



ADAPTATION FUND

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Regular-sized Project Concept

Country/Region: Zambia

Project Title: Climate Change Adaptation through Rural Finance

Thematic Focal Area: Agriculture

Implementing Entity: International Fund for Agricultural Development (IFAD)

Executing Entities: Ministry of Finance and National Planning / Ministry of Green Economy and Environment

AF Project ID:

IE Project ID:

Reviewer and contact person: Imèn Meliane

IE Contact Person:

Requested Financing from Adaptation Fund (US Dollars): 10,000,000

Co-reviewer(s): Ming Yang

Technical Summary:

The project "Climate Change Adaptation through Rural Finance" aims to increase the climate resilience of rural populations through access to finance for investments in adaptation solutions and best practices, enhanced by institutional and financial innovation mechanisms.

This will be done through the two components below:

Component 1: Enabling environment for increased climate change adaptation financing (USD 4,250,000);

Component 2: Climate change adaptation investments (USD 4,166,500).

Requested financing overview:

Project/Programme Execution Cost: USD 883,500

Total Project/Programme Cost: USD 9,300,000

Implementing Fee: USD 700,000

Financing Requested: USD 10,000,000

The initial technical review raises several issues, such as lack of concrete adaptation action and lack of clarity on social, economic and environmental benefits of the project, the project cost-effectiveness and sustainability, the

	stakeholder consultation and the compliance with the ESP and GP of the Adaptation Fund, as is discussed in the number of Clarification Requests (CRs) and Corrective Action Requests (CARs) raised in the review.
Date:	January 26, 2022

Review Criteria	Questions	Comments
Country Eligibility	1. Is the country party to the Kyoto Protocol?	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 134 position, being the 41st most vulnerable country and the 62nd least ready country to face climate change. Over the past few decades Zambia has experienced climate-induced changes to physical and biological systems and an increasing number of extreme climatic events (droughts, floods, extreme temperatures and dry spells) with increased intensity and magnitude. Their impacts increasingly exert considerable stress on the country's vulnerable sectors, particularly agriculture.
Project Eligibility	1. Has the designated government authority for the Adaptation Fund endorsed the project/programme?	Yes, as per the letter of endorsement dated January 10, 2022.
	2. Does the length of the proposal amount to no more than fifty (50) pages for the project/programme concept, including its annexes?	Yes. The concept document has 42 pages.
	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?	No. The project lacks clarity as to what specific climate challenge it is tackling and what particular results it aims to achieve. It focuses mostly on creating general enabling conditions and capacity for enhanced climate change adaptation financing and investments but lacks clarity of focus and details of outcomes. In all listed outcomes and outputs, there is no indication on concrete adaptation actions and results. The description of Output 1.1.1 "Systems and financial instruments designed to enable

		<p>readiness and capacities of FSPs to make and manage climate finance investments” lacks clarity on concrete options and specific financial instruments and only provides generalities on the need for enabling conditions.</p> <p>Output 2.2.1 “Increased investments in climate change adaptation by small scale farmers” may lead to some concrete adaption results, however this is not clear from the description of the component 2.2 (pages 15-16) which focuses on the use of blockchain technology. We also note that the budget for outcome 2.2.1 that is the only component with potential for containing concrete adaptation actions is less 40% of the budget, with the majority of funding spent on enabling activities.</p> <p>CAR1: Please consider revising the project outcomes and outputs and make the project deliver concrete and visible adaptation results. Please provide more clarity and details on the project objectives and results as well as specific details on the concrete adaptation actions and benefits that would be supported by this project. In particular please provide more details and specificities on the financial instruments that may be developed or deployed, and on the concrete adaptation actions that will be financed through the innovation grants in sub-component 2.2. Please also provide an indication on the selection process of the grants to ensure they will be invested in adaptation measures. Also provide an indication of the budget amount that would go to the finance the grants vs any other enabling activities in that sub-component (e.g., enabling blockchain technology).</p>
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	<p>Response: The CARF has a dual focus building an enabling environment for investment in climate change adaptation and demonstrating the availability of adaptation options through building the capacities of financial service providers to assess the viability of climate change adaptation investments and building the capacities of rural communities to make informed investment decisions. The specific climate challenges being tackled are the increasing rainfall variability, prolonged dry spells and droughts that are having an adverse impact on agricultural productivity. Agriculture (including fisheries) is the dominant livelihood for most rural populations. Based on the climate risk in different locations, the project will build the capacities of communities in climate smart agriculture and provide resources for investing in suitable adaptation options. The focus on the Financial Service Providers (FSP) and enabling environment recognises the different status of smallholders and their communities particularly their increasing awareness of climate change adaptation options and use of their traditional knowledge. These smallholders lack access to finances to invest in the various climate smart technologies they are aware of due to the perceived risks in the agriculture sector by FSPs. The project outcomes and outputs have been revised to focus more on concrete adaptation results. The financial instruments have been further articulated as well as the concrete adaptation options that will be financed through the innovation grants. The selection process has been elaborated and indications of the budget amounts provided for the grants vs the enabling activities. Revisions have</p>
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		been made in project components sections on pgs 11-16.
	4. Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	<p>Not clear.</p> <p>The project proposal contains only vague justification of social and economic benefits. There is no indication of any environmental benefit of the project. The benefits of the project are hard to estimate given that the main activities and outputs of the project are technical assistance, enabling activities and capacity building such as training for the targeted beneficiaries. The real impact of such activities is hard to measure. Without concrete adaptation actions and outputs, the social and economic benefits of the project may not be justifiable or sustainable.</p> <p>CAR2: Please provide more details on tangible economic, social and environmental benefits provided by the project, with more clarity on the particular target beneficiaries and communities.</p> <p>Response: More details on tangible economic, social and environmental benefits related to the concrete adaptation options have been included under Part II section B (pages 18&19). The Technical Assistance and capacity building activities account for less than 40% of the project budget, and the rest is for the concrete adaptation options (based on the local climate-risks analysis). Though the enabling activities may be difficult to measure in terms of adaptation impact, they are essential in ensuring the wider reach for the smallholders and their rural communities as well as informed investments and sustainability of the project interventions for the matching grants.</p>
	5. Is the project / programme cost effective?	No.

		<p>The concept proposal provides a general justification of the cost-effectiveness of investing in enabling financial services, however given the lack of clarity of concrete outcomes of the project it is very hard to evaluate cost-effectiveness. In addition, the budget for Output 1.1.1, seems disproportionate (\$2.1 million) particularly as it lacks specifics on the concrete outputs. This is also the case for outputs 1.1.2, 1.2.1, and 2.1.1, 2.1.2.</p> <p>CR1: Please provide better rationale for cost-effectiveness after addressing CAR1 and CAR2 above.</p> <p>Response: The rationale for cost-effectiveness has been strengthened based on the revision of the outcomes and outputs and concrete adaptation results as well as tangible economic, social and environmental benefits. The revisions are included in Part II Section C (pages 20&21).</p>
	<p>6. Is the project / programme consistent with national or sub-national sustainable development strategies, national or sub-national development plans, poverty reduction strategies, national communications and adaptation programs of action and other relevant instruments?</p>	<p>Unclear. The project proposal lists a number of national strategies on pages 19-20 (such as NAPA, NDC, national policy on CC) but mostly highlight their call for addressing climate change adaptation and climate-smart agriculture. None of the strategies specified prioritising investment in enabling financial services.</p> <p>CR2: Please specify if investment in enabling financial services is a priority under the national strategies outlined.</p> <p>Response: The NPCC and the NDC both make specific reference to financing instruments for climate change adaptation that need to be improved</p>

		<p>and further elaborated. This specific reference is included in the relevant section (page 23). Access to finance is one of the barrier for smallholders and rural communities and so can foster adoption and implementation of the prioritized adaptation options as mentioned in the NDC.</p> <p>.</p>
	<p>7. Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund?</p>	<p>Not clear.</p> <p>This section does not provide a description on the relevant national technical standards but rather on general environmental and social risks.</p> <p>CR3: Please clearly indicate what kinds of national standards or regulations are relevant for this proposal (e.g., any specific financial regulations). Also, please indicate relevant technical standards (e.g., for environmental assessment, building codes, or construction codes or government regulation rules) that need to be applied for concrete or tangible investments (e.g., under subcomponent 2.2).</p> <p>Response: Information on the policy and legal environmental framework related with environmental impact assessment has been specified, which also includes any infrastructure that may be developed under the matching grants (pg 24). This will be further elaborated in the FP.</p>
	<p>8. Is there duplication of project / programme with other funding sources?</p>	<p>Unclear.</p> <p>CR4: please provide more details on projects mentioned in page 21 (preferably in a table) with a summary of their objectives and for each one,</p>

		<p>justify the lack of duplication, and outline the potential synergies or lessons learned. In addition, a number of climate-insurance projects have been and are being carried out in Zambia, and these may be of relevance to this project. Please provide a list of these and outline synergies.</p> <p>Response: A summary table is provided with the relevant projects including those on insurance to illustrate the potential synergies (Pg 25-27).</p>
	9. Does the project / programme have a learning and knowledge management component to capture and feedback lessons?	<p>No. There is not a specific learning and knowledge management (KM) component or specific KM activities to capture and feedback lessons.</p> <p>CAR3: Please consider designing specific activities with concrete KM outputs for the project.</p> <p>Response: Specific activities on Knowledge Management and outputs embedded in component 1&2 have been reiterated (Pg 28). Further KM outputs will be articulated during the design of the project as part of the KM Plan.</p>
	10. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	<p>Unclear. The concept proposal suggest that some consultations have been carried out however little details are provided. It is also unclear if vulnerable groups have been identified and consulted.</p> <p>CR5: Please clarify which vulnerable groups have been identified and provide a more detailed summary of the consultations undertaken and the feedback received. Please provide a summary of the input received during all the consultations, and specify how this was taken into account in the design of the project. Please also provide an annex</p>

		<p>with list the names of the consulted key stakeholders at the local or community levels of the project, including the vulnerable groups, women, and youth groups.</p> <p>Response: The vulnerable groups consulted have been identified and summary of the consultations as well as inputs included (Pg 30&31).</p>
	11. Is the requested financing justified on the basis of full cost of adaptation reasoning?	<p>No. In this project, there is no indication on how the AF fund will finance concrete adaption activities in climate adaptation or lead to concrete adaptation outcomes in rural community of the country.</p> <p>CAR4: Please provide a justification of the funding requested based on the full-cost of adaptation reasoning after addressing CARs 1-3 and CRs 1-5 above</p> <p>Response: The justification for the funding has been strengthened taking into account the revisions in the outcomes and outputs as well as the concrete adaptation actions and results (Pg 31)</p>
	12. Is the project / program aligned with AF's results framework?	<p>Unclear.</p> <p>The concept proposal provides a table outlining the alignment of the project with the Adaptation Fund Results Framework (pages 31-32), however the lack of detail on the project results and outcomes (as discussed above) does not allow for an evaluation of such alignment.</p> <p>CAR5: Please revise the project's alignment with the AF's results after addressing CARs 1-2 above.</p>

		Response: The project's alignment with AF results has been revisited (Pg 40&41)
	13. Has the sustainability of the project/programme outcomes been taken into account when designing the project?	<p>Not clear.</p> <p>The primary objective of the project is to increase the climate resilience of rural population through (1) accessing to finance for investments in adaptation solutions and best practices, (2) enhancing institutional and financial innovation mechanisms (products, systems), and (3) empowering people in communities with relevant knowledge to change towards investment in climate change adaptation. The current justification of the project sustainability in Section J is not related to the project objective.</p> <p>CAR 6: Please provide a justification of the project sustainability after addressing CARs 1-2 above. Please also address the following issue and questions:</p> <ol style="list-style-type: none"> 1. Please detail the current barriers of the rural population in accessing local finance for concrete projects, in enhancing institutional and financial innovation mechanisms, and in empowering people in communities with relevant knowledge. 2. Please specify how will the project remove these barriers and help the rural population to get financing from local financial banks and or institutions, to enhance institutional capacity; and to empower relevant people with knowledge? 3. Please specify how will the rural population continue to sustainably access financing from the local financial banks or institutions, maintain their institutional capacity, and gain

		<p>relevant knowledge after the implementation of the AF project is completed?</p> <p>Response:</p> <ol style="list-style-type: none"> 1- The barriers for accessing local finance and empowering communities with relevant knowledge are articulated on pages 5-7. 2- How the project will remove these barriers is articulated in the Components and their rationale. 3- The justification for the project sustainability has been strengthened in addressing the issues outlined above (Pages 32&33). Most of the concrete adaptation options will generate returns ensuring continuous adoption and scaling up by farmers and rural communities. Moreover, the enabling conditions for local financial institutions will be created and these will continue channeling climate finance for adaptation. These will contribute to the sustainability of the project.
	<p>14. Does the project / programme provide an overview of environmental and social impacts / risks identified, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?</p>	<p>Not fully.</p> <p>The project provided an overview of identified environmental and social impacts / risks on pages 26-28. However, the initial assessment of risks to all ESP principles is lacking, and several justifications that no further assessment is required are unsatisfactory, and are rather a general statement on the project potential mitigation measures and not an justification for why the risk is not present. (e.g. for "Gender Equality and Women's Empowerment"- The Project has in its objectives gender equality and women empowerment, which should be improved through the project activities).</p>

		<p>CAR 7: Please revise the overview of environmental and social impacts/risk with a clear indication of all potential environmental and social impacts and risks that may exist in the project area, considering all potential direct, indirect, transboundary, and cumulative impacts that could result from the proposed project/programme.</p> <p>Please also elaborate on the gender-specific cultural and/or legal context in which the project will operate and include an initial gender assessment, providing qualitative and quantitative data for gender roles, activities, needs, and available opportunities and challenges or risks for men and women.</p> <p>Response: The overview of the environmental and social impacts/risk has been revised (Pg 34-36). The gender-specific cultural context is elaborated in part II Section B (Pg 19)</p>
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?	N/A AT CONCEPT STAGE
	2. Are there measures for financial and project/programme risk management?	N/A AT CONCEPT STAGE

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



REQUEST FOR PROJECT/PROGRAMME FUNDING FROM THE ADAPTATION FUND

The annexed form should be completed and transmitted to the Adaptation Fund Board Secretariat by email or fax.

