is, they have specialized in natural resources-based livelihood income streams in the face of a climate change context that demands diversification to survive. Given the frequency and intensity of extreme weather events together with animal and crop (associated with changes in temperature rise and delays in rainfall onsets) and human disease outbreaks, debilitating community-level of institution. Additionally, one of the biggest challenges is lack of rural infrastructure to support the growth of rural economies that can improve the adaptive capacities of rural communities. Road network and infrastructure centres are barely enough.	resilience. Promoting diversification livelihood strategies beyond farm level interventions (promotion of off-season production using irrigation–rainwater harvesting systems - agro-forestry – linked to nurseries at community level on 1,000 ha, among others. In the same breath of building diversified and resilient livelihoods to enhance rural adaptive capacities, the project will support marketing of produce, local level processing and marketing (branding and labelling) of selected crop products, and repair 5 critical crossing points to facilitate market linkages between producer groups and buyers, among others.
Component 2: Supporting innovative local financing systems to build community adaptive capacities in climate sensitive sectors	Outcome 2.1 Vulnerable communities in target provinces access financial services and increase their investments in key climate-sensitive sectors.	In the target districts, credit availability is a challenge due to geographic isolated rural communities. Therefore, smallholders cannot afford up-front cash outlays (e.g., input costs) and investment costs (e.g. seedlings, improved climate tolerant seeds, labor costs for construction of soil conservation structures, machinery and tools, vaccinations and pest control) associated with the implementation of climate-resilient farming practices, adoption of adapted varieties and improved breeding, crop diversification and agroforestry options.	The project under AF scenario will intervene through concrete activities that will provide financing and credit guarantees for agro dealers and other larger businesses working in the rural finance space, including strengthening crop weather insurance and expanding the coverage of the livestock weather index insurance. Additionally, the project will also lead to tailored financing solutions for agricultural mechanization and climate smart technologies e.g. Decentralized Renewable Energy sources, Solar Irrigation systems, Solar Cooling Systems, climate tolerant seed varieties and livestock breeds, improved storage and agro-processing units, among others.

Component	Project Outcome	Baseline scenario (without AF funding)	Alternative AF scenario
Component 3: Enhancing district-level planning, awareness-raising and knowledge management for evidence-based resilience and adaptive capacity building	Outcome 3.1 Improved knowledge and awareness of climate change risks to support effective evidence-based adaptation planning at district level	National and subnational level capacities to more effectively implement adaptation activities are limited in Zambia. This is at two levels: anecdotal evidence about climate change impacts; and inadequate number of trained staff and their understanding of climate change adaption. Also, districts lack adaptation plans on their own, and mainstreaming of climate change adaptation in district level development planning is not a standard practice. Therefore, districts don't have 'climate change adaptation campuses' to guide climate change resilience building and adaptation. Additionally, access to financial resources is limited, and often geographical location determine the level of support from government systems, with isolated places barely receiving any public socioeconomic services. Financial service providers exist or are accessible by smallholders, the providers lack the relevant knowledge and mechanisms to integrate climate change risk management in their agricultural and rural development portfolios. Therefore, there is a level of disconnect between needs of smallholders and what financial service providers are seeking to provide	The project under AF scenario will intervene through concrete activities that will support formation of commodity based cooperatives/ farmer organisations, facilitate their access to productive assets, linking them to financial service providers and insurance companies. The project has been designed to be deliberate about improving institutional capacities of extension services but also farmer organizations and cooperatives. The project has also been designed to support 15 district plans to guide and support the mainstreaming of climate change adaptation in development projects. Capacity development of individual and farmer groups in entrepreneurship and market literacy, group business management, group governance, and advocacy will remain critical in building sustainable capacities to conduct viable climate-resilient livelihood opportunities that will build and strengthen community resilience. Thus, the project will enhance the institutional environment, promote sustainable livelihoods and improve community access to financial possibilities for investments in productive assets to strengthen community coping mechanism in the face of extreme weather events.

274.Therefore, the Adaptation Fund resources will be a game changer in addressing some of the most critical structural and systemic challenges that stifle rural communities' ability to cope with the impacts of climate change, particularly extreme weather events that have become more frequent and severe in the target districts. Adaptation Fund resources will be critical in ensuring the socioeconomic and ecological resilience of the 15 districts in five provinces – developing a suite of software and hardware interventions

to holistically address key adaptation barriers and support the building of livelihood and asset portfolio of the poor communities living in a very socioecological vulnerable context.

275. J. Sustainability of the project outcomes

276.This project builds on the achievements and institutional arrangements of RUFEP that has been promoting access to and usage of sustainable financial services and products by poor rural men, women and youth across Zambia, including in the CALRF districts. RUFEP is anchored in the Ministry of Finance and National Planning (MoFNP) but engages various partners and institutions, both government and non-government. The design of CALRF is taking advantage of all these institutional arrangements and partners to ensure: i) a participatory approach in the identification of project priorities, communities and activities; ii) social license that will ensure effective collaboration, ownership and sustainability of project activities and outcomes; and iii) cost effectiveness. The active participation of beneficiaries and local public and private entities throughout the project cycle: design, implementation, monitoring/ supervision and evaluation will ensure the project's sustainability at the level of its activities and results.

277.The Project will benefit from the established, proven and tested fiduciary, institutional and organization systems as well as knowledge and expertise of the existing staff of RUFEP, and the MoFNP(with excellent experience in the Pilot Programme for Climate Resilience which was well managed) which will be strengthened with expertise in climate change adaptation and other specialists as needed. RUFEP has generated significant goodwill in the financial sector. It is a respected opinion leader and has a good reputation. It has the databases, networks and partnerships necessary for the immediate commencement of the project once financing agreements are concluded. The learning curve will be significantly shortened.

278.The project will build capacities of key relevant stakeholders. It should be noted that strengthening institutional and individual capacities of project stakeholders is consistent with the sustainability logic of this project.

279.The creation of stakeholder coordination and collaboration structures will ensure that technical expertise and experiences are continuously shared and utilized during implementation of activities in the districts – this will ensure technical and technological sustainability. The introduction of some technologies will be undertaken through a financing arrangement linked to catchment management that contributes to adoption of best practices by communities while ensuring environmental protection. Communities will also be engaged in the local production of initiatives for easy dissemination.

280.Communities will be involved in the project activities that will enhance their resilience and improve their climate change adaptive capacities. They have experienced the negative implications of extreme weather events, including losing their property, animals and crops. Therefore, it will be in their best interest to sustain any interventions to support them to cope with the impacts of extreme weather events. Coaching and sustainability training will be essential activities. Demonstrated socioeconomic and environmental benefits themselves will be critical in ensuring sustainability of project outcomes as long as sustainability is built into the studies and activities related to the environmental, social and climate aspects.

281.*Economic sustainability*: The project will focus on improving access to innovative financial services to support community investments in climate-sensitive sectors that will be made available to the communities depending on their livelihoods. The project will also support diversification of livelihoods, physical infrastructure (to improve production but also facilitate links to markets) while contributing to on and off-farm job opportunities. This approach and level of intervention will ensure economic sustainability beyond the life of the project.

282.*Financial sustainability*: Connected to economic sustainability, this project is designed to include profitable income generation and entrepreneurial activities, which will make the project outcomes financially sustainable. To a large part, this will be done by improving existing economic activities by building on

knowledge and skills already present amongst the beneficiaries, thus keeping risks and investment requirements reasonably low. Thus, the project will primarily target already existing cooperatives. The project has included provision of financial and market literacy capacity development trainings to ensure beneficiaries develop a business-mind to sustain financial resources invested in climate-sensitive sectors. Investments in the development of fruit and fish value chains mean that beneficiaries will be able to sell for a better price in areas beyond their communities. The investment and re-investments will be strategic in ensuring financial sustainability.

283. *Institutional sustainability:* The involvement of grassroots institutions such as civil society organizations (including Farmer Groups/ Associations and Savings Groups), with experience working with communities and the private sector in finance will strengthen institutional sustainability for adaptation and resilience-building. Additionally, the coherence of the proposed project with the development strategies and policies in Zambia in particular the National Disaster Management Policy (2005), The Zambia National Agricultural Policy (2012-2030), the Rural Finance Policy and Strategy (2012) and the 7th and 8th National Development Plan (2017-2021 and 2022-2026). The alignment of this project's priorities with those of the government will ensure government-level institutional support and sustainability. Furthermore, this project will be anchored in the Ministry of Finance, a key ministry in the development of Zambia – and therefore, will ensure the outcomes are sustained and contribute to the overall development agenda of the country as ensured by the ministry.

284. *Environmental sustainability*: Consistent with IFAD's social, environmental and climate compliance standards, the project activities have been screened and risk avoidance or minimization measures articulated. To improve environmental sustainability and build resilience to climate change (drought and flooding leading to erosion and loss of soil fertility and destruction of the livelihoods of populations), the proposed project will promote the sustainable management of natural resources by facilitating the dissemination and adoption of technologies, including climate smart farming and agroforestry practices – practices that are consistent with adaptation and resilience-building but also promote integrated natural resources management. Monitoring and evaluation, lessons learned, knowledge management, and reporting are the pillars of any sustainability programme. Youths in communities will be trained in the installation, maintenance and repair of infrastructure where applicable to retain such skills within the communities to reduce cost and downtime that would be necessary if these services were offered externally. Natural resource management skills will also be built to retain them within the community.

285. In terms of maintenance of infrastructure and installations, because of the greater multiplier effect of interventions within producer groups and cooperatives, the project will prioritize groups. This has been learned from TRALARD where it has been shown that working with communities in cooperatives or producer groups compared to individuals gives better results.

286. Riding on the administrative levels in Zambia, local councils play an important role in communities. The local councils' role is complemented by the ward officer bearers whose primary function is to link local communities to local council authorities. Also, ward officer bearers work closely with traditional authorities to support local-based development projects and programs. To fully support local-level development projects, local councils have different departments, including civil engineers and planners. Additionally, local councils receive government support disbursed through the Ministry of Local Government, and therefore, they are an institutional structure that is fully part of the government project implementation and development mechanism and infrastructure.

287. CARLF-supported infrastructure and other installations will be dedicated to specific groups or cooperatives with management structures established to effectively ensure groups take care of the tear and wear of equipment. However, replicating the model of TRALARD as mentioned above, local communities will get technical support from local council engineers and planners who are present in all the districts targeted by this project. It should also be noted that pieces of infrastructure and installations will be ones that communities can easily use to avoid having complicated systems that communities will fail to

operate or fail to repair in case of mechanical problems. It is reminded here that CARLF is a government project, cleared by the DA and has received significant input and validation by the government. Additionally, CARLF is aligned with government development priorities, and therefore, embedded in local government structures to be supported through established systems and financial arrangements. In this regard, the valid assumption is that the government will not validate the design and development of a rural development project which is against its development priorities, and a project which will be abandoned in the face of socioeconomic and serious adaptation challenges in the target districts.

288. In sum, to maintain infrastructure and installations, the sustainability approach of CARLF is trifurcated into: i) having non-sophisticated systems and infrastructure that will not require high-level technical know-how beyond the reach of government existing development institutional structures at local level (the local council); ii) the infrastructure and installations will be responsive to local community contexts and community needs building on a participatory approach where community members themselves will be engaged and make contributions including planning, labour during the actual implementation stage and monitoring – that is, pieces of infrastructure will be community-driven and community needs-informed; and iii) knowledge and capacity development of community-level structures such as cooperatives in leadership, financial literacy, business management, among others related to managing agricultural-based enterprises. This will also include tailored support through extension services. In short, these aspects will be supported through the local authorities in partnership with allied ministries (Ministry of Agriculture, Ministry of Green Economy and Environment, Ministry of Local Government and Ministry of Finance and National Planning) at district and ward levels through government-embedded institutional structures for development.

289. Finally, to consolidate CARLF's efforts in terms of infrastructure and installations, the current government has embarked on a decentralization process to make resources more accessible to local communities through what is known as the Community Development Fund (CDF). CDF funds projects include sustaining viable development projects in districts through capacity development of community members, additional infrastructure or refurbishing dilapidated ones, among others. Funded projects and initiatives through CDF are decided by community committees that are pooled from different villages and local structures. Therefore, given the socioeconomic viability and importance in terms of empowering local communities in target districts, CARLF's pieces of infrastructure and installation have another viable mechanism of sustainability. It should be mentioned that the local authorities mentioned above are part of the core team that supports the prioritisation and disbursement of CDF resources to development projects in districts and wards based on community expressed needs. This is done through active and participatory engagement with traditional leaders and community members. Therefore, based on the government-established development structures at national, provincial, district and ward levels, and the direction that the government has taken to decentralize community funds, there are guaranteed opportunities for sustainability of CARLF's infrastructure and installations.

K. Overview of the environmental and social impacts and risks

290. The proposed project activities have been designed in consultation with different stakeholders to ensure that the outcomes are overall positive and contribute to enhancing resilience and building adaptive capacities of the most vulnerable people in 15 districts facing serious challenges of extreme climatic events, poverty and degradation of the resource base. It should be noted that for some of the activities, the proposed interventions and investments have not been exhaustively defined at this project proposal stage. Further risk assessments will be undertaken at the project implementation stages, which include the Adaptation Fund principles checklist. The Adaptation and Sustainability, Gender and Social Inclusion Specialists, M&E Specialist, Natural Resources Management Specialist will be involved to support the process. At this stage of proposal development, the project indicates that activities during implementation will be screened against the 15 principles of the Adaptation Fund with participation of relevant stakeholders.

291. The relevant Adaptation Fund environmental and social safeguards will be incorporated and mainstreamed in all project activities to the extent that they are applicable. The proposed interventions are not expected to induce irreversible negative impacts on the natural systems including priority natural

habitats and biodiversity as well as social irreversible negative impacts on the communities, or vulnerable groups. The project will ensure the monitoring and mitigation of any eventual social, environmental and climate change related risks. This monitoring will involve all relevant stakeholders through a participative approach that will include adequate risk mitigation measures to be implemented along with the activities will be developed.

292. Table below provides an overview of the assessment against AF principles

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
1. Compliance with the Law	**Yes**	**Low risk:** Overall, through consultations with different stakeholders, including government agents, compliance with national regulations and standards will be ensured and therefore the risk is low. Through monitoring ensure adequate management verification that safeguards are in place and are a mirror of these principles. In practice, adherence to laws is influenced by institutional capacities, resource availability and socio-cultural practices, among other factors. These are acknowledged but can't be determined at the design stage – and therefore, compliance to national regulations and standards will need screening against the 15 AF ESP principles.
2. Access and Equity	**Yes**	**Low risk:** In promoting access to financial services particularly, the project will operate in a socio-cultural context that keeps women and the youth from lucrative undertakings. The project will be deliberate and ensure equitable representation of both males and females. It will also target the poor, isolated from political power and decisions, the vulnerable to build their adaptive capacities and resilience. It should be mentioned also that the project will seek an equitable representation of women in capacity development and access of actual socioeconomic activities. Having mentioned that, it is recalled that the project will primarily target cooperatives as potential grantees. It has established selection criteria (see Table of Grant screening Criteria). Though these have been established at development, actual cooperatives will only be identified at implementation, therefore consisting USPs, calling for a screening assessment against the 15 AF ESP principles.
3. Marginalized and Vulnerable Groups	**Yes**	**Low risk:** As noted above, the project's target group is vulnerable rural populations thereby ensuring social inclusion is a key consideration in the project particularly providing adaptation options and increasing access to rural finance for these groups. The full design has conducted an analysis of the profiles of the communities and the targeted areas. The profiling improved the targeting of the project, ensuring the inclusion the vulnerable – in the context of the project, the vulnerable include the socioeconomically non-empowered community members, and include women, the youth and the differently abled. Despite this level of consideration, in practice and because of power dynamics within communities, there is a possibility for marginalization of vulnerable groups – therefore, this will need to be screened against the 15 AF ESP principles

4. *Human Rights*	**x**	**Low risk:** The project will contribute to sustained economic and social inclusion by targeting the rural vulnerable poor communities in 15 districts. The project, and in consultation and engagement with different stakeholders is cognizant of Zambia's policies and law to promote human rights, including the labour laws. The project will ensure adherence, particularly paying attention to child labour in all the project-funded activities.
5. *Gender Equality and Women's Empowerment*	**Yes**	**Low risk:** The Project has in its objectives gender equality and women empowerment, which should be improved through the project activities. The Gender Action Learning System will be applied and specifically the Household Methodology to ensure results are achieved. It should also be noted that 50% of the direct beneficiaries will be female
6. *Core Labour Rights*	**x**	**Low risk:** The project will support activities that will require human labour. Through the application of the IFAD SECAP, screening will be conducted on investments to ensure labour rights are respected. Additionally, as has been noted above, no child labour will be tolerated in adherence to the Zambian laws and international best practices.
7. *Indigenous Peoples*	**x**	**No risks:** Technically, there is no group in Zambia that identifies itself as an Indigenous People. Where the project activities will be implemented, principles of Free, Prior and Informed Consent (FPIC) will be adhered to.
8. *Involuntary Resettlement*	**Yes**	**Low risk:** Some of the project activities will involve infrastructure development such as setting up simple and inexpensive irrigation systems. The areas will be limited in size, and since the primary target will be already existing Cooperatives, the land for introducing sustainable agricultural practices will already be under production or at least some of utilization by Cooperative members. The choice of the particular land for project intervention will be participatory and consultative to ensure community members themselves take a lead in proposing the area for project intervention. It should be noted that Zambia is sparsely populated, and communities in rural areas rarely live in agglomerations. This limits the chance of land scarcity within community contexts to trigger undesirable physical or economic involuntary resettlements. Despite this assurance at the stage of development, during implementation, due diligence will be done through the 15 AF ESP principles. Therefore, activities related to use of land are USPs.
9. *Protection of Natural Habitats*	**Yes**	**Low risk:** As noted above under 'Involuntary Resettlement,' through infrastructure development, the project may contribute to disturbance of natural habitats. However, considering the envisaged level of development, disturbance to natural habitats will likely be minimal or non-existent. Concrete activities will be screened, otherwise should, any of the activities lead to destruction of the natural habitats, full scale social and environmental assessment will be undertaken. At this level, activities related to land use such as investments in agricultural production systems indicate USPs, and will need to be screened using the 15 AF ESP principles during implementation.

10. *Conservation of Biological Diversity*	**Yes**	**Low risk:** As noted above under 'Involuntary Resettlement,' through infrastructure development, the project may contribute to disrupting Conservation of Biological Diversity. However, considering the envisaged level of development, disturbance to Conservation of Biological Diversity will likely be minimal or non-existent. Concrete activities will be screened, otherwise, should any of the activities lead to disruption of the Conservation of Biological Diversity, full scale social and environmental assessment will be undertaken. As above, activities related to land use such as investments in agricultural production systems indicate USPs, and will need to be screened using the 15 AF ESP principles during implementation.
11. *Climate Change*	**x**	**Low Risk:** The project does not have any negative impact on climate change. The project interventions are actually aimed at addressing adverse effects of climate change. Activities centered on assisted natural regeneration and agroforestry systems, for example, will have mitigation benefits to the impacts of climate change. Continued stakeholder consultations will ensure that none of the proposed interventions directly or indirectly increase social and environmental vulnerabilities to climate change. They will also ensure that a robust suite of adaptation measures is implemented. Overall, the project activities will promote climate change adaptation and will not result in any increase in greenhouse gas emissions.
12. *Pollution Prevention and Resource Efficiency*	**x**	**Moderate risk:** The Project will be the subject of an Environmental and Social Impact Analysis that will consider pollution, public health, physical and cultural heritage, as well as Lands and Soil Conservation will be examined in the analysis. However, during infrastructure development, particularly road rehabilitation, there will be minimal noise and dust. Efforts will be done by the service providers to keep noise and dust to the minimum. These aspects will be included in the service provider contracts.
13. *Public Health*	**No**	**Low risk:** Livelihood activities will contribute to improving the health of beneficiaries through food and nutritional security. However, working conditions across many sectors in the rural areas are generally poor owing to poverty level, isolation from law-enforcement authorities, among other factors. The project will ensure health and safety standards are in place and adhered to, including mandating service providers in infrastructure development to submit job and health analysis. Monitoring will be done, and full scale environmental and social assessment done should any activity trigger high risk impact on public health.
14. *Physical and Cultural Heritage*	**Yes**	**Low risk:** Areas for sustainable agricultural production have not yet identified at project development, and therefore, complete risks cannot be confirmed. All activities related to agricultural production landscapes have USPs, and will need to be screened against the 15 AF ESP Principles.
15. *Lands and Soil Conservation*	**Yes**	**Low risk:** Sustainable land management and improved soil fertility are part of the project results. The environmental and social impact analysis at design will determine whether any impacts on land and soil conservation are envisaged and will provide management and monitoring measures if required. The infrastructure development activities will not target areas for agricultural and so as not to compromise soil conservation practices. Additionally, the infrastructure such as water harvesting (cisterns) are localized and not expected to disrupt

		lands and soil conservation. Thus, if any risks, they will be minimal and localized.

293.Based on the environmental and social risks screening against the 15 principles of the Adaptation Fund ESP, the project is categorized as a Category B project and classified as a moderate risk project (SECAP), with some, potential adverse impacts and risks that are reversible or mitigated. As has been noted under involuntary resettlements in the overview of the assessment against AF principles Table above, the focus to implement land restoration and support towards agroforestry systems will overall benefit the socioecological system; ensuring minimum social and environmental disturbances in the targeted places. The climate risk classification of the CALRF is substantial (SECAP) due to the fact that the target areas have experienced climate shocks such as droughts and floods that have resulted in loss of crops and livestock, damage to infrastructure and adversely impacted livelihoods of the CALRF beneficiaries.

294.An Environmental and Social Impact Analysis (ESIA), and CRA (Climate Risk Analysis), will be available at implementation phase in compliance with the Zambia Environmental Management Agency (ZEMA) that provides policy guidance regarding ESIA based on the proposed development to the land and ensures compliance to environmental standards. This categorization reflects the socioeconomic context of CALRF areas where land is held under traditional authorities and the areas are sparsely population – no villages in the traditional sense of household agglomeration in one area. On the contrary, people tend to live far apart where in some cases, households are dotted like 500m to a kilometer apart.

295.It is reiterated that for all community-level infrastructure development activities, the project will ensure adherence to ZEMA regulations and the applicable building codes, in compliance with labour laws – to ensure underage local community members are not part of the labour force. If any environmental issues, they are anticipated to be minimal and localized. Specific compliance and mitigation measures will follow at implementation stage after submission of construction plans to ZEMA which will provide guidance on the requirement for EIAs for infrastructure development sites. This will be part of the final steps. The initial actions during pre-inception will involve coordination of the roles and responsibilities of those involved in managing these risks with the ESS specialist taking the lead role but also with the support from Gender and M&E Specialists.

296.The potential environmental and social risks posed by the project are limited and constrained to feeder road rehabilitation, repairs of crossing points, small-scale irrigation and drainage. The project will not have any negative impacts such as the involuntary taking or restriction on the use of land resulting in physical or economic displacement or negatively affect local peoples[89] or sites of historic, religious or cultural significance. Once again, the project is categorized as a 'moderate' project according to IFAD's Social, Environmental and Climate Assessment Procedures (SECAP), which means any adverse impacts will be site specific in non-sensitive areas, mostly reversible and can be managed with appropriate measures. Further analysis and an environmental management plan will however be mainstreamed throughout project design and implementation and be largely covered by the Adaptation Fund funded activities – this will be done and determined with guidance from ZEMA at the implementation of activities related to infrastructure development and others that could trigger social and environmental concerns.

Grievance Redress Mechanism

297. CARLF has conducted extensive consultations with various stakeholders at national and sub-national levels. Despite the buy-in, enthusiasm and commitment from different stakeholders, CALRF recognises that socioeconomic and contexts within communities evolve – and consequently, conflicts may erupt in due course of project implementation. Therefore, the project implementation strategy will have a grievance redress mechanism embedded in it that builds on existing systems at community level.

[89] In the Zambian context, there is no group of people that identifies itself as an indigenous community.

298. In order to reduce conflicts, a robust grievance/complaints mechanism that meets at least the following 'effectiveness' criteria will be instituted:

a. *Legitimate*: enabling trust from the stakeholder groups for whose use they are intended, and being accountable for the fair conduct of grievance processes;
b. *Accessible*: being known to all stakeholder groups for whose use they are intended, and providing adequate assistance for those who may face particular barriers to access;
c. Predictable: providing a clear and known procedure with an indicative time frame for each stage, and clarity on the types of process and outcome available and means of monitoring implementation;
d. *Equitable*: seeking to ensure that aggrieved parties have reasonable access to sources of information, advice and expertise necessary to engage in a grievance process on fair, informed and respectful terms;
e. *Transparent*: keeping parties to a grievance informed about its progress, and providing sufficient information about the mechanism's performance to build confidence in its effectiveness and meet any public interest at stake;
f. *Rights-compatible*: ensuring that outcomes and remedies accord with internationally recognized human rights;
g. *A source of continuous learning*: drawing on relevant measures to identify lessons for improving the mechanism and preventing future grievances and harms;
h. *Based on engagement and dialogue*: consulting the stakeholder groups for whose use they are intended on their design and performance, and focusing on dialogue as the means to address and resolve grievances.

299. IFAD has established a Complaints Procedure to receive and facilitate resolution of concerns and complaints with respect to alleged non-compliance of its environmental and social policies and the mandatory aspects of its SECAP in the context of IFAD-supported projects. The procedure allows affected complainants to have their concerns resolved in a fair and timely manner through an independent process. Although IFAD normally addresses potential risks primarily throughout the design process and project, it remains committed to: (i) working proactively with countries and the affected parties to resolve complaints; (ii) ensuring that the complaints procedure is responsive and operates effectively; and (iii) maintaining records of all complaints and their resolutions[90].

300. To ensure that complaints and dissatisfactions from project beneficiaries and communities are duly attended to and resolved, the apex groups of the farmer organizations will serve as the first level of grievance reporting mechanism. Issues that cannot be resolved at this stage will proceed to the community leadership. When the leadership is not able to resolve these issues, the matter will be escalated to the PCU through the project liaison officer at the community level.

301. The AF Project will as much as possible utilize every available grievance redress mechanisms including: associations (including farmers' associations/organizations) traditional council (Paramount Chiefs and elders), village square engagement (consisting of representatives of men, women and social groups), village general assembly, the PCU etc. In short, the project will use various avenues available to address concerns related to its implementation to ensure it remains on course to achieve objective without causing any socioeconomic or environmental harm to communities that it is designed to build adaptive capacities.

PART III: IMPLEMENTATION ARRANGEMENTS

A. Arrangements for project implementation

[90] IFAD (2016) Managing Risks to Create Opportunities. IFAD's Social, Environmental and Climate Assessment Procedures (SECAP) (IFAD: Rome), p.12

302.As has already been noted, this project builds on the successes of RUFEP – working and collaborating with institutions that RUFEP worked with to support community access to finances. This will be important in shortening the learning curve and time by taking advantage of RUFEP's established, proven and tested institutional and organization arrangements as well as knowledge and expertise of the existing partners. This will also prove useful in building on already institutional collaborations with the Ministry of Agriculture (MA) where the project has been anchored. As has been detailed in the component description, the implementation of many activities will be supported by extension and marketing officers within the MA. The project team will be strengthened with expertise in climate change adaptation and other specialists, considering the natural resources and adaptation angles of CALRF.

303.The project will have a PMU that will be established under the Ministry of Finance and National Planning (MFNP) for fiduciary reasons though the project will be anchored within the Ministry of Agriculture for operational aspects with support from the Ministry of Green Economy and Environment (MGEE), Ministry of Fisheries and Livestock (MFL), Ministry of Small and Medium Enterprises (MSME) and Bank of Zambia (BoZ). The PMU will be responsible for the day-to-day management of the project, providing directions and guidance to project partners and coordinating the project implementation, and officially engaging with partners in the executing of activities on the ground, and preparing and giving inputs to the project progress reports. The project will have its own manuals for execution, monitoring, evaluation and administrative, financial and accounting management. Thus, its roles will be: a) efficient and effective implementation of project activities; b) efficient coordination with project partners; c) efficient coordination with the MFNP, MA, MGEE, MFL, MSME and BoZ for support to the project implementation; d) identify bottlenecks and potential impediments to project execution and raise these with the Project Steering Committee to ensure decisions and action are taken e) identify synergies with potential project partners to add value to project and facilitate cooperation as necessary and f) any other activities, as necessary

304.The PMU team will support the implementation of the proposed project. As noted, given the technical aspects of the project regarding adaptation, natural resources management, access to finances for investments in climate-sensitive areas, the need for gender mainstreaming, entrepreneurship and business development, the PMU will be constituted to reflect the expertise in key thematic areas of the project. However, at this stage, it can be confirmed the PMU will be headed by a National Project Coordinator who will be supported by an M&E Specialist and Financial Controller. Gender is an important cross-cutting theme through all the three components. Therefore, to ensure gender mainstreaming, a Gender Specialist will be employed as full-time staff within the PMU to ensure gender mainstreaming throughout the project activities. At more strategic level, the Technical Advisory Group will also have members with expertise in gender equality and social inclusion to be able to support gender causes for the project.

305.*Project Steering Committee (PSC):* The project will have a PSC to provide implementation oversight, policy direction and coordination between key government institutions The PSC shall be headed by the Permanent Secretary from the MFNP, with representatives from MFNP, MA, MGEE, MFL, MSME and BoZ as members. The PSC will review and approve the Manual of procedures, schedules, and progress and audit reports of the project. The PSC will have quarterly progress review meetings with a technical orientation planning workshop organized prior to the first session of the Steering Committee.

306.CALRF will have Technical Advisory Group (TAG) to provide programme implementation support to the PMU in the coordination of all project implementation activities. This will include giving inputs in the annual work plan and budgets, provide guidance in possible areas of implementation, adaptive management strategies and review project progress reports. The TAG is a Committee of all stakeholders that participated in the design process of CALRF. A representative of MGEE shall chair the TAG. Members will include representatives from the PSC, ZEMA, Zambia Alliance of Women, Zambian Women in Agriculture), Youth Development Organization Zambia Agency for Persons with Disabilities, The Zambia Federation of Disability Organisations, Association of Microfinance Institutions of Zambia (AMIZ), Savings Led Microfinance Network of Zambia (SaveNet), National Association of Savings and Credit Unions

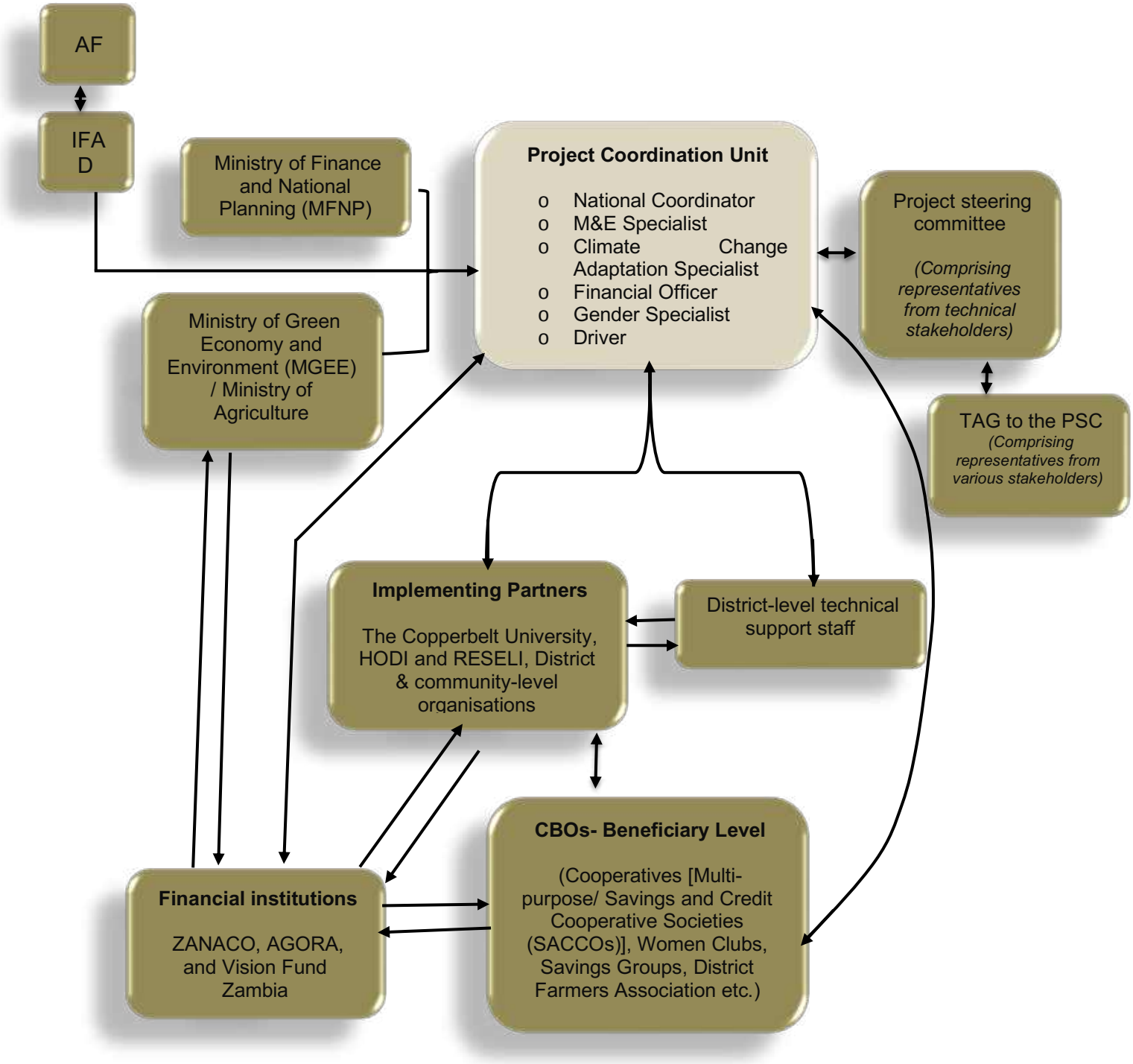
(NASCU) and Bankers Association of Zambia The TAG will have half yearly meetings with a technical orientation planning workshop organized prior to the first session of the TAG.