Please type in the responses using the template provided. The instructions attached to the form provide guidance to filling out the template.

Please note that a project/programme must be fully prepared (i.e., fully appraised for feasibility) when the request is submitted. The final project/programme document resulting from the appraisal process should be attached to this request for funding.

Complete documentation should be sent to:

The Adaptation
Fund Board
Secretariat
1818 H Street
NW
MSN N7-700 Washington, D.C., 20433 U.S.A
Fax: +1 (202) 522-3240/5
Email: afbsec@adaptation-fund.org

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PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category: Regular

Country/ies: Zambia

Title of Project/Programme: **Climate Change Adaptation through Rural Finance**

Type of Implementing Entity: Multilateral Implementing Entity

Implementing Entity: International Fund for Agricultural Development (IFAD)

Executing Entity/ies: Ministry of Finance and National Planning / Ministry of Green Economy and Environment

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

Project / Programme Background and Context:

Provide brief information on the problem the proposed project/programme is aiming to solve. Outline the economic social, development and environmental context in which the project would operate.

Climate Vulnerability Context

1. Zambia's climate is highly variable. 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 magnitude. 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. The ND-GAIN index ranks [Zambia in the 134 position](#), being the 41st most vulnerable country and the 62nd least ready country to face climate change. Consequently, it has both a great need for investment and innovations to improve readiness and a great urgency for action.

2. 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. 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%.¹ Zambia has experienced an increase of 0.09°C in mean annual temperature per decade in

¹ Makondo et al. 2014, MTENR 2007, Sishekanu 2013

the past 30 years. Changes in rainfall have been substantial with the north experiencing more intense rainfall, while the south has had decreased amounts.² The combined effect of increasing temperature and increasingly erratic rainfall imposes a severe challenge for the predominantly rain-fed crop and livestock production.

3. Climate projections indicates that Zambia will be hotter and drier. 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.³ Since over 90 percent of smallholder production is rainfed and the market conditions are poor, Zambian agriculture is vulnerable to climate shocks.⁴ 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 maize and maize meal prices due to supply shortfalls and limited irrigation.⁵

4. 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.⁶ Mean annual temperature is projected to increase by 1.2-3.4°C by 2060 compared to a reference period between 1995 and 2014. Hot days are projected to increase by 15-29% using the reference period of 1995 to 2014. Hot nights are projected to increase by 26-54% based on the same reference period. Projections of mean rainfall do not indicate large changes in annual rainfall. Seasonally, the range of projections from different models is large, but ensemble indicates decreases in September-November and increases in December-February rainfall respectively. The proportion of heavy rainfall is projected to increase. Annex 1 presents Zambia's projected climate, presented spatially, as a seasonal cycle, time series, or heat plot, which shows seasonal change over long-term time horizons. While impacts in Zambia will differ by agro-ecological region, crop diversification is accepted as a key adaptation measure.

5. 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.⁷ 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. From 2000-2007, the intensity and frequency of droughts and floods and the number of people affected has changed with a trend towards increased number of floods see Fig 1. 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 has 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 2018/19.⁸ The 2017/2018 rainfall season had prolonged dry spells, affecting mainly the southern half of the country. The strong drought in 2015/2016, due to a strong El-Niño, affecting most countries in Southern Africa, already weakened the coping capacity and lowered many farmers' resilience towards ongoing dry spells.

² Climate Service Center, 2016; IFAD/WFP 2016

³ Ngoma et al., 2017; Hamududu and Ngoma, 2019; Mulenga et al., 2017

⁴ GRZ, 2016a; GRZ, 2016b

⁵ Mulenga et al., 2019b; Chisanga et al., 2018

⁶ Ngoma et al., 2019; Hamududu and Ngoma, 2019; Verhage et al., 2018; Mulenga et al., 2017

⁷ National Policy on Climate Change 2016

⁸ <https://climateknowledgeportal.worldbank.org/country/zambia/vulnerability>

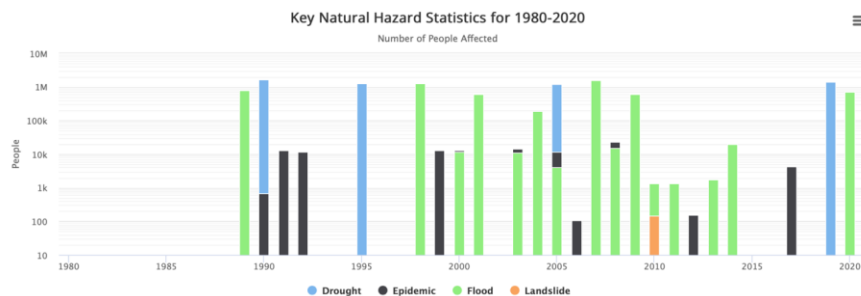


Fig.1 -Overview of the most frequent natural disaster in Zambia and number of affected people (Source: WB Portal for Climate Change).

6. Temperatures have also been observed to increase, with potential for increased heat stress, land degradation and desertification. Such impacts are likely to compound the daunting economic and social challenges the country already faces and entrench rural poverty, even further. Therefore, actions that minimize the potential future impacts of climate change and enhance the rural and agriculture sector's resilience, are critical. Adaptation to climate change remains a priority in Zambia's revised and updated Nationally Determined Contributions (NDC, 2021). Rural people whose livelihoods and incomes largely depend on agriculture are threatened by the adverse effects of climate change. Zambia is vulnerable to the adverse impacts of climate change as a result of its geographical location, the multiple socio-economic stresses it is subjected to, and, consequently, resilience of natural and physical systems, as well as the adaptive capacity of the population, remain low. According to the study, on the economic impacts of climate change conducted in 2011 by Government, a Gross Domestic Product (GDP) loss of about USD 5 Billion, over a 10 to 20-year period, was estimated. The study estimated that loss of agricultural productivity and its associated effects on poverty levels, the potential impact of an energy crisis related to power generation, the higher costs of treating climate related diseases such as malaria, and the loss of natural environments which provide critical services to urban, peri-urban, and rural communities, are major contributors to GDP loss.

7. Agriculture is a critical sector in the Zambian economy, but it has not sufficiently supported poverty reduction in rural areas. The agriculture sector, which employs 67% of the labour force, remains the main source of income and employment particularly for both rural women and men. The sector also contributes between 16 to 20% of the country's GDP and provides livelihood for more than 50% of the population. This sector, being highly dependent on rainfed agriculture, is very sensitive to climate change. The resultant adverse impacts on water, crops, livestock and fisheries lead to reduction of agricultural productivity, thereby, contributing to food insecurity. The increase in temperatures has resulted in increased difficulties in 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 (National Policy on Climate Change). A vulnerability assessment undertaken to inform the updated and revised NDC, includes specific climate change adaptation recommendations for agriculture and food security, including increasing access to finance to invest in climate smart agriculture, livelihoods diversification etc. Access to finance for both adaptation and mitigation is critical for Zambia meeting its NDCs commitments as illustrated by the conditional amount of USD 35 billion.

8. The impact of climate change on food security and nutrition in Zambia will be high because of

high poverty levels and low diversification in food production.⁹ Currently, about 63 percent of human energy requirements in Zambia come from cereals and yet cereals like maize – the staple food – are vulnerable to climate change. Thus, disruptions in cereal production and supply will impact food access.¹⁰ 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.¹¹

9. Trends showing increased temperatures of an average of 0.34 °C per decade and a decrease in rainfall at an average of 1.9 mm per month threaten livelihoods. 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 constraints. 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. This means that rural finance will have to internalize adaptation finance costs and revenues, and diversify the funding offers and the ensuing results. The context-specific and local agricultural adaptation practices will be taken into account, assessed further, and integrated in rural development policies and climate change adaptation strategies. A more innovative, integrative, and participative approach to rural development will be designed to improve the identification and selection of suitable CC adaptation action, which should in turn improve rural livelihoods. Such adaptation measures must contribute to stabilizing and improving agriculture yields through rural finance available to small-holder farmers, enabling them to invest in appropriate technologies and know-how and thereby improving their income.

10. 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. The constraints for such developments are numerous and go beyond production to markets and institutions. Therefore, rural development policies have to be more holistic and be re-focused to include rural infrastructure, availability and accessibility to technologies, communicating climate-related information (as well as case-specific adaptation options), improved irrigation technology and improved access to other inputs, easier land transactions and land consolidation measures, access to markets, farming cooperatives, better agricultural extension, and accessible and more favorable credits, including pilots on crop insurance. In order to improve the insurance market climate and weather information services will need to be improved. A previous project (GEF financed and implemented by UNDP) developed tailored, sector-specific early warning products that link climate, environmental and socio-economic information on a range of timescales and built national capacity for assimilating forecasts and enabled communication channels and procedures for issuing warnings (through both governmental and non-governmental agencies) such as radio, newspapers, mobile phones, television etc. Climate information is also provided in seasonal outlooks that reach farmers through provincial and in some cases district agricultural offices and extension services. However, farmers do not always understand how to respond based on the information and are therefore not able to apply it in their decision making for investments and planning at farm level. Efforts are being made to translate the forecasts in local languages to increase their applicability. Experience from other IFAD projects with installation of geospatial information system line Ministries and Government Agencies demonstrate success in sending climate information and weather warnings with recommendations to the farmers on what to do in cases of changing climate. The recommendations are

⁹ Verhage et al., 2019; Alfani et al., 2019

¹⁰ Mwanamwenge and Harris, 2017

¹¹ Mwanamwenge and Cook, 2019; von Grebmer et al., 2019

researched and sent regularly by specialized agronomists. All the messages are by using mobile services. The geospatial information system is a sophisticated set of hardware and software, which can be replicated in different countries.

11. Agricultural development is strongly influenced by the availability of rural finance (Asseldonk, 2019). This can also be extended to climate resilient agriculture development. Different types of financial services fulfil different functions in the production cycle and resilience building approach. Whereas credit provision is most helpful for short-term input intensification and medium-term infrastructure investments, market contracts and insurance (e.g., crop, health and life) provide coping strategies for risk averse decision makers. The long term perspective is applicable to climate resilient agriculture development. Furthermore, savings provide a way for farmers to both pay for inputs and ride out adversity. The effectiveness of these financial services depends on the availability of other non-financial services (such as training, extension, and certification) and the incentives provided by the market (price premiums, input costs and payments for environmental services). The latter types of incentives may enhance the profitability of Climate Smart Agriculture (CSA) investments and encourage farmers to adopt related practices. Rural finance also provides opportunities for both infrastructure investments & livelihoods diversification, which also contribute to the resilience of communities. Financial services (insurance, savings, emergency relief, lines of credit) offered at reasonable prices and fair terms can help vulnerable households prepare for, and improve ability, to manage and recover from climate shocks (CGAP, 2019).¹²

12. 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, four are jointly owned by the government. (World Bank AgriFin Diagnostic Report, 2019).

13. Financial inclusion in rural areas is low at 55.9% with the national financial inclusion at 69.4%, up from 59.3% in 2015. 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, as 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. At high interest rates, borrowing would not be a viable financing option for most economic activities in the sector, particularly climate resilient agriculture that requires a longer term investment horizon. Most of the limited amount of credit available for small scale agriculture is for working capital (with tenors of less than 12 months). There is little availability of longer dated credit and other financial services needed to make productivity and adaptation-enhancing capital investments (such as for small machinery or micro-irrigation). In the semi-formal sector, credit unions operating under a cooperative status and credit-only MFIs lending, mostly to wage earners who, by and large, borrow to finance business, are one of the few sources of finance. Aside from large-scale commercial agricultural financing, rural areas are predominantly serviced by Community-Based Financial Institutions (CBFIs) and government subsidies. These informal providers, include Savings Groups and Accumulated Savings and Credit Associations (ASCAs). PayGo companies are also present, providing micro asset-financing for solar energy products. Outreach and capacity across CBFIs and PayGo companies has been enhanced recently but still remains extremely low. In addition, Micro Finance Institutions (MFIs) and PayGo lenders are still dependent on foreign capital to carry out their operations. Foreign denominated capital is not sustainable as it is susceptible to foreign currency risk which, when factored into the lending price, makes the financing unaffordable

¹² https://www.cgap.org/sites/default/files/publications/2019_07_FocusNote_Emerging_Evidence.pdf

since repayments have to be made in local currency in small instalments over extended loan periods.

14. Without addressing resilience and adaptation of rural smallholder farmers to climate change, current efforts in promoting rural financial inclusion will have minimal impact on rural poverty. The rural finance services need to be realigned to the target beneficiaries to incorporate the climate risk management in the portfolios of the service providers. Investments that build the adaptive capacity of rural populations and their productive systems, are urgently required. Financial inclusion efforts in the last decade have laid a foundation for the adoption of innovative financial services, which have been accompanied by consumer education, financial and digital literacy. Lessons learnt in this space can be leveraged to enhance climate change adaptation.

15. Consequently Financial Service Providers (FSPs) need to set up systems to accommodate vulnerable groups and the implications of a changing climate on their livelihoods. Customer centricity requires research to ensure that products resonate with the needs of the target markets and their livelihood strategies. New markets, products and delivery mechanisms that respond to the changing climate need to be piloted and tested for viability to confirm market demand. Further, staff members need to be trained in reaching, and working in, new markets with new products, services and delivery mechanisms including climate risk management. Demand creation activities need to be undertaken to guarantee the product volumes needed to justify investment. There is need to de-risk rural market entry completely and/ or share the risk to incentivise market-driven rural finance solutions, for sustainability and climate change resilience building. FSPs are in no position to mobilise and spend the kind of money needed to do all these things when the business case has not been established. Therefore grant resources are essential to establish the business case and develop capacities of the actors in the rural finance sector.

16. In the last decade Zambia has accelerated its financial inclusion agenda, targeting to reach 80% of the population by the end of the year 2022.¹³ During this period, proven approaches to de-risk, cost share, pilot, sensitise, educate and roll-out new financial services for rural smallholder farmers, have been tried and tested leading to a greater degree of rural financial inclusion than before. Digital Financial Services (DFS) have popularised first generation products including payments, receiving and sending, transfers, cash in and cash out and bill payments. It has been demonstrated that the rural poor are a viable market segment which is not only willing but able to meet the cost of financial services. The DFS ecosystem is just beginning to test second generation products, including, Savings, Credit and Insurance using digital channels. Increased availability of smallholder farmer financial data can be leveraged to develop, test and roll-out new climate change financing instruments. FSPs need to be incentivised, capacitated and egged on to test the rural smallholder market segment, new products and services and delivery mechanisms. Climate change risk presents both a challenge and an opportunity. The confluence between the digital transformation of the country's financial landscape and the need for climate resilient approaches to development, suggest that there is an argument for greening Zambia's financial sector while enhancing climate change adaptation via rural and agricultural finance.