307. *Implementing Partners*: The design of this project has been explicit about the adaptation challenges in the priority districts. The project is seeking to address by building on existing assets by working with different partners to develop concrete measures to enhance the adaptive capacity of communities by broadening their livelihood base. Building on their comparative advantages, the project has identified the Copperbelt University, HODI and ReSEI institutions in the development of two important value chains that are relevant to addressing the impacts of climate change and extreme weather events in the selected districts. An assessment of the value of these identified products and their full development, including how to engage community members in them as required will be facilitated by these institutions with support from the government through the PMU, PSC and local councils in target districts. The Copperbelt University will partner with CALRF on fisheries, and HODI and ReSEI will collaborate with the project on fruit tree value chain development.

308. *CBOs - Beneficiary Level:* The project intends to facilitate community access to financial resources to empower them to be able to invest in climate-resilient measures, to enhance their ability to bounce back in the face of extreme weather events. The project recognizes the role of financial resources in increasing community resilience and in reducing their vulnerability. However, in rural contexts vulnerable to impacts of climate change, financial services are out of reach by communities. Where they are present, the financial products and services are limited and do not fully serve the adaptation needs of communities. Therefore, drawing on lessons from RUFEP, this project will partner with FSPs to bridge the financial service gaps in rural areas. These will be at beneficiary level. These are: ZANACO, AGORA, and Vision Fund Zambia who have been part of the consultation process to identify opportunities for private sector engagement in financing adaptation activities within communities in the selected districts.

309. At this level, community groups or producer groups or cooperatives will actively be engaged within the project as beneficiaries but also as active participants in activities such as land rehabilitation, rehabilitation crossing points, infrastructure development – that is, involvement even in jobs that will come with some interventions.

310. To ensure more effective implementation of project activities, the project will have district-level structures of field technical officers to engage with communities and project partners on the ground. This will not only smoothen the implementation of project activities, but it will also help during the reporting processes. In this regard, the project will have national and sub-national implementation arrangement with clear communication strategies to ensure free flow of information and dissemination of lessons and results (Figure 12).



311.**Fig. 12** showing the implementation structure of CALRF

312.Based on the project implementation arrangement described above, the table below summarises the description of the roles of key executing entities that have been part of the consultations that have informed the development of the project, but also who will be involved in the implementation of project activities.

Entity	Role	Priority component
Ministry of Green Economy and Environment (MGEE)	No direct execution role in project activities, however closely offer technical and policy directions so that the implementation of the activities remain compliant and consistent with government environment and natural resources policy priorities. MGEE will be represented on the PSC and will chair the TAG.	All the three components
Ministry of Agriculture	Through extension services, the Ministry will be anchor the implementation of the project. It will also offer technical and policy directions so that the implementation of the activities remain compliant and consistent with government agriculture policy and development priorities in the country – agriculture as an engine of rural development in Zambia. MoA will be represented on the PSC and the TAG.	All the components
Ministry of Finance and National Planning (MFNP)	No direct execution role in project activities, however will anchor the project and will closely offer technical and policy directions with regards to government fiduciary obligations to development partners but also tracking climate finance, particularly funding adaptation activities in the country to key priority areas as identified in Zambia's updated NDC and the on-going NAP process. MoFNP will chair the PSC and will be represented on the TAG.	All the components
The Copperbelt University	The university will lead the development of the fisheries aspects of the project to diversify livelihoods but also to strengthen community capacity to adapt to the impacts of climate change and human overexploitation of the resource in the target district. The University's principal role will be to develop fish value chains in the priority districts from cradle to the grave -including understanding the impacts of climate change and human pressure on fresh water fish resources in the target districts – which has not been done to inform more adaptive responses to the loss of fresh water fish resources among fishing communities. CBU will be represented on TAG.	Component 1
HODI and ReSEI	HODI and RESELI will support communities in horticultural activities to develop important value chains fruit tree value chains, including capacity development, technology transfer and linking community fruit enterprises to initiatives such as Forest Africa Zambia[91] that are producing fruit juices. HODI and ReSEI will be represented on TAG.	Component 1
District-level Local Councils	The Local Councils will support supervision of project activities, and will be particularly crucial in the sustainability of project-supported pieces of infrastructure and installation by providing capacity development and maintenance of infrastructure – relying on the Local Councils' responsibility for a range of infrastructure and services, including policing; water and sanitation; fire services; and agricultural support services. Therefore, their role will be during implementation and after the project closure, recognizing that CARLF's supported infrastructure and installations are government property though rural development and enhancing	All the components

[91] Forest Africa Zambia is an agro-processing company that produces juices from wild fruits and looking at expanding their production, including product diversification. The link to Forest Africa Zambia and other players in the market will break some important barriers that rural communities face in adding value to wild fruits which usually simply rot. HODI and RESELI are the key that communities need to open doors to various socioeconomic opportunities from fruit tree production.

Entity	Role	Priority component
	community capacity to adapt to the impacts of climate change.	
Private Financial Services Providers selected using a competitive process	These institutions will be important as sources of financial resources to finance adaptation activities and will work closely with Savings and Credit Cooperative Societies (SACCOs) that are more present in rural communities. These stakeholders will be represented on the TAG by AMIZ and BAZ.	Component 2
Cooperatives [Multi-purpose/ Savings and Credit Cooperative Societies (SACCOs)	This category of partners have financial pieces of infrastructure at local levels where most conventional commercial banks do not find it economically profitable to be. Therefore, SACCOs, as service providers in this project will bring closer to the communities and user-groups and cooperatives financial resources that beneficiaries need to build socioeconomic livelihood portfolios to enhance their ability to cope with the impacts of climate change. They will be conduits of financial resources from financial institutions. These stakeholders will be represented by NASCU and SaveNet.	Component 2
Zambia Agricultural Research Institute (ZARI) and Seed companies	The role of these entities will be in the production and making available to beneficiaries climate resilient seeds for different crops based on climatic eco-regions in Zambia to facilitate community access to the seeds, prioritizing maize and cassava because of their role in national food security but also local and national economy.	Component 1
Ministry of Fisheries and Livestock	No direct execution role in project activities, however will closely offer technical and policy directions so that the implementation of the activities remain compliant and consistent with government fisheries and livestock policy and development priorities in the country – fisheries and livestock as an engine of rural development in Zambia. MoFL will be represented on the PSC and the TAG.	Component 1
Ministry of Small and Medium Enterprises	No direct execution role in project activities, however will closely offer technical and policy directions so that the implementation of the activities remain compliant and consistent with government MSME policy and development priorities in the country – micro, small and medium enterprises being an engine of rural development in Zambia. MSME will be represented on the PSC and the TAG.	Component 1 and 2
Zambia Alliance of Women (ZAW) and Zambian Women in Agriculture (ZWA),	No direct execution role in project activities, however will closely offer technical and policy directions so that the implementation of the activities remain compliant and consistent with women development initiatives. ZAW and ZWA will be represented on TAG	All components
Youth Development Organization	No direct execution role in project activities, however will closely offer technical and policy directions so that the implementation of the activities remain compliant and consistent with youth development initiatives. They will be represented on the TAG.	All components
Zambia Agency for Persons with Disabilities (ZAPWD) and The Zambia Federation of Disability	No direct execution role in project activities, however will closely offer technical and policy directions so that the implementation of the activities remain compliant and consistent with persons with disabilities development initiatives. ZAPWD and ZFDO will be represented on TAG	All components

Entity	Role	Priority component
Organisations (ZFDO)		
The Ministry of Health	The project has activities on the production of value chains which will need to be done in compliance with the health regulations and standards that fall under the ministry's charge.	Components 1 and 2

313.To ensure more effective implementation of project activities at beneficiary level, the PMU will work through its selected Implementing Partners (IPs) per district. The selected IPs will in turn work through respective Community Based Organizations (CBOs) in reaching the target beneficiaries (poor rural men, women and the youth). This will be realized with the technical input from relevant Subject Matter Specialist at the levels of the PMU. While the PMUCU, PSC and TAG will constitute national-level structures of the implementation arrangement, the district-level technical support staff, the district and community-level organizations, and community-level producer groups/cooperatives will constitute subnational level structures to ensure quality delivery of services and project support to community members. This will be consistent with the project's strategy to be as close as possible to the communities during the implementation process.

314.Communication is cardinal during implementation to ensure timely response to challenges that the project might encounter. To this end, the project will foster a culture of transparency and accountability among all involved in the implementation structure. The project will embrace direct two-way communication strategy to enhance accountability and responsiveness in addressing hurdles that might be encountered. In the implementation structure above, solid double arrows show direct two-way approach in the communicating project implementation. The dashed two-way arrows represent indirect yet accountable communication channels.

315.IFAD, as the Implementing Entity, will supervise the project directly; providing continuous technical support and guidance to ensure smooth implementation of activities. In its role as Implementing Entity, IFAD will assume the overall responsibility to report on the project progress to Adaptation Fund while ensuring that the fiduciary practices within the project remain compliant with Adaptation Fund policies and guidelines. This will be a two-way communication between IFAD and Adaptation Fund. At higher level, IFAD will ensure continued engagement with stakeholders, including sharing best practices and lessons from the project at regional or international fora.

316.The different reports such as project inception report, the annual project progress reports, midterm reports and terminal evaluation fall on the charge of IFAD as the Implementing Entity. In case of delays due to any *force majeur* or indeed any other reasons, it is within the mandate of IFAD to report on the delays to Adaptation Fund. Additionally, special requests such as change of implementation arrangements, change in any of the targets in the results framework, provision of services or requests for extensions are supposed to be done through IFAD.

317.A Mid-Term review will be carried out jointly with the government to evaluate project progress, identify areas for further improvement and revise project approach, activities and budgets based on MTR findings and recommendations.

B. Risk Management

Describe measures for financial and project risk management.

318. The PMU will ensure adherence to financial reporting standards, in compliance with IFAD's reporting obligations to the Adaptation Fund. The table below details financial and project risks management.

Identified Risks	Risk Level	Risk Management Measures
Staff turnover within the government delay project implementation	Medium	Relevant government institutions and departments have been involved in the design of this project. Engagements will continue so that the government remains committed to the project's implementation. This will be monitored through project progress reports.
Insufficient capacities of PCU to effectively manage the day-to-day implementation of the project	Medium	The proposed project will benefit from the proven experience of RUFEP, and a needs-assessment will be conducted to identify capacities that need additional training to ensure appropriate management and day-to-day implementation. Additionally, the project will conduct a competitive recruitment process so that the right experts with specific experiences in development project management and financial management procedures, including with appropriate experience in required accounting softwares are recruited. This will be monitored through project progress reports and technical visits to the project sites.
Loss of government support may result in lack of prioritisation of AF project activities	Low	As noted above, the design of this proposed project has benefited from government support, and IFAD remains a trusted partner in Zambia – given the portfolio of IFAD projects focused on rural development of smallholder farmers. Consultations and identification of mechanisms to ensure smooth implementation of the project will continue at all relevant administrative tiers. Recently, GRZ has formally expressed interest in the continuation of RUFEP. This will be monitored through project progress reports and technical visits to the project sites.
Communities fail to support project activities and they are not informed	Medium	The project has already engaged some community members, and will continue with awareness campaigns and hold stakeholder meetings to explain the project to the communities. Local leadership will be involved in these meetings to secure a strong buy-in. This will be monitored through project progress reports and technical visits to the project sites.
Competing interests between different stakeholders regarding accessing and use of natural resources	Low	The project will continue being consultative in its approach of engaging stakeholders, and will seek to establish a multi-stakeholder dialogue platform to nurture cooperation and shared interests in the project. This will be monitored through project progress reports and technical visits to the project sites.
Low technology adoption rate by communities	Low	Promotion and demonstration of new technologies and practices, focusing on those that communities can easily adopt, practices that build on what they already have. The roll-out of digital finance technology by RUFEP proves that communities are willing and ready to adapt and can do so quite quickly. This will be monitored through reports and technical visits to the project sites.
Project implementation and financial management procedures do not guarantee sufficient transparency and accountability	Medium	The project will ensure teamwork and clear segregation of duties in the management of financial system so that the entire process is not managed by one single person. In fact, requests for financial resources will have to be approved by the steering committee, and disbursed according to budgeted work plans. Additionally, there will be regular financial audits. This will be monitored through reports.
Financial service providers do not cooperate and decide to withdraw	Low	ZANACO, AGORA, and Vision Fund Zambia that will be the financial service providers in the project have been part of the consultations, and have been adequately engaged. These institutions are looking for opportunities to enable them expand their services, and the project is

their commitment to the project		that opportunity for them. Therefore, risk associated with their withdrawal of interest is low. Throughout the implementation of the project, engagements with them will continue. This will be monitored through reports and technical visits to the project sites.
Occurrence of extreme weather events (floods and droughts)	High	Zambia has been extreme weather events which have intensified and have become an annual phenomenon. In some parts, there are floods (notably southern region), and in others, droughts (other parts of the country). The project is designed to essentially to address these challenges, and will, among others, empower communities with access to financial resources to enable them to invest better in climate-resilient undertaking. The project will also support communities to access climate-resilient seed varieties, developed based on different climatic conditions across the three eco-regions in Zambia. Investments in early warning is another mitigation measure that the project will take, including providing food to 4,000 households. This will be monitored through reports and technical visits to the project sites.

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

319.The Zambian government has been working on effecting the decentralization policy which calls for more active role of subnational levels and community participation in the planning, implementation and monitoring of development projects. This is consistent with IFAD's *modus operandi* in all funded and implemented projects and programs which are designed, implemented and monitored in a participatory fashion in compliance with its policies, standards and safeguards. Moreover, IFAD's Strategic Framework calls for ensuring that projects and programmes promote the sustainable use of natural resources, build resilience to climate change and are based upon ownership by rural women and men themselves in order to achieve sustainability. The project has been subjected to environmental and social risk screening using the social, environmental and climate assessment procedures (SECAP) of IFAD, and the AF-specific 15 Environmental and Social Principle (ESP) screening. This is presented in Annex 2. Based on both screening methods, the project has been categorized as a category B.

320.At national level, the government established the Ministry of Green Economy and Environment to precisely a green growth development path of the country – a path that is compliant with sustainable development principles, putting people at the centre of development while enhancing socioeconomic development of the country. The country also has the Zambia Environmental Management Agency, an independent environmental regulator and coordinating agency, established through an Act of Parliament, the Environmental Management Act (EMA) No. 12 of 2011. The Agency is mandated to do all such things as are necessary to protect the environment and control pollution, so as to provide for the health and welfare of persons, animals, plants and the environment. As has been described, the country has a number of national standards and regulations to ensure compliance with best sustainable development practices.

321.The project has been identified to contain Unidentified Sub-Projects (USPs) that will require specific ESP screening during implementation. This is explained in more detail in the ESMP in Annex 2. Based on the available information, the proposal has conducted detailed ESP risk assessment in alignment with AF requirements that are summarised in section II – K and explained in detail in the ESMP in Annex 2. Based on this assessment and subject to appraisal of the USPs, the project will pose no social risks and only minor environmental risks that can easily be mitigated. This is why the project has been classified as a category B project. Although expected to be very unlikely, the risks could not be immediately identified for the protection of natural habitats, the conservation of critical biodiversity, and physical and cultural heritage because precise location of activities will be determined in a participatory manner with beneficiaries. The ESMP therefore contains screening, review and reporting processes to avoid, appraise, track and mitigate risks/impacts in these areas.

322.With the overall objective to build and enhance resilience and adaptive capacities of 43,400 people (8,680 households) to cope with extreme weather events through promoting diversified, resilient and sustainable community livelihood options and facilitating access to finances for investments in climate-sensitive sectors, the project is expected to have overall positive social and environmental impacts. The project has been designed to build diversified and sustainable socioeconomic livelihood opportunities for the vulnerable and poor people in five provinces in Zambia, and to support innovative financing opportunities for investments in critical, climate-sensitive sectors of rural economies.

323.On the environment front, the project has been designed to support agroforestry initiatives and promoting intercropping agricultural systems that integrate *Acacia spp* on 1,000 ha of agricultural landscapes. The project is designed to restore and rehabilitate degraded land using miombo dominated endemic species while supporting assisted natural regeneration. Similarly, the project will support the production of fresh water endemic fish species that are found in the target areas, namely the cichlid species (notably *Tilapia baloni, Tilapia jallae*). Clean source of energy (solar dryers) will be used to process fruit and fish value chains. While supporting investments in climate resilient seed crop varieties, the project will also promote minimum tillage, cover cropping and crop rotation to minimise water wastage. Overall, these interventions are expected to contribute to environmental sustainability and good stewardship of natural resources in target districts.

324.On the social front, the project has been designed in a participatory fashion to ensure capacities are improved of both men and women and the youth. The emphasis on simple, inexpensive and user-friendly pieces of equipment in the value chains and agricultural activities will ensure that men and women and the youth have the equal chance to operate them. Training sessions on the use and maintenance of equipment will ensure equal representation of men and women, ensuring that targeted groups within cooperatives all have access to use and benefit from project interventions. In terms of outreach, the project will develop a gender-responsive and inclusive comprehensive campaign strategy tailored to the specific needs and contexts of each district, and create engaging educational materials, including brochures, posters, radio broadcasts, and social media content, in local languages (Bemba, Lozi and Tonga) to ensure broader accessibility and consumption across gender-divide. Translating outreach materials into local language will ensure inclusion but also it will ensure that the project is culturally-responsive to local contexts of target districts.

325.It is recalled that the Gender Equality and Women's Empowerment screening has been rated low. The Project has in its objectives gender equality and women empowerment, which should be improved through the project activities. It should also be noted that 50% of the direct beneficiaries will be female. For example, the project is explicit that at least 50% women and girls will be trained in skills on sustainable agriculture, and that 50% of the people to be directly reached out during awareness-raising for evidence-based resilience and adaptive capacity building will be women.

Environmental and Social Grant Screening Arrangements

326.The implementation arrangements will ensure the project is in compliance with the Environment and Social Policy of the AF. Compliance with the ESP principles as detailed in the ESMP in Annex 2 will be fully integrated into the procedures and management arrangements that will be overseen by the Project Management Unit with support from specialized partners from the government, NGOs and the private sector.

327.The screening will be two-tiered: screening of the service providers and screening of cooperatives to access financial services. As has been noted, the project will ride on financial service providers who worked with the RUFEP project who have been part of consultations, and have adequately been engaged. These are ZANACO, AGORA, and Vision Fund Zambia. Through the Project Management Unit, an Internal Review Committee (IRC) will be constituted that will comprise financial services, social inclusion and

environmental experts. The potential financial service providers will be requested through a call for proposals to submit a Concept Note (CN), which will be reviewed by the IRC. Approved applicants will be asked to submit a detailed proposal. Each proposal is subject to rigorous internal review by the IRC and technical review by external experts. The proposal, and recommendations from the IRC. It should be emphasized that resources meant for beneficiaries will not be transferred to the service providers. Service providers will be contracted to support the delivery of financial services to the target beneficiaries of the project, including providing technical support such as financial literacy and market and business plan development, and savings accounts to help farmers manage their income and plan for future investments.

328.Besides experience and expertise, financial stability and capacity, reputation and reliability, accessibility and inclusivity, partnerships and networks, and technical support and innovation, the selection criteria of the service providers will include compliance with best financial standards, existence of the social, environmental and sustainability business standards – should reflect at least 85% implicitly or explicitly the AF 15 principles.

329. The financial service provider will be screened and approved by the PMU and IFAD. Approved financial service providers will demonstrate capacity and will be requested to establish independent Project Vetting Committees (PVCs) that will involve the PMU, Zambia Environmental Agency and Ministry of Health – the PVC will have the authority to review and approve, defer approval or reject the applications. These organizations will also be involved in the monitoring of beneficiary activities to ensure comprehensive technical support to the beneficiaries.

Both the CN and the proposal must rhyme with programme goals, development objectives, chosen strategies and meet the terms and conditions of the grant agreements. The process identifies risks, embeds mitigation strategies and provides the indicators that are monitored to guarantee compliance. The vetting process by PVCs of Cooperative beneficiaries will use the Adaptation Fund 15 ESP standards[92] to enhance the sustainable development benefits and avoid unnecessary harm to the environment and affected communities. Through the Adaptation Fund 15 standards, the project will identify and manage the environmental and social risks of their activities, by assessing potential environmental and social harms and then by identifying and implementing steps to avoid, minimize, or mitigate those harms. This means prior to the commencement of onboarding of projects, the PMU will closely work with financial service providers to review every application to ensure compliance with the Adaptation Fund 15 standards, as applicable. The vetting process details are presented in the section, 'Describe the measures for environmental and social risk management, in line with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.'

Mainstreaming of AF ESP and GP into grant design, approval process

330.*Design:* The Adaptation Fund has specific Environmental, Social and Gender Policies that will need to be mainstreamed into the grant design, approval and implementation process to meet the standards. The project design has considered capacity constraints in the target districts, and has therefore mainstreamed capacity building and training in the project activities. These will be conducted by subject matter experts through and with the Project Management Unit. Beneficiaries will be made aware of the 15 ESPs and specifically about ESP 9 and 14 on the protection of natural habitats and cultural heritage and any measures that may be needed to be taken to ensure that no adverse impacts result from the project being in or near a protected area or cultural heritage area. Any risk to the ESP 9 will however be mitigated by the restricting of plants and trees to specific indigenous plants.

[92]As applicable, the application for financial support for investments in adaptation activities will have to pass the tests as per each applicable standards. These standards are: Compliance with the Law, Access and Equity, Marginalized and Vulnerable Groups, Human Rights, Gender Equality and Women's Empowerment, Core Labour Rights, Indigenous Peoples, Involuntary Resettlement, Protection of Natural Habitats, Conservation of Biological Diversity, Climate Change, Pollution Prevention and Resource Efficiency, Public Health, Physical and Cultural Heritage, and Agricultural Lands and Soil Conservation.

331.Additionally, consistent with AF Gender Policy, the consultation and inclusion of women has been deliberate – including organizing separate discussions to accommodate women's roles in households. The process of community and women will continue during implementation and monitoring to ensure equitability in all the project phases. The approach will be culturally-responsive to make sure women participate fully in all phases of the project.

332.*Approval:* The financial grants for investments in climate-sensitive sectors of agriculture will need to submit business plans that comply with the Environmental and Social Principles (ESP) and have received the required permits from the Zambia Environmental Agency, the Forestry Department or the Food Safety Coordinating Committee, as the case may be and as applicable. AF-funding is focused specifically on increasing the climate resilience of rural populations, designed to have minimal adverse impacts and actually have broad environmental and social benefits. The project activities will have AF ESP principle screening applied to them by the Project Vetting Committee. The screening will be done through a checklist review of the applications to, inter alia, ensure that for example the list of plants proposed comply with the permitted indigenous plants and species (to ensure invasive species are not introduced in the habitats), that the maps provided are not in or near protected natural areas and areas of cultural heritage. In the event that this may be the case, then the plans will need to provide detailed information to explain why this cannot be avoided, the extent of the expected impact and what mitigation measures are being taken to minimise any adverse impact. This will be reported and monitored through the ESMP. Any grants that do not comply with the ESP checklist will not be approved and applicants informed of adjustments that need to be made.

333.*Grant screening*. Overall, beneficiaries at the bare minimum will be required to demonstrate that the needed resources are for investments in climate-sensitive agricultural activities that underpin community livelihoods. Long established cooperatives that demonstrate sustainability and potential to invest in activities to enhance resilience building, sustainable land and water management, sustainable agricultural practices and gender inclusion will stand better chances of being funded. Thus, the following evaluation criteria will apply (but not limited to): (i) community contribution; (ii) technical feasibility; (iii) financial viability and sustainability; (iv) climate adaptation; (v) environmental sustainability; (vi) social inclusion; (vii) application of inexpensive but effective techniques (like intensive rotational grazing, soil and water conservation, erosion control, improved grassland seeds; and (viii) at least 40% woman membership. Evaluation scores will be linked to these criteria: the higher score - the more chances for the applicant to receive financing. Distribution of grant funds among the districts will be based on the number of rural households, poverty levels and frequency and severity of extreme weather events.

334.The grant applications will need to ensure compliance with the technical specifications as detailed in section II-E of the proposal and the types of activities in the table below.

a. Table Grant Screening Criteria

#	Evaluation Criteria	Evaluation	
1	Consistency of Grant Recipient with the target group and are either agricultural production systems or horticultural and fish value chains as per activities below	yes	no
2	Consistency of investment proposal with the 15 Environmental and Social Principles of the AF	yes	no
3	Application identifies relevant applicable law / technical regulation and district procedures for compliance.	yes	no

4	If applicable grant application includes relevant permit or declaration of conformity	yes	no
3	Applied grant funds are within acceptable amount	yes	no
5	All required documents are attached to application	yes	no
6	Investment project implementation schedule does not exceed the established time limits	yes	no
7	Availability of environmental review document (if necessary in compliance with the Zambia Environmental Management Agency's regulations)	yes	no
8	No tax liability for more than three months overdue by the applying cooperative	yes	no
9	Lack of debt for servicing by commercial banks	yes	no
10	Grant Recipient has not previously received funds from other government programs, particularly the Constituency Development Fund	yes	no
11	Proposed expenses for investment project comply with the established expenses type	yes	no
12	Proposed expenses are not transferable to other cooperatives nor in other districts which have been approved.	yes	no
13	User rights to land for agricultural investments are clear, and there are no potential claims of exclusion or involuntary displacement.	yes	no

335. Examples of eligible activities under crop production, fruit and fish value chains include the following:

- Construction of small-scale inexpensive cisterns as part of water harvesting efforts;
- Supporting conservation agriculture practices such as minimum tillage, cover cropping and crop rotation to minimise water wastage
- Constructing low-cost, improved storage facilities (ventilated storage cribs to protect harvests from pests and spoilage)
- Providing grants to farmer groups for purchasing processing equipment and materials for storage facilities
- Setting up affordable, small-scale irrigation systems such as drip and sprinkler systems to enhance water efficiency and crop yields.
- Utilizing local materials and simple technologies like treadle pumps and gravity-fed irrigation systems.
- Establishing small, community-owned processing units for drying, juicing, and preserving local fruits
- Use solar dryers and simple manual juicers to keep costs low and operations sustainable.
- Setting up small-scale, low-cost smoking and drying units to add value to local fish harvests

336. The measures for risk management include: cutline clearance is to be minimized as far as possible to reduce the potential for any environmental impacts; sensitive habitats should be avoided (wetlands and stream banks); clearing should be limited to working areas only, and these include areas for foundations for agricultural infrastructure etc.; revegetation and reforestation must be prioritized. (e.g., Planting grass,

and trees as appropriate); over abstraction of construction materials like sand and gravel should be avoided; habitat restoration must be done where effects have been caused i.e., refilling burrows pits and re-grassing bare areas; sustainable range management must be practiced including rotational grazing, etc.; revegetation, re-grassing of all bare surfaces; minimisation of vegetation clearing to working areas only; use of existing to access the fields and farm sites and employ drainage control measures and culverts to control natural runoff and overland flow; installing soil erosion control structures like, gabions, contour ridges, swells, and check dams; collection of all construction debris for proper disposal at designated landfills; waste from agricultural activities can be further processed into other uses, e.g., organic manure; reuse and recycling must be preferred over disposal of the waste; encourage organic farming and limit the use of Agro chemicals like inorganic fertilizers; use Integrated Pest Management (IPM) approaches to minimize pesticide use; conduct awareness training & workshops on safe handling of chemicals.

337.The ESMP for the proposed CALRF (see Annex 2), provides guidelines for the management of potential environmental and social aspects at the project sites. The ESMP also identifies parties responsible for monitoring actions, and any training or capacity building needs. Mitigation measures have been identified to reduce present and potential impacts associated with both the existing and new agricultural activities on the proposed project. In addition, mitigation measures are identified as either social or physical measures. Social mitigation includes the measures used to mitigate effects such as noise, land use, and other effects to the human environment. Physical mitigation includes measures that address impacts to the physical environment, such as biological communities, vegetation, air quality, and others.

D. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan, in compliance with the ESP and the Gender Policy of the Adaptation Fund

338.The annual planning cycle of CALRF project will follow the GRZ planning and budgeting cycle. The cycle will commence with the Annual Work Plan and Budget (AWPB) preparation as a key instrument for implementation and operational control. The Project will follow a bottom-up participatory planning process for the AWPB. The first stage of planning and preparation of the AWPB will be carried out at the camp level, following the decentralized administration framework. The camp level plans will then be consolidated at the district level, then at the provincial level and, eventually, at the national level, into the Project AWPB. The approved AWPB will be the only mechanism through which Project resources would be spent and the basis for progress monitoring. Preparation of the AWPB will be led by the Project Management Unit (PMU).

339.The CALRF results framework will be the foundation of the Project's monitoring and evaluation (M&E) system and contains a set of defined Project specific indicators, the Adaptation Fund indicators and IFAD Core Outcome Indicators (COI), to guide continuous performance assessment of the Project. The CALRF M&E system will be participatory, gender responsive and results-oriented while enabling the integration of physical and financial progress reporting. In addition, the system will enable the analysis of climate change vulnerability and resilience among the beneficiaries using the combined resilience scorecard. The system will incorporate an in-depth baseline, COI surveys and completion surveys, a mid-term review and other thematic studies as relevant. The indicators in the results framework have been selected to allow tracking of resilience, adaptation, social and economic performance of target groups, especially women, youth and vulnerable groups. The system will conform to IFAD's Operational Results Management System (ORMS), updated SECAP guidelines and COI Guidelines and AF guidelines as well as GRZ existing M&E arrangements.

340.The overall responsibility for project monitoring, evaluation and reporting will rest with IFAD in liaison with the CALRF PMU. The Project will have a detailed M&E Plan developed at the start of implementation. The objectives of this M&E Plan will be to inform decision-making by project management during implementation to ensure achievement of the set goal and development objective. It would also enable accurate and timely reporting to all stakeholders. The M&E strategy will be to establish an iterative process

for identifying issues and problems to ensure that the Project focus is maintained and expected results are achieved. This will rely on data from periodic monitoring but, more importantly, on specific outcome/impacts measurement exercise/surveys which will be carried out by the Project.

341.A baseline survey will be carried out at the start of implementation and subsequent rigorous evaluations that seek to establish Project impacts and provide lessons learned for enhanced Project impacts will be conducted after. The project's evaluation strategy will use quantitative and qualitative methods to determine how it contributed to climate resilient livelihoods among beneficiaries, at mid-term and end line. A final evaluation will consolidate data and provide recommendations for future efforts.

342.Monitoring of environment and climate aspects of the Project and implementation of appropriate mitigation measures will be done in two ways: a) monitoring physical progress against targets of proposed climate change adaptation/mitigation measures, environmental sustainability, and sustainable natural resource management interventions and b) monitoring and ensuring the implementation of mitigation measures against identified environment, social and climate risks associated with Project interventions. This will be done through implementation and regular monitoring of the ESMP and the accompanying Monitoring Plan.

343.The CALRF M&E processes, outcomes, outputs and activities are aligned with the AF Strategic Results Framework and with AF rules and regulations as well as the IFAD ORMS and COI framework. Thus, the following will be the key project M&E and reporting activities:

344.Inception planning: The project will begin with an inception phase during which preliminary activities of establishing systems for project implementation will be undertaken. Inception activities will include developing and signing agreements with the relevant stakeholders and partners, recruitment and induction of staff and procurement of project equipment and materials. The inception period will also involve (i) planning and stakeholder engagement for setting up the relevant coordination mechanisms/structures such as the Project Steering Committee (PSC) and the PMU; (ii) setting up of project accounts; (iii) holding an inception workshop to launch the project to stakeholders, following which an inception report will be prepared and submitted within two months (iv) development of the AWPB; (v) refining implementation and targeting approaches; (vi) developing systems/tools including for M&E, community engagement including clarifying roles of the stakeholders.

345.All planning, monitoring and reporting templates shall be validated at inception stage and AWPBs will be endorsed by the PSC.

346.Baselines studies: The project will undertake a baseline survey at the start of implementation and subsequent rigorous evaluations that seek to establish Project impacts and provide lessons learned for enhanced Project impacts. The project's evaluation strategy will use quantitative and qualitative methods to determine how it contributed to climate resilience, improved livelihoods and food and nutrition security among beneficiaries, at mid-term and end line. A final evaluation will consolidate data and provide recommendations for future efforts.

347.Quarterly and annual reviews and progress reports: Regular monitoring during project execution will be reported through quarterly progress reports and annual progress reports. Project Field Officers shall facilitate preparation of monthly progress reports for submission to the PMU. The PMU shall use the monthly progress reports to facilitate preparation of quarterly progress reports and annual progress reports to be submitted to IFAD and the AF. Project Progress Reports (PPRs) will be submitted annually to the AF based on the date is decided of the inception workshop. The Annual reports will outline financial, procurement and activity implementation progress against the targets in the results framework as well as compliance with the requirements of the environmental and social assessment and management frameworks. The annual reports will be presented and discussed by the PSC and during supervision missions by IFAD. The reports will also be useful in providing recommendations to inform the subsequent

AWPB. The annual reports and work plans will be reviewed and approved by PSC before being submitted to IFAD no later than one month after the end of the project year. IFAD will then consolidate and submit the Annual Progress Reports in the standard AF PPR template to the AF Secretariat no later than two months after the end of the project implementation year. The PMCU will ensure that the reports are supplemented by annual project work plans for the next Project year, also to be approved by the PSC. The annual plan for the forthcoming year will include details on specific project activities, roles and responsibilities, and a detailed budget with a disbursement schedule and procurement plan for major items included as annexes. The detailed AWPB will be used as the basis for the release of funds from IFAD to the executing agency for the first quarter of the following project year.

348.At the end of the project, a Project Completion Report shall be prepared within six months after Project completion and submitted by IFAD to the AF secretariat. An external midterm review will be carried out half way through project implementation and will provide an overview of the state of project implementation, effectiveness of implementation arrangements and recommendations for project modifications if any. An independent final evaluation will be completed within nine months after project termination. Finally, a financial audit will be provided by IFAD to the AF Secretariat six months after the end of the fiscal year in which the project ended.

349.The table below presents the budgeted M&E

M&E Activity	Responsibility	Timeframe	AF budget
Inception workshop and report	IFAD, PMU	Start of project	15,000
Project meetings including PSC	PMU	Annually	18,000
Measurement of Means of verification and Project Purpose Indicators	PMU	Start, mid and end of project	9,000
Direct Project Monitoring and Quality Assurance including progress and financial reporting, project revisions, technical assistance and risk management (including those related to environmental and social risks)	PMU, IFAD	Semi-annually	10,000
Semi-Annual Progress Report	PMU	Semi-annually	-
Supervision missions	IFAD	Annually	Covered by IE fee
Mid-Term Evaluation	PMU	Mid-point	25,000
Annual Work Plans and Budget	PMU, IFAD	Annually	-
Site visits	PMU, IFAD	Annually	8,000
Terminal Evaluation	IFAD, External consultants	End of project	35,000
		Total	**120,000**

E. Project's results framework

Project Objective(s)[1]	Project Objective Indicator(s)	Baseline	Target	Means of Verification	Risks and Assumptions
Overall objective: To build and enhance resilience and adaptive capacities of 8,680[93] vulnerable households in five provinces to cope with extreme weather events through promoting diversified, resilient and sustainable community livelihood options and facilitating access to finances for investments in climate-sensitive sectors					
Building and enhancing adaptive capacities of vulnerable smallholder farmers through resilient livelihood options and access to innovative finances for investment in climate-sensitive sectors in five provinces in Zambia	AF Core indicator: Number of beneficiaries (direct and indirect)	0	43,400 people 50% of whom women direct beneficiaries, and ~217,000 as indirect beneficiaries.	Project M & E reports Field technical visits Progress reports Mid-term and final project evaluations	Community engagement is sustained throughout the life of the project Government continues to demonstrate the same level of political will towards the project COVID-19 pandemic does not escalate to cause the halting of project field activities National peace and stability continue Extreme weather events such as floods and droughts do not disrupt project activities, including causing migration of beneficiaries.
	AF Core indicator: Number of smallholder farmers reporting improvements in their living conditions.	0	43,400 people		
	Number of institutions and smallholder farmers with strengthened capacity to reduce risks associated with climate change.	0	At least 15 (at least one per district) 21,500 smallholder farmers		
	Number of communities with increased adaptive capacity to climate change-driven hazards affecting their specific locations.	0	43,400 people		
	Climate Change priorities are integrated into national development strategy.	0	At least in 15 district development plans		
	Number of farmers reporting better access to innovative adaptation practices, tools and technologies accelerated, and scaling -up and/or replicating	0	43,400 people		
Project Outcome	**Project Outcome Indicator(s)**	**Fund Output**	**Target**	**Means of Verification**	**Risks and Assumptions**
Component 1: Building and promoting equitable diversified, resilient and sustainable community livelihood options					
				Project M & E reports	

[93] 8,680 households is equivalent to ~43,400 people, taking 5 as the average household size in Zambia

Project Objective(s)[1]	Project Objective Indicator(s)	Baseline	Target	Means of Verification	Risks and Assumptions
Outcome 1.1: Promoted and diversified livelihood options strengthen the resilience and build adaptive capacities of vulnerable communities (8,680 households) to climate change-related extreme weather events in five provinces in Zambia (Luapula, Northern, Central, Southern and Western), which are very vulnerable to the recurrent extreme weather events	Number of people benefiting directly from equitable, diversified and sustainable livelihood options	0	43,400 direct beneficiaries	Field technical visits Progress reports Mid-term evaluation; and Final project evaluations	Community engagement is sustained throughout the life of the project Government continues to demonstrate the same level of political will towards the project COVID-19 pandemic does not escalate to cause the halting of project field activities National peace and stability continue Extreme weather events such as floods and droughts do not disrupt project activities, including causing migration of beneficiaries.
Output 1.1.1 Sustainable crop production systems implemented on at least 3,000 ha of land under the stress of extreme weather events and human exploitation (floods, droughts, erosion, deforestation etc.).	Number of hectares under climate smart agriculture focusing on climate resilient seed crop varieties and pasture production adaptable to the ecoregions of the 15 districts.	0	2,500 ha	Project M & E reports Field technical visits Progress reports Mid-term evaluation; and Final project evaluations	Community engagement is sustained throughout the life of the project Government continues to demonstrate the same level of political will towards the project COVID-19 pandemic does not escalate to cause the halting of project field activities National peace and stability continue Extreme weather events such as floods and droughts do not disrupt project activities, including causing migration of beneficiaries.
	Number of smallholder farmers trained in Integrated Pest Management and soil fertility management	0	2,500 smallholder farmers		
	Number of hectares under land rehabilitation and restoration using mixed approaches including assisted natural regeneration, agroforestry practices, fruit plants and fodder seeds.	0	1,000 ha		
Output 1.1.2 Targeted individual and community livelihood					Community engagement is sustained throughout the life of the project
	Number of hectares under adopted sustainable agricultural practices (including procuring more productive	0	1,500 ha		

Project Objective(s)[1]	Project Objective Indicator(s)	Baseline	Target	Means of Verification	Risks and Assumptions
strategies of the vulnerable members in the target districts established and strengthened in response to the impacts of climate change, including variability, and more specifically increased extreme weather events.	and drought-tolerant seeds) aquaculture; crop diversification Number of beneficiaries		1,000 beneficiaries (50% female-headed)	Project M & E reports Field technical visits Progress reports Mid-term and final project evaluations	Government continues to demonstrate the same level of political will towards the project COVID-19 pandemic does not escalate to cause the halting of project field activities National peace and stability continue Extreme weather events such as floods and droughts don't disrupt project activities, including causing migration of beneficiaries
	Number of detailed selected value chains studies conducted	0	4 (Mango, Fisheries, agro-forestry, rice)		
	Number of staff with built capacities to improve extension services in target districts to crop husbandry services in general); management of post-harvest losses; crop disease outbreaks (crop husbandry services in general and aquaculture).	0	150		
Output 1.1.3 Crop marketing services and infrastructure supported and strengthened in response to climate variability and change -associated extreme weather events and impacts	Number of crops products supported with local level processing, marketing (branding and labelling), and phytosanitary services.	0	3 crop products supported with local level marketing services 3 crop products supported with local level processing services 3 crop products with local level phytosanitary services	Project M & E reports Field technical visits Progress reports Mid-term and final project evaluations	Community engagement is sustained throughout the life of the project Government continues to demonstrate the same level of political will towards the project COVID-19 pandemic does not escalate to cause the halting of project field activities National peace and stability continue Extreme weather events such as floods and droughts don't disrupt project activities, including causing migration of beneficiaries
	Number of small crop processing and storage facilities, smallholder irrigation systems, water supply and sanitation infrastructure procured and installed	0	15 processing facilities 15 storage facilities 30 irrigation systems		
	Number of critical crossing points repaired to facilitate market linkages between producer groups and buyers.	0	5		
Component 2: Innovative local financing systems to build community resilience and adaptive capacities in climate sensitive sectors					
Outcome: 2.1 Vulnerable communities in target provinces access financial services and increase their investments in key	Number of vulnerable communities accessing financial services and increase their investments in key climate-sensitive sectors	0	21,500	Project M & E reports Field technical visits Progress reports Mid-term and final project evaluations	Community engagement is sustained throughout the life of the project COVID-19 pandemic does not escalate to cause the halting of project field activities

Project Objective(s)[1]	Project Objective Indicator(s)	Baseline	Target	Means of Verification	Risks and Assumptions
climate-sensitive sectors.					Extreme weather events such as floods and droughts don't disrupt project activities, including causing migration of beneficiaries
Output 2.1.1 Financial Service Providers with promising adaptation financial products/services, and innovations relevant to climate-sensitive priority socio-economic sectors identified and supported to increase their community-level financing	Number of measures integrated in community-level business models and financial products after conducting financial value chain analysis and risk assessment	0	4	Project M & E reports Field technical visits Progress reports Mid-term and final project evaluations	Community engagement is sustained throughout the life of the project Government continues to demonstrate the same level of political will towards the project COVID-19 pandemic does not escalate to cause the halting of project field activities National peace and stability continue Extreme weather events such as floods and droughts don't disrupt project activities, including causing migration of beneficiaries
	Number of financial service providers engaged to provide technical and financial support in the design, development and testing/piloting and scaling of financial products, platforms, alternative distribution channels, credit enhancement mechanisms and financing instruments that speak to producer groups, SMEs and low income earners.	0	15		
	Number of innovative financing mechanisms provided by agro dealers and other larger businesses working in the rural finance space, including strengthening crop weather insurance and expanding the coverage of the livestock weather index insurance	0	15		
	Number of tailored financing solutions supported for agricultural mechanization and climate smart technologies e.g. Decentralized Renewable Energy sources, Solar Irrigation systems, Solar Cooling Systems, climate tolerant seed varieties and livestock breeds, improved storage and agro-processing units	0	6		
Output 2.1.4 Adaptation options based on district-level development plans supported,	Number of strategies developed at district and community-levels in target provinces to incorporate climate change priorities and support capacities for enforcement.	0	15		Community engagement is sustained throughout the life of the project Government continues to demonstrate the same

Project Objective(s)[1]	Project Objective Indicator(s)	Baseline	Target	Means of Verification	Risks and Assumptions
prioritized and implemented	Number of Climate Adaptation Funds established to facilitate financing structures and ensure sustainability post-CARLF	0	1	Project M & E reports Field technical visits Progress reports Mid-term and final project evaluations	level of political will towards the project COVID-19 pandemic does not escalate to cause the halting of project field activities National peace and stability continue Extreme weather events such as floods and droughts don't disrupt project activities, including causing migration of beneficiaries
	Number of districts with operationalized Digital Financial Services Collaborative Framework.	0	15		
Component 3: Enhancing district-level planning, awareness-raising and knowledge management for evidence-based resilience and adaptive capacity building					
Outcome 3.1 Enhance district-level planning and awareness raising for evidence-based resilience and adaptive capacity building.	Number of people directly reached out during awareness-raising for evidence-based resilience and adaptive capacity building	0	10,000 (50% of whom will be women)	Project M & E reports Field technical visits Progress reports Mid-term and final project evaluations	Community engagement is sustained throughout the life of the project COVID-19 pandemic does not escalate to cause the halting of project field activities Extreme weather events such as floods and droughts don't disrupt project activities, including causing migration of beneficiaries
Output 3.1.1 Planning and climate change awareness-raising mechanisms set up and institutionalized to	Number of districts with strengthened climate change and extreme weather-related information systems in to reach target audience and train them in using the information to prioritize adaptation options in component 1	0	15	Project M & E reports Field technical visits Progress reports Mid-term and final project evaluations	Community engagement is sustained throughout the life of the project Government continues to demonstrate the same level of political will towards the project COVID-19 pandemic does not escalate to
	Number of members at provincial and district-levels trained in climate change and systematic adaptation planning, including support towards policy, legal and regulatory environment for innovative financing.	0	30		
	Number of climate change risks awareness-raising campaigns conducted	0	30		

Project Objective(s)[1]	Project Objective Indicator(s)	Baseline	Target	Means of Verification	Risks and Assumptions
enhance resilience and adaptive capacity building	Number of crop and livestock production and environmental data hub in target provinces established	0	1		cause the halting of project field activities National peace and stability continue Extreme weather events such as floods and droughts don't disrupt project activities, including causing migration of beneficiaries
	Number of tools developed for knowledge generation, management and dissemination mechanisms	0	6		

350. Demonstrate how the project aligns with the Results Framework of the Adaptation Fund

Project Objective(s)[1]	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount ($)
Overall objective: To build and enhance resilience and adaptive capacities of 8,680 vulnerable households in five provinces to cope with extreme weather events through promoting diversified, resilient and sustainable community livelihood options and facilitating access to finances for investments in climate-sensitive sectors				
Building and enhancing adaptive capacities of vulnerable smallholder farmers through resilient livelihood options and access to innovative finances for investment in climate-sensitive sectors in five provinces in Zambia	No. of direct beneficiaries, disaggregated by gender	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.2. Percentage of targeted population with sustained climate-resilient alternative livelihoods	10,000,000
	No. of physical assets supported by the project (produced, developed, improved, or strengthened)	Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets	4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by sector and scale)	
	No. of households reporting increased income/diversified livelihood income streams	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.2. Percentage of targeted population with sustained climate-resilient alternative livelihoods	
	No. of beneficiaries accessing innovative financial services for investments in climate-sensitive sectors	Outcome 8: Support the development and diffusion of innovative adaptation practices, tools and technologies	8.1. No. of innovative adaptation practices, tools and technologies accelerated, scaled-up and/or replicated	
	No. of ha under sustainable crop and animal production systems	Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress	5. Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress	
	No. of people reached during planning and climate change awareness-raising campaigns	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	

Project Outcome	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount ($)
Component 1: Building and promoting diversified, resilient and sustainable community livelihood options				
1.1:Promoted and diversified livelihood options strengthen the resilience and build adaptive capacities of vulnerable communities (8,680 households) to climate change-related extreme weather events in five provinces in Zambia (Luapula, Northern, Central, Southern and Western), which are very vulnerable to the recurrent extreme weather events	Number of people participating in the: i) fish value chain; and ii) fruit tree value chain	Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	Type of income sources for households generated under climate change scenario	5,757,000
	Number of critical crossing points repaired to facilitate market linkages between producer groups and buyers.	Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets	4.2. Physical infrastructure improved to withstand climate change and variability-induced stress	
	Number of people benefiting directly from equitable, diversified and sustainable livelihood options	Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	Type of income sources for households generated under climate change scenario	
	Number of needs assessments conducted to support the selection of farmer groups and households (ensuring participation of women, youth and other vulnerable community members)	Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning.	No. of technical committees/associations formed to ensure transfer of knowledge	
	Number of hectares under land rehabilitation and restoration using mixed approaches including assisted natural regeneration, agroforestry practices, fruit plants and fodder seeds.	Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	
	Number of hectares under off-season production systems using irrigation–rainwater harvesting systems - agro-forestry – linked to nurseries at community level.	Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	
	Number of hectares under climate smart agriculture focusing on climate resilient seed crop varieties and pasture production adaptable to the ecoregions of the 15 districts.	Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	
	Number of established individual and community-level livelihood strategies for the vulnerable members in the target districts.	Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	No. and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community livelihood strategies	

	Number of crop marketing services and infrastructure supported and strengthened in the vulnerable targeted districts	Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	
Component 2: Supporting innovative local financing systems to build community resilience and adaptive capacities in climate sensitive sectors				
2.1 Vulnerable communities in target provinces access financial services and increase their investments in key climate-sensitive sectors.	Number of financial service providers engaged to provide technical and financial support in the design, development and testing/piloting and scaling of financial products, platforms, alternative distribution channels, credit enhancement mechanisms and financing instruments that speak to producer groups, SMEs and low income earners.	Viable innovations are rolled out, scaled up, encouraged and/or accelerated.	No. of innovative adaptation practices, tools and technologies accelerated, scaled-up and/or replicated	
	Number of measures integrated in community-level business models and financial products after conducting financial value chain analysis and risk assessment	Targeted population groups covered by adequate risk reduction systems	Percentage of target population covered by adequate risk-reduction systems	
	Number of tailored financing solutions supported for agricultural mechanization and climate smart technologies e.g. Decentralized Renewable Energy sources, Solar Irrigation systems, Solar Cooling Systems, climate tolerant seed varieties and livestock breeds, improved storage and agro-processing units	Targeted population groups covered by adequate risk reduction systems		1,852 000
	Number of financing and credit guarantees provided for agro dealers and other larger businesses working in the rural finance space, including strengthening crop weather insurance and expanding the coverage of the livestock weather index insurance	Targeted population groups covered by adequate risk reduction systems	Percentage of target population covered by adequate risk-reduction systems	
	Number of strategies developed at district and community-levels in target provinces to incorporate climate change priorities and support capacities for enforcement.	Improved integration of climate-resilience strategies into country development plans	No. of targeted development strategies with incorporated climate change priorities enforced	

Component 3: Component 3: Enhancing district-level planning, awareness-raising and knowledge management for evidence-based resilience and adaptive capacity building				
3.1 Improved knowledge and awareness of climate change risks to support effective evidence-based adaptation planning at district level	Number of districts with strengthened climate change and extreme weather-related information systems in to reach target audience and train them in using the information to prioritize adaptation options in component 1	Improved integration of climate-resilience strategies into country development plans	No. of policies introduced or adjusted to address climate change risks (by sector)	808,000
	Number of members at provincial and district-levels trained in climate change and systematic adaptation planning, including support towards policy, legal and regulatory environment for innovative financing.	Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders	
	Number of climate change risks awareness-raising campaigns conducted	Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	
	Number of crop and livestock production and environmental data hub in target provinces established	Targeted population groups covered by adequate risk reduction systems	Percentage of target population covered by adequate risk-reduction systems	
	Number of tools developed for knowledge generation, management and dissemination mechanisms			

F. Include a detailed budget with budget notes, a budget on the Implementing Entity management fee use, and an explanation and a breakdown of the execution costs

Activity	Budget Notes	Annual AF Grant
Component 1: Building and promoting equitable diversified, resilient and sustainable community livelihood options		
Output 1.1: Sustainable crop production systems implemented on at least 3,000 ha of land under the stress of extreme weather events and human exploitation (floods, droughts, erosion, deforestation etc.).		
Activity 1.1.1: *Conduct detailed value chain mapping and development of fruit trees, crop and fish value chains.*	Among other aspects, this activity will entail undertaking risk assessment to identify and analyse risks, including environmental (climate change, water scarcity), economic (market volatility, price fluctuations), and operational risks (supply chain disruptions, disease outbreaks), and develop risk mitigation strategies, such as diversification, insurance schemes, and improved farming practices. It will also include training communities in risk management, and sustainable fishing practices.	421,000
Activity 1.1.2: *Support towards land rehabilitation and restoration*	Based on contexts in districts, appropriate land rehabilitation and restoration will be done with full participation of community members to improve the productive capacity of land	800,000
Activity 1.1.3: *Support towards livelihood diversification*	This will entail support towards climate and regenerative agriculture practices focusing on crop rotation, minimum tillage, cover cropping, and water management techniques, agroforestry initiatives, and trainings to farmers in business management.	960,000
Activity 1.1.4: *Facilitate investments in climate smart agriculture on 2,500 ha, focusing on climate resilient seed crop varieties*.	This activity will include training of farmers as seed growers, extension service officers to work with seed companies to deliver tailored extension services covering planting of climate-resilient seeds, promoting crop diversification, composting and mulching on 1,500 ha, and supporting the multiplication and distribution of drought-resilient seed crop varieties on 1000 ha	1,000,000
	Output 1.1 subtotal	3,181,000
Output 1.2: Targeted individual and community livelihood strategies of the vulnerable members in the target districts established focusing on fish and fruit tree value chains and strengthened in response to the impacts of climate change and extreme weather events		
Activity 1.2.1: *Build capacities to improve extension services in target districts*	This will focus on refresher training courses on sustainable agriculture targeting 1,500 camp extension officers from the 15 districts, and supporting functional institutional alignment to strengthen extension service delivery.	300,000
Activity 1.2.2: *Promote adoption of sustainable agricultural practices in mixed crop and fish systems*	Activities focusing on supporting improved access to more productive and drought-tolerant seeds, establishing community seed banks, and promoting the stocking of climate-resilient fish species, and setting up fish hatchery	1,000,000

Activity	Budget Notes	Annual AF Grant
	and feed plant, and establishing community-driven market linkages to premium fish markets through strengthening cooperatives among fish farming groups	
	Output 1.2 subtotal	1,300,000
Output 1.3: Crop marketing services and infrastructure supported and strengthened in response to climate variability and change -associated extreme weather events and impacts		
Activity 1.3.1: *Support local level processing and marketing*	This activity will focus on establishing small, community-owned processing units for drying, juicing, and preserving local fruits, supporting the use solar dryers and simple affordable manual juicers, setting up small-scale, low-cost smoking and drying units, and capacity-building workshops on sustainable fishing practices, value addition, and market linkage development	1,271,000
	Subtotal output 1.3	1,271,000
	Total component 1	5,752,000
Component 2: Innovative local financing systems to build community adaptive capacities in climate sensitive sectors		
Output 2.1.Adaptive and climate related financial products/services, and innovations relevant to climate-sensitive priority socio-economic sectors identified and supported to increase their community-level financing		
Activity 2.1.1: *Provide tailored financial support to agro dealers and value chains SMEs and strengthen crop weather insurance*	This activity will entail providing tailored financial products, notably microfinancing, training on financial literacy in compliance with the national financial inclusion strategy, crop weather insurance and conducting awareness campaigns to educate farmers on the benefits and mechanisms of crop weather insurance.	1,007,000
Activity 2.1.2: *Support to financial services for productive assets*	The activity will specifically target providing grants to farmer groups for productive assets, investments in water harvesting facilities and training on: (i) financial literacy and budget management at household level ; ii) operating and maintaining processing equipment and proper storage techniques to extend shelf life; and iii) irrigation management and maintenance to ensure sustainable use.	845,000
	Subtotal output 2.1	1,852,000
	Total component 2	1,852,000
Component 3: **Enhancing district-level planning, awareness-raising and knowledge management for evidence-based resilience and adaptive capacity building**		

Activity	Budget Notes	Annual AF Grant
Output 3.1: Planning and climate change awareness-raising mechanisms set up and institutionalized to enhance resilience and adaptive capacity building		
Activity 3.1.1: Strengthen climate change and extreme weather-related information systems in 15 target districts	This activity will entail support towards community access to weather forecast information and agricultural advice in Bemba, Lozi and Tonga, support towards Farmer Field Schools, and information dissemination through Community Radio Broadcasts.	279,000
Activity 3.1.2: Conduct 30 climate change risks awareness-raising campaigns in the 15 target districts	The activity will focus on developing a comprehensive M&E system for assessing the effectiveness project implementation, developing a gender-responsive and inclusive comprehensive campaign strategy tailored to the specific needs and contexts of each district, and create engaging educational materials, including brochures, posters, radio broadcasts, and social media content, in local languages (Bemba, Lozi and Tonga). The activity will train local volunteers and community leaders to become climate change ambassadors including radio programs.	229,000
Output 3.2 Adaptation options based on district-level development plans supported, prioritized and implemented		
Activity 3.2.1: Support the development of 15 strategies at district and community-levels in target provinces to incorporate climate change priorities and support capacities for implementation	The activity will involve assessment of existing capacities per district to develop tailored capacity development interventions, identifying key climate change challenges and priorities, training workshops of 15 District Development Committees, and technical support through experts and consultants to assist in drafting and refining district-level climate change strategies.	300,000
	Subtotal output 1.3	808,000
	Total component 3	808,000
		8,412,000
Project activity cost (A)		8,412,000
Project Execution costs (including M&E) (B)		
Project staff personnel (Coordinator, M&E Specialist, CC Adaptation Specialist, Gender Specialist, Financial Officer, Driver, including Short term technical support)		404,590
Project vehicle		50,000
Office operational costs, including computers, furniture		47,000
All staff travel expenses		60,000
Inception Workshop, mid-term and terminal evaluations (M&E)		99,000
External audits		45,000
ESP and GP compliance		30,000
Project equipment maintenance		38,000
Communication		31,000

Activity	Budget Notes	Annual AF Grant
	Total	**804,590**
Total Project Costs (A+B)		
	Total	**9,216,590**
Project Implementing Entity (8.5%) (C)		
Operational and Financial Management		170,018
Project Development and implementation support		313,018
Technical support and supervision		300,374
	Total	**783,410**
	Total Amount of Financing Requested (A+B+C)	**10,000,000**

16. Project Disbursement matrix

Activity	Cost (USD)	Year 1	Year 2	Year 3	Year 4	Year 5	Annual Total
Component 1: Building and promoting equitable diversified, resilient and sustainable community livelihood options							
Output 1.1: Sustainable crop production systems implemented on at least 3,000 ha of land under the stress of extreme weather events and human exploitation (floods, droughts, erosion, deforestation etc.).							
Activity 1.1.1: *Conduct detailed value chain mapping and development of fruit trees, crop and fish value chains.*	421,000		200,000	121,000	100,000		421,000
Activity 1.1.2: *Support towards land rehabilitation and restoration*	800,000	50,000	300,000	300,000	150,000		800,000
Activity 1.1.3: *Support towards livelihood diversification*	960,000	150,000	300,000	400,000	110,000		960,000
Activity 1.1.4: Facilitate investments in climate smart agriculture on 2,500 ha, focusing on climate resilient seed crop varieties.	1,000,000	100,000	300,000	400,000	100,000	100,000	1,000,000
Output 1.1 subtotal	3,181,000	300,000	1,100,000	1,221,000	460,000	100,000	3,181,000
Output 1.2: Targeted individual and community livelihood strategies of the vulnerable members in the target districts established focusing on fish and fruit tree value chains and strengthened in response to the impacts of climate change and extreme weather events							
Activity 1.2.1 *Build capacities to improve extension services in target districts*	300,000	50,000	150,000	100,000			300,000

Activity	Cost (USD)	Year 1	Year 2	Year 3	Year 4	Year 5	Annual Total
Activity 1.2.2 *Promote adoption of sustainable agricultural practices in mixed crop and fish systems*	1,000,000	100,000	300,000	400,000	100,000	100,000	1,000,000
Output 1.2 subtotal	1,300,000	150,000	450,000	500,000	100,000	100,000	1,300,000
Output 1.3: Crop marketing services and infrastructure supported and strengthened in response to climate variability and change -associated extreme weather events and impacts							
Activity 1.3.1 *Support local level processing and marketing*	1,271,000	150,000	479,000	300,000	200,000	142,000	1,271,000
Output 1.3 subtotal	1,271,000	150,000	479,000	300,000	200,000	142,000	1,271,000
Total component 1	5,752,000	600,000	2,029,000	2,121,000	760,000	342,000	5,752,000
Component 2: Innovative local financing systems to build community adaptive capacities in climate sensitive sectors							
Output 2.1: Financial Service Providers with promising adaptation financial products/services, and innovations relevant to climate-sensitive priority socio-economic sectors identified and supported to increase their community-level financing							
Activity 2.1.1: *Provide tailored financial support to agro dealers and value chains SMEs and strengthen crop weather insurance*	1,007,000		120,000	500,000	287,000	100,000	1,007,000
Activity 2.1.2: *Support to financial services for productive assets*	845,000		100,000	345,000	300,000	100,000	845,000
Subtotal output 2.1	1,852,000	0	220,000	1,000,000	432,000	200,000	1,852,000
Total component 2	1,852,000	0	220,000	1,000,000	432,000	200,000	1,852,000
Component 3: Component 3: Enhancing district-level planning, awareness-raising and knowledge management for evidence-based resilience and adaptive capacity building							
Output 3.1: Planning and climate change awareness-raising mechanisms set up and institutionalized to enhance resilience and adaptive capacity building							
Activity 3.1.1: Strengthen climate change and extreme weather-related information systems in 15 target districts	279,000		100,000	100,000	79,000		279,000
Activity 3.1.2: Conduct 30 climate change risks awareness-raising campaigns in the 15 target districts	229,000		100,000	79,000	50,000		229,000
Subtotal output 3.1	508,000		200,000	179,000	129,000		508,000
Output 3.2 Adaptation options based on district-level development plans supported, prioritized and implemented							

Activity	Cost (USD)	Year 1	Year 2	Year 3	Year 4	Year 5	Annual Total
Activity 3.2.1: Support the development of 15 strategies at district and community-levels in target provinces to incorporate climate change priorities and support capacities for implementation	300,000		50,000	200,000	50,000		300,000
Subtotal output 3.2	300,000		50,000	200,000	50,000		300,000
Total component 3	808,000	808,000	250,000	179,000	179,000		808,000
Annual projections		600,000	2,499,000	3,400,000	1,371,000	542,000	
Project activity cost (A)							8,412,000
Project Execution costs (including M&E) (B)							
Project staff personnel (Coordinator, M&E Specialist, CC Adaptation Specialist, Gender Specialist, Financial Officer, Driver, including Short term technical support)							404,590
Project vehicle							50,000
Office operational costs, including computers, furniture							47,000
All staff travel expenses							60,000
Inception Workshop, baseline, mid-term and terminal evaluations							99,000
External audits							45,000
ESP and GP compliance							30,000
Project equipment maintenance							38,000
Communication							31,000
Total							**804,590**
Total Project Costs (A+B)							
Total							**9,216,590**
Project Implementing Entity (8.5%) (C)							
Operational and Financial Management							170,018
Project Development and implementation support							313,018
Technical support and supervision							300,374
Total							**783,410**
Total Amount of Financing Requested (A+B+C)							**10,000,000**

17. Include a disbursement schedule with time-bound milestones

Project disbursement schedule

	Year 1	Year 2	Year 3	Year 4	Year 5	Total

Project activity cost $	600,000	2,499,000	3,400,000	1,371,000	542,000	8,412,000
Project execution costs	80,459	243,107	306,107	131,189	43,728	804,590
Implementing Entity Fee $	78,341	274,193	274,193	117,511	39,172	783,410
Total ($)	758,800	3,016,300	3,980,300	1,619,700	624,900	**10,000,000**

18. IE Fees Breakdown

IE Fees Breakdown of M&E Supervision	Responsibility	Budget (USD)	Frequency
Technical supervision visits	IFAD, PCU, Government	80,000	Biannually
Training workshops on M&E	IFAD, PCU	50,000	2025
Mid-term evaluation	IFAD, PCU	90,000	2028
Final evaluation	IFAD, PCU	100,000	2030
Supervision missions and policy support	IFAD, PCU	23,000	Annually
Portfolio management	IFAD, PCU	120,000	Biannually
Oversight	IFAD, PCU	112,000	Biannually
Financial management	IFAD, PCU	80,000	Biannually
Knowledge management activities and publications	IFAD, PCU	128,410	Biannually
		783,410	

19. Project Gantt Chart

	Year 1				Year 2				Year 3				Year 4				Year 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Component 1: Building and promoting equitable diversified, resilient and sustainable community livelihood options																				
Output 1.1: Sustainable crop production systems implemented on at least 3,000 ha of land under the stress of extreme weather events and human exploitation (floods, droughts, erosion, deforestation etc.).																				
Output 1.2: Targeted individual and community livelihood strategies of the vulnerable members in the target districts																				

	Year 1				Year 2				Year 3				Year 4				Year 5			
	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
established and strengthened in response to the impacts of climate change, including variability, and more specifically increased extreme weather events.																				
Output 1.3: Crop marketing services and infrastructure supported and strengthened in response to climate variability and change -associated extreme weather events and impacts																				
Component 2: Innovative local financing systems to build community adaptive capacities in climate sensitive sectors																				
Output 2.1: Financial Service Providers with promising adaptation financial products/services, and innovations relevant to climate-sensitive priority socio-economic sectors identified and supported to increase their community-level financing.																				
Component 3: Enhancing district-level planning, awareness-raising and knowledge management for evidence-based resilience and adaptive capacity building																				
Output 3.1: Planning and climate change awareness-raising mechanisms set up and institutionalized to enhance resilience and adaptive capacity building																				
Output 3.2 Adaptation options based on district-level development plans supported, prioritized and implemented																				

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

Record of endorsement on behalf of the government[2]

Mr Billy Katontoka National Coordinator-National Designated Authority Ministry of Green Economy and Environment	Date*: 08 August 2024*

Implementing Entity certification

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy and the Gender 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.	
Implementing Entity coordinator: Ms Janie Rioux Senior Technical Specialist – Climate Change-AF coordinator ECG division	email: j.rioux@ifad.org
Mr Juan Carlos Mendoza Casadiegos, Director, Environment, Climate, Gender and Social Inclusion Division	
Date: 9 August 2024	e-mail: ecgmailbox@ifad.org
Project contact person: Mr Claus Reiner, Regional Lead Environment and Climate Specialist	
e-mail: c.reiner@ifad.org	
Ms Edith Kirumba, Country Director for Zambia	
e-mail: e.kirumba@ifad.org	

i.[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.

Annex 1: Letter of Endorsement

All communication should be addressed to the Permanent Secretary
Telephone: 0211-252395
0211-252394
0211-252391

In reply please quote

No.:.....
NDA/71/21/9

REPUBLIC OF ZAMBIA

MINISTRY OF GREEN ECONOMY AND ENVIRONMENT

OFFICE OF THE PERMANENT SECRETARY

Corner of John Mbita & Nationalist Roads
P.O. BOX 30147
Lusaka-Zambia

8th August, 2024

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

RE: ENDORSEMENT FOR THE CLIMATE CHANGE ADAPTATION OF LIVELIHOODS THROUGH RURAL FINANCE (CALRF) PROJECT

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

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 International Fund for Agricultural Development (IFAD) and executed by the Ministry of Finance and National Planning, the Ministry of Green Economy and Environment and the Ministry of Agriculture.

Billy Katontoka (Mr.)
National Coordinator
National Designated Authority
MINISTRY OF GREEN ECONOMY AND ENVIRONMENT

Annex 2. ENVIRONMENTAL, CLIMATE AND SOCIAL IMPACTS ANALYSIS

Adaptation Fund ESP Screening

Content

I. Summary description of the Project

1. **Socio-economic context**. With a population estimated at 19.3 million, Zambia's economic progress has been unsteady. After 15 years of significant socio-economic progress and achieving middle-income status in 2011, the Government of the Republic of Zambia's (GRZ) economic performance has stalled in recent years. Between 2000 and 2014, the annual real gross domestic product (GDP) growth rate averaged 6.8%. The GDP growth rate then slowed to 3.1% per annum between 2015 and 2019, mainly attributed to falling copper prices and declines in agricultural output and hydroelectric power generation due to insufficient rains, and insufficient policy adjustment to these exogenous shocks. The debt situation in Zambia has far-reaching consequences on reaching SDG targets. Further, Zambia is burdened with external public debt of USD11.1 billion (54% of GDP), a fiscal deficit of 11.7% - that deprived the poor of resources for social services.

2. The economy of Zambia fell into a deep recession due to the adverse impact of the COVID–19 pandemic. Real GDP contracted by an estimated 4.9% in 2020, after growing by 4.0% in 2018 and 1.9% in 2019. The output contraction results from an unprecedented deterioration in all the key sectors of the economy. Manufacturing output fell sharply as supply chains were disrupted, while the service and tourism sectors were hurt as private consumption and investment weakened due to measures taken to contain the spread of COVID–19. Inflation has been rising, mainly driven by the pass-through effects of the kwacha depreciation and elevated food and transport prices. Following the outbreak of COVID–19, inflation rose to 17.4% in 2020 and is projected to remain above the target range of 6–8% in 2021.