Barriers to CC adaptation in the context of climate vulnerability

17. According to the international literature on adaptation including specifically the Zambian context, the following five types of barriers to CC adaptation, resilience, and livelihood improvement are identified: (i) financial; (ii) institutional; (iii) technological; (iv) ecological; and (v) economic and social .

18. Financial barriers. Given thin credit markets, poor farmers and local communities experience lack of credit availability. They 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

¹³ National Financial Inclusion Strategy (NFIS), 2017

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 breeding is a very powerful instrument but requires large investment over very long periods. Smallholders are increasingly aware of the impacts of climate change on their productivity and in some cases have some knowledgeable, 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. Financial service providers also lack the relevant knowledge and products to integrate climate change risk management in their agricultural and rural development portfolio.

19. Institutional barriers. Farmers have limited incentives to invest in climate-resilient land and water management (e.g. due to tenure insecurity) and the long terms nature of returns on investments. Community based organisations and Farmer groups or associations, Water User Associations etc. play a key role in information dissemination on climate resilient agricultural practices and improving the social cohesion that reduces vulnerability of communities and smallholders to climate change. However, these local level institutions often have weak organizational capacity and resources to maintain up to date awareness on tools that can support their membership in climate change adaptation and manage communal assets. Communal forests and pastures require collective action both to provide public goods (e.g., agroforestry and investments in soil and water conservation) and to reduce negative externalities from overuse (overstocking, deforestation). When costs of collective action are high, both under-provision of public goods and overuse will result and therefore absence of climate resilience.

20. Technological barriers. Farmers often adopt land and water use and environmental management practices, which are not suitable and appropriate to the changing climatic context, e.g. unsustainable soil tillage, crop selection, planting techniques, fishing gear,. They have limited access to technological knowledge (e.g. information on alternative/improved plant species/fish varieties and adapted land management) and support for participation in value chains that can improve their income sources and thus livelihoods. Local farming experience hinders adoption of improved practices and techniques that can improve production for food and nutrition security and also opportunities for responding to markets and value chain participation. Farmers lack locally adapted inputs such as seeds that can improve their ability to cope with climate change.

21. Ecological barriers. Enhanced climatic risks can cause soil degradation, reduce water availability for farming, and modify agro-ecological conditions, overall reducing the productivity of agriculture ecosystems, with negative effects on crop yields, fisheries, livestock production and carrying capacity of grasslands and rangelands. These adverse effects on productivity compromise household and community level food and nutrition security and limit opportunities for farmers to improve production to participate in value chains and improve incomes. Investments in integrated soil fertility management, soil and water conservation among others are essential in overcoming ecological barriers and smallholders need sufficient resources for these investments.

22. Economic and social barriers. Despite its status as a lower middle-income economy, widespread and extreme rural poverty and high unemployment levels remain significant challenges in Zambia. In particular, women have limited possibilities to access appropriate technologies, education, loans; and cannot play an active role in the economy. Due to this poverty status, farmers face economic barriers to the adoption of climate-resilient agriculture options including investment costs.

22-23. The Quantitative barrier in adaptation finance. In order to be able to track and monitor the products, beneficiaries, hectares, supply chains, indicators, and particularly to be able to assess the cost effectiveness and the sustainability of the adaptation approaches improved systems are required. Digital tools contribute to effective monitoring of activities and their benefits as well as the sustainability aspects of an organization or institution and should form an integral part of any adaptation strategy.

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Digital technologies are not only transforming markets and creating new paradigms of doing development and business, the technologies are also providing solutions for addressing adaptation and sustainability challenges.

23-24. This project will focus mainly on addressing the financial barriers to climate change adaptation and sustainability. However as illustrated above the barriers are linked and therefore some institutional and technological aspects will also be addressed through the project activities. The emphasis will be on establishing digital systems to increase access to rural finance for climate change investments and building the capacity of rural finance actors and the target beneficiaries to invest in climate change adaptation activities. Increased access to finance to enable dissemination and investment in climate resilient agricultural technologies and capacity building in climate change adaptation and digital technologies will contribute to overcoming the technological and institutional barriers.

Project Area and Target Group

24-25. **Project area.** Climate Change risk profiles vary from region to region in Zambia. Broadly, South-West swathe of Zambia experiences more and longer droughts while the North-western and the North-eastern regions have significantly higher levels of rainfall and are prone to flooding in low-lying areas. Cumulative risks are experienced by the whole country, as populations seek to accommodate emerging risks. Although the CARF project is national in scope, initial areas of focus informed by climate risk assessment & climate vulnerability analyse(s) will be selected to demonstrate the components' objectives. The specific geographical areas reached will depend among others, on the footprint of the different financial institutions and other service providers that will be partnering with the project and the investment opportunities that will emerge. Specific measures will be incorporated in the design to drive the expansion and deepening of financial and related services into those areas already experiencing adverse climate change impacts while promoting livelihood strategies that prevent degradation and create resilience by addressing the climate change risks in locations of project activities. A variety of selected criteria will be applied for the selection of three pilot areas for climate resilient investments through grant instruments. Among those criteria are: i) the intensity of the vulnerability to climate change of local communities, ii) the degree of impacts of climate change on the livelihood activities, for e.g., land, food security and water supply, iii) the strategic prioritization of the sub-region as, environmentally, socially, economically and, culturally, and naturally, iv) the scale, scope and nature of the systems, processes and assets to be adapted (v) the potential viability of the adaptation options and investments being proposed (vi) the number of community members and smallholders that will benefit both directly and indirectly from the proposed investment and (vii) the validation of the selection by the stakeholders and beneficiaries.

25-26. **Target group.** The main and ultimate target groups are the rural poor, the economically active micro and small entrepreneurs and smallholder farmers, with a particular attention to vulnerable, climate – affected people (CAPs) including elderlies, women, the youth and children. 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. To leverage IFAD's past investments and protect the gains made by IFAD sponsored projects in Zambia, that is, Rural Finance Expansion Programme (RUFEP), Enhanced Smallholder Agribusiness Promotion Programme (E-SAPP), Enhanced-Smallholder Livestock Improvement Programme (E-SLIP) and Smallholder Productivity and promotion Programme (S3P), the project will mimic the footprints of these projects and take advantage of market ready farmers, across a number of value chains with the highest number of beneficiaries for cost effectiveness (e.g., fruit, fish in the northern province) who have received training and exposure to both financial inclusion and climate smart agriculture practices, but who lack the most access to meaningful finance to upscale adaptive practices. All IFAD programmes in Zambia have targeted the rural poor and those adversely affected by climate change.

[26-27.](#) The Project Areas and the Target Groups will be further explored past the concept note stage, and at the full project design stage. Field missions will be conducted whose purposes will be to apply the selection criteria outlined above to effectively target beneficiaries with the components / subcomponents and the activities entailed for real situations and investments on the ground.

Project / Programme Objectives:

List the main objectives of the project/programme.

[27-28.](#) The primary objective of the project is to increase the climate resilience 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 ~~shiftchange~~ towards investment in climate change adaptation are integral to the primary objective.

[28-29.](#) **Development objectives and outcomes.** The CARF will contribute to the Development Goal of "Improved and Resilient Livelihoods of the Rural Poor", which is consistent with the goals in the Government's 7th National Development Plan (2017-2021)¹⁴ and the National Financial Inclusion Strategy (NFIS) (2017-2022). The Project Development Objective (PDO) of CARF is to ~~Integrate~~ ~~improve~~ climate change ~~adaptation-resilience into-of~~ rural livelihoods through deepened access to, and usage of financial and related services ~~for investments in adaptation~~¹⁵. It is estimated that more than 409,000 households in the target group will benefit by the end of the project. The beneficiaries will include at least 50% women and 30% youth.

[29-30.](#) The three Project Outcomes that would lead to achieving the PDO are:

Outcome (1) - Increased access to financial services and investment in ~~adaptive~~ climate resilient agriculture practices across ~~selected~~ agricultural value chains ~~for small-scale farmers~~.¹⁵

Outcome (2) - Enhanced ~~capacities of FSPs, FSOs, FOs, MSMEs and Cooperatives to finance and implement climate adapted agriculture and at~~ institutional ~~capacity-to-level to~~ facilitate ~~investments in~~ climate change adaptation in the rural areas.

Outcome (3) ~~– Sustainable diversification of livelihoods among FOs and cooperatives members. Enhanced capacity of FSPs, FSOs, FOs, MSMEs and Cooperatives to finance and implement climate adapted-agriculture~~

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Project / Programme Components and Financing:

Fill in the table presenting the relationships among project components, activities, expected concrete outputs, and the corresponding budgets. If necessary, please refer to the attached instructions for a detailed description of each term.

¹⁴ Work on the 8th National Development Plan is understood to be underway.

¹⁵ The value chains will be prioritised during the design phase. However, the starting point will be those already being covered in IFAD financed projects such as (i) legumes, especially groundnuts, soybeans and common beans; (ii) small livestock – village chickens, goats and pigs; and (iii) rice

Project/Programme Components	Expected Concrete Outputs	Expected Outcomes	Amount (US\$)
1. Component 1: Enabling environment for increased climate change adaptation financing Sub Component 1.1: Systems and Instruments for Adaptation Financing Sub Component 1.2: Strategic Partnerships and Policy Support for Mainstreaming Adaptation	<p>1.1.1 <u>Financial Service Providers with promising adaptation financial products/services, and innovations relevant to priority economic sectors identified and supported to increase financing of Climate Smart technologies e.g. Decentralised Renewable Energy sources, Solar Irrigation systems, Solar Cooling Systems, climate tolerant seed varieties and livestock breeds, improved storage and agro-processing units etc</u></p> <p>1.1.2 <u>Systems and financial instruments promoted and monitoring - systems designed (based on taxonomy) to enable readiness and capacities of FSPs to make and manage climate finance investments</u></p> <p>1.1.3 <u>Improved capacities of FOs, Women and youth organizations and/or cooperatives, and MSMEs to invest in climate change adaptation</u></p> <p>1.2.1 <u>: Specific adaptation actions prioritized to address climate risks in government ministries/agencies</u></p> <p>1.2.2 <u>Improved climate-finance policy environment and institutional capacity for climate finance oversight in line Ministries,</u></p>	<p>Outcome (1) - Increased access to financial services and investment in <u>adaptive-climate resilient agriculture practices across selected agricultural value chains for small-scale farmers</u></p> <p>Outcome (2) - Enhanced institutional capacities of FSPs, FSOs, FOs, MSMEs and Cooperatives to finance and implement climate adapted agriculture and at institutional to facilitate investments in climate change adaptation in rural areas.</p>	<p>2 100 000</p> <p>74 500 000</p> <p>650 000</p>
2. Component 2: Climate Change Adaptation Investments Sub Component 2.1:	<p>2.1.1. Improved tools to integrate climate risk management and monitoring of climate change adaptation investments</p> <p>2.1.2 FSPs, FSOs, FOs,</p>	<p>Outcome (3) - <u>Sustainable diversification of livelihoods among FOs and cooperatives members. Enhanced capacity of FSPs, FSOs, FOs, MSMEs and</u></p>	<p>500 000</p>

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Annex 5 to OPG Amended in October 2017

Capacity Building & Digital Tooling Technical Assistance Sub Component 2.2: Matching Innovation Grants for Livelihoods/ Micro & Small businesses	MSMEs and small scale farmers offered Digital Tooling Technical Assistance	Cooperatives to finance and implement climate change-adapted agriculture and-related businesses	
	2.2.1 Increased investments- hectares of land under climate resilient practices		43 46 66 500
	2.2.2 Members of FOs and Cooperatives trained in climate smart agricultural practices		
	2.2.3 Increased number of households with diversified in-climate change adaptation-resilient by-livelihoods small-scale farmers		
6. Project/ Programme Execution costs			883,500
7. Total Project/ Programme Costs			9,300,000
8. Project/ Programme Cycle Management Fees charged by the Implementing Entity (if applicable)			700,000
Amount of Financing Requested			10,000,000

Projected Calendar:

Indicate the dates of the following milestones for the proposed project/programme

Milestones	Expected Dates
Start of Project/Programme Implementation	December, 2022
Mid-term Review (if planned)	December, 2024
Project/Programme Closing	December, 2027
Terminal Evaluation	March, 2028

PART II: PROJECT / PROGRAMME JUSTIFICATION

Describe the project / programme components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience. For the case of a programme, show how the combination of individual projects will contribute to the overall increase in resilience.

31. The Theory of Change (ToC) for the CARF is that IF the climate change adaptation finance mechanisms, incentives and policies that promote and facilitate the adoption of best climate change adaptation and resilience practices by Financial Service Providers (FSPs), Farmer Support Organizations (FSOs), Farmer Organizations (FOs), MSMEs and cooperatives are improved, in conjunction with real-time implementation support and capacity-building for all stakeholders, as well as greater coordination, evaluation and knowledge management of these investments across Zambia, THEN financial inclusion, climate resilience, food security, job creation and the well-being of smallholder farmers, rural enterprises and rural communities across Zambia, will be enhanced BECAUSE both supply and demand-side barriers to financing will have been reduced, thus providing greater access, at the field level, to financial services, technical assistance, climate change information and technical expertise to foster climate resilient agricultural development¹⁶, decent jobs, food security and nutrition.

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32. The CARF has a dual focus of building an enabling environment for investment in climate change adaptation and demonstrating the viability of adaptation options through building the capacities of financial service providers to integrate climate change risk and monitor adaptation investments and building the capacities of rural communities to make informed investment decisions. Based on the climate risk in different locations, the project will build the capacities of communities in climate smart agriculture and provide resources for investing in suitable adaptation options. The communities that will be provided with matching grants for investment in adaptation options and the FSPs and MSMEs are the direct beneficiaries of the project. The focus on the FSP and enabling environment enables a wider reach and indirect targeting of smallholders and their communities that have increased awareness of climate change adaptation options and use of their traditional knowledge to cope with the changing climate but lack access to finances to invest in the various climate smart technologies they are aware of due to the perceived risks in the agriculture sector by FSPs.