3. Despite impressive growth rates and the country reaching low middle-income status, Zambia continues to struggle to translate its economic growth into poverty eradication and reduction of inequalities. Poverty is increasing in absolute and relative terms. Poverty is primarily a rural phenomenon. 77.3% males and 83.4% females in rural areas are categorized as poor in Zambia. 64.4% and 67.3% of males and females, respectively are categorized as extreme poor. Zambia positioned at 151 out of 189 countries and territories in UNDP's 2023 HDI, with a value of 0.569, placing Zambia in the medium human development category. 64% of Zambians living under $2 a day with over 40.8% of them considered to live in extreme poverty (under $1.25 a day) which is disproportionally high in female-headed households (56.7%). As the population grows, the country faces a widening gap between the richest and poorest – it is one of the world's most unequal societies with, 2021 data showing an income Gini coefficient of 0.57. Rising inequalities across the country have become a defining challenge of the Zambian development agenda. Inequalities faced by the poor, children and adolescents, youth, women, and people with disabilities are putting sustainable development at risk of undermining social progress, threatening economic and political stability, stirring social disharmony, and undercutting human rights. Accessing health services is a challenge, more so, in rural settings. The number of health facilities in rural areas is far too low than desired. The country also faces other social, economic, and political challenges including limited access to safe water, youth unemployment (17.9%), and child marriages, which has shown that 29% of women aged 20-24 years married by the age of 18.

4. **Climate change**. The ND-GAIN index ranks Zambia in the 137th position, being the 41st most vulnerable country and the 53rd least ready country to face climate change. Zambia's high vulnerability score and low readiness score place it in the upper-left quadrant of the ND-GAIN Matrix. Consequently, it has both a great need for investment and innovations to improve readiness and a great urgency for action to respond to the impacts of extreme climate change-related events. This is particularly concerning because the country has to contend with territorial and demographic disparities in wealth distribution and economic development that have left rural poverty stubbornly high. Additionally, Zambia's external financial position worsened in 2020, with dwindling reserves (averaging 1.6 months import cover), remaining depressed in 2021 due to copper price and output fluctuations, rising public debt payments, and elevated non-oil imports. Despite falling revenues, government's expansionary fiscal policy for public investments resulted in widening fiscal deficits (8.3% of GDP in 2019 and 11% of GDP in 2020).

5. **Impact of climate change on agriculture**. Drought is endemic to Zambia, due in part to below-average precipitation, particularly during the seasonal rains. The country has a history of drought years: 1987/88, 1991/92, 1994/95, 1997/98, 2001/03, 2004/05, 2011/12, 2015/16 and 2018/2019. This sequence implies that the country experiences drought every 4 to 5 years, and the frequency is projected to increase in the future due to climate change. Drought brings reduced agricultural production from erratic rains, increased dry spells, water logging and false and late starts. Given that roughly 90% of cultivation in Zambia is rain-fed, small-scale agricultural producers are particularly vulnerable to drought. The severe drought of 2018/2019 affected 2.3 million people, who experienced increased food insecurity, with a sharp rise in food prices from the reduced agricultural production and harvest. Livestock production in the grazing areas in the western and southern parts of the country was particularly affected. Low water levels in major rivers and groundwater systems increased water insecurity. The country's aspiration to manage natural resources and respond to the challenges of climate change is stifled by weak governance linked to low institutional capacities and poor coordination mechanisms more effectively. Combined, these factors continue to undermine the country's resilience to natural and economic shocks. Climate-induced changes are already exerting considerable stress on the country's vulnerable sectors, hauling particularly the poor into further poverty.

6. The ND-GAIN index ranks Zambia in the 137th position, being the 41st most vulnerable country and the 53rd least ready country to face climate change. Zambia's high vulnerability score and low readiness score place it in the upper-left quadrant of the ND-GAIN Matrix. Consequently, it has both a great need for investment and innovations to improve readiness and a great urgency for action to respond to the impacts of extreme climate change-related events. This is particularly concerning because the country has to contend with territorial and demographic disparities in wealth distribution and economic development that have left rural poverty stubbornly high. Additionally, Zambia's external financial position worsened in 2020, with dwindling reserves (averaging 1.6 months import cover), remaining depressed in 2021 due to copper price and output fluctuations, rising public debt payments, and elevated non-oil imports. Despite falling revenues, government's expansionary fiscal policy for public investments resulted in widening fiscal deficits (8.3% of GDP in 2019 and 11% of GDP in 2020).

7. While there is economic instability, the natural resource base keeps being eroded. According to the Global Forest Watch, in 2010, Zambia had 22.4Mha of tree cover, extending over 30% of its land area. In 2020, it lost 163,000 ha of tree cover, equivalent to 59.7Mt of CO_2 emissions. Deforestation in the medium and long terms erodes the productive capacity of land to maintain or enhance the stocks and flow of ecosystem services that underpin livelihoods but also contribute to several other environmental benefits. As ecosystem services erode, so does the ability of communities to adapt to the impacts of climate variation and change.

8. The project is designed to build the resilience and adaptive capacities of rural populations in a complex vulnerable context characterised by lean asset portfolios, continued resource degradation, isolation from political powers, limited financial resources to invest in socioeconomic climate-sensitive activities – and areas experiencing extreme weather events in terms of floods in some areas and droughts in others – and these are projected to continue in terms of frequency and intensity. To address the complex context in five provinces, the project proposes both concrete interventions, primarily meant to

build the so much required socioecological resilience and adaptive capacities of affected poor communities. Additionally, the project is cognizant of the role of multi-stakeholder engagement, particularly the private sector, with their financial capacities and investment priorities to support building resilience in climate-sensitive rural enterprises. Finally, the project acknowledges the critical role of community capacities and institutional arrangements as enablers to sustain the transformative impacts of concrete interventions.

9. The project will be formed around the following components:

i. Component 1: Building and promoting diversified, resilient and sustainable community livelihood options;
ii. Component 2: Innovative local financing systems to build community adaptive capacities in climate sensitive sectors; and
iii. Component 3: Enhancing district-level planning, awareness-raising and knowledge management for evidence-based resilience and adaptive capacity building

II. Screening and categorization

a. Guidance for Implementing Entities on Compliance with the Adaptation Fund Environmental and Social Policy

10. The Adaptation Fund (AF) has established an Environmental and Social Policy (ESP) to guide projects and programmes it supports. Approved in November 2013 and revised in March 2016, this policy seeks to maximize positive environmental and social outcomes and minimize potential risks and adverse impacts. Effective management of these risks is crucial to the success of projects/programmes and their desired outcomes. The ESP encompasses 15 principles. Out of these 15 principles, the following 12 have been identified as relevant to the proposed project: Principle 1: Compliance with the Law; Principle 2: Access and Equity; Principle 3: Marginalized and Vulnerable Groups; Principle 5: Gender Equality and Women's Empowerment; Principle 8: Involuntary Resettlement; Principle 9: Protection of Natural Habitats; Principle 10: Conservation of Biological Diversity; Principle 11: Climate Change; Principle 12: Pollution Prevention and Resource Efficiency; Principle 13: Public Health; Principle 14: Physical and Cultural Heritage; and Principle 15: Lands and Soil Conservation.

11. This Environmental and Social Management Plan (ESMP) outlines how the project will adhere to the AF guidelines. The Adaptation Fund guidelines and Principles are detailed in the table below.

Table 2: Principles to Guide Screening and Management of Environmental and Social Impacts of planned activities for the proposed activities

Principle	Explanation
Principle 1: Compliance with the Law	Compliance with the Law Projects/programmes supported by the Fund shall follow all applicable domestic and international law. In this regard, the Implementing Entity (IE) will ensure that the project/programme comply with applicable domestic and international law as described at section 2 above. In support of the Proposal, the IE will provide, when relevant, a description of the legal and regulatory framework for any project activity that may require prior permission (such as planning permission, environmental permits, construction permits, permits for water extraction, emissions, and use or production or storage of harmful substances). For each such a requirement, the IE will describe the current status, any steps already taken, and the plan to achieve compliance with relevant domestic and international laws.
Principle 2: Access and Equity	Projects/programmes supported by the Fund shall provide fair and equitable access to benefits in a manner that is inclusive and does not impede access to basic health services, clean water and sanitation, energy, education, housing, safe and decent working conditions, and land rights. Projects/programmes should not exacerbate

	existing inequities, particularly with respect to marginalized or vulnerable groups. The process of allocating access to project/programme benefits should be fair and impartial. A fair process treats people equally without favouritism or discrimination, and an impartial process treats all rivals or disputants equally. Furthermore, the project/programme will be designed and implemented in a way that will not impede access of any group to the essential services and rights mentioned in the Principle. Possible elements that may be considered The IE can demonstrate compliance of the project/programme by describing the process of allocating and distributing project/programme benefits, and by showing how this process ensures fair and impartial access to benefits. It may also state clearly that there will be neither discrimination nor favouritism in accessing project/programme benefits. The IE may demonstrate that the project/programme does not impede access of any group to the essential services and rights indicted in the principle. ESP Guidance document 7 In addition, the project/programme can use a risk analysis to identify and assess the risk of impeding access to essential rights and services, and of exacerbating existing inequalities. The IE may conduct stakeholder mapping in order to identify the potential beneficiaries, rivals, disputants, marginalized, or vulnerable people.
Principle 3: Marginalized and Vulnerable Groups.	Projects/programmes supported by the Fund shall avoid imposing any disproportionate adverse impacts on marginalized and vulnerable groups including children, women and girls, the elderly, indigenous people, tribal groups, displaced people, refugees, people living with disabilities, and people living with HIV/AIDS. In screening any proposed project/programme, the implementing entities shall assess and consider particular impacts on marginalized and vulnerable groups. Impacts on marginalized and vulnerable groups must be considered so that such groups do not experience adverse impacts from the project/programme that are disproportionate to those experienced by others. Marginalized groups are groups of people who are excluded from the normal economic and social fabric of societies, thus lacking access to basic essential services and facilities. Furthermore, they lack the means to improve themselves (motivation, social capital, skills and knowledge) and have low resilience. Vulnerable groups are groups of people unable or with diminished capacity to anticipate, cope with, resist, and recover from the impacts of (external) pressures, facing a higher risk of poverty and social exclusion than the general population. Vulnerability can stem from belonging or being perceived to belong to a certain group or institution, and is a relative and dynamic concept. Using accepted methods based on disaggregated data, where possible, the IE should identify and quantify the groups mentioned in the principle (children, women and girls, the elderly, indigenous people, tribal groups, displaced people, refugees, people living with disabilities, and people living with HIV/AIDS) as well as any groups identified additionally such as seasonal migrants or illegal aliens. If any are present, the IE should: Describe the characteristics of the marginalized or vulnerable groups. • Identify adverse impacts that each marginalized and vulnerable group are likely to experience from the project/programme, taking into consideration the specific needs, limitations, constraints and requirements of each group. For example, a small detour or the construction of a minor obstacle for most able-bodied people could be an insurmountable obstacle to wheelchair users or persons with certain disabilities. These are examples of disproportionate adverse impacts. ● Describe how the impacts are not disproportionate compared to no marginalized and non-vulnerable groups, or how they can be mitigated or prevented so as not to be disproportionate. These mitigation measures could be design or operational features of infrastructure, or access guarantees to ESP Guidance document 8 project benefits for those without complete administrative files such as refugees and internally displaced persons or tribal groups. ● Describe monitoring that may be needed during project/programme implementation for the possible occurrence of disproportionate adverse impacts on marginalized and vulnerable groups, as situations may change over time (e.g. the

	arrival of refugees or internally displaced persons).
Principle 4: Human Rights	Projects/programmes supported by the Fund shall respect and where applicable promote international human rights. The Universal Declaration of Human Rights (UDHR) of 10 December 1948 provides a common standard of achievements for all peoples and all nations by setting out fundamental human rights to be universally protected. A number of human rights bodies were created based on the UN Charter, including the Human Rights Council, and under the international human rights treaties to monitor their implementation. The Office of the High Commissioner for Human Rights (OHCHR) supports the different human rights monitoring mechanisms in the United Nations system.8 Promotion of human rights in the project/programme will be achieved by creating awareness with all involved in the project/programme operations, including design, execution, monitoring, and evaluation, about the Universal Declaration of Human Rights as an overarching principle in the implementation of the project/programme. The text of the UDHR is freely available in 438 languages.9 Possible elements that may be considered Information that the IE may consider when assessing the project/programme potential risks with regard to this principle: • When the host country or countries of the project/programme are cited in any Human Rights Council Special Procedures, be they thematic10 or country11 mandates, the IE may provide an overview of the relevant human rights issues that are identified in the Special Procedures and describe how the project/programme will address any such relevant human rights issues. • Human rights issues should be an explicit part of consultations with stakeholders during the identification and/or formulation of the project/programme. The findings on human rights issues of the consultations should then be included in the project/programme document, and details of the consultations added as an annex. 8 The Human Rights Council uses so-called Special Procedures, which are mechanisms to address either specific country situations or thematic issues in all parts of the world. Special Procedures' mandates usually call on mandate-holders to examine, monitor, advise and publicly report on human rights situations in specific countries or territories, known as country mandates, or on major phenomena of human rights violations worldwide, known as thematic mandates. There are 30 thematic mandates and 8 country mandates. All report to the Human Rights Council on their findings and recommendations: http://www.ohchr.org/EN/UDHR/Pages/SearchByLang.aspx http://www.ohchr.org/EN/HRBodies/SP/Pages/Themes.aspx http://www.ohchr.org/EN/HRBodies/SP/Pages/Countries.aspx ESP Guidance document • Even if the country or countries where the project/programme will be implemented is not a Party to any of the nine core international human rights treaties, compliance with UDHR, at a minimum, will be monitored.
Principle 5: Gender Equality and Women's Empowerment.	Projects/programmes supported by the Fund shall be designed and implemented in such a way that both women and men 1) have equal opportunities to participate as per the Fund gender policy; 2) receive comparable social and economic benefits; and 3) do not suffer disproportionate adverse effects during the development process. In many societies, different roles are allocated to men and women based on cultural, traditional, religious, or other grounds. Gender equality refers to the equal rights, responsibilities, opportunities and access of women and men and boys and girls as well as the equal consideration of the respective interests, needs, and priorities. To ensure gender equality, measures often need to be taken to compensate for or reduce disadvantages that prevent women and men from otherwise operating on an equitable basis. Gender equality and women's empowerment must be applied in the project/programme design and its implementation regardless of the legal and regulatory framework in which the project/programme is set. Principle 5 is guided by Article 2 of the United Nations Framework Convention on Climate Change (UNFCCC), which refers to —anthropogenic interaction‖ — therefore interaction of women and men — within

	the climate system. The UNFCCC has adopted a number of decisions on gender since 2001. The Paris Agreement acknowledged that Parties in their climate actions should be guided by respect for human rights, gender equality and the empowerment of women in its Preamble while stressing the importance of following —a country-driven, gender-responsive, participatory and fully transparent approach‖ for adaptation action in Article 7(5). Principle 5 is intended to be consistent with other international conventions, in particular with the Universal Declaration of Human Rights (UDHR), the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), the International Labour Organization (ILO) core conventions, the Millennium Development Goals (MDGs) and follow-up Sustainable Development Goals (SDGs), and the 2030 Agenda for Sustainable Development. 13 The design and implementation of the project/programme should ensure that it: 1) Does not include elements that are known to exclude or hamper a gender group based on legal, regulatory, or customary grounds 2) Does not maintain or exacerbate gender inequality or the consequences of gender inequality. For example, unequal access to education based on gender may result in lower literacy rates among the disadvantaged group. This lack of literacy may, as a secondary effect of gender inequality, limit access to benefits or increase adverse effects of the project for that particular group. Possible elements that may be considered Information that may be considered by the IE when assessing the potential risks with regard to this principle: http://www.ohchr.org/EN/ProfessionalInterest/Pages/CoreInstruments.aspx https://sustainabledevelopment.un.org/post2015/transformingourworld ESP Guidance document• An analysis of the legal and regulatory context with respect to gender equality and women‘s empowerment in which the project/programme will take place will identify any obstacles to compliance. In addition, analysis of the cultural, traditional, religious, or any other grounds that might result in differential allocation of benefits between men and women, or of the disproportionate adverse impacts from the project/programme may be appropriate. • Actively pursue equal participation in project/programme activities and stakeholder consultation. Ensure that all positions in the project/programme are effectively equally accessible to men and women, and that women are encouraged to apply and take up positions. • The project/programme design and implementation arrangements will ensure equal access to benefits and that there are no disproportionate adverse effects. This may be achieved by any appropriate means, including, e.g.: ▪ Conducting a gender analysis of the sector the project/programme will support; ▪ Describing the current situation of the allocation of roles and responsibilities in the project/programme sector or area; ▪ Showing how the project/programme will pro-actively take measures to promote gender equality e.g. by organizing separate working groups or conducting separate stakeholder consultations at times and locations conducive to soliciting opinions of all.
Principle 6: Core Labour Rights.	Projects/programmes supported by the Fund shall meet the core labour standards as identified by the International Labour Organization. The ILO core labour standards are stated in the 1998 ILO Declaration of Fundamental Principles and Rights at Work. 14 The Declaration covers four fundamental principles and rights, which are further developed in eight fundamental rights conventions: 15 ▪ Freedom of association and the effective recognition of the right to collective bargaining (conventions ILO 87 and ILO 98); ▪ Elimination of all forms of forced or compulsory labour (conventions ILO 29 and ILO 105); ▪ Elimination of worst forms of child labour (conventions ILO 138 and ILO 182); 16 ▪ Elimination of discrimination in respect of employment and occupation (conventions ILO 100 and ILO 111). Regardless of whether the countries where Fund‘s projects/programmes are implemented have ratified the conventions, in the context of the Fund‘s 14 More information on the core labour rights can be found at http://www.ilo.org/declaration/lang-- en/index.htm 15 The full text of the eight conventions (ILO Conventions 29, 87, 98, 100, 105, 111, 138 and 182) is available

	from the ILO information system on international labour standards http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB :1:0 16 ILO 182 includes not employing children in forced, economically exploitive or hazardous work; or in a way that interferes with educations or is harmful to health or physical, mental, spiritual, moral, or social development. ESP Guidance document 11 project/programme operations the IE will respect, promote, and realize in good faith the principles mentioned above and ensure that they are respected and realized in good faith by the EE and other contractors. Where applicable, the project/programme will incorporate the ILO core labour standards in the design and implementation of the project/programme and create awareness with all involved on how these standards apply. The IE will summarize in the Proposal how they are ensuring that the EE is implementing the ILO core labour standards. Possible elements that may be considered Information the IE may consider when assessing the project/programme potential risks with regard to this principle: • If the project/programme host country has ratified the eight ILO core conventions, the risks involved may be smaller. National compliance makes it more likely that a project/programme can and will achieve compliance. • The latest ILO assessments of application of the standards in the project/programme country is available in the reports of the two ILO bodies, The Committee of Experts on the Application of Conventions and Recommendations and The International Labour Conference‘s Tripartite Committee on the Application of Conventions and Recommendations. Other assessments by reputable sources (e.g. the World Bank or regional development banks) may also be used. • Past/present/planned ILO assistance to meet the standards through social dialogue and technical assistance. • Information on any ILO Special procedures relevant to the Member nation or to the project/programme, including details on the triggering representation or complaints. • Demonstration on how the ILO core labour standards will be incorporated in the design and the implementation of the project/programme, as appropriate. • In the case of problematic assessments by ILO of compliance or in the case of Special procedures at the national level, the IE will provide information on how these issues will be addressed, if they are relevant to the project/programme. Reference may be made to a monitoring process during project/programme implementation for future possible problematic ILO assessments or new Special procedures.
Principle 7: Indigenous Peoples	The Fund shall not support projects/programmes that are inconsistent with the rights and responsibilities set forth in the UN Declaration on the Rights of Indigenous Peoples and other applicable international instruments relating to indigenous peoples. The 2007 UN Declaration on the Rights of Indigenous Peoples (UNDRIP) has its legal foundation in ILO Convention 169 concerning Indigenous and Tribal Peoples in Independent Countries. As part of the system of thematic Special Procedures, the Human Rights Council has appointed a Special Rapporteur on the rights of indigenous ESP Guidance document 12 peoples. The Special Rapporteur promotes good practices, reports on the overall human rights situations of indigenous peoples in selected countries, addresses specific cases of alleged violations of the rights of indigenous peoples, and conducts or contributes to thematic studies. —Other applicable international instruments relating to indigenous peoplesll means any treaties, conventions, protocols, or other international instruments related to indigenous peoples to which the project/programme country is a party and that are currently in force. These include but are not limited to the following United Nations (UN) conventions: 17 ▪ Convention against Torture and Other Cruel, Inhuman, or Degrading Treatment or Punishment; ▪ Convention on the Elimination of All Forms of Discrimination against Women; ▪ Convention on the Rights of the Child; ▪ International Covenant on Civil and Political Rights; ▪ International Covenant on Economic, Social, and Cultural Rights; ▪ International Convention on the Elimination of All Forms of Racial Discrimination. If indigenous peoples are present in the project/programme implementation area the IE will: 1) Describe how the project/programme will be consistent with UNDRIP, and

	particularly with regard to Free, Prior, Informed Consent (FPIC) 18 during project/programme design, implementation and expected outcomes related to the impacts affecting the communities of indigenous peoples. 2) Describe the involvement of indigenous peoples in the design and the implementation of the project/programme, and provide detailed outcomes of the consultation process of the indigenous peoples. 3) Provide documented evidence of the mutually accepted process between the project/programme and the affected communities and evidence of agreement between the parties as the outcome of the negotiations. FPIC does not necessarily require unanimity and may be achieved even when individuals or groups within the community explicitly disagree. 4) Provide a summary of any reports, specific cases, or complaints that have been made with respect to the rights of indigenous peoples by the Special Rapporteur and that are relevant to the project/programme. This summary should include information on subsequent actions, and how the project/programme will specifically ensure consistency with the UNDRIP on the issues that were raised. Possible elements that may be considered 17 Links to these conventions are available at www2.ohchr.org/english/law. The ratification status of each convention by country is available. 18 Free, Prior, Informed Consent (FPIC) is the principle that a community has the right to give or withhold its consent to proposed projects that may affect the lands they customarily own, occupy or otherwise use. ESP Guidance document 13 Information that the IE may consider when assessing the project/programme potential risks: • Status of ratification of ILO Convention 169 by the country or countries in which the project/programme will be implemented. • Project/programme consistency with the UNDRIP may further be enhanced by creating awareness about the rights of indigenous peoples and how it is a general principle in the implementation of the project/programme.
Principle 8: Involuntary Resettlement.	Projects/programmes supported by the Fund shall be designed and implemented in a way that avoids or minimizes the need for involuntary resettlement. When limited involuntary resettlement is unavoidable, due process should be observed so that displaced persons shall be informed of their rights, consulted on their options, and offered technically, economically, and socially feasible resettlement alternatives or fair and adequate compensation. Involuntary resettlement refers to both physical displacement (relocation or loss of shelter) and to economic displacement (loss of assets or access to assets that leads to loss of income sources or other means of livelihood). Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in physical or economic displacement because of either: 1) lawful expropriation or temporary or permanent restrictions on land use, and 2) negotiated settlements in which the buyer can resort to expropriation or impose legal restrictions on land use if negotiations with the seller fail. This principle does not apply to resettlement resulting from voluntary land transactions in which the seller is not obligated to sell and the buyer cannot resort to expropriation or other compulsory processes sanctioned by the legal system of the host country if negotiations fail. The IE should determine if physical or economic displacement is required by the project/programme and if it is voluntary or involuntary. If it is involuntary, the IE will: 1) Provide justification for the need for involuntary resettlement by demonstrating any realistic alternatives that were explored, and how the proposed involuntary resettlement has been minimized and is the least harmful solution. 2) Describe in detail the extent of involuntary resettlement, including the number of people and households involved, their socio-economic situation and vulnerability, how their livelihoods will be replaced, and the resettlement alternatives and/or the full replacement cost compensation required whether the displacement is temporary or permanent. 3) Describe in detail the involuntary resettlement process that the project/programme will apply, and the built-in safeguards to ensure that displaced persons shall be informed of their rights in a timely manner, made aware of the grievance mechanism, consulted on their

	options, and offered technically, economically, and socially feasible resettlement alternatives or fair and adequate compensation. This also should include an overview of the applicable national laws and regulations. 4) Justify the conclusion that the involuntary resettlement is feasible. ESP Guidance document 14 5) Describe the adequacy of the project/programme organisational structure to successfully implement the involuntary resettlement as well as the capacity and experience of the project/programme management with involuntary resettlement. 6) Build awareness of involuntary resettlement and the applicable Principles and procedures of the project/programme.
Principle 9: Protection of Natural Habitats	The Fund shall not support projects/programmes that would involve unjustified conversion or degradation of critical natural habitats, including those that are (a) legally protected; (b) officially proposed for protection; (c) recognized by authoritative sources for their high conservation value, including as critical habitat; or (d) recognized as protected by traditional or indigenous local communities. The Convention on Biological Diversity defines a 'habitat'as the place or type of site where an organism or population naturally occurs. —Critical natural habitatǁ refers to habitats that are not man-made and that fulfil a critical role for an organism or a population that in the absence or disappearance of that habitat might be severely affected or become extinct. Specific knowledge about a habitat (either common knowledge, traditional insights, or the result of formal scientific research) is always the basis for identifying critical natural habitats. Often, but by no means always, this has resulted in assigning a protected status to such a critical habitat. The principle refers to legal protection at all levels of governance. The absence of legal protection alone cannot be used to conclude that a habitat is not to be considered a critical natural habitat. Reference is made to knowledge about the importance and intrinsic value of a habitat. The precautionary principle prevails where such knowledge is inadequate or inconclusive. The IE will identify: 1) the presence in or near the project/programme area of natural habitats, and 2) the potential of the project/programme to impact directly, indirectly, or cumulatively upon natural habitats. If such habitats exist and there is a potential of the project/programme to impact the habitat, the IE will: 1) Describe the location of the critical habitat in relation to the project and why it cannot be avoided, as well as its characteristics and critical value. 2) For each affected critical natural habitat, provide an analysis on the nature and the extent of the impact including direct, indirect, cumulative, or secondary impacts; the severity or significance of the impact; and a demonstration that the impact is consistent with management plans and affected area custodians. Possible elements that may be considered Information that may assist the IE in decision-making include: • The laws and regulations within the country that protect natural habitats, including the different forms of protection, and the institutional arrangements for their implementation and enforcement that apply to the habitat. ESP Guidance document 15 • The critical natural habitats nationwide, their location, characteristics and critical value. These areas may be identified based upon their actual or proposed legal protection status, on common knowledge or traditional or indigenous knowledge, or on scientific information on their value. The legal protection refers to all levels of government, as well as international conventions and agreements like the Convention on Wetlands (Ramsar, Iran, 1971). Scientific knowledge may be in the form of peer-reviewed, published scientific research, or inventory lists prepared by authoritative sources like the UNESCO Man and the Biosphere Programme, the International Union for Conservation of Nature (IUCN) and the United Nations Environment Programme (UNEP). Large non-governmental conservation organizations like the World Wide Fund for Nature, Bird Life International, and Conservation International may also be sources of useful information.
Principle 10: Conservation of Biological	Projects/programmes supported by the Fund shall be designed and implemented in a way that avoids any significant or unjustified reduction or loss of biological diversity or the introduction of known invasive species. The Convention on

Diversity.	Biological Diversity (CBD) defines biological diversity as —the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.‖ This definition implies that biological diversity concerns not only living organisms of all taxa but also ecosystem processes, habitats, hydrological cycles, processes of erosion and sedimentation, landscapes, etc. The Cartagena Protocol on Biosafety to the Convention on Biological Diversity is an international treaty governing the movements of living modified organisms (LMOs) resulting from modern biotechnology from one country to another. The IE will identify: 1) the presence in or near the project/programme area of important biological diversity; 2) potential of a significant or unjustified reduction or loss of biological diversity, and 3) potential to introduce known invasive species. If important biological diversity exists and will be significantly or unjustifiably impacted or if the project/programme will introduce known invasive species, the IE will: Biological diversity • Describe the elements of known biological diversity importance in the project/programme area, using any relevant sources of information, such as protection status, status on the IUCN Red List of Threatened Species19 and other inventories, recognition as a UNESCO Man and the Biosphere Programme reserve20, Ramsar site, 21 etc. • Describe why the biological diversity cannot be avoided and what measures will be taken to minimize impacts. 19 International Union for Conservation of Nature, www.iucnredlist.org 20 United Nations Educational, Scientific and Cultural Organization, www.unesco.org/new/en/naturalsciences/environment/ecological-sciences/man-and-biosphere-programme 21 Convention on Wetlands of International Importance, called the Ramsar Convention, www.ramsar.org ESP Guidance document 16 Invasive Species • Describe the invasive species that either may or will be introduced and why such introduction cannot be avoided. • Provide evidence that this introduction is permitted in accordance with the existing regulatory framework22 and the results of a risk assessment analysing the potential for invasive behaviour. • Describe the measures to be taken to minimize the possibility of spreading the invasive species
Principle 11: Climate Change.	Projects/programmes supported by the Fund shall not result in any significant or unjustified increase in greenhouse gas emissions or other drivers of climate change. The main drivers of climate change that are considered here are the emission of carbon dioxide gas from the use of fossil fuel and from changes in land use, methane and nitrous oxide emissions from agriculture, emission of hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride, other halocarbons, aerosols, and ozone. Compliance with the principle may be demonstrated by a risk-based assessment of resulting increases in the emissions of greenhouse gasses or in other drivers of climate change. Projects/programmes23 in the following sectors require a greenhouse gas emissions calculation using internationally recognized methodologies: 24 energy, transport, heavy industry, building materials, large-scale agriculture, large-scale forest products, and waste management. The calculations will be used as a basis for a substantiated evaluation of the significance and justification of any increase. Other projects/programmes may demonstrate compliance by carrying out a qualitative risk assessment for each of the mentioned drivers of climate change, plus any impact by the project/programme on carbon capture and sequestration capacity.
Principle 12: Pollution Prevention and Resource Efficiency.	Projects/programmes supported by the Fund shall be designed and implemented in a way that meets applicable international standards for maximizing energy efficiency and minimizing material resource use, the production of wastes, and the release of pollutants. There are two distinct aspects to this principle. Projects/programmes shall on the one hand minimize in a reasonable and cost-effective way the resources that will be used during implementation. This applies to all sources and forms of energy, to water, and to other resources and materials inputs. On the other hand, the project/programme will minimize the production of

	waste and the release of pollutants (including GHGs). Possible elements that may be considered 22 Including the Cartagena protocol for countries that have ratified it. 23 If a programme contains one project that is in one of the sectors mentioned, the requirement will apply to the whole programme. 24 In line with the Guidelines for National Greenhouse Gas Inventories (2006) of the Intergovernmental Panel on Climate Change (IPCC) www.ipcc-nggip.iges.or.jp/public/2006gl/. Tools are available from a number of sources, including www.ghgprotocol.org, www.epa.gov/climatechange/emissions/ghgrulemaking.html,nd www.defra.gov.uk/publications/2011/03/26/ghg-guidance-pb13309 ESP Guidance document 17 IEs may illustrate the minimization of resource use by showing how this concept has been applied in the project/programme design and how this will be effective during implementation. Such illustration may include references to certain design options/alternatives and implementation arrangements. Where international standards for maximizing energy efficiency and minimizing material resource use apply, these will be listed and a description provided on how the design and implementation arrangements of the project/programme are consistent. Preventing waste and pollution may be achieved by preparing a waste and pollution prevention and management plan for the whole project/programme. The nature and quantity of the waste, as well as those of possible pollutants the project/programme may produce, will determine the level of detail and the performance requirements of the waste and pollution prevention and management plan. The plan should include the cost of implementation arrangements and as well as implementation and performance monitoring. The guiding principles of the waste and pollution prevention and management plan should be prevention, a precautionary approach, evidence-based monitoring, and participation and consultation. Implementation of the plan will be duly documented and all those involved in project/programme implementation will be familiarized with the plan and its implications.
Principle 13: Public Health.	Projects/programmes supported by the Fund shall be designed and implemented in a way that avoids potentially significant negative impacts on public health. Possible public health impacts of a project/programme can be determined by assessing its impact on a range of so-called determinants of health. 25 Public health is determined not just by access to medical care and facilities and lifestyle choices, but also by a much broader set of social and economic conditions in which people live. Possible elements that may be considered The project/programme may demonstrate that it will not cause potentially significant negative impacts on public health by screening for possible impacts and including the results of the screening in the Proposal. Health impact screening is a process of rapidly and systematically identifying the project/programme‘s potential impacts on public health. It will typically also elucidate the risk of such effects and determine if a further thorough public health impact assessment and the development of a management plan is needed to prevent potentially significant impacts and to demonstrate compliance with the principle. This screening can thus be the first step in a full health impact assessment, depending on the outcome of the screening. A range of health impact assessment and screening tools exist. For the purpose of demonstrating compliance, a checklist for health impact assessment screening may be used. Such a checklist considers the potential impact of the project/programme on a comprehensive range of health determinants for the population as a whole and for groups within the population. A health impactscreening checklist should include at least the following sections: 1) a section on the background and context of the project/programme; 2) a section with an adequate list of health determinants, with space for a nuanced assessment, for each determinant, the likelihood of impact occurring; and 3) a section identifying the group(s) most likely to be affected by each health determinant 25 Further information on determinants of health is available e.g. from the World Health Organization website http://www.who.int/hia/evidence/doh/en/

	ESP Guidance document 18 If the outcome of the screening is that no potentially significant negative impacts on public health are likely, then the screening may be used to demonstrate compliance. If on the other hand the screening concludes that further health impact assessment is needed, then the outcome of that process may be used to demonstrate compliance. Both screening and possibly health impact assessments must comply with the relevant WHO recommended practices.
Principle 14: Physical and Cultural Heritage.	Projects/programmes supported by the Fund shall be designed and implemented in a way that avoids the alteration, damage, or removal of any physical cultural resources, cultural sites, and sites with unique natural values recognized as such at the community, national or international level. Projects/programmes should also not permanently interfere with existing access and use of such physical and cultural resources. The reference for international recognition of physical and cultural heritage is the 1972 UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage. Convention Articles 1 and 2 provide definitions of what is considered cultural and natural28 heritage. The List of World Heritage in Danger29 (Article 11 (4) of the Convention) also provides a reference. The IE will identify the presence of cultural heritage in or near the project/programme. If cultural heritage exists, the IE will: • Describe the cultural heritage, the location and the results of a risk assessment analysing the potential for impacting the cultural heritage; and • Describe the measures to be taken to ensure that cultural heritage is not impacted, and if it is being accessed by communities, how this access will continue. Possible elements that may be considered Information that may assist the IE when assessing the project/programme potential risks include: • Status of ratification and entry into force of the Convention Concerning the Protection of the World Cultural and Natural Heritage by the country or countries in which the project/programme will be implemented. 26 http://www.who.int/hia/en/ 27 monuments: architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science; groups of buildings: groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science; sites: works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view. 28 natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view; geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science or conservation; natural sites or precisely delineated natural areas of outstanding universal value from the point of view of science, conservation or natural beauty. 29 http://whc.unesco.org/en/danger ESP Guidance document 19 • National legal and regulatory framework for recognition and protection of physical and cultural heritage in the country or countries where the project/programme is implemented. • Inventory of the physical and cultural heritage present in the wider project/programme area that enjoys recognition at community, national, or international levels.
Principle 15: Lands and Soil Conservation.	Projects/programmes supported by the Fund shall be designed and implemented in a way that promotes soil conservation and avoids degradation or conversion of productive lands or land that provides valuable ecosystem services. Principle 15 concerns the stewardship of land to either be maintained in its natural state, where possible, or if it is converted to promote and protect its functioning. Soil conservation refers to a set of measures to prevent, mitigate or control soil erosion and degradation. 30 There are two aspects to the principle: promotion of soil conservation and avoidance of degradation or conversion of valuable lands. This applies to soils and lands directly affected by the project/programme as well as

	those influenced indirectly, or as a secondary or cumulative effect. Soil conservation should be incorporated in project/programme design and implementation. Soil conservation The IE will identify: 1) the presence of fragile soils (e.g. soils on the margin of a desert area, coastal soils, soils located on steep slopes, rocky areas with very thin soil) within the project area or 2) project/programme activities that could result in the loss of otherwise non-fragile soil. If such soils exist and potential soil loss activities will take place, the IE will: • Identify and describe: o Soils that may be impacted by the project/programme; o Activities that may lead to loss of soils; o Reasons why soil loss is unavoidable and o Measures that will be taken to minimize soil loss. • Describe how soil conservation has been promoted to the EE. Valuable lands The IE will identify: 1) productive lands and/or lands that provide valuable ecosystem services within the project/programme area. If such lands exist, the IE will: • Identify and describe: o The lands; o Project/programme activities that may lead to land degradation; o Reasons why using these lands is un-avoidable and the alternatives that were assessed, and o Measures that will be taken to minimize productive land degradation or ecosystem service impacts. 30 The Food and Agriculture Organization of the United Nations defines soil degradation as a change in the soil health status resulting in a diminished capacity of the ecosystem to provide goods and services for its beneficiaries. ESP Guidance document 20 4. Demonstrating compliance with the ESP in the project/programme proposal document This section describes how the IE can present the relevant environmental and social risk information in the funding proposal to the Board, at both concept and fully developed proposal stages. In the Proposal Section II.K, from the concept stage, the IE will document and summarize the findings of the screening/assessment process and categorization, including completing the checklist provided in that section of the proposal. Detailed information on the screening process and findings should be made available as an annex. Categorization The outcome of the screening and assessment process is used to determine the environmental and social categorization of the risk for the project/programme. This should be done at the concept stage. The criteria for categorization are described in paragraph 8 of the ESP. 31 The IE may present the findings of the screening/assessment process to substantiate and support its determination of the category for a project/programme. It is not possible to provide universal reference points to quantify severity of environmental and social impacts. Therefore, the IE will provide rationales to support their determination of severity and acceptability so that the determination can be reviewed as necessary. Category C projects/programmes are those for which no adverse environmental or social impacts are anticipated at the time of screening, and that do not require further impact assessment. Nevertheless, during the implementation of category C projects/programmes, low-level monitoring for unexpected environmental or social impacts will be included in the project/programme design and will be reported on annually. Conducting environmental and social assessments As a general rule, the IE, when required, should conduct impact assessment before submitting the fully-developed project/programme document. Environmental and Social Management Plan Risks and/or impacts that are identified and determined as unavoidable in the assessment process should be captured in an environmental and social management plan. This may be a single plan or a collection of plans. This plan should be submitted at the fully-developed proposal stage. The environmental and social management plan should describe the risk mitigation measures that will be taken to ensure consistency with the ESP Principles and applicable host country laws and regulations. Much of the content of an environmental and social management plan will consist of the specific management plans and related activities that have been identified during the impact assessment in accordance with the separate Principles. The Instructions provide additional detail on management and monitoring plans. In some Category B projects/programmes, where the proposed activities requiring an environmental or social assessment represent a

	minor part of the project, and when the assessment and/or management plan cannot be completed in time or where 31 See footnote 2 supra. ESP Guidance document 2

12. An environmental and social assessment was conducted to ensure that the AF standards are applicable to the targeted community activities. The assessment against the 15 principles and the identified mitigation measures are summarized below:

Table 3: Assessment of CALRF's interventions against AF Principles

Checklist of environmental and social principles	**No further assessment required for compliance**	**Potential impacts and risks – further assessment and management required for compliance**
1. Compliance with the Law	**Yes**	**Low risk:** Overall, through consultations with different stakeholders, including government agents, compliance with national regulations and standards will be ensured and therefore the risk is low. Through monitoring ensure adequate management verification that safeguards are in place and are a mirror of these principles. In practice, adherence to laws is influenced by institutional capacities, resource availability and socio-cultural practices, among other factors. These are acknowledged but can't be determined at the design stage – and therefore, compliance to national regulations and standards will need screening against the 15 AF ESP principles.
2. Access and Equity	**Yes**	**Low risk:** In promoting access to financial services particularly, the project will operate in a socio-cultural context that keeps women and the youth from lucrative undertakings. The project will be deliberate and ensure equitable representation of both males and females. It will also target the poor, isolated from political power and decisions, the vulnerable to build their adaptive capacities and resilience. It should be mentioned also that the project will seek an equitable representation of women in capacity development and access of actual socioeconomic activities. Having mentioned that, it is recalled that the project will primarily target cooperatives as potential grantees. It has established selection criteria (see Table of Grant screening Criteria). Though these have been established at development, actual cooperatives will only be identified at implementation, therefore consisting USPs, calling for a screening assessment against the 15 AF ESP principles.
3. Marginalized and Vulnerable Groups	**Yes**	**Low risk:** As noted above, the project's target group is vulnerable rural populations thereby ensuring social inclusion is a key consideration in the project particularly providing adaptation options and increasing access to rural finance for these groups. The full design has conducted an analysis of the profiles of the communities and the targeted areas. The profiling improved the targeting of the project, ensuring the inclusion the vulnerable – in the context of the

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
		project, the vulnerable include the socioeconomically non-empowered community members, and include women, the youth and the differently abled. Despite this level of consideration, in practice and because of power dynamics within communities, there is a possibility for marginalization of vulnerable groups – therefore, this will need to be screened against the 15 AF ESP principles
4. *Human Rights*	**x**	**Low risk:** The project will contribute to sustained economic and social inclusion by targeting the rural vulnerable poor communities in 15 districts. The project, and in consultation and engagement with different stakeholders is cognizant of Zambia's policies and law to promote human rights, including the labour laws. The project will ensure adherence, particularly paying attention to child labour in all the project-funded activities.
5. *Gender Equality and Women's Empowerment*	**Yes**	**Low risk:** The Project has in its objectives gender equality and women empowerment, which should be improved through the project activities. The Gender Action Learning System will be applied and specifically the Household Methodology to ensure results are achieved. It should also be noted that 50% of the direct beneficiaries will be female
6. *Core Labour Rights*	**x**	**Low risk:** The project will support activities that will require human labour. Through the application of the IFAD SECAP, screening will be conducted on investments to ensure labour rights are respected. Additionally, as has been noted above, no child labour will be tolerated in adherence to the Zambian laws and international best practices.
7. *Indigenous Peoples*	**x**	**No risks:** Technically, there is no group in Zambia that identifies itself as an Indigenous People. Where the project activities will be implemented, principles of Free, Prior and Informed Consent (FPIC) will be adhered to.
8. *Involuntary Resettlement*	**Yes**	**Low risk:** Some of the project activities will involve infrastructure development such as setting up simple and inexpensive irrigation systems. The areas will be limited in size, and since the primary target will be already existing Cooperatives, the land for introducing sustainable agricultural practices will already be under production or at least some of utilization by Cooperative members. The choice of the particular land for project intervention will be participatory and consultative to ensure community members themselves take a lead in proposing the area for project intervention. It should be noted that Zambia is sparsely populated, and communities in rural areas rarely live in agglomerations. This limits the chance of land scarcity within community contexts to trigger undesirable physical or economic involuntary resettlements.

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
		Despite this assurance at the stage of development, during implementation, due diligence will be done through the 15 AF ESP principles. Therefore, activities related to use of land are USPs.
9. *Protection of Natural Habitats*	**Yes**	**Low risk:** As noted above under 'Involuntary Resettlement,' through infrastructure development, the project may contribute to disturbance of natural habitats. However, considering the envisaged level of development, disturbance to natural habitats will likely be minimal or non-existent. Concrete activities will be screened, otherwise should, any of the activities lead to destruction of the natural habitats, full scale social and environmental assessment will be undertaken. At this level, activities related to land use such as investments in agricultural production systems indicate USPs, and will need to be screened using the 15 AF ESP principles during implementation.
10. *Conservation of Biological Diversity*	**Yes**	**Low risk:** As noted above under 'Involuntary Resettlement,' through infrastructure development, the project may contribute to disrupting Conservation of Biological Diversity. However, considering the envisaged level of development, disturbance to Conservation of Biological Diversity will likely be minimal or non-existent. Concrete activities will be screened, otherwise, should any of the activities lead to disruption of the Conservation of Biological Diversity, full scale social and environmental assessment will be undertaken. As above, activities related to land use such as investments in agricultural production systems indicate USPs, and will need to be screened using the 15 AF ESP principles during implementation.
11. *Climate Change*	**Yes**	**Low Risk:** The project does not have any negative impact on climate change. The project interventions are actually aimed at addressing adverse effects of climate change. Activities centered on assisted natural regeneration and agroforestry systems, for example, will have mitigation benefits to the impacts of climate change. Continued stakeholder consultations will ensure that none of the proposed interventions directly or indirectly increase social and environmental vulnerabilities to climate change. They will also ensure that a robust suite of adaptation measures is implemented. Overall, the project activities will promote climate change adaptation and is less likely to lead to important levels of greenhouse gas emissions through land restoration activities which may include digging the soil.
12. *Pollution Prevention and Resource Efficiency*	**Yes**	**Moderate risk:** The Project will be the subject of an Environmental and Social Impact Analysis that will consider pollution, public health, physical and cultural heritage, as well as Lands and Soil Conservation will be examined in the analysis. However, water conditions may be affected through establishing small, community-owned processing units for drying, juicing, and preserving local

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
		fruits under component 1 but also the construction of cisterns – even if cisterns will certainly improve water use efficiency, particularly as the country continues to experience droughts.
13. Public Health	**X**	**Low risk:** Livelihood activities will contribute to improving the health of beneficiaries through food and nutritional security. However, working conditions across many sectors in the rural areas are generally poor owing to poverty level, isolation from law-enforcement authorities, among other factors. The project will ensure health and safety standards are in place and adhered to, including mandating service providers in infrastructure development to submit job and health analysis. Monitoring will be done, and full scale environmental and social assessment done should any activity trigger high risk impact on public health.
14. Physical and Cultural Heritage	**Yes**	**Low risk:** Areas for sustainable agricultural production have not yet identified at project development, and therefore, complete risks cannot be confirmed. All activities related to agricultural production landscapes have USPs, and will need to be screened against the 15 AF ESP Principles.
15. Lands and Soil Conservation	**Yes**	**Low risk:** Sustainable land management and improved soil fertility are part of the project results. The environmental and social impact analysis at design will determine whether any impacts on land and soil conservation are envisaged and will provide management and monitoring measures if required. The infrastructure development activities will not target areas for agricultural and so as not to compromise soil conservation practices. Additionally, the infrastructure such as water harvesting (cisterns) are localized and not expected to disrupt lands and soil conservation. Thus, if any risks, they will be minimal and localized.

b. Overall Risk Categorisation

13. Based on the environmental and social risks screening against the 15 principles of the Adaptation Fund ESP, the project is categorized as a Category B (moderate risks) project and classified as a moderate risk project (SECAP), with some, potential adverse impacts and risks that are reversible or mitigated. As has been noted under involuntary resettlements in the overview of the assessment against AF principles Table above, the focus to implement land restoration and support towards agroforestry systems will overall benefit the socioecological system; ensuring minimum social and environmental disturbances in the targeted places. The climate risk classification of the CALRF is substantial (SECAP) because the target areas have experienced climate shocks such as droughts and floods that have resulted in loss of crops and livestock, damage to infrastructure and adversely impacted livelihoods of the CALRF beneficiaries.

c. USP ESC Screening

14. Given the nature of the proposed interventions to respond to the adaptation challenges occasioned by extreme weather events in Zambia, CALRF uses USP modality in line with the Adaptation Fund's

guidance on USPs as detailed here. Some of the activities related to land restoration under component 1, access to innovative local financing systems under component 2 need additional screening to ensure compliance with the AF ESP standards. The required layer of screening of some of the details against AF's ESP has not been possible at development stage, and therefore, the project has proposed mechanisms in the ESMF to address the issue of USPs. The project will prioritize supporting farmer groups and cooperatives as these have a better multiplier effect on investments in communities – including transformational impacts in terms of improving the environment as well as building and strengthening resilience at community level. During the vetting process to deal with USPs, one of the criteria the project will evaluate proposals and expressions of interest will based on women and youth representation in the farmer groups and cooperatives. Also, the project will:

- Look at existing benefit sharing mechanisms and responsibilities in groups – these will be part of proposal and expressions of interest vetting process.
- Government prescribed community engagement practices in natural resources management which include the recognition of community resources with certification by the Director, Forest Department.
- Ensure overall compliance to relevant national policies, regulations and standards.

15. To deliver on its objective, the project will be vigilant and ensure a robust system for screening project activities against the AF principles as reflected in table 2 above. Thus, as part of the PPR tracker, the project will also report on all the indicators (including gender and youth), identifying those indicators that are not meeting their targets and proposing the corrective measures being taken by the PIU. Below is a consolidated EMSP table that summarizes project safeguards for each priority of the Adaptation Fund's ESP and GP and reporting plan – as has been assessed at design as relevant to the project.

Table 3 Adaptation Fund's ESP and GP and reporting plan

Summary Management and Reporting Plan	
ESP	**Management Plan and Reporting Requirements**
ESP 1 Compliance with the Law	A) The project will identify: Relevant Laws concerned by contracts with service providers, and include provisions to ensure these Laws are complied with.
	B) Monitoring: The PIU will ensure that the relevant laws are complied with by service providers
	C) Reporting: The project will submit biannual progress reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR and final evaluation and completion survey
ESP 2 Access and Equity	A) The project will establish: A targeting strategy, a gender and social inclusion action plan, and mechanisms for a clear and transparent communication about eligibility criteria and project procedures. Responsibility for the development of these tools will lie with the Gender and Social Inclusion Specialist.
	B) Monitoring: Participation of the project target groups will be closely monitored through the M&E system. The Grievance Redress Mechanism will also represent an avenue for reporting in case individuals and/or communities feel excluded or marginalized from project benefits. The PIU will ensure that no tensions or conflicts arise around the targeting approach, and if they arise, provide the support required through the GRM.
	C) Reporting: The project will submit biannual progress reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR and final evaluation and completion survey. These reports will highlight any incident notified through the GRM, and reflect progress on sensitization activities (information campaigns and social inclusion trainings)
ESP 3 Marginalized and Vulnerable groups	A) The project will establish: A targeting strategy, a gender and social inclusion action plan, and mechanisms for a clear and transparent communication about eligibility criteria and project procedures, notably with

Summary Management and Reporting Plan	
ESP	**Management Plan and Reporting Requirements**
	regards to household vulnerability to ensure the threshold inclusion of 50% women and 30% youth is achieved. The mechanisms will include: social inclusion trainings, broad information campaigns and outreach events targeting women and youth, and transparency on the public call processes. The project will also include specific measures to support gender equality and women's empowerment, targeting: (i) economic empowerment, (ii) access to financial services and information, and (iii) training programs on market linkages and financial literacy, among others. The Gender and Social Inclusion Specialist will have the charge to develop the tools.
	B) Monitoring: Participation of the project target groups will be closely monitored through the M&E system. The Grievance Redress Mechanism will also represent an avenue for reporting in case individuals and/or communities feel excluded or marginalized from project benefits. The PIU will ensure that no tensions or conflicts arise around the targeting approach, and if they arise, provide the support required through the GRM.
	C) Reporting: The project will submit biannual progress reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR and final evaluation and completion survey. These reports will track beneficiaries' numbers by category and present progress with regards to the gender-related indicators.
ESP 5 Gender equity and women empowerment	A) The project will establish: A targeting strategy, a gender and social inclusion action plan, and mechanisms for a clear and transparent communication about eligibility criteria and project procedures to ensure to ensure the threshold inclusion of 50% women inclusion and their empowerment. Responsibility for the development of these tools will lie with the Gender and Social Inclusion Specialist.
	B) Monitoring: Participation of the project target groups will be closely monitored through the M&E system. The Grievance Redress Mechanism will also represent an avenue for reporting in case individuals and/or communities feel excluded or marginalized from project benefits. The PIU will ensure that no tensions or conflicts arise around the targeting approach, and if they arise, provide the support required through the GRM.
	C) Reporting: The project will submit biannual progress reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR and final evaluation and completion survey. These reports will highlight any incident notified through the GRM, and reflect progress on women engagement and empowerment through different project activities, including access to financial resources, training etc.
ESP 8 Involuntary Resettlement	The project will assess and establish that the process to select activities do not lead to physical and economic displacement and involuntary resettlements. The project will conduct thorough consultations to ensure unanimous agreements with communities on areas to establish project activities that can potentially lead to involuntary resettlement in the short or long term so that involuntary resettlement are avoided altogether.
	Monitoring: The PIU will closely work with extension workers to ensure that project activities do not lead to any form of involuntary resettlements. For community-owned land for restoration, the project will support communities to get formal recognition of land restoration from the Director, Forest Department as is the case for community forest management groups in Zambia that is based on the Forest Act 2015.
	C) Reporting: The project will submit biannual progress reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR and final evaluation and completion survey. These reports will highlight

Summary Management and Reporting Plan	
ESP	**Management Plan and Reporting Requirements**
	any incident notified through the GRM, and reflect progress respect for FPIC on project activities on community land, and certification from the Director, Forest Department.
ESP 9 Protection of Natural Habitats	A) The project will identify: i. The presence in or near the project area of natural habitats; ii. The potential of the project to impact directly, indirectly, or cumulatively upon natural habitats
	B) If critical natural habitats exist and there is a potential of the project to impact the habitat, the project will: i. Describe the location of the critical habitat in relation to the project and why it cannot be avoided, as well as its characteristics and critical value. ii. For each affected critical natural habitat, provide an analysis on the nature and the extent of the impact including direct, indirect, cumulative, or secondary impacts; the severity or significance of the impact; and a demonstration that the impact is consistent with management plans and affected area communities.
	C) Reporting: It is unlikely the project will have any negative impact on critical natural habitats, as protected areas will be de facto excluded from project activities. The project will submit biannual progress reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR and final evaluation and completion survey.
ESP 10 Conservation of Biological Diversity	A) The project will identify: i. The presence in or near the project area of critical biodiversity; ii. The potential of the project to impact directly, indirectly, or cumulatively upon critical biodiversity; iii. Native and adaptive tree species to be used for afforestation/reforestation, excluding non-native and potentially invasive species.
	B) If critical biodiversity exists and there is a potential of the project to impact the habitat, the project will: i. Describe the elements of known biological diversity importance in the project area, using any relevant sources of information, such as protection status, status on the IUCN Red List of Threatened Species and other inventories, recognition as a UNESCO Man and the Biosphere Programme reserve, Ramsar site, etc. ii. Describe why the biological diversity cannot be avoided and what measures will be taken to minimize impacts.
	C) Reporting: It is unlikely the project will have any negative impact on protected species. The project will conduct the screening and reporting as soon as the project specific areas have been determined. In the unlikely event that the project is expected to have a negative impact on biodiversity conservation, the project will develop an ESMP in relation to ESP 10 and monitor and report in the biannual progress reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR and final evaluation and completion survey
ESP 11 Climate Change	A) Monitoring: The project will monitor the implementation of restoration activities and document their (favorable) impact on the local landscape, in terms of improving the productive function of restored land and sustainable management.
	B) Reporting: The project will report both biannually for the progress reports, as well as annually in the PPR to the AF. It will report on: (i) implementation of land restoration activities; and (iii) implementation of other practices that result in carbon storage (e.g. agroforestry).
ESP 12 Pollution prevention and resource efficiency	A) Water conditions may be affected through establishing small, community-owned processing units for drying, juicing, and preserving local fruits under component 1 - however, the project will manage this through compliance to environmental regulation as discharged by the Zambia Environmental Management Agency (ZEMA).

Summary Management and Reporting Plan	
ESP	**Management Plan and Reporting Requirements**
	B) Monitoring: The PIU and IFAD will monitor adherence to environmental regulations of ZEMA, and will ensure all necessary permits are obtained and cleared by ZEMA before giving no-objections to activities related to establishing small, community-owned processing units for drying, juicing, and preserving local fruits.
	C) Reporting: The project will submit biannual progress reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR and final evaluation and completion survey
ESP 14 Physical and cultural heritage	A) The project will identify: i. The presence in or near the project area of areas of physical and cultural heritage ii. The potential of the project to impact directly, indirectly, or cumulatively upon areas of physical and cultural heritage.
	B) If such physical and cultural heritage exist and there is a potential of the project to impact upon it, the project will: i. Provide an inventory of the physical and cultural heritage present in the wider project area that enjoys recognition at community, national, or international levels. Describe the cultural heritage, the location and the results of a risk assessment analyzing the potential for impacting the cultural heritage. ii. Describe the measures to be taken to ensure that cultural heritage is not impacted, and if it is being accessed by communities, how this access will continue
	C) Reporting: It is unlikely the project will have any negative impact on physical and cultural heritage. The project will conduct the screening and reporting as soon as the precise project areas have been determined. In the unlikely event that the project would be expected have a negative impact on biodiversity conservation, the project will develop an ESMP in relation to ESP 14 and monitor and report in the biannual progress reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR & final evaluation and completion survey.
ESP 15 Lands and Soil Conservation	The project will assess and identify potential impacts of land rehabilitation activities on the fertility status of soil and the ecosystem health of land. Tree species and land management practices that destroy the productive function of lands and soils will be avoided and 'blacklisted' against adoption. The project intends to use agroforestry multipurpose tree species as well as supporting ANR of species that are endemic to the target districts.
	B) Monitoring: The PIU with support from extension workers and backstopped by IFAD will monitor adherence practices that enhance the productive function of lands and soils.
	C) Reporting: It is unlikely the project will have any negative impact on Lands and Soil Conservation. The project will conduct the screening and reporting as soon as the precise project areas have been determined. In the unlikely event that the project would be expected have a negative impact on Lands and Soil Conservation, the project will develop an ESMP in relation to ESP 15 and monitor and report in the biannual progress reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR & final evaluation and completion survey.

d. EXCLUSION LIST

16. Table 3 below provides criteria based on which sub-projects and activities which will not be eligible for financing under CALRF :

Table 4: Sub-project and Activity Exclusion List.

No.	***Negative sub project list***
	The proposed CALRF programme will automatically exclude sub-projects that:
1.0	Require physical displacement of people. Temporary economic activities disruptions can be allowed for and treated in line with the SECAP requirements.
2.0	Permanently block the access to or use of land, water points and other livelihood resources used by others
3.0	Encroach onto fragile ecosystems, marginal lands or important natural habitats of national or international importance (e.g. ecologically-sensitive ecosystems; protected areas; natural habitat areas, forests and forest reserves, wetlands, national parks or game reserve; any other environmentally sensitive areas)
4.0	Impact on physical cultural resources of national or international importance and conservation value
5.0	Sub-projects that would involve unjustified conversion or degradation of critical natural habitats, including those that are (a) legally protected; (b) officially proposed for protection; (c) recognized by authoritative sources for their high conservation value, including as critical habitat; or (d) recognized as protected by traditional or indigenous local communities

III. ENVIRONMENTAL IMPACT ANALYSIS

17. Based on the environment and social risk assessment, the project is categorized as Category B, with some potential adverse impacts and risks which are reversible or mitigated. The table 4 provides an overview of anticipated Environmental and social risks broken down for each component.

Table 5: Anticipated Environmental and social risks per component.

Project/ Components	Expected Concrete Outputs	Potential risks	Mitigation measures
Component 1: Building and promoting equitable diversified, resilient and sustainable community livelihood options	1.1.1: Sustainable crop production systems implemented on at least 3,000 ha of land under the stress of extreme weather events and human exploitation (floods, droughts, erosion, deforestation etc.). 1.1.2: Targeted individual and community livelihood strategies of the vulnerable members in the target districts established focusing on fish and fruit tree value chains - strengthened in response to the impacts of climate change and extreme weather events. 1.1.3: Crop marketing services and infrastructure supported and strengthened in response to climate variability and	Some activities of component 1 present environmental and social risks, including: - Selection of beneficiaries which may favors less marginalized population. - Unsustainable use of chemical fertilizers and pesticides presents a high degree of pollution. - Clearance of land for regenerative agriculture practices	• Setting up of beneficiary identification committees including community representatives • Cutline clearance is to be minimized as far as possible to reduce the potential for any environmental impacts; sensitive habitats should be avoided (wetlands and stream banks); • Clearing should be limited to working areas only, and these include areas for foundations for agricultural infrastructure etc.; revegetation and reforestation must be prioritized (e.g., Planting grass, and trees as appropriate); • Over abstraction of construction materials like sand and gravel should be avoided; habitat restoration must be done where effects have been

Project/ Components	Expected Concrete Outputs	Potential risks	Mitigation measures
	change -associated extreme weather events and impacts		caused i.e., refilling burrows pits and re-grassing bare areas; • Sustainable range management must be practiced including rotational grazing, etc.; revegetation, re-grassing of all bare surfaces; minimization of vegetation clearing to working areas only; • Use of existing to access the fields and farm sites and employ drainage control measures and culverts to control natural runoff and overland flow; • Installing soil erosion control structures like, gabions, contour ridges, swells, and check dams; collection of all construction debris for proper disposal at designated landfills; waste from agricultural activities can be further processed into other uses, e.g., organic manure; reuse and recycling must be preferred over disposal of the waste; • Encourage organic farming and limit the use of Agro chemicals like inorganic fertilizers; use Integrated Pest Management (IPM) approaches to minimize pesticide use; conduct awareness training & workshops on safe handling of chemicals
Component 2: Innovative local financing systems to build community adaptive capacities in climate sensitive sectors	2.1.1 Financial Service Providers with promising adaptation financial products/services, and innovations relevant to climate-sensitive priority socio-economic sectors identified and supported to increase their community-level financing 2.1.2 Adaptation options based on district-level development plans supported, prioritized and implemented	• FSPs target affluent individuals capable of paying back, women, the youth and differently-abled face exclusion from accessing financial resources, which may lead to elite capture • Gender based violence. • USPs	• Develop gender-sensitive training programs on sustainable agriculture, including specific modules on gender equality, to raise awareness and strengthen ownership. • Gender-awareness trainings (including Gender-based Violence – GbV) will be mainstreamed into all training to men and women will be carried out at both household and community levels, including village leaders. • Regarding the USPs, site specific ESIAs/ESMPs will be carried out and specific mitigation measures will be proposed to ensure that

Project/ Components	Expected Concrete Outputs	Potential risks	Mitigation measures
			project interventions are aligned with AF 15 principles and Environment and Social Policy
Component 3: Enhancing district-level planning, awareness-raising and knowledge management for evidence-based resilience and adaptive capacity building	3.1.1 Planning and climate change awareness-raising mechanisms set up and institutionalized to enhance resilience and adaptive capacity building.	Activities under component 3 are relevant to capacity building, and knowledge and information management. Therefore, they have negligible risks pertaining to the AF's a5 principles. The risk of elite capture are limited by the project targeting strategy.	

IV. THE ENVIRONMENT AND SOCIAL MANAGEMENT PLAN

18. The Environmental and Social Management Plan outlined here below consists of a set of measures for: (a) screening (i.e. determination of potential adverse environmental and social impacts);

- Mitigation
- Monitoring
- Institutional arrangements to be undertaken during planning, design, procurement, implementation stages of the planned activities to be financed out of proceeds of the project, to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. Some of the projects interventions / investments to be supported may have adverse environmental and social impacts that must be addressed before they are implemented. This ESMP is necessary to prescribe project arrangements for the preparation, review, approval and implementation of activities to adequately address AF and national environmental and social safeguards issues and principles. It provides distinct arrangements for addressing environmental and social issues associated with the implementation of the project. Table 5 provides a template for developing an ESMP that includes the actions needed to implement proposed mitigation measures.

4.1 OBJECTIVES OF THE ESMP FOR STRENGTHENING LIVELIHOODS AND INSTITUTIONAL CAPACITIES TO ENHANCE COMMUNITY ADAPTATION TO CLIMATE CHANGE IN SELECTED PROVINCES IN ZAMBIA

19. The overall objective of this ESMP is to provide an Environmental and social screening for the projects. It is intended to be used as a practical tool during project implementation. It explicitly describes the steps to be undertaken in the implementation of the planned activities under the project. This will ensure that the implementation of the project activities is carried out in an environmentally and socially sustainable manner. It will also provide a framework to enable communities/beneficiaries screen activities, identify measures and implement measures to address adverse environmental and social impacts. Specifically, the ESMP will aim to:

i) Establish clear procedures and methodologies for environmental and social planning, review, approval and implementation of activates to be executed under the project;
ii) Assess the potential environmental and social impacts of envisaged projects activities;
iii) Propose mitigation measures which will effectively address identified negative impacts;
iv) Specify appropriate roles and responsibilities, and outline the necessary reporting procedures for managing and monitoring environmental and social concerns related to this projects; and
v) Determine the training, capacity building and technical assistance needed successfully implement the provisions of the ESMP by the various stakeholders.

4.2 GENERAL VIEW OF POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

a) Positive Impacts

20. Implementation of the proposed project is expected to have the following positive environmental and social impacts:

- ***Capacity development**:* CALRF has a strong component on capacity development at national and subnational levels which will have an overall positive impact on the people's ability to implement activities for adaptation and building of resilience.
- ***Likely positive impact of CALRF on social cohesion**:* CARLF activities will relieve the communities of the hardships that they currently experience due to poor access to resources, inadequate access to food and nutrition because of poorly performing subsistence farming as well as low levels of income. Some families have been torn apart because of women and youth resorting to relocate to urban areas in search of employment and better living conditions. Improved access to resources, general improvements in livelihoods and improved food security can be expected to reverse this trend and restore social cohesion of families.
- Likely increase in employment opportunities: Job opportunities which will benefit locals are likely to be created by the activities that will be happening in the project areas.
- ***Environmental benefits*:** CALRF activities will result in the regeneration of the habitats for many areas where the activities will be implemented, having a positive impact on animals, including birds. Specific activities may include: (i)limiting clearing, avoiding sensitive habitats, and prioritizing revegetation, (ii) restricting material extraction, ensuring habitat restoration, and practicing sustainable range management; (iii) using existing infrastructure, implementing erosion control measures, and promoting waste recycling; (iv) encouraging organic farming, minimizing agrochemical usage, and promoting safe handling practices through awareness and training; (v) and water quality will improve because of properly managed agricultural activities, re-grassing of bare ground, rehabilitation of sensitive areas like wetlands, sustainably management of grazing in the wetlands, etc.

b). Negative Impacts:

21. The following are negative environmental and social impacts likely to happen during project implementation:

- Improved livelihoods of locals by facilitating improved participation of women in income-generating activities can also have the negative impact of introducing disturbances to the social fabric that otherwise exists in these communities, especially at the household level.
- Increased conflict between communities competing for benefits from the project activities including potential for local people being physically assaulted or injured.
- The project areas may suffer from overburdening of services as there will be an increase of people seeking employment or other better socioeconomic life prospects. This may increase the chances for social ills such as competition for resources and the spread of diseases.
- The various activities in the project areas are likely to result in a cumulative increase in waste production. This may result from improvements in economic situation of the communities most likely resulting in increases in consumer spending, leading to a corresponding increase in solid waste generation. The increases in waste generation will trigger the need for an organised waste management system in the project areas.
- Clearing vegetation to make way for various infrastructure in the project areas will change the land use negatively as it suffers erosion and a change to the wildlife composition in the area. The increased human and vehicular traffic during project implementation and operations will introduce noise, and other disturbances which will cause wildlife to change their behaviour as a result of changed land uses and population growth.
- Dust accumulation from various activities in the activity areas may cause the dust levels to be a Health hazard or cause poor visibility. The activities include clearing of potential project sites and fields etc.

- The water quality of nearby water sources such as streams in the project areas may degrade due to various sources of impacts which include temporary siltation from cleared surfaces, construction activities within the catchment, littering by increased numbers of people in the project areas.

22. Overall activities related to project implementation may contribute to disturbance of natural systems Enhancement and mitigation measures While measures will be taken to promote the positive impacts of the proposed project, similarly, negative impact will be given equal attention to ensure that any potential adverse impacts are avoided or minimized as much as possible, the matrix below provides detail on mitigation and enhancement plan.