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30-33. CARF is an adaptation project with a strong digital transformation vector. It supports increasing public-private sector engagement for climate action in land use and agriculture. CARF will do so by addressing barriers and catalyzing private investment through public policy instruments and other climate investment grants, as well as promoting innovative digital, technological and financial tools. In addition, guidance on private sector engagement in adaptation will be developed based on experience and best practices, as well as application of innovative climate solutions regarding blockchain technologies, financial and digital instruments.

Component 1: Enabling environment for increased climate change adaptation financing **34.725 M USD**

The objective of Component 1 would be to increase the availability of affordable public and private sector financing for FSPs and encourage investments in climate resilient practices and technologies by smallholder farmers and enterprises under climatic risks. In its discussion paper entitled "Making Climate Finance Work in Agriculture" which was produced as a background document for the 2016 FAO State of Food and Agriculture (SOFA) report, the World Bank Group suggest, three avenues through which climate finance and digital tools can be instrumental in supporting the agriculture sector (which hosts

¹⁶ An approach that includes sustainably using existing natural resources through crop and livestock production systems to achieve long-term higher productivity and farm incomes under climate variabilities

over 1.5m rural smallholder farmers in Zambia) to become part of the climate solution. The CARF will identify and support Financial Service Providers with promising adaptation financial products/services, and innovations relevant to priority economic sectors. Support implementation, financing and partnerships to finance innovative solutions to address climate risks. The CARF adopts, and will support through grant funding, these critical elements:

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1. Design [ing] innovative mechanisms and adapt[ing] others to leverage additional sources of both public and private capital that can be directed toward climate-smart investments in agriculture. Specifically:

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- a. Enhancing public-private partnerships to leverage the resources, expertise, and capacities of different stakeholders;
- b. Designing and piloting new investment vehicles, diversifying, managing and rebalancing the risk-return profiles of individual investors; and
- c. 1. Bundling a wide range of financial instruments to heighten their effectiveness and provide more holistic and comprehensive solutions.

2. Identify entry points, for directing climate finance into agriculture and linking financial institutions, smallholders and agricultural SMEs

- a. Developing and improving a finance-enabling environment for agriculture:
- b. Supporting FIs to develop and reinforce their risk management mechanisms
- c. Supporting FIs to reduce transaction costs

3. Provide grants and technical assistance to increase investments in agriculture. The goal is for

- a. Lenders to:

- Build institutional climate/agriculture finance capacities
- Build the capacity of climate/agriculture finance staff
- Customize financial products and services to climate adaptation and agriculture

- b. Borrowers to:

- Adopt on-farm climate-smart practices and technologies
- Create and keep proper business records to be build acceptable risk profiles
- Manage financial, climatic, production, post-harvest, market and other risks
- Generate and conserve cash flows and build repayment capacities and offer acceptable collateral packages to financiers
- Access finance and manage debt

SubC1.1: Systems and Instruments for climate change Adaptation Financing

31-34. Under this sub-component, risk management strategies and instruments will be established in the Participating Financial Institutions (PFIs) to increase access to financial services to finance innovative solutions to reduce vulnerability to climate change adaptation and agricultural finance. This will enable beneficiaries / farmers to grow crops that can adapt to changing weather conditions; improving irrigation systems and preserving water catchments in areas facing increased drought risk; strengthening defenses against floods and storms; and ensuring that social protection mechanisms are in place to make sure that people are able to cope with and quickly recover from weather-related shocks. The mechanisms will include a taxonomy for climate change adaptation financing as well as monitoring and reporting on resources availed and the adaptation impact.

32-35. Possible activities to increase availability, access to and usage of, climate and agriculture finance to smallholder farmers and SMEs could include, but will not be limited to:

- building rural Credit Bureaus (capacity, incorporate climate smart principles into credit records etc.)
- supporting FSPs to understand and become active users of Bureaus

- supporting credit enhancement mechanisms including a loan Guarantee scheme (build capacity of staff to segment portfolio, capacity for risk management)
- supporting the insurance sector (train in design and deliver, link FSPs to insurance)
- supporting various Agricultural Value Chains (train to map out catchment areas, identify aggregators)
- stimulating the Warehouse Receipts System (train staff in management and use)
- supporting Climate Smart Advisory Services (train staff on services, train providers on delivery CSA)
- supporting alternative delivery mechanisms for climate/agriculture finance through:
 - Grants for branchless banking (Green the Regulations, organize and strengthen agent networks)
 - Grants for Digital Financial Services [DFS (train staff on use of DFS, sensitize farmers
- piloting new and bundled financial instruments to deliver climate and agricultural finance to smallholder farmers
- support the development of big data and data science business models relevant to the agriculture sector (support firms that wish to digitize and analyze big data for use in credit-scoring models, train FI staff in the use of such technologies, support financial institutions to adopt such credit-scoring models etc);

33-36. The PFIs will be the main implementing partners for this sub-component through identified FSPs, including fintechs. Instruments to support farmers and rural enterprises if climate events lead to increased potential for loan loss will also be incorporated. De-risking instruments such as weather insurance schemes will also be looked at ~~such as weather insurance schemes~~.

SubC1.2: Strategic Partnerships and Policy Support for Mainstreaming climate change Adaptation

34-37. The subcomponent will support Government Ministries/Agencies (Ministry of Finance and National Planning, Bank of Zambia, Pensions and Insurance Authority, Ministry of Green Economy and Environment and Ministry of Small and Medium Enterprises Development), FOs, Women and youth organizations and/or cooperatives, and MSMEs to prioritize specific adaptation actions to address climate risks, promote strategic climate change adaptation mainstreaming, partnerships, knowledge generation and policy support, including for climate finance policy and capacity building support to Ministry of Finance and National Planning, Bank of Zambia, Pensions and Insurance Authority, Ministry of Green Economy and Environment and Ministry of Small and Medium Enterprises Development. The main activities will be training of staff in Ministries, developing a knowledge capture tools and identifying dissemination channels, contribution to organisation of climate finance policy dialogues and review of relevant policies.

35-38. CARF will collaborate with and support the lead national and sub-national authorities overseeing Climate Change in Zambia guided by the National Policy on Climate Change to create learning and dissemination opportunities to increase the ability of participating entities to access climate change financial resources, data and to enhance evidence-based decision making by participants in the climate change field.

Component 2: Climate Change Adaptation Investments Mainstreaming 4.617 M USD

36-39. The objective of Component 2 would be to strengthen the capacity of FSPs including fintechs and CBFIs, FSOs, Business Development Services (BDS) providers, rural entrepreneurs and farmers to concretely put to action and show case climate adaptation investments through the resources facilitated by Component 1. This will involve also an Innovation and Outreach Facility issuing matching

grants to smallholder farmers (50% women, 30% youth) against thematic calls to re-build livelihoods, and to strengthen various aspects of climate finance, such as climate adaptation business planning, green banking and digital tools for climate finance.

[37-40.](#) This component envisages efficiency and sustainability of climate finance. It aims at increasing the number and value of financial transactions involving the target groups. Activities, including designing, development and piloting new ideas and scaling-up of successful innovations and practices that reduce transaction risks and improve efficiency in financial and other services and increase climate change adaptation, will be funded. Periodic calls will be made, via website and public media, for thematic concept notes to address identified barriers to climate finance through innovations that lead to new financial products and services, new financial services delivery mechanisms, alternative business models and best practice in climate change adaptation. Successful applicants will be invited to contribute matching cash and in-kind contributions in matching ratios ranging from 10% and 40% of total investments costs with CARF meeting 60%-90%. The CARF grant will be a one-off, non-reimbursable smart grant. It will be used to meet specified eligible expenses to support investments and capacity building of participants in the climate change finance value chain.

SubC2.1: Capacity Building & Digital Tooling Technical Assistance

[38-41.](#) Under this subcomponent, the capacities of the FSPs and CBFIs will be strengthened through tools to integrate climate risk management and monitoring of climate change adaptation into their portfolios. The focus will be on development of BDS capacities for providing climate change advisory services. FSOs, rural entrepreneurs and smallholder farmers' capacities to develop climate change sensitive investment plans will be increased through the activities in this sub-component. Possible activities to increase availability, access to and usage of, climate and agriculture finance to smallholder farmers and SMEs could include:

- Supporting increased productivity, improved quality of produce, guaranteed consistency of supply and market linkage;
- Supporting smallholder farmers and rural SMEs in financial planning skills to improve their risk profiling;
- Supporting skills development among rural youths and women to install, maintain and repair decentralised Renewable Energy [DRE] equipment and create green jobs
- Designing/retrofitting smallholder farmer facilities to make them adaptable to DRE technologies, stimulate demand for climate smart finance and accelerate the rate of climate change adaptation
- Develop smallholder farmer-by-value-chain databases that could be monetised to attract climate and agriculture finance into each value chain.

SubC2.2: Matching Innovation Grants for Livelihoods / Micro & Small Businesses

[42.](#) This sub-component will provide resources for investments targeting the plans developed by the FSOs, rural entrepreneurs and small-scale farmers including creation of green jobs. The grants will be managed under this sub-component and targeted at applicants that meet the criteria outlined for the selection of matching grant beneficiaries. In addition to the criteria outlined in the target area selection above (paragraph 25) for the matching grants the considerations will include: i) community empowerment potential including gender and youth empowerment activities ii) postharvest loss management and value addition to agricultural products iii) livelihoods diversification potential iv) integration of ecosystems resilience and v) community willingness to adopt climate resilient agricultural practices. The average size of the matching grant will be USD 1.2 million. Therefore approximately three

large grants will be provided to vulnerable communities to enhance their climate change resilience. The grants scoped out during the formulation of the concept note and that will be validated during the full proposal design include the following:

- Increasing the resilience and adaptation of the fishing communities through the building of local capacity in fish farming and sustainable management.
- Reducing vulnerability, and enhance adaptive capacity of the communities in wetland valley communities through improved ecosystem resilience.
- Promoting alternative sustainable diversified livelihoods including reduction of post-harvest losses and value addition for agricultural value chains.

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~~39.43. Under this subcomponent, In order to better target and inform the matching grant activities, climate information will be shared as “– access to available and useful climate information contributes to increasing resilience and adaptive capacity of vulnerable groups, (eco) systems and institutions to the impacts of climate change.”¹⁷ Climate information services will be shared through different foras and accompanied by advisory services to inform planning and investments at farm level. To enhance the data capture and reporting on the adaptation measures adopted through the matching grants, Blockchain methodology will be applied by digitalizing the value chain for agriculture and food systems and tracking sustainability through designing Key Data & Value Elements (KDVE) that represent certified climate-resilient value chains and practices. The aim is to help policy makers, food producers and audit agencies to stimulate the uptake of climate resilient practices, including de-risking and insurance schemes linked to early warning systems and disaster risk reduction (DRR), registered in blockchain”. The need for investments in innovative solutions for e.g. in aquaculture, and value chain food systems is becoming even more important, as we address the consequences of climate change and the ongoing COVID-19 pandemic and set sail to “build forward better”. Capacity of the smallholders will need to be developed to enable them provide data for and to effectively utilise the blockchain technology. Climate information services will be shared through different foras and accompanied by advisory services to inform planning and investments at farm level.~~

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~~40. —The proposed usage of blockchain technology, the digitization of the agricultural value chains and the envisaged tracking of food systems are premised on the level of access to and usage of, mobile phone technology by the Zambian population, in particular, the rural poor. According to the Zambia Information Communication Technology Authority [ZICTA] 2018 National Survey on “Access and Usage of Information and Communication Technologies by Households and Individuals”, there were 3.4m households in Zambia. Of these, 54.7% resided in rural areas while 45.3% were urban-based. Male-headed households were 74.6% compared to women-headed households at 25.6%. More than 78% of the population was aged below 35. Over 76 percent [76.7%] of the male-headed households owned a mobile phone compared to 64.9% of the female headed households. It was estimated that 53.5 percent of all the individuals, aged 10 years and above, were active users of mobile phones. Seventy-one percent of all the individuals based in urban areas were noted to be active users of mobile cellular telephones compared to 42.1 percent in the rural areas. Over fifty-six percent [56.9%] of all males were active cell-phone users compared to 50.9%, females. The survey established that 59.2% of all the active users of mobile phones were aged below 35. Of all the active users, 83.4% owned mobile devices that were subscribed to at least one local network. Urban users owning mobile devices, accounted for 88.0% compared to their rural counterparts at 78.3 percent.~~

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~~44. —~~
~~41.45. Though only 42.1% of active users resided in rural areas, which is the target constituency, for CARF the usage of mobile phones continues to grow and is increasingly dominated by young people and is also driving financial inclusion. The Finscope Survey 2020, found that Zambia continued to make significant gains in financial inclusion which increased to 69.4% from 59.3% in 2015. This growth was,~~

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¹⁷ CARE(2016) Adaptation Good Practice <https://careclimatechange.org/wp-content/uploads/2019/06/Adaptation-Good-Practice-Checklist.pdf>

mainly attributed to increased uptake of mobile money services which increased to 58.5% from 14.0% in 2015. CARF will leverage this digital footprint to deliver inclusive climate change finance among smallholder farmers. To build climate change resilience among smallholder beneficiaries, sensitization, training and education will be streamlined into projects approved. Demand creation activities will be implemented along-side with financial skills training, improved production methods, market linkages and enhanced production technologies. Mobile money technology does not only increase access to financial services, but it creates user profiles that are critical in the provision of credit and has the potential to lower transaction costs. This technology will allow smallholder farmer information to be harvested and stored and using block chain technology, their participation in the CARF activities can be tracked. This data can be monetized and collateralized to support sustainable smallholder farmer financing and enhancing socioeconomic resilience.

Project Execution 0.88 M USD

42-46. The project execution costs will support implementation through the day to day management of the activities and the monitoring and evaluation of the outputs and outcomes of the project. It includes all support services and activities conducted by the Programme Coordination Office (PCO) to facilitate access to financial services for the rural poor. The underlying elements of any M & E system is to build a knowledge management framework that would benefit from lessons learned internally within IFAD & externally through regular consultation with other Development Partners in Zambia.

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

43-47. The economic benefits of the project will result from the increased access to finance that will enable investments in climate change adaptation activities. The investments made through the matching grants targeting the vulnerable communities will and increase their productivity and incomes of target beneficiaries. The improvement of risk analysis and monitoring systems for the PFIs, FSPs and BDS providers as well as the financial instruments that will be designed will also increase availability of climate adaptation finance for a wider reach including the beneficiaries of IFAD funded projects that have received training in climate smart agricultural practices.

44-48. The Project will contribute to protecting the target beneficiaries from climate shocks through the investments as a result of the increased access to finance and investment in climate change adaptation measures. 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, and 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.

49. Several environmental benefits are expected from the CARF activities particularly under component 2, including (i) the improved management of the agricultural production landscapes, (ii) addressing land degradation through the soil fertility investments, (iii) improvements in the ecosystems and services in areas surrounding the smallholder farms and (iv) the improved agricultural waste management and reduction of post-harvest losses.

45-50. In component 1, the activities in relation to the PFIs and other actors will include putting the

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environmental, social and climate risk management systems in place. The proposed activities in the Project will not be associated with major sources of negative direct and/or cumulative impacts on either the environment or the local communities as the end line investments will be micro and small scale. The project will support the use of already existing sites owned by the communities which may need further re-examination to ensure compliance with the required standards and therefore a screening criteria will be applied for community level investment, reducing climate change related risks and ensuring best practices on production systems and natural resources management. For the youth target, only those community members above 18 years will constitute eligible participants.

51. Social benefits include the empowerment of different actors with the knowledge on climate change adaptation and investment opportunities as well as the creation of jobs in financing and investing in climate change adaptation. Increased access to finance also enables communities to recover quicker from climate related shocks thus reducing their vulnerability. 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 inclusion of vulnerable and marginalised groups will be part of the targeting strategy for the project.

52. The gender empowerment approach of the project will be aligned to the National Gender Policy of 2014 whose main objective is to ensure the attainment of gender equality in the development process by redressing the existing gender imbalances. Zambia has also adopted legislation on promoting gender equity and equality, namely, the Gender Equity and Equality Act of 2015. Despite these efforts, gender inequalities persist with the socio-economic situation of women remaining very weak in Zambia. Though women are a slight majority in the population, they are more likely than men to be poor and illiterate and they usually have lower access to medical care, property ownership, credit, training and employment. Distribution of income among men and women is disproportionate, with men owning all major means of production such as land, livestock and financial capital, while women provide most of the labour. Customary law still favours men with regard to the control and access over production resources (Land, Labor, credit, etc.). Women have limited control of finances and decision making power at the household level. For the fisheries sector, women often participate in the processing and selling of the products¹⁸.

46-53. Importantly for the CARF adherence to the climate change Gender Action Plan (ccGAP), which ensures that programming and funding processes effectively mainstream gender considerations to guarantee that men and women can have access to, participate in, and benefit equally from climate change initiatives will be ensured. Specific activities will be outlined to build the capacity of women to access finance and provide them with BDS. As with other IFAD projects the CARF will apply the Gender Action Learning system such as Household methodologies to influence change in gender roles in the selected value chains.

47-54. The proposed project will contribute to the following sustainable development goals: Ending poverty (Goal #1) through creation of employment along the value chain resulting in additional incomes; Zero hunger (Goal #2) through the investments to be made in agriculture and rural development as a result of the increased access to rural finance; Gender equality (Goal #5) through equitable participation of male and females in the production, processing, and distribution chain and application of "equal and decent pay for similar work" principle in project activities and; Goal #13. Take urgent action to combat climate change and its impacts.

C. *Describe or provide an analysis of the cost-effectiveness of the proposed project / programme.*

48-55. Asseldonk, 2019, et al, suggest three pathways through which rural finance can impact Climate

¹⁸ Country Strategy and Opportunities Program (2019-2024), IFAD

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Smart Agricultural Practices, which in turn, can lead to improved livelihoods and rural resilience:

- a) **Direct Pathway:** Financial instruments for enhancing direct investments for climate-smart practices, ranging from short-term input loans to medium- and long-term loans. Credit enhancing mechanisms would be included here, given that collateral remains a huge barrier in the Zambian financial market and has a great degree of influence of direct financing;
- b) **Indirect Pathway:** Economic incentives for supporting farm-household incomes that generate expenditure effects in favour of climate-smart practices. For richer households, this could include matching grant facility prompting householders to spend own monies to invest in CSA.
- c) **Behavioural Pathway:** Incentive mechanisms that influence behaviour towards weather risks and enhance resilience of revenue streams generated by climate-smart practices. Education, awareness creation and information sharing would be useful from experience.

The events flow depicting the foregoing thought process is illustrated in Figure 2.

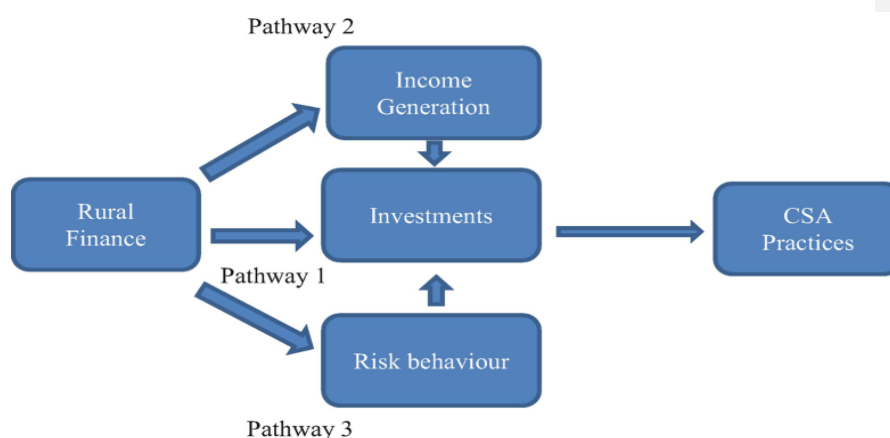


Figure 2. Impact Pathways for Financing CSA practices, (Asseldonk, *et al*, 2019).

56. CARF will apply pathway 1 and 3 for the direct beneficiaries while for those indirectly targeted, pathway 2 will apply. The primary objective of CARF is to increase climate resilience of rural populations through increased financing for adaptation solutions and best practices, enhanced by institutional and financial innovation mechanisms, (products and systems). Empowering people in communities with relevant knowledge to change towards investment in climate change adaptation is integral to the primary objective. To ensure the integration of climate change adaptation into rural livelihoods through deepened access to, and usage of financial and related services the CARF Project has two main components and four sub-components in addition to project management. Component 1 focuses on establishing risk analysis and monitoring systems and an enabling environment for climate change adaptation financing.

57. The first Component "Enabling environment for increased climate change adaptation" provides a cost effective approach to integrate considerations for climate change adaptation in the entire country rural finance ecosystem. The creation of an enabling environment, and empowering people to change their behavior is essential to introduce efficiencies in the rural finance sector through the strategic partnerships and policy support for the relevant institutions. Component 1 will have many important activities that are usually expensive, but necessary, such as policy work, the preparation of a taxonomy and feasibility studies for the projects to be implemented in the 2 components under the matching grants,

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the elaboration of eligibility criteria, safeguards and fiduciary requirements, business plans, and manuals of operation. ~~These are costly activities which will fall under component 1 and 2. The project will meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Adaptation Fund, once the safeguard and management system procedures and guidelines are in place as part of Component 1.~~ In the full project preparation the details of the costs will be scrutinized according to sustainable finance accounting principles.

~~49-58. Component 2 is mainly targeted at building the capacities of smallholders and MSEs and provision of resources for climate change adaptation investments. The activities in the matching grants will ensure climate-smart crop and aquaculture production approaches, which is are cost-effective in achieving food security in the context of climate change. Climate-smart agriculture will reduce economic losses by improving the resource use making it more efficient and resilient. CARF is also cost effective through the soil fertility improvements and sustainable land and water management activities that improve soil water retention and also minimize the use of agro-chemicals that are usually costly for smallholders. CARF is also cost effective through the capacity building and knowledge dissemination of stakeholders, especially smallholders to share experiences and viable adaptation options through the identified fora. Component 2 is mainly targeted at building the capacities of smallholders and MSEs for climate change adaptation investments. Capacity building, technical and financial training under Component 2 is centered on instructing the direct and indirect beneficiaries on efficacy and effectiveness in business and commercial transactions in a new economy, circular, green or digital.~~ Component 2 also includes innovations through introduction of fintech (digital cash). Blockchain technology is considered a driving and effective force in helping to achieve food security and the Sustainable Development Goals (SDGs). While innovation is not only about technology, digital solutions built on 5 G technology are also becoming increasingly important.

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~~50-59. As the title of the Project indicates – Climate Change Adaptation through Rural Finance – the primary objective is to increase climate resilience of rural populations through increased financing for adaptation solutions and best practices, enhanced by institutional and financial innovation mechanisms, (products and systems). Empowering people in communities with relevant knowledge to change towards investment in climate change adaptation is integral to the primary objective. The two components proposed, especially the first one “Enabling environment for increased climate change adaptation” provides a cost effective approach to integrate considerations for climate change adaptation in the entire country rural finance ecosystem. There is no other alternative than the creation of an enabling environment, and empowering people to change their behavior. The project will introduce efficiencies in the rural finance sector through the strategic partnerships and policy support for the relevant institutions.~~

~~51-60. Component 1 will have many important activities that are usually expensive, but necessary, such as policy work, the preparation of feasibility studies for the projects to be implemented in the 2 components, the elaboration of eligibility criteria, safeguards and fiduciary requirements, business plans, and manuals of operation. These are costly activities which will fall under component 1 and 2. In the full project preparation the details of the costs will be scrutinized according to sustainable finance accounting principles.~~

~~52-61. The cost effectiveness of the project is also demonstrated from a sustainability point of view by the capability of a market system or economy of a country to continue to adapt and provide the means for vulnerable poor women and men to derive social and economic benefits beyond the period of intervention that is five years. A Project like this one has a scope and scale of 25 years (2050) using the economic and financial analysis. For e.g. one outcome is to create innovative approaches for adaptation finance. If a circular economy approach may be considered an innovative climate finance instrument, then we are referring to a long-term behavioral change which will remain entrenched. The Project will prepare the Zambian rural finance sector for a more regional Green Climate Fund climate finance~~

program which will include the southern African countries to create a Climate Change adaptation financing mechanism.

53-62. The Project is very consistent with national or sub-national sustainable development strategies and plans, poverty reduction strategies, national communications and adaptation program of action and other relevant instruments. Therefore, the learning curve in this Project will be reduced, and the objectives attained quicker. The proposal includes a clear description of alternative options to the proposed measures, to allow for a good assessment of the project/programme cost effectiveness. Each component has two costed subcomponents as alternate options with different activities. ~~The Project will prepare the Zambian rural finance sector for a more regional Green Climate Fund climate finance program which will include the southern African countries to create a Climate Change adaptation financing mechanism.~~

~~54-63. The Project is very consistent with national or sub-national sustainable development strategies and plans, poverty reduction strategies, national communications and adaptation program of action and other relevant instruments. Therefore, the learning curve in this Project will be reduced, and the objectives attained quicker.~~

~~55-64. The project will meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Adaptation Fund, once the safeguard and management system procedures and guidelines are in place (component 1).~~

56-65. Furthermore, the AF funding under CARF will establish systems and financial products to increase climate change adaptation investments. The establishment of systems in Participating Financial Institutions, FSPs and BDS providers will contribute to increased outreach of climate change adaptation finance in the rural areas. The outreach includes creation of new jobs and dissemination of viable adaptation options. The outreach will build on existing client base for the FSPs and providing capacity building to the clients and offering the BDS is a cost effective approach to provide a more holistic package to the target beneficiaries for the matching grants.

~~57-66. Capacity building, technical and financial training under Component 2 is centered on instructing the direct and indirect beneficiaries on efficacy and effectiveness in business and commercial transactions in a new economy, circular, green or digital.~~

D. Describe how the project / programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national adaptation plan (NAP), national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist.

58-67. National priorities on CC have been elaborated through several key documents, between 2007 and 2016: the Zambia National Adaptation Programme of Action (NAPA) in 2007; the National Climate Change Response Strategy (NCCRS) in 2010; the NDC in 2015; the National Policy on Climate Change (NPCC) in 2016 the NDC in 2020, the third National Communication (2020), and the National Adaptation Plan under development. Additionally, CC priorities are reported in some key national and sectorial policies and development plans, as summarized in what follows.

59-68. 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 four sectors most vulnerable to climate change impacts.¹⁹ 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”.²⁰ 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.²¹

60-69. In its NDC Zambia intends to reduce its CO2 emissions by implementing three programs driven by the country's NCCRS and supported by national development policies: (i) sustainable forest management; (ii) climate-smart agriculture (CSA); and (iii) renewable energy and energy efficiency. Zambia also places significant importance and priority on adaptation. 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.²² The enhanced finance for adaptation entails looking at different mechanisms including the development of an insurance market against climate change induced risks.

64-70. Mitigation and adaptation programmes elaborated in the NDC were integrated in the 2016 Seventh National Development Plan (7NDP) which acknowledges that the country has been experiencing CC effects (droughts, rising temperatures and unpredictable rainfall patterns) and that frequency and intensity of climate events are expected to rise in future, with negative impact on people's livelihoods. For the 2017-21 period, 7NDP promotes the adoption of climate-resilient agriculture practices, and aid communities to adapt to CC effects through climate proofing their livelihoods, production and assets.²³

71. The Zambia National Policy on Climate Change (NPCC, 2016) provides a framework for coordinated response to climate change, including guidance on how the Zambian economy can grow in a sustainable manner as intended by National Development Plans including the achievement of the Vision 2030. 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.

62-72. The ~~National Policy on Climate Change~~NPCC creates the Council of Ministers, chaired by the Vice President, as the supreme decision-making body overseeing Climate Change in Zambia. It is responsible for, inter alia:

¹⁹ MTENR 2007

²⁰ 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).