Table 6: AF E&S Screening: Environmental and social impacts of the different activities under CALRF project has been identified as summarized in this table

Project activities	1. Compliance with the law	2. Access and equity	3. Marginalized and vulnerable groups.	4. Human rights	5. Gender equity and women empowerment	6. Core labour rights	7. Ethnic diversity	8. Involuntary resettlement	9. Protection of natural habitat	10. Conservation of biological diversity	11. Climate change	12. Pollution prevention and resource efficiency	13. Public Health	14. Physical and cultural heritage	15. Lands and Soil Conservation
Component 1: Building and promoting equitable diversified, resilient and sustainable community livelihood options															
Activity 1.1.1: Conduct detailed value chain mapping and development of fruit trees, crop and fish value chains															
Activity 1.1.2: Support to land towards land rehabilitation and restoration	√								√	√	√	√		√	√
Activity 1.1.3: Support towards livelihoods diversification		√	√		√										
Activity 1.1.4: Facilitate investments in climate-smart agriculture on 2500 ha focusing on climate resilient seed	√	√	√		√				√	√	√	√		√	√

Project activities	1. Compliance with the law	2. Access and equity	3. Marginalized and vulnerable groups.	4. Human rights	5. Gender equity and women empowerment	6. Core labour rights	7. Ethnic diversity	8. Involuntary resettlement	9. Protection of natural habitat	10. Conservation of biological diversity	11. Climate change	12. Pollution prevention and resource efficiency	13. Public Health	14. Physical and cultural heritage	15. Lands and Soil Conservation
crop varieties															
Activity 1.1.2.2: Promote adoption of sustainable agricultural practices in mixed crop and fish systems	√	√	√		√				√	√	√	√		√	√
Activity 1.1.3.1: Support local level processing and marketing:	√	√	√		√							√			
Component 2: Supporting innovative local financing systems to build community adaptive capacities in climate sensitive sectors															
Activity 2.1.1.1: Provide tailored financial support to agro dealers and value chains SMEs and strengthen crop weather insurance	√	√	√		√						√				

Project activities	1. Compliance with the law	2. Access and equity	3. Marginalized and vulnerable groups.	4. Human rights	5. Gender equity and women empowerment	6. Core labour rights	7. Ethnic diversity	8. Involuntary resettlement	9. Protection of natural habitat	10. Conservation of biological diversity	11. Climate change	12. Pollution prevention and resource efficiency	13. Public Health	14. Physical and cultural heritage	15. Lands and Soil Conservation
Activity 2.1.1.2 Support to financial services for productive assets:	√	√	√		√						√				
Component 3: Enhancing district-level planning and awareness-raising for evidence-based resilience and adaptive capacity building															
Activity 3.1.1: Strengthen climate change and extreme weather-related information systems in 15 target districts															
Activity 3.1.2: Conduct 30 climate change risks awareness-raising campaigns in the 15 target districts															

Project activities	1. Compliance with the law	2. Access and equity	3. Marginalized and vulnerable groups.	4. Human rights	5. Gender equity and women empowerment	6. Core labour rights	7. Ethnic diversity	8. Involuntary resettlement	9. Protection of natural habitat	10. Conservation of biological diversity	11. Climate change	12. Pollution prevention and resource efficiency	13. Public Health	14. Physical and cultural heritage	15. Lands and Soil Conservation
Activity 3.1.2.1: Support the development of 15 strategies at district and community-levels in target provinces to incorporate climate change priorities and support capacities for implementation															

4.3 Detailed project environment and social impact assessment against 15 principles

Principle 1: Compliance with the Law

No further assessment of potential impacts and risks is required for compliance with the law, since the project complies with all relevant national legislation and policies on agriculture, water management, climate change adaptation, employment, women's rights, among others. Section 'II-E' details the laws that the project is in compliance with as well as the few areas that require the compliance with the national technical standards, including the following.

- Employment Act, No. 15 of 2019
- Zambia's Act of Gender equality and equality (Act No.22 of 2015)
- The Occupational Health and Safety Act, No. 36 of 201
- Land Act, Chapter 184 of the Laws of Zambia
- Zambia's Environmental Management Act - 2011
- Zambia National Policy on Climate Change 2016.
- Zambia's National Public Health Act No.19 of 2020
- Environmental Protection and Pollution Control 1990
- National Heritage and Conservation Act of 1989
- National Agriculture Investment Programme (NAIP) 2014-2018
- National Water Policy 2010
- National Forestry Policy 2014
- National Food and Nutrition Policy (2008)
- National Agriculture Policy 2004-2015

Principle 2: Access and Equity

No further assessment of potential impacts and risks is required for compliance with access and equity since the project will not reduce or prevent communities in the targeted areas from accessing basic services. The project will take a number of transparent steps that will help ensure that the benefits of the project are being distributed fairly with no discrimination nor favouritism. Primarily, project targeting has been agreed with the government and comprises targeting criteria based on gender and age quotas. The project will advertise broadly through the mass media (radio, social media, town hall and village meetings, workshops etc.) for the implementation of an outreach/mobilisation strategy. Beneficiaries will be explained as they have been throughout the participatory and gender-balanced consultations during the design – that is, the design of the project has been deliberate about social inclusion, and will seek to involve and engage all relevant stakeholders to ensure the benefits reach the neediest in the target areas. The design has thus included for example, gender-responsive indicators to monitor its performance for social inclusion.

Principle 3: Marginalized and Vulnerable Groups

No further assessment of potential impacts and risks is required for compliance with this principle as the entire focus of the project targets marginalized and vulnerable communities in the target provinces to empower them to cope better with the impacts of extreme weather events – building their resilience and adaptive capacity out of extreme poverty while contributing to environmental restoration. Target communities have been consulted during the development of the project, and participative approaches will be pursued to ensure meaningful participation of marginalized and vulnerable groups.

Principle 4: Human Rights

No further assessment of potential impacts and risks is required for compliance with human rights since the project is designed to respect and adhere to the requirements of all relevant conventions on human rights in compliance with the ESP. Among the Guiding Values and Principles for IFAD's Social Environmental Climate Assessment Procedures (SECAP), is the principle to "support borrowers in achieving good international practices by supporting the realisation of United Nations principles expressed in the Universal Declaration of Human Rights and the toolkits for mainstreaming employment and decent work." Zambia's commitment to Human Rights:

- Ensure that the governing structures and decision-making processes are participatory, fully inclusive and representative of the whole political spectrum and all segments of society, including youth and women, and that marginalized groups find a voice in shaping laws and policies in all spheres of life.

- Ensure accountability for all human rights violations by immediately opening judicial investigations into all credible allegations of violations, prosecuting those responsible, and awarding reparations, including compensation, to victims; and take measures to secure evidence.
- Ensure that development policies are the result of consultative and participatory processes putting the interest and rights of all Zambians at the centre.

Principle 5: Gender Equality and Women's Empowerment

No further assessment of potential impacts and risks is required for compliance with Gender Equality and Women's Empowerment. As required by the Adaptation Fund, gender analysis has been conducted in terms of food and nutrition security; gender-based violence; access to land; poverty; culture context of gender roles; the gendered division of labour; gender-based power structures; gender legal and national strategies; differentiated climate change impacts on gender; and the gender-related issues raised from community consultations. The assessment assisted the project in taking proactive measures to reflect meaningfully gender concerns, including ensuring gender aspects are included in the results framework.

GRZ has made some progress in mainstreaming gender equality and women's empowerment in the agriculture and rural sectors although this has been slow. Women continue to face challenges of unequal access and control over productive resources, unpaid labour, drudgery, and limited participation in rural institutions and markets. Considering these elements, gender-responsive interventions aimed at addressing stereotypes generated by social and cultural norms should identify, understand and implement actions to close gender gaps and overcome gender biases. Activities should be based on the application of the gender approach under a "do no harm" approach, so that adaptation measures promote coherent, responsible and ethical action in the face of social action.

Therefore, the implementation of activities will acknowledge that Zambia has norms and cultural norms that based on gender, and these influence the interactions and reactions to climate threats and opportunities in communities. Specifically, as has already been alluded to, the implementation of project activities will consider the fact climate change impacts community members differently because of existing gender inequalities, gender discrimination, social exclusion, asymmetrical access to information, skewed access to strategic decision-making spaces and systemic power imbalances.

The implementation of activities will therefore offer practical measures to ensure gender inclusion on a continuum – and consistent with the AF Gender Policy, SLIECAZ will reflect gender awareness, gender balance, gender equality, gender equity, gender mainstreaming, gender transformative, women's empowerment and commitment to closing gender gaps.

Principle 6: Core Labour Rights

No further assessment of potential impacts and risks is required for compliance with Core Labour Rights. Relevant national labour laws guided by the ILO labour standards will be followed throughout project implementation. Each of these activities will be closely monitored by project staff to ensure no violation of existing labour laws and conventions, including those pertaining to payments, harsh working conditions, exploitation, discrimination, and any other relevant provisions. Any contracts entered into will ensure rights of workers are in line with ILO standards as per SPC's policy.

- Adopt international standards on occupational health.
- Training on safety standards and occupational hazards.
- Project targets sensitized on disadvantages of using child labour.
- Regular assessment of child labour risks and response mechanisms
- County profiles to include consultation with communities on child labour.
- Raise awareness on not using child labour.
- As should be sensitised on the importance of addressing child labour in the project and what regulations/ mechanisms need to be observed/ implemented

Principle 7: Indigenous Peoples

No further assessment of potential impacts and risks is required for compliance with Indigenous Peoples. It should be noted that there is no group of people in Zambia that identifies itself indigenous. Thus, this aspect does not seem to be of relevance in terms of further assessment for ESP compliance.

Principle 8: Involuntary Resettlement

As no involuntary physical or economic resettlement is foreseen in any circumstance during project implementation, this aspect does not seem to be of relevance in terms of further assessment for ESP compliance.
Free, Prior and Informed Consent (FPIC) Principle: All consultations will be based on FPIC principle. Should a situation of resettlement or economic displacement arise during the implementation of the project that was not anticipated during design, the implementers and IFAD will ensure that a consultation and negotiation process is undertaken with the potentially affected people, according to the FPIC and do-no-harm principles. In case no agreement is reached, the project implementers will modify the specific interventions associated with the affected people, or halt them if changes are not possible.

Principle 9: Protection of Natural Habitats

The project is not expected to have any negative impact on critical natural habitats including those that are (a) legally protected; (b) officially proposed for protection; (c) recognised by authoritative sources for their high conservation value, including as critical habitat; or (d) recognised as protected by traditional or indigenous local communities. It should be noted that road works, including repairs to crossing points, will be confined to already existing infrastructure – therefore, limiting the possibility to almost zero for project activities to have negative impacts on any natural habitats.
The project will benefit natural habitats through a multitude of approaches. Through targeted activities, the project will ensure that the surrounding natural soils are protected against erosion; and the demo plots will aim to increase soil fertility.

Principle 10: Conservation of Biological Diversity

As with Principle 9, the project is not expected to have any negative impact on critical natural habitats including those that are (a) legally protected; (b) officially proposed for protection; (c) recognised by authoritative sources for their high conservation value, including as critical habitat; or (d) recognised as protected by traditional or indigenous local communities. It should be noted that road works, including repairs to crossing points, will be confined to already existing infrastructure – therefore, limiting the possibility to almost zero for project activities to have negative impacts on any natural habitats. Sustainable crop production systems implemented on at least 3,000 ha will overall, have a positive impact on biological diversity.

Principle 11: Climate Change

No further assessment of potential impacts and risks is required for compliance with the climate change ESP, since this is inherently an adaptation project with activities that are based on the adaptive priorities set out in the INDC focused on agriculture, wildlife and water, strategic infrastructure and health systems and enhanced capacity building, research, technology transfer and finance for adaptation and national adaptation strategies. The project will not have any negative impact on climate change. The project does not promote any drivers of climate change (energy, transport, heavy industry, building materials, large-scale agriculture, large-scale forest products, and waste management), it will therefore not contribute to climate change as it is based on the premise of assisting smallholders to adapt in a climate neutral fashion.

The project will support the implementation of climate change related policies, notably the national climate change strategy. The project is aligned to the strategies to adapt to climate change adaptation through protecting community livelihoods; the promotion of alternative Income Generating Activities to diversify incomes; and the promotion of demo plots to teach farmers new climate adaptive techniques that will enhance soil fertility, reduce erosion and support soil biodiversity enhancement.

Principle 12: Pollution Prevention and Resource Efficiency

The project will not pose any significant risks to resource efficiency (water) or pollution risks and no further assessments will be required beyond the procedures already integrated into the project.

Pollution: Infrastructure repairs are not expected to cause intolerable levels dust or noise pollution. However, it is understood that agricultural, livestock, agro-processing, packaging, and marketing operations can produce liquid effluents which can be a hazard to the environment. While this is likely to be minimal given the production levels of target beneficiaries, will be managed through the compliance with the Water Law, by obtaining the relevant Water Conditions and No-Objections. The PMU with support from ZEMA will submit biannual progress reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR and final evaluation and completion survey.

Resource efficiency: The project will support smallholder farmers with efficient-water irrigation systems to enhance their ability to adapt to droughts. Well-adapted seed varieties to droughts will also ensure that water resources are more efficiently utilized to build adaptive capacities and enhance resilience.

Principle 13: Public Health

- Overall, the project is not expected to directly cause negative impacts on public health. The project is expected to have an overall beneficial impact on the public health with improved access to water, climate-proofed yields and increase quality of produce that will also provide improved food security and nutritional benefits. However, there are consequential health issues such as the spread of communicable diseases such as HIV/AIDS, and the increase in the prevalence of water-borne diseases (cholera and malaria). In response as mitigation measures, the PMU with support from the Ministry of Health will conduct public health campaigns, awareness raising within local communities and workers through Information, education and Communication (IEC) and distribution of free condoms and counselling and treatment will help alleviate the impacts. As required, the project will provide toilets that are constructed in such a way that they cannot leak into water resources.

Principle 14: Physical and Cultural Heritage

No further assessment of potential impacts and risks is required for compliance with Physical and Cultural Heritage. In the unlikely event that the project would be expected have a negative impact on Physical and cultural heritage, the project will develop a cultural heritage management plan.

The project will identify:

- The presence in or near the project area of areas of physical and cultural heritage
- The potential of the project to impact directly, indirectly, or cumulatively upon areas of physical and cultural heritage

If such physical and cultural heritage exist and there is a potential of the project to impact upon it, the project will: i. Provide an inventory of the physical and cultural heritage present in the wider project area that enjoys recognition at community, national, or international levels. Describe the cultural heritage, the location and the results of a risk assessment analysing the potential for impacting the cultural heritage. ii. Describe the measures to be taken to ensure that cultural heritage is not impacted, and if it is being accessed by communities, how this access will continue.

- Conduct feasibility studies, fencing, introduce proper antiquity education programmes.
- Come up with a Physical cultural resources' management plan.
- Establish procedure for chance finds.

If any natural features, antics, and relics are encountered the trenching should stop immediately and the chance finds procedure be followed.

Principle 15: Lands and Soil Conservation

The project will not have negative impacts on lands and soil conservation. No further assessment of potential impacts and risks is required for compliance with lands and soil conservation. The project has been designed in a fashion that reduces any risk posed by it to the environment, it is also not expected to pose any risks to lands as well as promote soil conservation. However, the potential of risks to land and soil conservation include the following:

- Exposure of land during preparation of land for crop and pasture farming.
- Point source contamination from diesel, lubricants etc. around working areas.
- Increased soil erosion due to vegetation clearing, soil trampling and compaction.
- Increased rapid runoff due to vegetation clearing and soil compaction diminishing infiltration capacity during construction phase.
- Deterioration of soil characteristics due to increased erosion.

In the unlikely event of actual risks to land and soil conservation, the PMU with support from the Ministry of Agriculture will ensure Soil erosion control measures established as the project is underway and restoration programmes to be conducted once an activity has been completed.

Other measures will include:

- Appropriate containment measures for all operational areas and proper disposal of used lubricants.

o Soil erosion control measures (e.g., re-vegetation, reseeding of grasses, land preparation, terracing, use of gabions, stabilization of banks etc.)
o Revegetation, re-grassing of all bare surfaces
o Installing soil erosion control structures like, gabions, contour ridges, swells
o Use existing to access the fields and farm sites and employ drainage control measures and culverts to control natural runoff and overland flow.

V. Environment and Social Management Plan

23. The project has been designed in full compliance with national regulations. A consolidated ESMP for the whole project is presented in the table below, however specific measures have been taken to ensure the climate-proofing of irrigation systems follows national laws and approval processes. The PMU of the project will be working closely with the Ministry of Agriculture, Ministry of Health, Disaster Management Unit and Zambia Environment Management Authority. The project will furthermore also map all the areas of protected natural beauty and cultural heritage and will be reported in the PPR tracker accompanying report. As part of the PPR tracker the project will also report on all the indicators (including gender and youth), identifying those indicators that are not meeting their targets and proposing the corrective measures being taken by the PMU. Below is a consolidated EMSP table synthesizing project safeguard for each priority of the Adaptation Fund's ESP and GP and reporting plan.

5.1 Consolidated ESMP

AF Principle	Preventive and mitigation measures	Responsible
Principle 1: Compliance with the law	Failure to Comply with applicable national and international laws. • **CALRF** has and will continuously identify all applicable and relevant Zambian Laws that have to be complied with by **CALRF** PMU, Implementing Partners, contractors, Service providers etc., • Operating Manual and Instructions will include provisions to ensure these Laws are complied with.	**CALRF** PMU with the direct support of the project Legal Officer. PMU will include compliance into day-to-day implementation of the project from inception to completion.
Principle 2: Access and equity	The project design supports equal access to training, equipment, infrastructure and services, taking especially into account marginalized and vulnerable groups, including women, youth and poorer communities: • The project will establish a targeting strategy, a gender and social inclusion action plan, and mechanisms for a clear and transparent communication about eligibility criteria and project procedures. • Use the Grievance Redress Mechanism to make sure individuals and/or communities who will be feeling excluded or marginalized from project benefits can air their grievances. • The PMU (Gender and Youth Specialist), to make sure that no tensions or conflicts arise around the targeting approach. • Provide equal opportunities to both women and men to (a) participate fully and equitably; (b) receive comparable social and economic benefits, • Making sure women and children do not suffer disproportionate adverse effects during the development process. The project will take a number of transparent steps that will help ensure that the benefits of the project are being distributed fairly with no discrimination nor favouritism. This will include advertising broadly and	Responsibility for the development of these tools will lie with the Gender and Youth Specialist. The targeting strategy will be communicated at project inception and implementation will be throughout the project cycle.

AF Principle	Preventive and mitigation measures	Responsible
	conduct extensive outreach and consultative activities aimed at targeting the most vulnerable.	
Principle 3: Marginalized and vulnerable groups	• The project will establish a targeting strategy, a gender and social inclusion action plan, and mechanisms for a clear and transparent communication about eligibility criteria and project procedures, notably with regards to vulnerable subsistence farmers. • The project will conduct social inclusion trainings, broad information campaigns and outreach events targeting women and youth. • The project will also include specific measures to support gender equality and women's empowerment, targeting: (i) economic empowerment, (ii) voice and decision-making; and (iii) work-balance and well-being, as per the project's Gender Strategy. • Use the Grievance Redress Mechanism to make sure individuals and/or communities who will be feeling excluded or marginalized from project benefits can air their grievances. • The PMU (Gender and Youth Specialist), to make sure that no tensions or conflicts arise around the targeting approach. • Initiate a continuous, all-inclusive stakeholder engagement process. • Conduct in-depth cross sectional public consultation at on the project and goals, eligibility criteria and selection process for specific activities directed to specific groups and available grievance redress mechanisms. This should be done in partnership with IA, county officials and Community leaders.	Responsibility for the development of these tools will lie with the Gender and Youth Specialist. • The targeting strategy will be communicated at project inception and implementation will be throughout the project cycle. • Stakeholder engagement to be conducted throughout the project life.
Principle 4: Human rights	None	n/a
Principle 5: Gender equity and women empowerment	• The project will establish a targeting strategy, a gender and social inclusion action plan, and mechanisms for a clear and transparent communication about eligibility criteria and project procedures, notably with regards to vulnerable subsistence farmers. • The project will conduct social inclusion trainings, broad information campaigns and outreach events targeting women and youth. • The project will also include specific measures to support gender equality and women's empowerment, targeting: (i) economic empowerment, (ii) voice and decision-making; and (iii) work-balance and well-being, as per the project's Gender Strategy. • Use the Grievance Redress Mechanism to make sure individuals and/or communities who will be feeling excluded or marginalized from project benefits can air their grievances. • The PMU (Gender and Youth Specialist), to make sure that no tensions or conflicts arise around the targeting approach. • Provide equal opportunities to both women	**CALRF** PMU- -Gender and Youth Specialist. • The targeting strategy will be communicated at project inception and implementation will be throughout the project cycle. • Stakeholder engagement to be conducted throughout the project life.

AF Principle	Preventive and mitigation measures	Responsible
	and men to (a) participate fully and equitably; (b) receive comparable social and economic benefits, • Making sure women and children do not suffer disproportionate adverse effects during the development process.	
Principle 6: Core labour rights	Relevant national labour laws guided by the ILO labour standards will be followed throughout project implementation. Each of these activities will be closely monitored by project staff to ensure no violation of existing labour laws and conventions, including those pertaining to payments, harsh working conditions, exploitation, discrimination, and any other relevant provisions. Any contracts entered into will ensure rights of workers are in line with ILO standards as per SPC's policy. • Adopt international standards on occupational health. • Training on safety standards and occupational hazards. • Project targets sensitized on disadvantages of using child labour. • Regular assessment of child labour risks and response mechanisms • County profiles to include consultation with communities on child labour. • Raise awareness on not using child labour. • As should be sensitised on the importance of addressing child labour in the project and what regulations/ mechanisms need to be observed/ implemented.	**CALRF** PMU With assistance from Ministry of Agriculture • The awareness raising on applicable labour laws will be communicated at project inception and implementation will be throughout the project cycle.
Principle 7: Ethnic diversity	None	n/a
Principle 8: Involuntary resettlement	The project will not support any sub-project that will cause any physical or economic displacement of people. It will automatically exclude sub-projects that: • Require physical displacement of people. Temporary economic activities disruptions can be allowed for and treated in line with the SECAP requirements. • Permanently block the access to or use of land, water points and other livelihood resources used by others	**CALRF** PMU With assistance from Ministry of Agriculture • Excluded at screening stage.
Principle 9: Protection of natural habitat	It is unlikely the project will have any negative impact on critical natural habitats, as protected areas will be de facto excluded from project activities. The project will identify: i) The presence in or near the project area of natural habitats, ii) The potential of the project to impact directly, indirectly, or cumulatively upon natural habitats. • Sensitive habitats should be avoided. (Wetlands and stream banks) • Clearing should be limited to working areas only, and these include areas for foundations for agriculture infrastructures. • Revegetation and reforestation must be prioritized. (e.g., Planting grass, and trees as	**CALRF** PMU With assistance from: • ZEMA • Ministry of Agriculture • Excluded at screening stage. However, should there be any unforeseen case, each affected critical natural habitat to be analysed on the nature and the extent of the impact including direct, indirect, cumulative, or

AF Principle	Preventive and mitigation measures	Responsible
	appropriate) • Over abstraction of construction materials like sand and gravel should be avoided. • Habitat restoration must be done where effects have been caused i.e., refilling burrows pits and regressing bare areas. • Appropriate containment measures for all operational areas and proper disposal of used lubricants. • Soil erosion control measures (e.g., re-vegetation, reseeding of grasses, land preparation, terracing, use of gabions, stabilization of banks etc.) • Revegetation, re-grassing of all bare surfaces • Minimization of vegetation clearing to working areas only	secondary impacts; the severity or significance of the impact; and a demonstration that the impact is consistent with management plans and affected area custodians. Thereafter, all necessary protective measures will be carried out during implementation.
Principle 10: Conservation of biological diversity	The project will identify: i. The presence in or near the project area of critical biodiversity, ii. The potential of the project to impact directly, indirectly, or cumulatively upon critical biodiversity, iii. Native and adaptive tree species to be used for afforestation/reforestation, excluding non-native and potentially invasive species. If critical biodiversity exists and there is a potential of the project to impact the habitat, the project will: i. Describe the elements of known biological diversity importance in the project area, using any relevant sources of information, such as protection status, status on the IUCN Red List of Threatened Species and other inventories147, recognition as a UNESCO Man and the Biosphere Programme reserve148, Ramras site149, etc. ii. Describe why the biological diversity cannot be avoided and what measures will be taken to minimize impacts. Other measures will include: • Enforcement of parks and wildlife law, • Environmental flows must be always preserved. • Noisy operations should be conducted at certain times of the day. • Always use well serviced equipment that will be less noisy. • Noise management measures are to be implemented and shall include maintenance of vehicles and equipment to run quietly, and avoidance of leaving engines running unnecessarily. • Traffic management measures are to be implemented and travel speed of contractors and suppliers' vehicles will be restricted.	**CALRF** PMU With assistance from: • ZEMA • Ministry of Agriculture • Conservation works will be conducted throughout the project life.
Principle 11: Climate change	The project will also monitor the implementation of pastoral practices and document their (favourable) impact on the local landscape, in terms of preservation and sustainable management	**CALRF** PMU With assistance from: • ZEMA • Ministry of Agriculture

AF Principle	Preventive and mitigation measures	Responsible
		The project will report both biannually for the progress reports, as well as annually on the implementation of sustainable pastoral practices.
Principle 12: Pollution prevention and resource efficiency	Minor risks of effluents discharge may be posed by the upgrading of facilities but will be managed through the compliance with the Water Law, by obtaining the relevant Water Conditions and No-Objections.	**CALRF** PMU With assistance from: • ZEMA • Ministry of Agriculture • The project will submit biannual progress reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR and final evaluation and completion survey.
Principle 13: Public Health	Livelihood activities will contribute to improving the health of beneficiaries through food and nutritional security. However, working conditions across many sectors in the rural areas are generally poor owing to poverty level, isolation from law-enforcement authorities, among other factors. The project will ensure health and safety standards are in place and adhered to, including mandating service providers in infrastructure development to submit job and health analysis. Monitoring will be done, and full scale environmental and social assessment done should any activity trigger high risk impact on public health	**CALRF** PMU With the assistance from: • Ministry of Agriculture; and • Ministry of Health • Continuous process throughout the project life.
Principle 14: Physical and cultural heritage	• The presence in or near the project area of areas of physical and cultural heritage • The potential of the project to impact directly, indirectly, or cumulatively upon areas of physical and cultural heritage • Conduct feasibility studies, fencing, introduce proper antiquity education programmes. • Come up with a Physical cultural resources' management plan. • Establish procedure for chance finds.	**CALRF** PMU with the assistance from the Museum Department • The project will report in the biannual progress reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR & final evaluation and completion survey.
Principle 15: Lands and Soil Conservation	• Soil erosion control measures (e.g., re-vegetation, reseeding of grasses, land preparation, terracing, use of gabions, stabilization of banks etc.) • Revegetation, re-grassing of all bare surfaces • Minimisation of vegetation clearing to working areas only • Installing soil erosion control structures like,	**CALRF** PMU with the assistance from Ministry of Agriculture. • The project will report on measures for erosion control in the

AF Principle	Preventive and mitigation measures	Responsible
	gabions, contour ridges, swells and catch dams.	biannual progress reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR & final evaluation and completion survey.

5.2 Monitoring and Reporting

The project will have a comprehensive monitoring and reporting programme that will include quarterly reports, technical reports, annual project reports, the AF PPR tracking, and annual IFAD supervision mission reports, a Mid-term Review and a final evaluation and impact assessment.

The monitoring and reporting of the ESMP will be commensurate with the limited ESMP as required. As presented in table above, ESP compliance for relevant Principles will be reported on through the annual PPR and supervision missions as indicated.

5.3 Implementation Schedule

The implementation schedule of ESMP will be as follows:

Activity	**Time**				
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Development of technical guidelines for the project		Q1			
Capacity building of project team		Q1			
Environmental and Social Screening		Q1-4	Q1-4	Q1-4	Q1-4
Monitoring and reporting of ESMP		Q1-4	Q1-4	Q1-4	Q1-4

5.4 Cost for Screening and ESMP

The preparation and implementation of ESMP will have costs that have been built in to the project budget. The cost implications and their source of funds will be as follows:

ESMP related activity	Source of funding to cover costs
Capacity building of project team	Built-in the Project Execution Cost
Preparation of screening and ESMP	Built-in the Project Execution Cost
Screening and ESMP	Built-in the Project Execution Cost
Mitigation measures	Built-in the Project Execution Cost
Monitoring and reporting	Built-in the Project Execution Cost

5.5 Institutional Arrangements and Capacity Building

The institutional arrangements include the distribution of roles and responsibilities in the preparation of Screening and in the implementation of ESMP. The key players and their responsibilities will be as follows:

Organisation / Designation	Responsibility
IFAD/PMU) Adaptation Fund Climate Specialist - under the supervision of the PMU Director.	o Preparation of Screening and ESMP through desk studies and consulting with officials to obtain official lists of protected natural habitats, critical biodiversity and culture and heritage. o Creation of maps identifying areas of interest within the project area. o Proposal of mitigation measures (if in project area).

	o Preparation of the report to accompany the PPR.
PMU Field Staff (with support from Adaptation Fund Climate Specialist)	o Assist the Adaptation Fund Climate Specialist in identifying areas of interest and propose mitigation solutions. Presentation of Screening and ESMP in the meetings of with technical teams and community members as important stakeholders in the language they are able to understand; and o Implementation of the ESMP at community level.

Consolidated ESMP Budget

AF Principle	Cost ($USD)
Principle 1: Compliance with the law	Compliance inspections by the ESS: **20,000.00**
Principle 2: Access and equity	i) Awareness raising Campaigns: **50,000.00** ii) Procurement process following SPC guidelines (embedded across budget, including administrative costs) iii) Annual monitoring by ESS and Gender Officer to specifically conduct ESS and gender monitoring and reporting: **30,000.00**
Principle 3: Marginalized and vulnerable groups	i) ESS and Gender Monitoring: **40,000.00** Annual Beneficiary tracking reporting: **20,000.00**
Principle 4: Human rights	n/a
Principle 5: Gender equity and women empowerment	i) ESS and Gender Monitoring: **70,000.00** Annual Gender disaggregated data reporting (M&E): **50,000.00**
Principle 6: Core labour rights	Included in overall administrative budget
Principle 7: Ethnic diversity	n/a
Principle 8: Involuntary resettlement	n/a
Principle 9: Protection of natural habitat	i) Compliance inspections and monitoring by the ESS: **50,000.00** ii) Mapping out critical natural habitats: **20,000.00** iii) Rehabilitation of degraded lands and erection of soil conservation measures/structures: **60,000.00**
Principle 10: Conservation of biological diversity	i) Annual monitoring by ESS to specifically conduct ESS inspections, monitoring and reporting: **50,000.00** ii) Reforestation programmes: **20,000.00**
Principle 11: Climate change	i) Annual monitoring by ESS to specifically conduct ESS inspections, monitoring and reporting: **20,000.00**
Principle 12: Pollution prevention and resource efficiency	i) Annual monitoring by ESS to specifically conduct ESS inspections, monitoring and reporting: **20,000.00**
Principle 13: Public Health	i) Budget covered in the main awareness budget. ii) Provision of water and sanitation: **20,000.00**
Principle 14: Physical and cultural heritage	i) Annual monitoring by ESS to specifically conduct ESS inspections, monitoring and reporting: **20,000.00** ii) Development of requisite safeguards Instruments and plans including provision for chance finds: **30,000.00**
Principle 15: Lands and Soil Conservation	i) Annual monitoring by ESS to specifically conduct ESS inspections, monitoring and reporting: **35,000.00** ii) Mapping out degraded areas: **20,000.00** iii) Rehabilitation of degraded lands and erection of soil conservation measures/structures: **30,000.00**
Total Budget for the ESMP	**US $675,000**

Annex 3: Gender analysis for CARLF Project

1. **Purpose of the gender analysis:** Climate change adaptation strategies need to consider the socio-economic roles of both men and women in production landscapes; explicitly acknowledging the differential access and use of natural resources to cope with the impacts of climate change. The objective of this preliminary gender analysis is to provide sex-disaggregated information to inform the design of CARLF in Zambia. The analysis provides information on the different needs, capacities, roles and knowledge resources of women and men. A detailed gender assessment will be conducted during the development of the full proposal to ensure meaning inclusion and engagement of women in the design and implementation of the project - that is, ensuring gender equality. This assessment presents a gender context within which CARLF will be implemented. The assessment draws the attention to differentiated impacts of climate change due to the gender divide – largely attributed to socio-cultural and traditional practices that ascribe roles and statuses to women that consequently keep them away from strategic decision-making processes and access to socioeconomic opportunities that would put them at the same level of resilience as men. The implementation of the project will therefore, remain deliberate about ensuring equal and equitable representation of men and women in decision-making processes, implementation of activities and monitoring of project outcomes – in sum, the assessment strengthens the call for women participation as equal players in the management of natural resources but also beneficiaries of both monetized and non-monetized benefits from project activities. Finally, in the conclusion, the assessment includes a set of gender integration levels and approaches that are consistent with the AF gender policy guidelines.

Methodology:

2. A desk review was undertaken, which involved reviewing reports, development/strategic plans, and policy documents pertaining to gender mainstreaming and empowerment. Relevant data was then extracted through a critical gender lens. The review of secondary information sources main limitation is the scarcity or absence of socioeconomic information disaggregate at local level because data are scarcely collected and analysed at the grassroot levels. The community perspective were collected through the consultations for the project and analysed with a gender lens. During the project inception phase and particularly the baseline studies more community level assessments will be undertaken to refine the gender action plan for the project.

Summary:

3. Zambia has historically been associated with patriarchal tendencies that have significantly affected the country's human and economic development. The daunting power imbalances between men and women and between men and women, and other vulnerable groups such as children, the youth, and people with disabilities means that those with greater power and ability to access productive resources (mostly men) are likely to participate more in economic activities, whereas those with less power or control and access continue to be marginalized. Gender Inequality emanates from deep-rooted social and cultural norms due to the fact that the Zambian Constitution (enacted in 1991 and revised in 1996) endorses customary law in addition to men's prejudice against women and lack of knowledge on women's rights among the general public. There have been, steady improvements made at the policy level towards gender equality with a fully-fledged Ministry of Gender, the Anti-Gender Based Violence Act and National Gender Policy.

4. Zambia's 2018 Gender Inequality Index (GII) value of 0.540 highlights the inequalities between men and women in parliament, health, and education, as well as labour markets.[8] This GII value reflects an increase in inequality from 0.517 in 2017.[94] It must also be noted that Zambia's GII value is very close to the SADC region's

[94] United Nations Development Programme (UNDP). n.d. "Gender Inequality Index (GII)". Available online: http://hdr.undp.org/en/content/gender-inequality-index-gii [accessed Feb 2023

average of 0.573. The GII reflects gender-based inequalities in three dimensions: 1) reproductive health (measured by maternal mortality and the adolescent fertility rate); 2) empowerment (measured by the numbers of women in parliament, and girls completing secondary and higher education); and 3) economic activity (measured by participation in the labour market). The index represents a percentage of potential human development lost because of existing inequalities between men and women.[11] The key challenges affecting progress in achieving gender equality and equity include limited access to productive resources by women, early and child marriages and dual aspects of Zambian law and social prejudices and stereotypes, has seriously affected access and participation in empowering socio- economic activities by women. At institutional level, in spite of having a Ministry of Gender, financial, institutional, and technical capacity challenges, such as inadequate funding and human resource capacity affect the effective implementation of its programme as stipulated; and the absence of sub-national implementation structures through which the Ministry of Gender could foster gender analysis and mainstreaming at provincial and/or district levels. Furthermore, there are inadequate personnel employed to specifically focus on gender issues in line ministries and most quasi-public and private institutions.

General gender context and challenges in Zambia

5. In Zambia, like many other countries, gender challenges persist despite efforts towards equality and empowerment. Women and girls face numerous specific challenges that hinder their social, economic, and political progress. The status of women in Zambia is very low and this makes them to be more vulnerable to poverty as well as social and cultural disadvantages compounded by gender imbalances. Available information indicates that gender-based disparities persist in favour of males in education, decision-making, health, agriculture and many others areas. The social economic situation in Zambia has been worsening due to failing industries, rising unemployment levels, which are a result of the structural adjustment programmes. The Zambian government recognizes the gender imbalances in social, economic, cultural and political spheres that have prevented females from contributing effectively and benefiting from the development process.[95] Here are some of the key gender challenges in Zambia:

6. *Gender-Based Violence (GBV):* Zambia experiences high levels of GBV, including domestic violence, sexual assault, and harmful cultural practices such as child marriage and female genital mutilation. These forms of violence undermine women's physical and psychological well-being, limit their opportunities, and perpetuate gender inequality. GBV also takes the form of physical, mental, social or economic abuse against a person because of that person's gender and includes violence that may result in physical, sexual or psychological harm and suffering to the victim.[96]

7. *Limited Access to Education*: Gender disparities in education persist in Zambia, with girls facing barriers such as poverty, early marriage, teenage pregnancy, and cultural norms that prioritize boys' education. This limits their potential and perpetuates gender inequality in employment and decision-making.

8. *Economic Empowerment*: Women in Zambia face limited access to economic opportunities and resources, including land ownership, credit, and entrepreneurship support. They often work in the informal sector, earning less than men and facing challenges in accessing markets, financial services, and business networks.

9. *Political Underrepresentation*: Women are significantly underrepresented in political leadership and decision-making positions in Zambia. While progress has been made with increased female representation in parliament, women still face barriers such as gender stereotypes, cultural biases, and limited access to resources for political campaigns.

[95] JICA. (n.d). Country Gender Profile: Zambia
[96] UN Africa Renewal. (n.d). Fighting gender-based violence as fresh cases continue to emerge: Zambia

10. *Health and Reproductive Rights*: Women in Zambia encounter challenges in accessing quality healthcare services, particularly related to sexual and reproductive health. High maternal mortality rates, limited access to contraceptives, and inadequate sexual education contribute to women's vulnerability and perpetuate gender inequalities.

11. *Cultural and Social Norms*: Traditional gender roles and norms reinforce inequality in Zambia. Women are often burdened with multiple responsibilities, including household chores, caregiving, and income generation, limiting their opportunities for personal development and decision-making power.

12. Addressing these gender challenges requires deliberate efforts meant to support a transition towards equal but also equitable representation of women and men in decision-making processes, socioeconomic empowerment programs. It should be noted that efforts to address gender imbalances in Zambia will not only benefit women and girls but also contribute to the overall social and economic development of the country.

Dual Structure of Statutory Law and Customary Law

13. Zambia has a two-tier system of land ownership comprising state and customary land. Even though Article 11 of the Zambian Constitution recognizes equal rights regardless of gender, Article 23 accepts personal as well as customary law. State land makes up 6 per cent of the country's land, while customary land accounts for 94 per cent. The Lands Act provides support for women with regard to state land, but does not apply to customary land. With regard to customary land, land ownership does not provide women with significant land rights, and even when it does, traditional institutions often do not effectively implement the rules. Customary law entails rules and disciplines which are not written but which are accepted by individual ethnic groups as customs and it varies from one group to another of the 72 ethnic groups in Zambia. As a result, customs which contradict statutory law have created serious problems in terms of socioeconomic activities, including marriage. For example, marriage under the age of 21 is prohibited under statutory law. In reality, however, the practices of child marriage18, marriage in exchange for payment of a dowry to the family of the would-be bride, unfair distribution of property for women and female genital mutilation which is harmful to the body still exist in Zambia today and are tantamount to the non-observation of women's rights.19 Child marriage is a particularly serious problem in Zambia. It is reported20 that 47% of all marriages are child marriages resulting from the traditional custom of male superiority and poverty.

14. This dual structure of law also has implications on property ownership especially land. Although the Land Act accepts the land use rights of women, women in general face an extremely unfair situation in which they are not permitted to manage or own land because of the prevailing emphasis on land use rights based on customary law. Cultural inculcation is also evident with regard to state land, with few women applying for state land; and upon being offered it, a good number relinquish ownership to their male counterparts.

15. Some ethnic groups have maintained the custom of the sexual cleansing[97] of a widow whose husband has deceased. This custom not only violates women's human rights as pointed out in the concluding observations of the CEDAW Committee but also exposes the widows to the risk of HIV/AIDS infection as they may have a sexual relationship with a man whose HIV/AIDS status is unknown. Moreover, divorced men are immune from the responsibility of supporting their former wives andchildren.23 As such, customary law has many negative elements which make women vulnerable. Reform of the dual structure is essential to eliminate such prejudice and discrimination and the current efforts of the government to revise the Constitution is an important step

Access and ownership of Assets –Land

[97] In some parts of Zambia, a widow is regarded as "unclean" and there is an accepted practice of making a widow engage in a sexual act with another man for cleansing

16. Land is a critical resource to women's and men's participation in agriculture and rural development. In Zambia, like in any other African country, land is a convertible asset, which can be used to access benefits and privileges such as collateral, access to credit and financial markets, agricultural inputs, and decision-making on products of their agricultural labour. Lack of women's access to land and tenure rights reduce their full contribution to the eradication of hunger and poverty. Zambia operates a two tier system of land ownership and distribution. Land ownership can either be through the state and its local government decentralized structures or a customary system, which is administered by chiefs. Access to land, in particular, is fundamental to social and economic development. Zambia's population is predominantly female (50.5 per cent) and youthful (45 per cent). Furthermore, when compared with men, women contribute more to national development through unpaid and agricultural labour. Yet, women and youth have limited access to the critical resources of land and housing, which they need in order to be able to contribute fully and tangibly towards improving their livelihoods, as well as towards the country's social and economic security. Although the government passed the Land Act in 1996 which guaranteed women the possibility of being land owners, the legislation allows for customary laws to dictate land ownership, which mainly confers land ownership on men. Under customary law, men dominate the allocation, inheritance and use of land and women have access to land through male folk, their fathers, husband, brother or son. Women have limited participation in the land allocation processes. Women lack control over land but may have access and user rights to the land.

17. To improve women's access to land, the Land Policy of Zambia was revised to include provisions prioritizing the issuance of state land to women. Women still encounter various barriers the land allocation system notably their low representations in the structures that are responsible for the allocation of land. This inequality in representation promotes male dominance at a structural level. The 'first come first served' method of land allocation has less regard for gender disparities and imbalances, and the unlevelled playfield that exists in communities. With regards to the procedure for land allocation, it is mandatory that the applicant provides proof of capacity to develop the proposed property or business on the plot of land being applied for. The major proof required includes pay slips and bank statements. The challenge for most females is that they are not in the formal employment sector where they can get pay slips and most of those who run small-scale business or entrepreneur activities do not bank their returns. Therefore, even when they have the capacity to develop the proposed property/business, they cannot provide the required proof and as such they are automatically disqualified from accessing land. The associated high services charges further disenfranchises women and marginalized groups in accessing land. Advertisement for council land is made in newspapers and this eliminates rural women who do not have access to such print media or who are illiterate. Most personnel involved in land administration do not fully know or understand the provision of 30 percent land allocation to women. There is poor sex disaggregated data at the levels of councils, which allocate land. Most laws that relate to land in Zambia are gender neutral and do not provide mechanisms for land to be easily accessed by all sexes (GRZ Ministry of Gender and Child Development (MGCD) 2013).

Literacy and Health

18. **Access to education** The Gender Inequality Index estimates that, between 2010 and 2017, only 39.2% of women aged 25 and older had at least some secondary education, compared with 52.4% in men aged 25 and older for the same period. In high- and middle-income populations, females obtain higher completion rates of lower secondary schooling than males, but in low-income populations this reverses, with an absolute decrease in completion rates[98]. As a result, low-income women (as the majority in rural areas) have lower attainment than men, which may additionally constrain them accessing or being aware of alternative livelihoods, statutory instruments etc. that ultimately reinforce their relative customary subservience**.** The dropout rate indicates the proportion of pupils who leave school without completing a given grade in a school year. Table 6.5 shows that the national dropout rate for primary education (grades 1–7) increased from 1.5 per cent in 2017 to 1.7 per cent in 2018. The dropout rate in primary schools was higher among girls than boys for both years.

[98] World Bank. 2016. *Gender Data Portal*. Gender Indicators Report for Zambia

This indicates that although the enrolment of girls seems to be increasing, at some point these girls are leaving school before completion.

19. **Maternal Mortality:** In Zambia, maternal mortality is one of the contributing factors to mortality. It accounts for 10 per cent of women's deaths in the country[99]. The 2018 Zambia Demographic and Health Survey found that the maternal mortality rate was at 252 maternal deaths per 100,000 live births. This falls short of reaching the national and global targets of reducing MMR to at least 100 deaths per 1,000 live births and 70 per 100,000 live births respectively. Infant mortality as at 2018 was 42 deaths per 1,000 lives, a decline from 73.3 in 2016 but remains high, especially among adolescent mothers (58 deaths per 1,000 live births). This is as a result of poor maternal health services due to lack of skilled providers, pregnancy complications occur, and poor access to emergency obstetric care services[100]. Furthermore, mothers' level of education also contributed to infant and child mortality with lower rates among mothers with higher level of education. For instance, there were 69 deaths per 1,000 live births among mothers with no education, 66 deaths per 1,000 live births among those with primary education, 62 deaths per 1,000 live births among those with secondary education, and 47 deaths per 1,000 live births among those with higher education.

Participation of Women in Decision-Making

20. Zambia ranked 62nd among 146 countries which were surveyed for the Global Gender Gap Index 2022 by the World Economic Forum. In terms of political empowerment which evaluates the situation of women's participation in politics, Zambia ranks 85th. Meanwhile, the Gender Equality Index in a human development report by UNDP puts Zambia at 125th among 160 countries, indicating Zambia's relatively low status in terms of the empowerment of women. One of the main reasons for these results attribute to women's low participation in decision-making.

21. ***Decision Making at Household Level:*** Unequal power relations between men and women, with men being more domineering, remain a significant challenge, affecting how a household, particularly married women, use income for empowerment investments. According to the Zambia Demographic and Health Survey, there has been a decline of 10 percentage points in women controlling use of their own income since 2001. In 2001/2002, 41 per cent of women controlled use of their income compared to 31 per cent in 2018. However, during the same period, there was an increase in the percentage of women who made joint decisions with their husbands, from 31 per cent to 51 per cent; providing a possible explanation for the noted decline. It suffices to note once again the influence education level, wealth, and residential area have on determining how partners decide on financial resources. About 73 per cent of women with a higher education level are likely to jointly decide on how to use their income; this is more than those with no education or primary and secondary level education.

22. ***Women participation in rural institutions:*** Women are poorly represented in the leadership of rural institutions and cooperatives. Culture acts directly and indirectly as a barrier for women to actively participate in leadership of rural institutions. In view of the low literacy levels of women and the numerous cultural norms and beliefs especially in the rural areas, the potential for women to be involved in leadership and decision-making is hampered. There is inequitable representation of women in agricultural associations and cooperatives. Cooperatives demand a lot of time for meetings, which women do not have due to a lot of household chores. Moreover, in the case of male-headed households men go for meetings leaving the spouse attending to the home. One of the largest farmers' union membership organization working in agriculture and

[99] Zambia Statistics Agency (ZamStats), Ministry of Health, and ICF. 2019. *Zambia Demographic and Health Survey 2018*. Lusaka and Rockville, MD

[100] Ministry of National Development Planning (Zambia). 2017. *Seventh National Development Plan*; Ministry of Health (Zambia). 2017. *National Health Strategic Plan.*

rural development is the Zambia National Farmers Union (ZNFU) where women's participation is only 38 percent (ZNFU, 2015).

23. Women, Economy and Agriculture

24. ***Employment*:** Agriculture is one of the biggest employment sectors in Zambia for both men and women, as well as the youth. Like in many SADC and developing countries, women are the main contributors to the agriculture sector; contributing mostly cheap and unpaid labour. Currently, 88 per cent of the workforce in agriculture in Zambia comprises women who are not covered by social security. Only 12 per cent are covered by social security, compared to 23.1 per cent of men. In 2019, there were more men (70 per cent) than women (30 per cent) employed formally, which implies that more women than men are vulnerable to employment shocks in Zambia[101]. The National Agricultural Investment Plan reports that 70% of Zambia's population rely on agriculture for their livelihood and that 78% of women are engaged in agriculture. However, most of these women are involved in crop production for home consumption and their farming activities do not produce any tangible income. Women are unable to gain the same productive conditions as men due to the following issues: difficulties in accessing land, finance and production equipment and materials based on customary law and the idea of male superiority, as well as their responsibilities for household work and child-rearing. The situation is no different for female entrepreneurs, especially those running micro-businesses. An employment survey in 2012 reports that 84% of female employment is in the informal sector and that many female entrepreneurs do not register their businesses. Thus they find it difficult obtaining essential information, and receiving technical training and financing. Moreover, the time constraints they face because of other responsibilities such as household work make it more difficult for female entrepreneurs to scale up the business to increase their productivity or profit. Among the female population in the informal sector, 70% have never received education or have only studied at primary education level (compared to 59% for male workers). It is therefore more challenging for female entrepreneurs to register a business, obtain information, understand the contents of technical training and/or conduct marketing activities compared to men.

25. ***Unpaid family labour*:** According to the Labour Force Survey data (constructed from Central Statistics Office- CSO, 2012), 70 percent of men working in agriculture, forestry and fishing are self-employed (e.g. having their own farms), 23 percent are unpaid family workers (working on family farms), and 7 percent are paid employees (e.g. working on someone else's farm for payment). Of the women working in the same sector, most (59 percent) are unpaid family workers, 39 percent are self-employed, and 2 percent work as paid agricultural employees (Table 3).

Table 1: Status in employment among those working in agriculture, forestry and fishing

	Paid employees	Apprentices/ interns	Employers	Self-employed	Unpaid family workers	Total
Men	7.3 %	0.1 %	0.1 %	70.0 %	22.5 %	100 %
Women	1.8 %	0.0 %	0.0 %	38.8 %	59.3 %	100%

Source: CSO: Labour Force Survey data 2012

26. Both women and men in the agricultural sector are mostly working on the family farm, but men are more often considered as the decision- makers and holders of income from the farming business and women more often considered as unpaid work force (instead of co-managers) for that farming business. Although women are provide the bulk of the family labour, in agriculture their labour input is often not costed, neither is it given

[101] *Source: Ministry of Labour and Zambia Statistics Agency (ZamStats). 2019. Zambia Labour Force Survey.*

any economic value. Moreover, women are more often involved in food crops whilst men are involved in cash crops and in marketed household commodities. The labour burden of rural women exceeds that of men, and includes a higher proportion of unpaid household responsibilities related to preparing food, and collecting fuel and water. There is currently no data on time use by women, which could provide a clearer picture of how women spend their time and the contribution of their time spent to the household and national economy.

27. ***Crop production*****:** Globally it has been established that if women had the same access to productive resources as men, they could increase yields on their farms by 20–30 percent. This could raise the total agricultural output in developing countries by 2.5–4 percent, with significant contributions to the reduction of hunger and malnutrition (FAO, 2011). In Zambia, women are the major food producers and processors accounting for over 60 percent of the national food stocks. Maize is the main staple food and as such is grown by the largest percentages of female and male-headed households – 86.2 percent of male-headed households and 78.5 of female-headed households (GRZ CSO, 2010). A greater percentage of female-headed households are involved in food production while there is comparatively greater participation of male-headed households in cash crops. An evaluation conducted by FAO[102], shows that although certain crops such as groundnuts are considered as women's crops, when they have an increased market value, men come in to produce and market them.

28. ***Agricultural technologies*****:** Women's use of technologies is concentrated around traditional ways of food processing but once these are mechanized with higher returns, they are quickly taken over by men. Tillage is one of the labour-demanding operations on the farm if it is manually done. Data from Zambia CSO based on a national survey shows that the percentage among female-headed household using conventional hand and hoe tillage system is a high 38.5 percent whilst for men it is 31.4 percent. The data also shows that when it comes to ox-drawn tillage systems where the labour and drudgery is transferred to animals and machinery there is a greater percentage among male-headed households using the method as compared to women. Female-headed households use conventional hand and hoe tillage systems, which is labor-intensive and increases drudgery. The gendered perspectives of women and men in agricultural processes have a bearing on productivity. Data on Table 2 shows that the average harvest per hectare per crop for male-headed households is much higher in some cases even close to double the amount harvested per hectare for female-headed households.

Table 2: Average harvest per hectare (kgs)[103]

	Male-headed hhs		**Female headed hhs**	
	Mean	**Median**	**Mean**	**Median**
Maize	2 053	1 035	1 058	575
Groundnuts	172	96	114	75
Sorghum	264	166	181	132
Millet	272	185	217	154
Rice	624	364	328	202
Sunflower	206	139	132	139
Soya beans	360	196	306	163

[102] Farmer Input Support Response Initiative (FISRI 2013)
[103] CSO post-harvest survey raw data 2012

Mixed beans	185	108	128	54
Bambara nuts	136	60	81	69
Cowpeas	249	45	96	45

29. This reflects the cumulative effects of production and productivity, lack of productive resources, labour, inefficient tillage systems and drudgery as well as other gender-related factors that have been analysed above. It is a confirmation that if women were to be provided with productive resources, they would increase their production levels.

30. ***Gender and agricultural extension***: Statistics show that there are few female extension officers compared to male extension officers despite the greater percentage of farmers in the rural areas being female. The existing staff demonstrates a weak gender approach to extension services. In general, there is limited access to extension services by both female and male-headed households. Due to the limited number of female extension workers, extension services have failed to address the conditions in which a majority of rural women live.

31. ***Agricultural marketing*****: W**omen are often excluded from better markets due to limited access to transport and market information. Women experience more challenges than men in marketing their products, especially food products. Their products are marketed locally and they often get lower prices at the farm gate. Women, compared to men also have mobility constraints. They cannot be away for a long time to market their products because of the numerous household chores. Focus group discussions with female farmers during the FAO supported FISRI evaluation carried out in 2012, revealed that the marketing of maize was a male domain because in the first instance it was difficult for women to negotiate with transporters. In addition, the official government grain marketing system was said to be inefficient since one had to spend a week or more away from home, marketing their produce. This is not convenient for women in view of their numerous gender roles in the home.

32. ***Access to financial services*****:** There is limited availability and institutional presence of rural finance options for women and men in the rural areas. Women have challenges in securing loans with banks because most of them do not have collateral to secure the loan. Although this has been the situation, there has been some improvement in women's access and use of financial services.

Gender and climate change

33. Globally there is increasing attention on the differentiated climate change impacts on men and women, and their differentiated capabilities to adapt to these. There is growing evidence demonstrating how the livelihoods of both men and women may be affected differently by climate change, due to culturally established roles such as the gendered division of labour (like caring for children) or land ownership. In Zambia's smallholder agricultural sector, gender-specific climate change impacts and distinct adaptive capacities are evident among different gender groups and sub-groups. Women, who constitute a significant portion of smallholder farmers, face challenges as changing rainfall patterns and increased temperatures impact crop yields and livelihoods[104]. Female-headed households in the smallholder sector may encounter compounded vulnerabilities, affecting their food security and income[105]. Indigenous and ethnic minority women smallholders, often custodians of traditional farming practices, confront disruptions in local

[104] FAO. (2020). Zambia - Gender and climate change profile. Food and Agriculture Organization of the United Nations.
[105] World Bank. (2019). Zambia Country Gender Assessment: Economic Empowerment and Human Capital. The World Bank Group.

ecosystems that affect their agricultural knowledge and practices[106]. Limited access to resources, including land and credit, constrains women's adaptive capabilities in the smallholder sector[107].

34. Climate change manifests in floods or unexpected droughts and inconsistent seasons. These changes present challenges to smallholder farmers, particularly female farmers who in most cases are not able to quickly adapt to the changing environment. Climate variability affects women more than men because men migrate to other areas in times of stress leaving women to do all the agricultural roles from production to marketing. Moreover, in view of drought- related climate change variations, women are more affected because they are responsible for the food security and nutrition needs of the family. Further research and analysis on the impact of gender and climate change in the different climatic zones is needed for evidence-based support. Moreover, the depletion of forests due to climate change affects women more than men as women have to walk for long distances to collect firewood. Women spend on average 800 hours a year in Zambia in fuelwood collection (Data from FAO Gender and Forestry website). The depletion of water resources also affects women negatively as they have to struggle to get water for domestic/ household use. In compliance with the Adaptation Fund's Gender Policy, it is essential to implement gender-responsive approaches that consider the differentiated impacts and capacities of various gender groups. This involves integrating gender analysis into climate vulnerability assessments, designing gender-sensitive adaptation strategies, ensuring equal access to resources and information, and promoting women's leadership and participation in adaptation planning and implementation. By recognizing and addressing these differentiated impacts and capabilities, climate adaptation efforts can be more effective, equitable, and sustainable.

Institutional and Policy framework

35. Several measures have been put in place to promote women's empowerment in Zambia. Gender Equity and Equality Act No. 22 of 2015, which is aimed at domesticating international human rights instruments such as the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) (adopted in 1979); the SADC Protocol on Gender and Development (2008); and the Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa (2003). The Gender Equity and Equality Act gives effect to CEDAW and is intended to implement women's empowerment targets that meet the international standards of the SDGs, as well as Zambia Vision 2030.

36. **Zambian Constitution** was amended in 2016 to include critical and progressive articles for gender equality by acknowledging that every citizen, man or woman, has equal rights to participate in, determine, and build a sustainable political, legal, and socio-economic order freely. The Constitution further provides for human dignity, equity, social justice, equality, and non-discrimination among the national values and principles.[5] The constitution further mandate the creation of Gender Equity and Equality Commission to further enhance the protection of women's rights. The mandate of the commission is to promote the mainstreaming and attainment of gender equality. To increase the participation of both men and women in national governance and decision-making, the Constitution provides that nominations to public office must ensure 50 per cent representation of each gender category.[6]The Constitution has further mandated the Human Rights Commission to take necessary steps to appropriately redress the rights of all persons, which includes women, children, and people with disabilities.[7] In addition to the constitutional rights and privileges, and policies earlier alluded to, other policies and strategies, like the

[106] Phiri, A., Musonda, M., & Hassan, R. M. (2019). Indigenous knowledge systems and climate change adaptation strategies in rural Zambia. African Journal of Science, Technology, Innovation and Development, 11(4), 441-451.

[107] Rosenstock, T. S., Lamanna, C., Chesterman, S., Hammond Jimu, L., Krawinkel, M., & Lefore, N. (2017). What is the potential of agricultural innovations to enhance the resilience of smallholder farmers in developing countries? A systematic review. Environmental Evidence, 6(1), 2.

37. **Gender and Climate Change**: GRZ Climate Change Action Plan (2016) addresses the integration of women and gender mainstreaming into climate change policy. The National Policy on Environment (NPE, 2007) includes the guiding principle that "women and men including the youth should play a key role in the sustainable utilisation of renewable natural resources and other development programmes;" as well as a strategy to enhance women's participation in environmental management activities at all levels[108]. Zambia is also regionally and internationally mandated to incorporate consideration of women into environmental planning, and to include them in decision-making processes.

38. **National Child Policy and the Re-Entry Policy** promotes gender mainstreaming to attain equality and equity. The National Child Policy is aimed at promoting and protecting children's rights, whereas the Re-Entry Policy allows re-admission of girls in school after giving birth. Other policies and strategies include: the Adolescent Sexual and Reproductive Health Policy, the Comprehensive Sexuality Education Curricula for In-School and Out-of-School Adolescents, and the Ending Child Marriage Strategy.

Table 3 Other Policies

Policy	Remarks
Gender Policy (2014)	It commits to attainment of gender equality and equity in the development process by redressing the existing gender imbalances. It provides for equal opportunities for women and men to actively participate and contribute to their fullest ability; and equitably benefit from national development. It commits to increased access to and control of productive resources, access to and utilization of information and technology, and mainstreaming gender in policies.
National Agriculture Investment Programme (NAIP) 2014-2018 (2013)	The NAIP has demonstrated inadequate gender analysis and attention to gender issues. Gender is mentioned as one of the cross-cutting issues. The role of women in food security and nutrition is acknowledged, but the strategies outlined are gender neutral and no gender outcomes have been specified.
National Water Policy (2010)	It integrates cross-cutting issues such as gender, HIV and AIDS and climate change, and introduces modern technologies and principles of water resources management.
National Forestry Act 1998 revised in 1999	The Act notes that there is need to create responsible partnerships with stakeholders and promote gender equitable activities to ensure the performance and stability of forests. It provides for women to be involved in decision-making.
National Food and Nutrition Policy (2008)	It acknowledges the vulnerability of women and adolescent girls to poor nutrition. It recognises issues faced by women and notes and adopts a women's empowerment and gender mainstreaming approach.
Land Act (1996) and Policy	It provides for women's ownership of land, and commits to the allocation of 30 percent land to women with remaining 70 percent for both women and men.

[108] Government of Zambia. 2016. Climate Change Gender Action Plan of the Republic of Zambia ccGAP:ZM

Constitution (1996)	Article 11 of the current Constitution prohibits discrimination based on among other issues, sex. Contrary to this, Article 23 negates this guarantee, by allowing the application of customary law in matters of personal law (marriage, divorce, inheritance, burial, devolution of property on death and other matters of personal or family law). TheConstitution review process has removed article 23 from the Constitution.
Revised Sixth National Development Programme(R-SNDP) 2013-2016 (2014	The plan considers gender as one of the important cross-cutting issues in all programmes and sectors. It requires all programme and sector deliverables to mainstream gender, all key output indicators to reflect gender in their implementation plans, and ensure that gender issues are part and parcel of the monitoring and evaluation mechanisms. The MGCD has a coordinating role in gender issues in agriculture, and in providing for gender- responsive programming in the plan (gender mainstreaming, collecting and generating sex disaggregated data).
National Agriculture Policy 2004-2015	It commits to affirmative strategy to improve the economic status of women farmers and to inculcate gender equity in agricultural services

Conclusion

39. The analysis summarized below presents the situation of marginalization of women in Zambian context. GRZ has made some progress in mainstreaming gender equality and women's empowerment in the agriculture and rural sectors although this has been slow. Women continue to face challenges of unequal access and control over productive resources, unpaid labour, drudgery, and limited participation in rural institutions and markets. Considering these elements, gender-responsive interventions aimed at addressing stereotypes generated by social and cultural norms should identify, understand and implement actions to close gender gaps and overcome gender biases. Activities should be based on the application of the gender approach under a "do no harm" approach, so that adaptation measures promote coherent, responsible and ethical action in the face of social action.

40. Therefore, the implementation of activities will acknowledge that Zambia has norms and cultural norms that based on gender, and these influence the interactions and reactions to climate threats and opportunities in communities. Specifically, as has already been alluded to, the implementation of project activities will consider the fact climate change impacts community members differently because of existing gender inequalities, gender discrimination, social exclusion, asymmetrical access to information, skewed access to strategic decision-making spaces and systemic power imbalances.

41. The implementation of activities will therefore offer practical measures to ensure gender inclusion on a continuum – and consistent with the AF Gender Policy, CARLF will reflect:

42. *Gender awareness*: CARLF has engaged different stakeholders who have included women, men, young and old, including the differently abled. By this openness to engaging different stakeholders, the projects acknowledges and recognises differences in socially assigned gender roles, rights, entitlements, responsibilities and obligations while accommodating and working around existing gender norms. That community members can participant in the project, irrespective of their gender, CALRF raises awareness about deliberate efforts about different gender roles, rights etc.

43. *Gender balance*: CARLF has been designed to respond to different socio-cultural contexts in the target areas to ensure gender balance – that is, an equal representation of both women and men in decision-making structures and among staff in the different levels of organizational structures.

44. *Gender equality*: The project will be deliberate about efforts to ensure equality between men and women as beneficiaries of project activities – premised on the acknowledgement that girls and boys, but also women and men should have the same responsibility to take care of natural resources, but also the same right to access and to use the resources, CARLF will be implemented with equal consideration of their respective interests, needs and priorities of men and women, boys and girls. By deliberately involving men and women to work together in building individual and community capacities, CARLF will provide an opportunity for men and boys to fully engage in promoting gender equality and in changing gender roles that keep women subservient.

45. *Gender equity*: As has been described in this gender assessment in Zambia, CALRF recognizes the need for differential treatment of women to contribute to the undoing of biases or historical or social disadvantage or power imbalance against women due to the fact of being a women or a man. In this regard, CALRF will aim to be fair and just taking into account the different needs of women and girls, men and boys, cultural barriers and (past) discriminations against women.

46. *Gender gap*: By recognizing the need for gender equality and equity, CARLF acknowledges that there are conditions of disparity and inequality between women and men's condition or position or role in Zambia, including in the target provinces. The gender gap in is terms of their participation, their access to opportunities, rights, power to influence and make decision, incomes and benefits, and control and use of resources. By engaging both men and women, CALRF has been designed to contribute to closing this gender gap.

47. *Gender mainstreaming*: As detailed above under gender gap, gender equality and equity, and gender balance, CARLF will be implemented to promote gender equality. The implementation of project activities will duly assess the implications for women and girls, men and boys of any planned action, including legislation, policies or programmes. Irrespective of gender, CARLF will continue to make the experiences and concerns of all people an integral part of the design, implementation, monitoring and evaluation of project activities so that different gender groups benefit equally, and inequality is not perpetuated. CALRF notes that the ultimate goal of mainstreaming is to achieve gender equality. In the project's gender mainstreaming effort, the project will be responsive to remain alert to gender norms, roles and relations – including contributing to addressing inequality generated by unequal norms, roles and relations through changes within a given social setting through remedial action in the target districts. In this regard, CALRF will be sensitive and consider gender norms, roles and relations by unequal norms, roles or relations and help through remedial action beyond creating gender awareness, as mentioned above.

48. *Gender transformative*: It should be noted that CARLF's interventions are for the direct benefits of communities in the target districts. In the design of the project, the results framework includes gender responsive indicators to hold the project itself accountable in its contribution to transforming gender. The project will actively strive to examine, question, and change rigid social and gender norms, cultural values and to address power inequalities between persons of different genders and the root causes of gender inequality and discrimination. The goal of this approach is to transform adverse gender norms and power dynamics into positive ones, thus accelerating achievement of gender equality.

49. *Women's empowerment*: CALRF will use processes by which women gain power and control over their own lives and acquire the ability to make strategic choices through an expansion of agency throughout women's lives, especially via participation and decision-making. Thus, supporting different activities, for example, CALRF's support will increase: i) women's awareness and sense of self-worth and rights; ii) women's right to have and determine choices; iii) women's right to have access to opportunities and

resources; iv) women's right to have power to control their own lives both within and outside the home; and v) women's ability to influence the direction of social, political and economic change to create a more just social, political and economic order, nationally and internationally.

50. It should be reminded that CARLF's will be deliberate about gender inclusion in light of the aforementioned gender integration levels and approaches. The project will track the gender aspects of the project through the following elements which have also their targets in the results framework:

51. Number of beneficiaries (direct and indirect).

52. Number of hectares under adopted sustainable agricultural practices (including procuring more productive and drought-tolerant seeds) aquaculture; crop diversification.

53. Number of people directly reached out during awareness-raising for evidence-based resilience and adaptive capacity building

Recommendations

54. In view of the differentiated vulnerability of all beneficiaries in the project area to the interlinked challenges of climate change, it is critical to address the developmental needs of increased drought, access to water, low productivity, land degradation and gender discrimination. This will help develop and implement a more enabling and gender-transformative environment for addressing climate change. Women face specific barriers to their basic needs and persistent patriarchal attitudes that limit their options. Given their increased vulnerability to climate change, the project will aim to (i) promote economic empowerment; (ii) enable women and men to have an equal voice and influence in rural community-based organisations; and (iii) achieve a more equitable balance between women and men in the distribution of work and economic and social benefits. The project will challenge social norms that perpetuate inequalities between men and women through implementation of household approaches. A targeted gender-sensitive diagnostics will be conducted in targeted communities prior to implementation as one of the first actions of the project to identify contextual gender gaps and inequalities and inform the development of a gender sensitive strategy. The specific recommendations include:

55. Increase women's voice in decision-making at the household and community level. As part of literacy and life skills, leadership training will also be included. Women will be trained to form groups and their leadership and negotiation skills will be strengthened to enable them to make informed decisions during the community planning process.