²² GRZ 2015

²³ MNNDP 2016

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- Policy guidance on the mainstreaming and integration of climate change activities in National Development Plans, Sector Policies and Plans;
- Policy guidance on various monitoring and evaluation reports that emanate from Climate Change implementing entities, and;
- Resource mobilization for Climate Change intervention.

The Ministry responsible for environment and natural resources is the lead institution in overseeing the policy implementation. It reports to the Steering Committee of Permanent Secretaries, which is advisory to the Council. A Technical Committee comprising representatives from relevant Ministries and other key stakeholders is the implementer.

63-73. With reference to agriculture sector policies, the 2013 Zambia National Agriculture Policy (ZNAP) has explicitly included two CC-related objectives: (i) promotion of sustainable land management technologies, afforestation, community woodlots and agro-forestry, sustainable utilization of rangeland (grassland ecosystem) and pastures for livestock production; (ii) promotion and strengthening of agricultural production methods that are resilient to CC; promotion of CC adaptation awareness; integrating CC adaptation measures in policies, plans and programmes; promotion of environmentally friendly and climate-resilient farming systems. The objective of GHG emissions reduction is envisaged in the 2009 National Policy on Environment (NPE). In 2013, the country also started preparing the Nationally Appropriate Mitigation Actions (NAMAs). The Climate Smart Agriculture Framework of 2018 is under implementation aiming at mainstreaming climate smart agriculture approaches and interventions in line with the Second National Agriculture Policy, the Zambia National Agriculture Investment Plan (ZNAIP), NPCC, NCCRS, NDC and other sectoral policies relevant to agriculture and climate change.

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

64-74. 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 AF grant proceed 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 AF environmental and social safeguard policies and procedures.

65-75. For the activities to be financed through the matching grants that may include small scale infrastructure such as ponds for aquaculture and processing plants for values addition and post-harvest loss reduction, the environmental Zambian law identifies projects which should be the subject of 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:

1. 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.

2. 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

required to ensure adherence to the national standards.

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

66-76. The CARF activities from the matching grants 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. FSPs capacity will be built to ensure adherence to the national regulations and SECAP.

67.—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 Nationally Determined Contribution to UNFCCC Policy effected in 2016. The CARF is aligned with the revised NDC as elaborated in the earlier sections and will contribute to achieving articulated targets.

77. Regarding Financial Management, the CARF 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.

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

68-78. There is no duplication with other funding sources. On the contrary complementarity is being explored with other funding sources such as the Green Climate Fund to build on the activities of the CARF to establish a climate financing facility and increase the reach to MSEs, FSOs and smallholder farmers and investments for the agriculture sector that is vulnerable to climate change.

79. The current projects being implemented in Zambia focusing on climate change adaptation and mitigation in the agriculture sector, for which complementarity will be ensured with the CARF include: Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia financed by the Green Climate Fund and implemented by UNDP, FAO and WFP (known as SCRALA); Zambia Strengthening Climate Resilience (PPCR Phase II) financed by the Climate investment Funds and implemented by the World Bank and African Development Bank and; Scaling up Climate Ambition on Land Use and Agriculture through NDCs and NAPs (SCALA programme, co-led by FAO and UNDP with funding from Germany's International Climate Initiative (IKI)). These projects are implemented in different geographic zones that will not be targeted for CARF activities and will therefore also provide learning in approaches particularly investments in climate change adaptation. The SCALA programme provides learning for use of blockchain technology in agricultural value chains.

80. In addition a number insurance projects have been and are being implemented. There are a number of agricultural insurance initiatives in the country. The products are mainly for crops rather than livestock – particularly maize, soya beans, groundnuts, cowpeas, pigeon peas, beans and cotton – either as a multi-crop product, or a crop agnostic product. The focus in the country so far has mainly been on covering weather risks for crops, mainly drought and excess rainfall.

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81. Different insurance scheme modalities also exist spanning those blending insurance with inputs (private and subsidized), to contract farming links, and insurance packaged together with savings and credit. As a consequence, there is some existing expertise, enabling policies, and appetite for building on what has been achieved so far. The key players involved currently include from the public sector GRZ, and donors and aid agencies WFP, World Bank, GLZ, FSD Zambia and UNDP. The private insurance sector is in particular lead by Mayfair Insurance and Focus Insurance. Delivery channels, which currently include farmers' organizations (linked to the Zambia National Farmers' Union), input suppliers (including NWK Agri-Services), and some microfinance institutions (such as Vision Fund Zambia, linked to WFP's Rural Resilience, R4 Initiative).

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82. The largest scheme in Zambia is spearheaded by GRZ and links index insurance with the national subsidized Farmer Input Support Programme (FISP). In January 2018 over one million FISP farmers were covered with insurance. The product provides coverage to FISP farmers against extreme weather events. It is based on satellite data, and designed with support from the external service provider RiskShield Consultants but delivered by the in-country private insurer, Mayfair Insurance. Other smaller schemes in terms of outreach are using different index insurance products and linking them with specific target groups such as members of the Zambia National Farmers' Union, or cotton contract farming companies.

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83. Outside agricultural insurance PULA conducted pilots for the comprehensive Area Yield Index Insurance (AYII) cover with Vitalite Zambia Limited, a PayGo company selling solar products whose main customers are off-grid smallholder farmers engaged in maize cultivation in the 2019/2020 season.

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84. The main objective of the pilot was to de-risk Vitalite's loan portfolio, minimize costly repossessions that come with default post poor harvest season and ensure farmers are not disrupted. The AYII provides an opportunity to sustain the market growth in the renewable energy sub-sector and provides Financial Service Providers (FSPs) with a model to follow as smallholder farmers became an integral part of the financial services ecosystem.

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69-85. CARF will work with the different players in the insurance sector to extend coverage beyond the FISP subsidized scheme and also the renewable energy sub-sector. FSPs will also will benefit from the technical support that CARF will provide working together with other donors and specialized agencies.

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86. The SCRALA with \$32 million GCF financing is indirectly supporting three million small-scale farmers in building climate resilient lives. Implemented by the Ministry of Agriculture, the SCRALA 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.

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70.

#	Other ongoing project / programme	Summary of objectives	Justification that there is no duplication with the proposal and potential synergies
1	Accelerate Water and Agricultural Resources Efficiency (AWARE)	To improve climate-sensitive water management, including efficient use by small-scale farmers, in the lower Kafue	The programme is targeting a specific intervention area, lower Kafue Basin, and is primarily focusing on facilitating the access of farmers to climate-

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Annex 5 to OPG Amended in October 2017

	<u>programme 2019 – 2022</u> <u>Financed by BMZ-</u> <u>GIZ and EU</u>	<u>Basin. The programme promotes effective, integrated water resources management as well as efficient practices in water extraction and irrigation. The effort also includes the development of a financing approach that will ensure access to funding. This will help the farmers apply technological options such as harvesting rainwater from roofs and storing it, drip irrigation systems and the use of communal dams and boreholes.</u>	<u>sensitive water management technologies.</u>
2	<u>Promotion of Agricultural Finance for Agri-based Enterprises in Rural Areas (AgFIn) 2016 – 2025</u> <u>Financed by BMZ-</u> <u>GIZ</u> <u>Regional project (Benin, Burkina Faso, Cameroon, Côte d'Ivoire, Malawi, Mali, Nigeria, Togo, Zambia)</u>	<u>To improve the provision of financial services to agricultural and agri-based enterprises in rural areas that are tailored to their business models. The project is part of the One World – No Hunger Initiative. It advises and supports the expansion of financial institutions into the agricultural sector and assists them with developing adapted financial services.</u>	
3	<u>Climate resilience through risk prevention and innovative climate risk insurance 2020 – 2022</u> <u>Financed by BMZ-</u> <u>GIZ</u>	<u>To ensure agricultural actors have better access to private-sector climate risk insurance and information on climate risk. The project takes a private sector approach to support the market for climate risk insurance and the dissemination of climate risk information. The project offers training to employees of insurance companies, brokers and governmental institutions in the area of climate risk insurance and to selected actors involved in providing climate risk information.</u>	
4	<u>Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II (SCRALA)</u>	<u>To support the GRZ to strengthen the capacity of farmers to plan for climate risks that threaten to derail development gains, promote climate resilient agricultural</u>	

	<u>2018 - 2025</u> <u>Financed by GCF</u>	<u>production and diversification practices to improve food security and income generation, improve access to markets, and foster the commercialization of climate-resilient agricultural commodities.</u>	
<u>5</u>	<u>Zambia</u> <u>Strengthening Climate Resilience (PPCR Phase II)</u> <u>2013 – 2022</u> <u>Financed by Climate investment Funds of the World Bank</u>	<u>To strengthen Zambia's institutional framework for climate resilience and improve the adaptive capacity of vulnerable communities in the Barotse sub-basin</u>	

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

87. As with other IFAD projects a knowledge management plan (KMP) will be developed for CARF during design and early project implementation. The KMP will elaborate on the capturing, documenting and disseminating lessons learnt from the projects activities both at the local and institutional levels, to target and improve adaptive capacities for resilience in the farming systems benefiting from the matching grant interventions. Monitoring and evaluation activities will also be implemented under the project Management enable adaptive management of the project and inform future investments. Each of the CARF components and sub-components includes specific activities for and will contribute to learning and knowledge management. The main knowledge generation and learning activities include the taxonomy of viable adaptation options for financing, identification and effective dissemination of climate change adaptation financing products including digital finance, incentives for climate smart agriculture (including aquaculture) investments, use of blockchain technology to improve traceability and monitoring of climate change adaptation measures. These activities are further elaborated below.

71-88. Component 1 will contribute to the learning of investment viable adaptation technologies and the incentives for FSPs, MSMEs and smallholders to make the necessary investments. The development of the taxonomy, products and tools will contribute to the knowledge base on the viable climate change adaptation investment opportunities for the different actors in rural finance. In addition the systems to be established in the FSPs will also enable measurement and reporting on the effective climate change adaptation options and financing mechanisms. The lessons from this component will feed into the improvement of the policy environment through the evidence base for viable adaptation technologies, product development and incentives for the Financial Institutions at different levels. Mainly new financial tools and technologies that will benefit the policy environment (e.g., rural finance and adaptation finance), operations (cost effectiveness and costs reduction and how to make adaptation a quantitative science).

72-89. Knowledge management (KM) and efforts need to be carried out to develop sustainable and biodiversity-friendly agriculture and component two will contribute to this agenda. The capacity building and business development services that will be provided to different actors including Farmer organisations and the smallholders will provide one of several a-dissemination channel for the knowledge generated. The matching grants will provide a channel for further knowledge generation in assessing the viable adaptation investments in different value chains including climate smart aquaculture and crop production. The building of capacity in the use of blockchain technology will also

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provide a channel for further knowledge generation and dissemination of these tools and their benefits for smallholders including their integration into sustainable value chains in a changing climate. According to a new report on Applying blockchain for climate action in agriculture: state of play and outlook from FAO and Wageningen University & Research, blockchain technology has a lot of potential to support effective climate policy in the agriculture sectors and to measure the effectiveness of climate action. The report outlines the limitations and potential applications of blockchains in agriculture and how it may be used in the context of climate change. The report provides lessons that will be incorporated into the design of the CARF.

73-90. The lessons and knowledge from CARF will be captured through specific activities that will complement the monitoring and evaluation system of the project and further be elaborated during design. The Learning and Knowledge component will build tool kits and will also elaborate "case studies" around the above themes, as applied or feasible in this Project. The case studies will serve as examples of performance and success, but also will constitute a road map for the near future. They may also serve to re-focus the project during mid - term review. CARF lessons and knowledge generated will be disseminated through newsletters and existing fora on rural finance as well as exchange fairs for projects and programmes. CARF KM will be geared towards increasing public and sectoral knowledge and understanding of technical matters related to climate finance through production and distribution of climate finance knowledge products. The main channels for dissemination will be capacity building workshops, dialogues and through the rural finance network forums as well as project level sensitization and awareness raising sessions. The knowledge generated will also be disseminated through IFAD's website.

74-91. CARF will also disseminate learning from other partners in the field of climate change adaptation. According to the "State and Trends in Adaptation in Africa Report 2021" ~~report from the Global Centre on Adaptation (GCA) in partnership with the African Development Bank, the African Union, and the Africa Adaptation Initiative, launched on 26th October,~~ adaptation measures can be enormously cost-effective and have the potential to start a positively reinforcing cycle of benefits²⁴. ~~As these measures protect people and communities from floods, droughts, and other impacts, they also help lift people out of poverty, reduce hunger and undernourishment, raise incomes and living standards, fight diseases, create jobs, reduce inequality, mitigate the risk of conflicts, and give voice to the most vulnerable. These realizable results, in turn, further increase resilience to climate impacts.~~ The report says that successful climate adaptation will not be easy but will require a significant increase in adaptation finance, mainstreaming adaption into all policies and budgets across the public and private sector. CARF Component 1 will build on the learning for mainstreaming climate change adaptation in the rural finance policies and the private sector through the FSPs and MSMEs being targeted. It will also require new actions such as the uptake of new technologies to work with traditional adaptive farming practices, to empower women and youth, and transforming critical sectors like agriculture, trade, transportation, energy, and water management. CARF Component 2 will build on these lessons in the Zambian context particularly for the agriculture sector and rural energy through any renewable options. Although African countries and communities have already taken steps to adapt and build resilience, the report shows how these efforts can be accelerated and scaled up to seize the promising opportunities that lie ahead for the region. The above is learning will inform the design of CARF Component 1 and 2.

75-92. A report from the World Bank, "Climate Change Adaptation and Economic Transformation in Sub-Saharan Africa", published in October 2021, shows that the region is slowly emerging from the recession, and its GDP growth projection is much slower than developed economies. ~~According to the report, a speedy and widespread roll-out of the Covid-19 vaccine and external financing will help accelerate the region's economic recovery.~~ Africa's unique situation – low baseline developing, climate

²⁴ Global Centre on Adaptation (GCA) in partnership with the African Development Bank, the African Union, and the Africa Adaptation Initiative,

vulnerabilities, low use of fossil fuel, dependence on agriculture will exacerbate the effects of climate change and open opportunities for greater uptake of renewable and clean technologies. African policymakers should seize this opportunity and make climate change a source of their structural change. For example, policymakers can tap domestic and international funds to expand the electric grid through the adoption of renewable energy, which can subsequently create new and green jobs. "In a region where much of the infrastructure, cities and transportation systems are yet to be built, investments in climate-smart infrastructure can help cities create job", and "They need to mobilize resources both domestically and internationally to deliver new jobs that are greener—and in the vicinity of existing products—and foster the manufacturing of more green products in the medium term", the report says. CARF component 2 will build on these findings through business development services and capacity building of the MSMEs and the smallholders targeting renewable energy technologies and creation of green jobs. The improvement of the climate finance policy environment and development of taxonomy for the agriculture sector under Component 1 will contribute to preparation for larger adaptation investments and inherent creation of green jobs.

76.93. In African cities that lack critical infrastructure, investing in climate-smart infrastructure can help create thousands of jobs, benefiting its continent's youthful population. Sixty per cent are under 25 years old from its total population, making the continent the world's youngest and fastest growing. The United Nations projects that Africa will reach 2.5 billion in population by 2050. "Financing climate change adaptation in sub-Saharan Africa is essential, and policies to mobilize resources are critical to creating more, better, and sustainable jobs," the report mentions. Though CARF will not be investing in infrastructure directly, the improvement of the climate finance policy environment and development of taxonomy for the agriculture sector will contribute to preparation for larger adaptation investments and inherent creation of green jobs. Investing \$215 billion in South African cities will yield a return of \$700 billion and create 120,000 jobs by 2050. In Ethiopia, an investment of \$42 billion will rake in a return of \$240 billion and create 210,000 new jobs. In Kenya, a \$27 billion investment will yield a return of \$140 billion and will employ 98,000 Kenyan youths, the report shows. "For instance, energy-efficient retrofits of buildings, low-carbon municipal waste and water, and green urban transport can deliver benefits to cities in the short and medium term". Local governments' adoption of climate-sensitive urban policies will be vital to leveraging their limited public funds with private sector investments to achieve these vast potentials and for the region to address urgent problems like flooding, limited energy access, intense heat, and pollution. The above feeds very well into CARF Component 1.

H. Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with particular reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

77.94. During the Concept Note preparation, exploratory 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 members where the potential investments from the matching grants will potentially be located (community contracts with some Chiefdoms). The last of those meetings took place during the RUFEP mission on November 29th, 2021. The meeting was an online planning meeting, and the invitees were able to discuss a version 0 of this Concept Note (CN).

95. Several stakeholders have been involved at different levels in the development of this project concept. These include 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) where potential matching grants would be provided. 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 that could be included for the matching grants and the roles for local actors to facilitate efficient and effective implementation of potential project activities.

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78-96. The main inputs received from the consulted communities were the confirmation of the vulnerabilities of their livelihoods to climate change. Some communities 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 dependant 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 production, for which with climate change adverse impacts on yields are anticipated resulting from rainfall variability and trends of land degradation. Communities therefore called for building their skill base in climate smart agriculture, reduction in post-harvest losses and livelihoods diversification.

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#	Stakeholders	Nature of engagement
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 concept note is in line with Government priorities and policies. To identify current challenges and opportunities for synergies.
2	Development partners: FAO, 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 concept note's rationale and proposed approach are technically sound. To identify opportunities for synergies.
3	Private sector: ZANACO, AGORA, Vision Fund Zambia, UBA, NASCO	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.
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 Kawambwa, Mwansabombwe, Nchelenge Chienge, Lunte, Luano and Lunsemfwa Districts.	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 matching grants.

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

97. Without the CARF and the improvement of the enabling environment the rural finance sector will continue to have very limited reach in the agriculture sector where the support is needed to build the climate change resilience of communities. Agriculture will continue to be seen as a highly risky business as the risk analysis of the FSPs and MSMEs will not be able to adequately integrate climate change

impacts. Without the CARF and the development of the taxonomy in the near term, FSPs will continue to have limited knowledge on viable climate change adaptation options and continue to lack the means to measure and track the adaptation measures that are being deployed in their portfolios. The smallholders that are aware of climate change adaptation options will have limited options for access agricultural finance services on reasonable and fair terms. The investments required to establish systems to reach the rural actors and provide them with more tailored financial products though essential for resilience to climate change and economic development is not a priority for financial service providers often due to lack of capacity both in human and financial resources. Rural MSMEs also lack the capacity to improve their systems and invest in climate change adaptation options and therefore are in need of the support that will be provided through CARF. CARF Participating Financial Institutions require support in orienting their portfolios to incorporate climate risk management with specific development of the taxonomy for climate change and more importantly the systems to assess the viability of these investments in the rural finance sector. This reorientation will benefit smallholder farmers and rural MSMEs and build their resilience to climate change.

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98. At the community level, without the CARF, the targeted smallholders will not improve their knowledge on climate smart agriculture (including aquaculture) practices and they will not have access to finances to invest in improved technologies to build their climate change resilience. Therefore they will remain vulnerable to the climate shocks such as droughts and floods that are expected to increase in frequency as the climate changes. Without CARF the targeted communities will not be able to adopt sustainable land and water management practices, they will be unable to reduce their post-harvest losses and add value to their agricultural produce therefore limiting the economic benefits of their activities and compromising their livelihoods. The lack of investment in building the resilience of communities, without CARF will result in use of sub-optimal agricultural practices, land degradation that cannot be minimized, continued low agriculture productivity and therefore food insecure households.

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99. Pooling needs across all climate-sensitive sectors of agriculture and environment requires prioritization and costing their adaptation investment needs. Key inputs include system-level criteria for prioritizing adaptation needs/investments across sectors/ subsectors, tools and cost-benefit analyses for valuing different adaptation investments, and risk pricing. The public sector must work to accurately price physical climate risks and incorporate the benefits of adaptation and resilience projects in investment decision-making through new methodologies (climate risk assessment and environmental impact assessment to say the least) and policies. To date, the benefits of adaptation and resilience and the risks from climate change have not been systematically integrated into investment pricing models. As a result, there is underinvestment in adaptation and resilience, and continued investment in projects that do not generally account for climate change, and specifically to adaptation. The positive economic, environmental, and social benefits of investing in resilience must be brought into common pricing models, so private investors can be competitive while investing in resilience, and governments can make investment decisions that contribute to resilience by clearly demonstrating future cost savings and benefits. The CARF will contribute to these efforts and closing the gap.

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79-100. AF financing of the proposed project is in line with Government's vision of inviting investments that contribute to or supplement local resources for climate change adaptation. Prevailing economic and fiscal conditions in the country have resulted in the government operating with a budget deficit and the debt distress also limits access to financing with a strong justification for grant resources. The impacts of climate change, which is negatively impacting on the poverty levels of rural households and agricultural GDP and likely to cause additional economic losses justify AF financing for rural development where the predominant economic and livelihood activity is rain-fed agriculture.

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80-101. Under prevailing economic conditions, accessing capital financing of the proposed magnitude is a challenge in Zambia particularly for the rural sector where returns on investment are limited, a situation that is exacerbated by the changing climate. The major sources of capital financing

are commercial banks, public and private sector financial institutions. Each category of these financing institutions have their own requirements as indicated below:

- Commercial banks: High interest rates currently standing at 23-30% per annum, value of collateral often exceeds value of loan, short loan repayment grace period and short repayment period;
- Public financial institutions: These have limited financing capacity and are highly selective on type of investments;
- Private sector financial institutions: High interest rates of 30% and more with focus on short-term loan portfolios of up to 3 years, most often do not offer repayment grace period, and mostly focused on micro project investments.

81.102. The requirements outlined above illustrate some of the financial and institutional barriers that translate into limitations of access to finance for rural development and the agriculture sector. The CARF resources are therefore essential to contribute to de-risking the rural finance sector and improving the availability of resources for different actors in the sector. ~~The investments required to establish systems to reach the rural actors and provide them with more tailored financial products though essential for resilience to climate change and economic development is not a priority for financial service providers often due to lack of capacity both in human and financial resources. Rural MSMEs also lack the capacity to improve their systems and invest in climate change adaptation options and therefore are in need of the support that will be provided through CARF. CARF Participating Financial Institutions require support in orienting their portfolios to incorporate climate risk management with specific development of the taxonomy for climate change and more importantly the systems to assess the viability of these investments in the rural finance sector. This reorientation will benefit smallholder farmers and rural MSMEs and build their resilience to climate change.~~

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

Overall project sustainability approach.

103. CARF will build the capacity of the private sector, civil society, and government to respond and adapt to climate change in ways that contribute to sustained, inclusive, market-based growth. It will identify and support Financial Service Providers with promising adaptation financial products/services, and innovations relevant to priority economic sectors. It will improve the capacity of government ministries/agencies private sector associations and local communities to identify climate-related risks, devise solutions to adaptively manage these risks, strengthen partnerships and access financing opportunities. CARF will also develop capacity of FOs, FSOs and communities to access climate finance and investing in adaptation activities. The financial literacy, business development services and knowledge on viable climate change adaptation options will enable the smallholders and communities to continue to access finance even after CARF is completed. Characteristics of rural credit markets, determinants of farmer access to markets, socio-economic impacts of credit access in Zambia are vital. Comprehensive literature review with data collection and key informant interviews are methods that will be applied in the full design of this program. Already existing results indicate the features of Zambia markets as participated constraints and segmentation. It is noted here the significant determinants of credit accessibility. Impacts of credit access on output production, household income, and poverty reduction are highlighted.

82.104. CARF focuses on establishing financial and technical services that enable increased climate adaptation finance into rural and agriculture sectors in Zambia and investment into adaptation measures. The approach is four-fold: Firstly, the systems to be established, and financing instruments

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to be designed with a mix of credit enhancing mechanisms and junior seed capital, will enable FSPs access to affordable private and public sector capital. The objective is to encourage the climate resilient investments in agricultural value chains under climatic risks, including stakeholders ranging from smallholder farmers, rural entrepreneurs to aggregators, processors and manufacturers. ~~As the initial funding available under this project proposal may not be not adequate to accommodate a line of credit to PFIs for on-lending, focus will be paid to grant investments that stimulate both the supply and demand side and prime up Zambia's financial sector to go green, mobilise, attract and absorb lines of credit in future.~~

105. Secondly, the Project will provide technical assistance and business development support services for the FSPs, Rural Entrepreneurs and Smallholder Farmers. This will be implemented through an Innovation and Outreach Facility that will provide matching grants for FSPs, FSOs and BDS providers. The objective is to promote, show case, and mainstream those systems and financial instruments in the design, development, piloting, testing and roll-out of climate finance innovations including in the form of activities and on- the- ground - projects. Safeguards and sustainability accounting principal pre-requisites would guarantee that activities and projects would only promote farmer resilience and productivity, ~~wastage-post-harvest losses~~ reduction and circularity, enhance value addition and increase farmer cash flows, minimize leakages in farmer incomes and strengthen climate finance ecosystem including monitoring of climate adaptation funds. Thirdly, in order to increase the effectiveness and sustainability of finance products in climate adaptation, support will be given to macro and meso level institutions for the development of conducive policies and a regulatory supervisory framework. The Project will leverage the rapid growth of first and second generation Digital Financial Services, New Delivery Platforms, Alternative Delivery Channels and strong partnerships forged during the last decade focused on financial inclusion.

83-106. ~~The approach is to design and test adaptation models that are at least in part commercially driven and can attract private investment to blend with public or philanthropic funding in ways that allow for more immediate and more sustainable impact at scale. CARF will work to strengthen existing institutions both in the private and public sector including civil society to make them more efficient and effective so that they are in a position to continue providing the financial and other services beyond the Programme. This comprehensive approach will ensure that all stakeholders are included. CARF will also develop inclusive solutions through product and services that are market driven. The financial systems will be made efficient by the introduction of tools like credit guarantees, insurance and payments. Existing community institution such as Farmer Groups/ Associations and Savings Groups will be supported in addition to adapting solar energy solutions to reduce the cost of power and improve quality standards in off grid areas.~~

84-107. **Project Duration-**The project is envisaged to run for a period of five years, effective from the signing of financing documents.

85-108. **Project support structure-** It is envisaged that the Project will benefit from the established, proven and tested institutional and organization systems as well as knowledge and expertise of the existing staff of the Rural Finance Expansion Programme (RUFEP), which will be strengthened with a team of 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.

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

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~~86-109.~~ The interventions proposed by the project are not expected to generate significant environmental and social impacts. Risks associated to climate change extreme events and the existing social vulnerability of the target communities and associated environmental conditions will be considered during ~~at~~ the design and development stages as they may influence/limit investments. Referring to potential projects which may qualify under the matching grants, and which are centered around natural resources and agriculture and halieutic production, ~~international~~ market forces ~~are expected to~~ may create financial risks in the form of commodity price and local currency fluctuations from time to time resulting in income losses. Risks will be differentiated and prescribed mitigated measures will be applicable, as not all risks can be tackled by for example taking insurance premium instruments. Projected extreme climate events (drought, floods), pandemics, electricity power outages and tariff hikes as well as high cost of petroleum products constitute potential operational risks that could affect productivity resulting in crop losses affecting farm incomes; reduced processing efficiency and increased operational costs. These risks could be mitigated by ensuring that farmers ~~participating-benefiting from in-matching grants that target particular value chains and therefore require participation in~~ out grower schemes, subscribe to the weather-indexed insurance scheme with solar energy incorporated in the design of processing facilities ~~that will contribute to reduction of post-harvest losses and value addition~~. Further, certain regions in Zambia where the project will operate are endemic to wild fires with potential to cause significant losses to ~~plantations~~ agricultural production landscape, therefore measures to mitigate these man-made hazards are an important consideration requiring investment in insurance and fireguards.

~~87-110.~~ ~~As for the above form which reflects~~ The relevant AF environmental and social safeguards, ~~these~~ will be incorporated and mainstreamed in ~~every project~~ all the matching grant investments. ~~The proposed interventions are not expected to induce relevant negative impacts on the natural systems including priority natural areas and biodiversity as well as social negative impacts on the communities, or vulnerable groups. The project will ensure the monitoring and mitigation of any eventual minor and localized social, environmental and climate change related risks. This monitoring will involve all relevant stakeholders under a participative approach that will include adequate risk mitigation measures to be implemented along with the activities will be developed.~~ Furthermore, the safeguards and fiduciary requirements part of Component 1 will mirror the table with its social and environmental elements ~~through the establishment or strengthening of the environment and social management systems in PFIs~~. For the purpose of the Project, please see table.