56. Establish participation quotas to reduce the existing gender inequality and promote social inclusion of women by including at least 50% participation of women, 30% of the youth population (men and women) and 5% of the persons with disabilities focusing on capacity building and women empowerment, adoption of climate adaptation practices, promotion of leadership in local organizations. Participation should, consider women's time constraints to ensure activities are carried out in accordance with their available schedules.

57. Develop gender-sensitive training programs on sustainable agriculture, climate risk management, and microfinance which include specific modules on gender equality, in order to raise awareness and strengthen ownership. Additionally, gender-awareness trainings (including Gender-based Violence – GbV) will be mainstreamed into all training to men and women will be carried out at both household and community levels, including village leaders.

58. Adaptation measures in agricultural plans should include activities that respond to women's needs and that can also be implemented using their own capacities and resources, such as raising small species, home gardens, food processing and others.

59. Define gender-specific mechanisms and agreements with financial service to improve service outreach and facilitate effective and timely access to financial products and services. This will include the provision of tailored advice and training, including financial literacy and creation of simplified credit lines for crop insurance to strengthen the knowledge and capacity to respond to climate risks to the communities in the intervention areas.

60. Support the government, in collaboration with private sector and civil society stakeholders in driving the gender agenda in the agricultural and rural sectors. This involves strengthening partnership and collaboration on gender equality programming and implementation between Ministry of Agriculture and Livelihoods, Ministry of Lands, Forestry department, MGCD and organizations working on women's leadership and participation in rural institutions (ZNFU), rural savings and lending, financial inclusion etc

61. Develop initiatives for the economic empowerment and ownership of women such as diversification of livelihoods, vegetable gardens, poultry farming, food processing companies, community gardens, building market alliances and networks.

62. Incorporate measures and actions that reduce the domestic burden on women and girls and improve their participation in income-generation activities and decision-making instances, at household and communities level. These measures would include time-saving technologies

Table 4: GENDER ACTION PLAN

Outputs/Objectives	Activities	Performance Targets/Indicators	Responsible	Timeframe
Component 1. Building and promoting equitable diversified, resilient and sustainable community livelihood options				
.1.1: Sustainable crop production systems implemented on at least 3,000 ha of land under the stress of extreme weather events and human exploitation (floods, droughts, erosion, deforestation etc.).	Conduct a needs assessment on sustainable productions systems for women. Develop gender-sensitive training programs on sustainable agriculture Develop and adopt the CARLF Gender Strategy	Training needs assessment of women identified (baseline: N/A) At least 50% women and girls trained in skills on sustainable agriculture (baseline: 0) The CALRF Gender Strategy developed (baseline: 0)	PMU gender specialist,	Q4 2023–Q4 2025 Q3 2023 - VQ4 2024
1.1.2: Targeted individual and community livelihood strategies of the vulnerable members in the target districts established focusing on fish and fruit tree value chains - strengthened in response to the impacts of climate change and extreme weather events	Conduct at least two diversification livelihood strategies trainings to women and girls that respond to their need	1.1.4.1 At least 50% women and girls trained in livelihood and income generating skills relevant to CALRF the (baseline: 0)	PMU gender specialist, and hired Gender TA	Q4 2023 – Q1 2024
1.1.3: Crop marketing services and infrastructure supported and strengthened in response to climate	Facilitate market linkages between women farmers for crop markets	1.1.5.1 At least 50% women trained in market linkages	PMU gender specialist, and hired Gender TA	Q2 2024–Q4 2025

variability and change -associated extreme weather events and impacts.				
Component 2: Innovative local financing systems to build community adaptive capacities in climate sensitive sectors				
2.1.1 Financial Service Providers with promising adaptation financial products/services, and innovations relevant to climate-sensitive priority socio-economic sectors identified and supported to increase their community-level financing towards climate change adaptation	2.1.1 Define gender-specific mechanisms and agreements with financial service to improve service outreach and facilitate effective and timely access to financial products and services	2.1.1. 1 Mechanisms documented on gender-specific mechanisms and agreements with financial service	NTDC, PMU gender specialist, and hired Gender TA	Q3–Q4 2023
2.2.1.Improved and innovative financing tools to integrate climate risk management and monitoring of climate change adaptation investments identified and rolled out:	2.2.1 Provide tailored advice and training, including financial literacy and creation of simplified credit lines for crop insurance to strengthen the knowledge and capacity to respond to climate risks to the communities in the intervention areas.	2.2.1.1 Innovative tools identified accessible to women	PMU gender specialist	Q1 2024
2.3.1 Catalytic financing established	2.2.3.1 Incorporate measures and actions that reduce the domestic burden on women and girls and improve their participation in income-generation activities and decision-making instances, at household and communities level[109]	2.3.1.1 At least 50% participation of women in SACCOs and other groups	PMU gender specialist	Q4 2023–Q4 2024
2.2.4 Adaptation options based on district-level development plans supported, prioritized and funded through the investment plans	2.2.4 Develop adaptation measures that that include and respond to women's needs 2.2.5 Create women champion groups in climate change adaptation campaigns	2.2.4.1 Adaptation options identified and documented 2.2.5.1 At least 7 groups created for CALRF	PMU gender specialist	Q4 2023–Q4 2025
Component 3: Enhancing district-level planning, awareness-raising and knowledge management for evidence based resilience and adaptive capacity building				

[109] These measures would include time-saving technologies

3.1.1 Planning and climate change awareness-raising mechanisms set up and institutionalized to enhance resilience and adaptive capacity building	3.1.1 Conduct awareness-raising campaign attracting more female participation 3.1.2 Conduct training needs assessment for female beneficiaries 3.1.3 Gender-awareness trainings (including Gender-based Violence – GbV) 3.1.4 Train women to form groups and strengthen their leadership and negotiation skills to make informed decisions during the community planning process.	3.1.1.1. At least 50% women participation in project activities 3.1.2.1 At least 50% women participation in project activities 3.1.3.1 At least 80% of the CALRF's male and female beneficiaries report improved knowledge on the Act protecting women against harassment (baseline: 0)[110] 3.1.4.1. Increase number of women in leadership positions to at least 20% (baseline: 0)	PMU gender Specialist and the Gender TA	Q4 2023Q1 2024 Q3 2024

a. HR = human resources, PMU = project management unit, Q = quarter, TA = technical assistance

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[110] The expected learning outcomes of this training is male and female staff have improved knowledge about harassment and key provisions of the law about harassment

Annex 3 ENVIRONMENTAL, CLIMATE AND SOCIAL IMPACTS ANALYSIS

Annex 4: Community consultations

Community consultations in Central Province for CARLF Project Development

63.

64. **ZAMBIAN RAINBOW DEVELOPMENT FOUNDATION**
65. **PLOT No. MASANSA-FIWILA ROAD P.O. BOX 840037 MKUSHI**
66. **ZAMBIA**

67. Stakeholder consultation for the development of Climate Change Adaptation of Livelihoods through Rural Finance project funded by the Adaptation Fund

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Summary

The objective is to solicit and get views from beneficiaries in different communities on climate change adaptation financing programme. The information will be used in the proposed design of the new programmes.

Introduction

1. The Zambian Rainbow Development Foundation (ZRDF) is an organisation working in Luano and Mkushi District. The organisation has four thematic areas: livelihood and food security, Economic Empowerment, Education support and Health support. The organisation promotes community-led and owned development project and uses participatory approaches in all of its interventions.

2. ZRDF working in collaboration with RUFEP conducted focus group discussions with communities in central province with an objective engage and create a platform for community members to share their views on the Climate Change Adaptation of Livelihoods through Rural Finance (CALRF) project under development. CARLF has been approved for funding by the Adaptation Fund. It has been designed around three components, namely: Component 1: building and promoting diversified, resilient and sustainable community livelihood options; Component 2: Innovative local financing systems to build community adaptive capacities in climate sensitive sectors; and Component 3: Enhance district-level planning and awareness-raising for evidence-based resilience and adaptive capacity building.
3. Views expressed in this report have been used to inform the preparation of CARLF project. Therefore, community voices are reflected in the project. In this way, CARLF has community input, activity prioritization, project ownership and it sustainability.

Methodological approach

4. In order to get information on climate change adaptation, a focus group discussion were organized. The approach was adopted because it is participatory and captures in-depth information from participants.

Demographics of participants

5. The demographics comprised of women, men and youths. Women were 19 and men were 14, of which 10 were youths (5F, 5M). Below is a summary of participant's demographics.

Women	Men	Youth		Differently-Abled	Total
19	14	F: 5	M: 5	0	33

Findings - people perspectives

Occupation

6. Residents of the communities are majorly small scale farmers who grow maize, soya beans and have vegetable gardens. They rear livestock such as cattle, goats and chickens. A few are marketers while others run businesses such as tailoring, selling of second hand clothes, selling of food staffs and groceries.

Pressing Challenges in order of Priority

7. The communities have almost similar challenges due the fact they rural in nature. Firstly, lack of access to clean water. Water is drown from wells and streams. Secondly, poor/infertile land for agriculture. This has been generally attributed to poor methods of land preparation for farming such burning fields. Thirdly, lack of community clinics for proper medical attention in all the communities. Thus, services are accessed at the nearest community with a facility. Fourthly, school infrastructure especially teachers houses at communities with schools while communities without emphasis building a classroom block. Lastly, poor road network and infrastructure, which hinders communities access to markets especially in the rain season.

Addressing the challenges (Solutions)

8. In addressing the challenges the communities resolve is to accessing funds and as a community to raise necessary resource. Thus, sinking communal hand pumps is an immediate and feasible solution to have access to clean water. Practicing conservation farming, crop rotation and avoiding burning of fields during land preparation improves soil fertility for agricultural practices. To mitigate inaccessible health services, at community level building of a structure to serve as health post is ideal with at least one health personnel. Build a community school in which communities can organise material such as bricks.

Factors Hindering from addressing the challenges

9. The communities have factors that are internal and external however, internal factors are significant. External factors are lack of support from Government Ministries and District offices. While internal, include lack of good community leadership and trust in the leaders, limited cooperation among community members and lack of knowledge on how to apply for funding such as Constituency Development fund.

Access of Inputs through Cooperatives, Others or Shops

10. Existing cooperatives usually benefit a few people and only help with supply of animal feeds. However, farming inputs are bought from shops at the distant markets.

Price Increments in recent years

11. Prices of inputs have been on the raising side. Currently, prices are the highest they have ever been. This is further exaggerated by distance farmers have to travel to access the market for the inputs.

Effects of Increased prices of farming Inputs

12. Firstly, farmers have no autonomy in setting prices for their farming output, the buyers dictate the prices. Hence, selling prices have been on the lower side leading to significant losses. Secondly, reduced farming capacity due to low returns from sells coupled with high input prices. (E.g., famer reduced farming land from 11 ha to 6 hectares). Thirdly, household savings have reduced significantly affecting their livelihood and have resorted to unsustainable practices of charcoal burning.

When changes in prices

13. Changes in began being unstable from 2016 and are increasing until date. For example, a farming implement such a plough was bought K1300 in 2019 and in 2021 was being bought for 2400.

Aspects of Natural resource men are interested in more than women and vice versa.

14. Men are mainly interested land for farming settlements and rearing livestock such as cattle. Further forest are of interest for mainly production of charcoal by cutting down trees. Water source are mainly for fishing. Women are mainly interested in water sources as streams for their gardening activities of growing vegetables.

Use of Natural Resources by Men and Women

	Land	Water sources	Forests
Men	Farming settlements,	Fishing	Bee Keeping, Charcoal
Women	Farming	Gardening	Firewood
youth	Farming	Moulding bricks	Charcoal, hunting

Traditional practices and customs the regulate men and women access and use natural resources.

15. There no significant practices and customs to access of natural resources however, their trends of men owning more land than women. Men argue biblical concepts still give them more authority over natural resources.

Observed changes in temperature and rainfall pattern.

16. Rainfall patterns have changed. Currently rains are delayed to start and usually amounts vary each season. Temperature changes are evidenced by higher temperatures in the hot season.

How changes in temperature and rainfall pattern are affecting livelihoods activities.

17. Heavy rains destroy properties and crops. Further delayed rainfall disturbs the seasonal farming cycle. Diseases prevalence is high of Malaria and Diarrhoea.

How changes affect Women, differently-abled and youth.

18. These people are affected more compared to men because of lack empowerment to survive the harsh conditions. Agricultural activities of women are disturbed when streams dry up fast and youths have no sources of water for brick moulding.

How changes affect Health (especially malaria or diarrhoea)

19. Pregnant women are affected by heat exhaustion. There is an increase in people complaining of Blood pressure symptoms. Malaria cases are also dominant coupled with diarrhoea due to temperature changes.

How changes affect livelihood options (people migrating to urban areas)

20. On the contrary, people are migrating to rural areas to be farmers. People only move to settlements within the same location to continue farming.

Benefits from building and promoting diversified, resilient and sustainable community livelihood options.

21. Livelihoods of most communities are agricultural dependant, thus, most benefits accrued are based on conservation the environment to avoid harsh weather conditions, increased nutrition at household level, minimised farming losses due to improved soil fertility.

Benefits from local financial service providers to build community adaptive capacities in climate sensitive sectors.

22. Corporate social responsibility through planting of trees and promotion of sustainable agricultural activities. Access to micro-financing to small scale farmers to adopt better farming methods and increase their production capacity. Further, benefits would be provision of insurance to farmers with equipment their yields. Lastly, benefits of knowledge on financial literacy and saving to the communities.

Benefits from enhanced district-level planning and awareness raising for evidence-based resilience and adaptive capacity building.

Benefits are capacity building in climate change through agricultural extension officers to promote conservation farming.

Role played in building and promoting diversified, resilient and sustainable community livelihood options.

23. Community cooperation and participation.

Role played in financing build community adaptive capacities in climate sensitive sectors.

24. Community mobilization can be conducted to help in financing, especially material contribution from local resources.

Role played in enhanced district-level planning and awareness raising for evidence-based resilience and adaptive capacity building.

25. Adoption of various initiatives that are put in place in the communities. This entails acceptance and ownership of various initiatives.

Recommendations

26. Based on the views and responses from the participants, the following highlight key areas of interest to community members:

27. The unequivocal need to continue community engagement through participatory approaches – and this includes during actual project implementation to ensure benefits directly accrue to communities. This will facilitate community ownership of the project and its sustainability.

28. Important government ministries and non-government actors that are more immediately related to community needs (such as Agriculture, Forestry, Community Development and Financial Service Providers) need to be more present in communities to provide the much-needed technical capacity to communities. These will also be critical in rolling out the project activities during the implementation phase of the project.

29. Conservation agriculture, the use of bio-fertilizers and soil management practices, access to clean water and sanitation and awareness campaigns on climate change and mitigation, links to markets are some of the critical areas the cut across all the districts needing urgent support to the communities.

Annex 5 Consultations with various stakeholders

In pictures, various consultations conducted in CARLF's target districts.

The first picture, featuring a clear blue sky, depicts a landscape in a CARLF-target district of Southern Province, located in an eco-zone with the lowest annual precipitation levels in Zambia. This image showcases land degradation and the seasonality of water sources for both human and animal consumption. The limited socioeconomic resources for coping with and recovering from flash floods, zoonotic outbreaks, malaria, and other shocks are also evident. Crop and pastoral production landscapes in Southern Province generally share these characteristics, as seen in this image.

The second picture illustrates a national-level stakeholder consultation in Lusaka, involving various players such as representatives from bilateral and multilateral development partners, as well as government officials, including the Director DPP from the Ministry of Agriculture, in attendance.

i.*Attendance lists of various stakeholders consulted in CARLF's target districts*

ADAPTATION

CLIMATE CHANGE ADAPTATION MEETING

Stakeholder Consultation Exercise - Nchelenge District

Attendance Register

Date 16/11/2022

S/N	FULL NAMES	NRC	MOBILE NUMBER	SIGNATURE
1	MUKUPA FRANK C	153637/35/1	0763179995	[illegible]
2	JOSEPH KAPESA C	179644/35/1	0967873435	[illegible]
3	BESA [illegible]	805150/33/1	0776557103	[illegible]
4	CHISHIMBA JACKSON	100766/35/1	0968782404	[illegible]
5	CHISESHI MUSONDA	294488/33/1	0969561961	[illegible]
6	PUTE - MOSES	167994/35/1	0762349897	[illegible]
7	Elijah Chola	205381/33/1	0979013177	[illegible]
8	MUKUPA CHITENGA GEOFFREY	19404/35/1	0976-26-5027	[illegible]
9	MULOCHE ABEL	102954/33/1	0975650986	[illegible]
10	KABULA SEISON	206299/33/1	0999279492	[illegible]
11	BONIFACE CHIYANKA	199633/33/1	0975392 6750	[illegible]
12	NSAMBA CHRISTINE	237900/33/1	0979505813	N.C
13	HENRY [illegible]	112463 3/1	0963 76 24 64	[illegible]
14	KABASO COSMAS	276462/33/1	0978663734	[illegible]
15	Maxwell MuaCWte	290182/33/1	0974756804	[illegible]
16	Katwishi Kelvin	261524/33/1	0977441 94 58	[illegible]
17	KAPUTA PATSON ~~NSAMBA CHRISTINE~~	~~239960/33/1~~	~~0978505813~~	[illegible]
18	SIWAPA [illegible]	195914/35/1	0980357 [illegible]	[illegible]
19	KANGWIT MORRIS KASOMA	246651/33/1	0977228790	[illegible]
20	MUSONDA TIMOTHY	206700/33/1	0979797370	[illegible]
21	NKOLE DAVISON	108755/33/1	0770 62 5533	[illegible]
22	KALWAMA [illegible]	278211/33/1	0768 35 3855	[illegible]
23	Kalunda Julius	102663/33/1	0771134347	[illegible]
24	MONDE JOLIE	103837/55/1	0974682907	[illegible]
25	Mwewa Justina	166585/67/1	0974706726	[illegible]
26	BWALYA TERESA	259194/33/1	0965824284	[illegible]
27	CHISHALA JUDITH	157191/33/1	0979615446	C.J
28	LIKOLIBE [illegible]	305623/35/1	0576078658	[illegible]
29	MUHONE MIRRIAM	116293/39/1	0964620009	[illegible]
30	MUIAPPA [illegible]	211933/44/1	0977982016	B. [illegible]
31	MWENYA JOSEPH	151462/35/1	0972097205	[illegible]
32	MWILA LUCY	153864/33/1	0775522381	[illegible]
33	BARBRA CHISANGA	16651/35/1	0974576648	B. CHISANGA
34	MAR [illegible]			M AR
35	Mpundu CARRION	186418/35/1	0771553063	[illegible]
36	LUPUPA [illegible]	26/29/26/34/1		[illegible]
37	CHARITY CHILUBA	151291/33/1	0976449155	[illegible]
38	Chanda Jacob	196831/16/1	0966411077	[illegible]

ADAPTATION FUND
ATTENDANCE SHEET

Date	Activity	Province	District
17/11/2022	Community/Stakeholder Consultative meeting	Southern	Monze (Njola)

No	Name of Participant	NRC No.	Gender	Year born	Village/ location	Phone	Signature
1	Sild Chabuka	216440/77/1	Male	1995	Chiluka	0777753997	S. Chaabuka
2	Gertrude Malaba	128523/77/1	Female	1972	Himukota	0972624403	G. Malaba
3	Millie Malumbo	253356/77/1	Female	2002	Himukota	0779819790	M. Malumbo
4	Obvious Malambo	165920/77/1	Female	1990	Malomo	0974568616	O. Malambo
5	Mildred Nzolola	158679/77/1	Female	1985	Chiluka	0954292718	M. Nzolola
6	Maxcene Chiyulika	132561/77/1	Female	1984	Himusamba	0976409923	M. Chiyulika
7	Hetty Mukundu		Female	1978	Chiluka	0975162237	[illegible]
8	Opera Malumbo	216566/77/1	Female	1999	Himukota	0971976784	O. Malumbo
9	Sizie Hanjuba	256475/77/1	Female	2003	Malomo	0975232583	S. Hanjuba
10	Maureen Hakwata	195120/77/1	Female	2002	Chiluka	0976536083	[illegible]
11	Precious Moonga	130529/77/1		1982	Malumbo Mooonga	—	P. Moonga
12	MATIMBA MUCHOPA		Female	2004	Himukota	0779371660	M. MUCHOPA
13	Chabota Chiyanika	271118/77/1	Female	1995	Chiko		C. Chiyanika

Adaptation Fund (AF) Proposal Design Mission

Stakeholder Consultative Meeting at IFAD Country Office

Date: 11/11/2022

Attendance List

	Name	Organisation	Designation	Email address
1.	PEGGY MLEWA	MOA PPD	DIRECTOR PPD	peggy.mlewa@agriculture.gov.zm
2.	Douglas Dawa	GIZ	Snr Advisor	douglas.dawa@giz.de
3.	Ronald Da Cruz	IFAD	Programme Management Specialist	r.dacruz@ifad.org
4.	[illegible]	IFAD	CONSULTANT	[illegible]
5.	Virginia Leon	IFAD	CONSULTANT	v.leon@ifad.org
6.	Andrew Chongwe	MFL	PLPO	andymchongwe@yahoo.co.uk
7.	Gift Munthali	MFL/DVS	CVO	munthaligift@gmail.com
8.	Nelson Lukhele	MoFNP	Economist	nelson.lukhele@mofnp.gov.zm nelsonlukhele@gmail.com
9.	Habeenzu Simomba	RUFEP	PSO	Habeenzu.Simomba@rufep.org.zm
10.	Emmanuel Soonde	WFP	PPO	emmanuel.soonde@wfp.org
11.	AFIA NKRUMAH	IFAD	Consultant	a.nkrumah@ifad.org
12.	Lucia Rakotoarisolofo	IFAD	Consultant	l.rakotoarisolofo@ifad.org
13.	Bernard Mumba	MoA	Chief Agricultural Economist	bernard.mumba@agriculture.gov.zm
14.	Michael Ndhlovu	RUFEP	Programme Coordinator	michael.ndhlovu@rufep.org.zm
15.	Ashwani Chaturvedi	IFAD Consultant	IFAD Consultant	[illegible]@yahoo.co.uk
16.	Brenda Simaunga	NDF	[illegible]	blsimaunga@gmail.com
17.	Brian Kapotwe	IFAD	Country Programme Officer	b.kapotwe@ifad.org

ADAPTATION FUND
ATTENDANCE SHEET

Date	Activity	Province	District
17/11/2022	Community/Stakeholder Consultative Meeting	Southern	Monze (Njola)

No	Name of Participant	NRC No.	Gender	Year born	Village/ location	Phone	Signature
1.	LUMBA MAPAMBO	206340/77/1	M	1995	Kayuwana Ranch	0770181315	[illegible]
2.	MIZINGA MWAKA	120165/77/1	M	1980	Kayumba Kaumba	0974508891	[illegible]
3	JONATHAN DINDE	192694/77/1	M	1991	Haumaonaka	0955369281	[illegible]
4	Enock miyoba	215681/11/1	M	1966	Chelo	0975261095	[illegible]
5	Mulenga Oliver	186685/77/1	M	1983	Hanamanga	0954802448	[illegible]
6	TEDDY MWIINANGA		M	1981	Hamoonga	0954309377	T.M
7	MAFRED HANYANZA		M	1993	HAMOONGA	0956448918	[illegible]

ADAPTATION FUND
ATTENDANCE SHEET

Date	Activity	Province	District
17/11/2022	Community/Stakeholder Consultative Meeting	Southern	Monze (Njola)

No	Name of Participant	NRC No.	Gender	Year born	Village/ location	Phone	Signature
1	Mukalanga Mutinta	148938/77/1	F	1971	Chinyika	0974474348	[illegible]
2	Mukkuli Janet	127706/77/1	F	1949	Chuuka	0971877609	J. Mukuli
3	MUTINTA MWAKA	173382/77/1	F	1986	Macamite Kalima	0977862672	M. Mwaka
4	Precia Mweemba	165596/77/1	F	1990	Masamba Kalima	0979221635	P. Mweemba
5	Mildred Moonga	330625/77/1	F	1980	Maunga	0978852800	[illegible]
6.	Mutinta Mweene	202131/77/1	F	1994	Handimba	0772974445	[illegible]
7	Margret Busiku	251622/76/1	F	1966	Himukota	0950146796	M Busiku
8	Coolwe Hamululi	240049/77/1	F	2002	Handondo A		C. Hamululi
9	mary Mazuba	246681/77/1	F	1965	Hazala	0772811520	M. Mazuba
10	Ozilly Lumbo	216660/77/1	FM	1996	Chiyoma	0971561265	[illegible]
11	Junior Moonga	21666/77/1	M	1997	Chiyoma	0971137473	[illegible]

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ATTENDANCE SHEET

Date	Activity	Province	District
17/11/2024	Community/ stakeholder consultative meetings	Southern	Monze (Njola)

No	Name of Participant	NRC No.	Gender	Year born	Village/ location	Phone	Signature
1	Peggy Sichanya	132678/77/1	F	1974	Nalumga	0975962[illegible]	P. Sichanya
2	Majory Michelo	159143/77/1	F	1984	Chinupa	0975264714 ~~0779[illegible]79~~	M. Michelo
	Mutinta K Siweene	223126/77/1	F	1980	Pohuko	0779355899	M.K.S
	Fines Malambo	159784/77/1	M	1982	Nalenga	0979109[illegible]	F. [illegible]
	[illegible] Chinakila	2297[illegible]/77/1	F	1975	[illegible]	0772812[illegible]	C. [illegible]
	Christine Mweemba		F	1956	Chuuka		C.M
	[illegible] Mweemba	17965[illegible]/77/1	M	1990	[illegible]		[illegible]
	[illegible] [illegible]	25[illegible]/77/1	M	2000	[illegible]		[illegible]
	Hackman Namweene	216456/77/1	M	1996	Moyoka	09723[illegible]	[illegible]
	Evidence Mwiinga	213018/77/1	M	1995	Hachaanga	0770922960	[illegible]

ADAPTATION FUND
ATTENDANCE SHEET

Date	Activity	Province	District
17/11/2024	Community/ Stakeholders Consultative Meeting		

No	Name of Participant	NRC No.	Gender	Year born	Village/ location	Phone	Signature
1	Ntew Christine	251231/[illegible]/1	F	1960	[illegible]		C. Ntew
2	Sakala Susan	163554/77/1	F	1975	Malambo	0777[illegible]	S. Sakala
3	Chifwale Christopher	215617/74/1	M	1961	Hasangu	0972408[illegible]	C. Chifwale
4	Mudwidakala Hector	387014/79/1	M	1991	Kaumba	0772-250600	[illegible]
5	[illegible] Mwiinga	29355[illegible]/1	F	1966	[illegible]	0977[illegible]	[illegible]
6	Constance Mweemba	[illegible]/77/1	F	1991	Sikanda	09772[illegible]	[illegible]
7	Busiku Pious Mwiinga	192474/74/1	M	1953	Chaaela	0972277[illegible]	B.P. [illegible]
8	Gift Hauu	3809[illegible]	M	78	[illegible]	097101[illegible]	[illegible]
9	Mathias Chilumba	155362/[illegible]	M	31 yrs	Hachaanga	0976[illegible]	[illegible]
10	Evidence Mwiinga	213018/77/1	M	1995	Hachaanga	0770922960	[illegible]
11	Nchimunya Lwando	303299/[illegible]	M	1993	Hachaanga	0978[illegible]	[illegible]

ADAPTATION FUND
ATTENDANCE SHEET

Date	Activity	Province	District
17/11/2024	Community/ Stakeholder consultative meeting	Southern	(Njola) Monze

No	Name of Participant	NRC No.	Gender	Year born	Village/ location	Phone	Signature
1	John [illegible] Mwansa	167785/[illegible]/1	M	[illegible]	Mwansa	0975[illegible]	[illegible]
2	Chigalula Hamalonda	2106/77/1	M	2000	Himilonda	0772563522	[illegible]
3	Mwiinga Hamatende	192660/77/1	M	1994	Himikaya	097456[illegible]	[illegible]
4	Michelo Mwiinga	214275/77/1	M	1997	Hazanda	0972060[illegible]	[illegible]
5	Teddy Malambo	350592/[illegible]	M	1962	Mpokoto	0772563512	[illegible]
6	Conrad Miranda		M		Chuuka		C. Miranda

Approved by: STEPHEN MWALE Signature: [illegible]

ATTENDANCE REGISTER GLOBAL AGRICULTURE AND FOOD SECURITY PROGRAMMES STAKEHOLDERS MEETING ON 17/11/22 IN SESHEKE DISTRICT

No	NAME	SEX	ORGANISATION	NRC	SIGNATURE
1	KENNEDY MUNDIA	M	C R D F	257567/73/1	[illegible]
2	NOSIKU SIMAKOYA	M	MAFISA	127248/85/1	[illegible]
3	MUBUKA KACHAWANA	F	EDUCATION	259652/82/1	K. Munda
4	MWAKA SITUMBEKO	F	MAFISA	155714/85/1	MSTM
5	Fatanekuwa Masitala	M	MAFI za	321821/85/1	[illegible]
6	NAMUNJI LUKUKU	M	INDUNA	101144/83/1	S.N.L
7	SIBALWA EVANS	M	EDUCATION	122830/97/1	[illegible]
8	BORN M LISWANI	M	Farmer	168201/85/1	[illegible]
9	Matakala Inyambo	M	Farmer	158647/85/1	[illegible]
10	Lisulo Mulima	M	Mafisa	154575/85/1	Lim
11	Matakala M	F	Mafisa	194657/85/1	[illegible]
12	Priscilla N Kapulu	F	Mafisa	156107/85/1	Kapulo
13	CHIBINDA MUYEBA	M	COUNCILLOR	173421/83/1	[illegible]
14	Mutukwa TREVOR	M	Agricultural Assistant	114689/79/1	[illegible]
15	Brodrick Lumamo Sakaye	M	FARMER	152063/85/1	[illegible]
16	Mukita Honest Mukela	M	EDUCATION	2659/82/1	H. Mukela
17	PHILLIP Simataa Sakabeli	M	FARMER	132002/97/1	[illegible]
18	SIAMBO MUYUNDA K.	M.	FARMER	118890/85/1	[illegible]
19	Matomola Mabuku	F	farmer	145173/85/1	M. Mabuku
20	MUKUWA SIMASIKU	M	FARMER	136853/85/1	[illegible]
21	S. Masuye Kayanda	M	Farmer	134060/85/1	[illegible]
22	Silabani Katiba	M	farmer	133209/85/1	S.Katiba
23	Mwelwa Francis	M	Education	250826/33/1	[illegible]
24	Margaret Nyambe	F	FARMER	111932/85/1	M.Nyambe
25	Monde Nkonkota	F	Farmer	216625/85/1	[illegible]

ADAPTATION FUND

NACRO

Chikombo ATTENDANCE LIST DATE: 16/11/2022

S.No	SURNAME	FIRST NAME	GENDER	NRC No.	LOCATION	PHONE	Signature
1	[illegible]	Kennedy	M	194928/[illegible]	Kalala	[illegible]	[illegible]
2	[illegible]	Clarence	M	143299/[illegible]	Kalala	[illegible]	[illegible]
3	MACHA	WISPER	M	265541/[illegible]	Kalala	[illegible]	[illegible]
4	[illegible]	MAINGA	F	233052/96/1	Kalala	[illegible]	[illegible]
5	[illegible]	[illegible]	F	[illegible]	KALALA	[illegible]	[illegible]
6	[illegible] NGSEMA	NOAH	F	152519/[illegible]	KALALA	[illegible]	[illegible]
7	[illegible] MWEEMBA	GIVEN	M	[illegible]	Kalala	[illegible]	[illegible]
8	[illegible]	[illegible]	F	[illegible]	Kalala	[illegible]	M.C
9	[illegible]	RUTH	F		Kalala	[illegible]	[illegible]
10	[illegible]	MOSES	M	[illegible]	Kalala	[illegible]	[illegible]
11	[illegible]	FRANCIS	M	[illegible]	KALALA	[illegible]	[illegible]
12	[illegible]	[illegible]	F	[illegible]	Kalala	[illegible]	[illegible]
13	[illegible]	[illegible]	F	206737/[illegible]	Kalala	[illegible]	[illegible]
14	[illegible]	LOVENESS	F		KALALA		[illegible]
15	[illegible]	GRACE	F	136235/[illegible]	Kalala		[illegible]
16	[illegible]	[illegible]	M		Kalala	[illegible]	[illegible]
17	[illegible]	JUSTIN	M	[illegible]	Kalala	[illegible]	[illegible]
18	[illegible]	JOSEPHINE	F	[illegible]	Kalala	[illegible]	[illegible]
19	SIMUSHI	[illegible]	F	[illegible]	Kalala	[illegible]	[illegible]
20	MUCHINDU	VICTOR	M	[illegible]	KALALA	[illegible]	[illegible]
21	[illegible]		F	[illegible]	Kalala	[illegible]	[illegible]
22	[illegible]	[illegible]	F	[illegible]	KALALA	[illegible]	[illegible]
23	[illegible]	[illegible]	F	[illegible]	KALALA	[illegible]	[illegible]
24	[illegible]	[illegible]	[illegible]	[illegible]	Kalala	[illegible]	[illegible]

ADAPTATION FUND

NACRO

Chikombo ATTENDANCE LIST DATE: 16/11/2022

S.No	SURNAME	FIRST NAME	GENDER	NRC No.	LOCATION	PHONE	Signature
1	[illegible]	[illegible]	F		KALALA	[illegible]	[illegible]
2	[illegible]	ELIZA	F	[illegible]	KALALA	[illegible]	[illegible]
3	[illegible]	[illegible]	F	[illegible]	KALALA		[illegible]
4	[illegible]	[illegible]	F	[illegible]	KALALA	[illegible]	[illegible]
5	[illegible]	[illegible]	F	[illegible]	KALALA	[illegible]	[illegible]
6	[illegible]	[illegible]	F	[illegible]	KALALA	[illegible]	[illegible]
7	[illegible]	[illegible]	F	[illegible]	KALALA	[illegible]	[illegible]
8	[illegible]	[illegible]	M	[illegible]	KALALA	[illegible]	[illegible]