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Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
<i>Compliance with the Law</i>		<u>Compliance with national regulations will be ensured and therefore the risk is low. To ensure adequate management Verification that safeguards are in place and are a mirror of these principles</u>
<i>Access and Equity</i>		<u>Access to and equity of resources will be promoted through the project including through the capacity building activities. To be checked at, or during the field work for the full project proposal.</u>
<i>Marginalized and Vulnerable Groups</i>	Yes, the target group is “vulnerable rural populations and the MSMEs that operate in their locations–	<u>Yes, the target group is “vulnerable rural populations and the MSMEs that operate in their locations. Ensuring social inclusion is a key consideration in the project particularly increasing access to rural finance for these groups. The design will conduct further analysis of the profiles of the communities and the targeted areas particularly for the matching grant activities. The profiling will improve the targeting of the project.</u>
<i>Human Rights</i>	Adaptation is the application of a human right of conserving our natural resources for future generations. The project is not expected to have any adverse impacts on human rights	
<i>Gender Equality and Women's Empowerment</i>	The Project has in its objectives gender equality and women empowerment, which should be improved through the project activities.	<u>The Project has in its objectives gender equality and women empowerment, which should be improved through the project activities. The GALS will be applied and specifically the Household Methodology to ensure results are achieved.</u>
<i>Core Labour Rights</i>	Through the application of the SECAP, screening will be conducted on investments to ensure labour rights are respected.	<u>Through the application of the SECAP, screening will be conducted on investments to ensure labour rights are respected. Any contracts awarded under the matching grants will also include relevant clauses on adherence to labour rights and subsequent monitoring and reporting.</u>

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		<u>will be required. Therefore the risk is considered low.</u>
<i>Indigenous Peoples</i>	<p>In 2009, the IFAD Executive Board approved the Policy on Engagement with Indigenous Peoples. The Policy originates from consultations with representatives of indigenous peoples and benefited from contributions by the United Nations Permanent Forum on Indigenous Issues and the Inter-Agency Support Group on Indigenous Issues. It is consistent with international standards, in particular the United Nations Development Group Guidelines and the UNDRIP, and it draws on IFAD's 30 years of experience in working with indigenous peoples in rural areas of developing countries.</p> <p>With the aim to enhance IFAD's development effectiveness in its engagement with indigenous peoples' communities in rural areas, the Policy establishes the principles of engagement and instruments for IFAD to engage with indigenous and tribal peoples, and ethnic minorities, and it builds on promoting access to lands, territories and resources as one of its core principles. Within this framework, IFAD promotes equitable access to lands, territories and resources by indigenous peoples and their tenure security by strengthening their own capacity to manage their territories and resources in a sustainable way.</p>	<p>All of IFAD's investments (loans and grants) are designed through a participatory approach and in close collaboration with local and national authorities and based on consultations with local communities to better respond to the needs and demands of the benefiting communities. In particular, FPIC (Free, Prior and Informed Consent) is a leading principle in working with indigenous peoples, and it must be sought before any action is taken in areas that are home to indigenous peoples (IFAD, 2015). FPIC is ensured through a continuous and inclusive process of consultation and participation, which aims at building trust with the communities, their organizations and governance institutions. FPIC is sought before a development intervention takes place.</p>
<i>Involuntary Resettlement</i>	There is no source of involuntary resettlement in this project <u>and no investments will be made in activities that may result in resettlement.</u> The screening procedure that will be elaborated as part of IFAD's SECAP will ensure investments do not result in any involuntary resettlement.	
<i>Protection of Natural Habitats</i>	No investments will be made in protected natural habitats and no adverse impacts are anticipated from the project activities on natural habitats. Potential cumulative impacts will be included within the project's interventions screening and IFAD's SECAP.	
<i>Conservation of Biological Diversity</i>	No adverse impact is anticipated on the conservation of biological diversity. Potential risks and impacts induced by extreme	<u>No adverse impact is anticipated on the conservation of biological diversity. Potential risks and impacts</u>

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	meteorological events will be considered during the screening exercise.	<u>induced by extreme meteorological events will be considered during the screening exercise.</u>
<i>Climate Change</i>	The project activities will promote climate change adaptation and will not result in any increase in greenhouse gas emissions.	
<i>Pollution Prevention and Resource Efficiency</i>		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
<i>Public Health</i>		The environmental and social impact analysis at design will determine whether any impacts on public health are envisaged <u>and adequate measures will be incorporated to avoid or minimize any adverse impacts.</u>
<i>Physical and Cultural Heritage</i>	No investments will be made in areas with physical and cultural resources of importance.	
<i>Lands and Soil Conservation</i>		<u>Sustainable land management and improved soil fertility are part of the project results.</u> 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.

PART III: IMPLEMENTATION ARRANGEMENTS

A. Describe the arrangements for project / programme implementation.

88-111. A Project Coordination Office (PCO) to be established under the Ministry of Finance and National Planning/Green Economy and Environment, will be responsible for project operations. The PCO will consist of [functions to be finalised after the consultation on the institutional arrangements].

89-112. Oversight. A Project Steering Committee (PSC) with relevant representation at national level will provide oversight, policy direction and coordination between key government institutions (i.e. Ministry of Finance and National Planning/ Green Economy and Environment, Bank of Zambia, Ministry of Agriculture, Ministry of Livestock and Ministry of Small and Medium Enterprises). In addition, the Rural and Agricultural Finance/SME Working Group of the National Financial Inclusion Strategy will act as a Technical Advisory Group for project implementation.

90-113. Managing Partnership Arrangements. The implementation of the project will largely rest with selected partner institutions and grant recipients, governed by a partnership agreement, memorandum of understanding or grant agreement. Hence, it is critical to provide a framework and guidelines (e.g., for work planning and budgeting, progress reporting, financial and procurement management as appropriate), ensure the quality of work plan and budget and reporting, provide implementation support, monitor their performance, and terminate partnership arrangements when required.

94-114. Linkages with other actors. Coordination, linkages with various actors and partnerships will be actively pursued under the Project and leading to synergy and added value. Maintaining dialogue with various parties and proactively exploring opportunities for linkages will be one of the important tasks for the PCO. In addition to sector players (financial institutions, apex organisations, etc.), the major initiatives that should be well-coordinated and harmonized include the "Strengthening Climate resilience of agricultural livelihoods in Agro-Ecological zones I & II" Project and others to be identified.

92-115. CARF will proactively work with existing IFAD Projects on cross-cutting issues pertaining to climate change adaptation including adoption of new technologies.

93-116. There are also opportunities for synergies with other initiatives supported under the UN agencies, such as the World Food Programme (P4P, e-payments), and the Food and Agriculture Organization of the United Nations (FAO) and UNDP as regards value chain support, blockchain, and finance, and the integration of producer groups into market arrangements and financial services and the United Nations Capital Development Fund (UNCDF) for promoting digital transformation of the economy. Where possible and feasible, these shall be explored and deepened for the benefit of the rural poor.

94-117. Planning, monitoring and evaluation and results management. Most of the implementation will rest with CARF implementing partners and service providers. Progress reporting and the level of achievements of results against set indicators will be based on the consolidation of data and information from various parties. It is, therefore, important to provide a clear common framework for planning and progress reporting, ensure that all parties have clear understanding on the tools, formats and definition of indicators, and conduct quality assurance. The Project will follow the Adaptation Good Practice Checklist in planning and designing the grant making and funding processes and to set up the monitoring and evaluation and results management framework.

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

[95-118.](#) The RUFEP PCO has implemented projects from IFAD and in the process developed well-established procedures for reporting on funds. These procedures will guide the financial and procurement operations of this Project. Adherence to the Adaptation Fund reporting requirements will be ensured by IFAD's oversight as the implementing Entity. Specific financial and project risk management measures will be assessed throughout the implementation of the project particularly during the supervision missions to be conducted by IFAD. A comprehensive and detailed risk management framework will be developed during design including measures to manage any identified risks and fill any capacity gaps. The risk management framework will take into account the fiduciary procedures of IFAD and the Adaptation Fund.

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.

[96-119.](#) The environmental and social risk management will be fully articulated during the design phase and build on the screening exercise outlined in IFAD's SECAP for the categorization of projects. The articulation will be done through the development of SECAP Review Note that includes an environment, social and climate risk management plan. For the matching grants, risk screening procedures will also be articulated during design when there will be a better understanding of specific sites for some of the project activities.

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.

[97-120.](#) Specific M&E arrangements and budget will be outlined during the full design of the project. The project coordination team in the Ministry of Finance and National Development Planning/ Green Economy and Environment will include an M&E Specialist that will be responsible for the selection and reporting on key indicators from the results framework that will be developed and the project M&E system.

E. Include a results framework for the project proposal, including milestones, targets and indicators, including one or more core outcome indicators of the Adaptation Fund Results Framework, and in compliance with the Gender Policy of the Adaptation Fund.

[98-121.](#) The results framework will be developed during the design phase of the project. The key results will include the number financial instruments designed, financial resources availed for climate change adaptation, number of beneficiaries reached (disaggregated by age and sex), the amount of investment climate change adaptation technologies and practices etc.

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

[99-122.](#) The alignment of the project with the Adaptation Fund Results Framework is outlined below. Further analysis of the alignment will be done during the design phase of the project. The specific indicators for the project objectives and outcomes will be determined during design.

Annex 5 to OPG Amended in October 2017

Project Objective(s) ¹	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
Development Objective: Integrate climate change adaptation into rural livelihoods through deepened access to, and usage of financial and related services	1. # of Beneficiaries reached with project services, <u>resulting in more resilient livelihoods</u> segregated by gender and age 2. # of FOs, Cooperatives & MSMEs receiving project services, <u>resulting in improved climate risk management</u>	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level; Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets; Outcome 8: Support the development and diffusion of innovative adaptation practices, tools and technologies	3.2. Percentage of targeted population applying appropriate adaptation responses 4.1. Responsiveness of development sector services to evolving needs from changing and variable climate 8.1. No. of innovative adaptation practices, tools and technologies accelerated, scaled-up and/or replicated	9 250 000

Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)
Outcome 1: Increased access to financial services for adaptive climate resilient agriculture practices across agricultural value chains	1. # of households accessing and using climate change financial products and services segregated by gender and age 2. # of people trained, sensitized and supported in climate finance and technologies	Outcome 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	3.2.2 No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders	3 060 000

Annex 5 to OPG Amended in October 2017

Outcome 2: Enhanced institutional capacity to facilitate climate change adaptation in the rural areas.	1. # of Policy, legal and regulatory frameworks facilitated 2. # of GRZ staff trained in environmental and climate change risk management planning 3. Regulatory frameworks on green lending developed	Output 4: Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	4.1.1. No. and type of development sector services modified to respond to new conditions resulting from climate variability and change (by sector and scale)	1 550 000
Outcome 3: Enhanced capacity of FSPs, FSOs, FOs, MSMEs and Cooperatives to finance and implement climate adapted agriculture	1. # of FSPs & CBFIs, FSOs & BDS providers with enhanced capacity <u>on climate risk assessment and assessment of viable adaptation investments</u> 2. # of new financial products, platforms, distribution networks and business models developed 3. # and value of Investments made in climate change adaptation 4. # of households adopting climate smart agriculture approaches, segregated by gender and age 5. Hectarage under climate resilient technologies <u>6. # of new jobs created, segregated by gender and age</u> <u>6-7. # of diversified income streams at household level</u>	Output 8: Viable innovations are rolled out, scaled up, encouraged and/or accelerated.	8.1. No. of innovative adaptation practices, tools and technologies accelerated, scaled-up and/or replicated 8.2. No. of key findings on effective, efficient adaptation practices, products and technologies generated	4 7 400 000

G. 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.

[~~400-123.~~](#) The detailed budget and notes will be provided as part of the design of the project. Estimated costs have been provided for each of the project sub-components under Part I of this Concept note.

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

[~~401-124.~~](#) The disbursement schedule and time-bound milestones will be provided as part of the design of the project. Based on the estimated timeline for project implementation the first disbursement would be expected in Q4 of 2022 and the final one in Q2 of 2026.

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

A. Record of endorsement on behalf of the government²

Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:

Mr Francis Mpampi, National Coordinator-National Designated Authority for GCF and AF Ministry of Green Economy and Environment	Date: 10 January 2022
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Annex 5 to OPG Amended in October 2017

All communication should be addressed to the
Permanent Secretary
Telephone: (260 211) 252395
(260 211) 252394
(260 211) 252391



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

NDA/71/21/9

10th January, 2022

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

ENDORSEMENT FOR THE CONCEPT NOTE TITLED: CLIMATE CHANGE ADAPTATION THROUGH RURAL FINANCE

In my capacity as National Focal Point person for the Adaptation Fund in Zambia, I confirm that the above national project proposal is in accordance with our national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the Zambia. The project advances the role in climate proofing the vulnerable communities in the rural and remote areas. I am aware that the project will increase the climate resilience of rural populations through access to finance for investments in adaptation solutions and best practices, enhanced by institutional and financial innovation mechanisms.

Accordingly, I am pleased to endorse the above concept note for submission to the Adaptation Fund. I am aware that if approved, the project will be implemented by International Fund for Agricultural Development (IFAD) and executed by Ministry of Green Economy and Environment.

Please accept the assurances of my highest consideration

Sincerely,

Francis Mpampi
National Coordinator – National Designated Authority for the GCF & AF
MINISTRY OF GREEN ECONOMY AND ENVIRONMENT

B. Implementing Entity certification *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number*

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 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.

Tom Mwangi Anyonge

Implementing Entity Coordinator

*Director, OiC,
Environment, Climate, Gender and Social Inclusion Division (ECG),
IFAD*

Date: 10 January 2022

Tel. and email: +39 06 5459 2519
t.anyonge@ifad.org

Project Contact Person:

Paxina Chileshe-Toe
Regional Climate and Environment Specialist, Eastern and Southern Africa
Environment, Climate, Gender and Social Inclusion Division
International Fund for Agricultural Development
Tel : +254793484367 email: p.chileshe@ifad.org

IFAD HQ focal point:

Janie Rioux
Senior Technical Specialist (Climate Change), ECG Division, IFAD
Email: j.rioux@ifad.org

Source Citations

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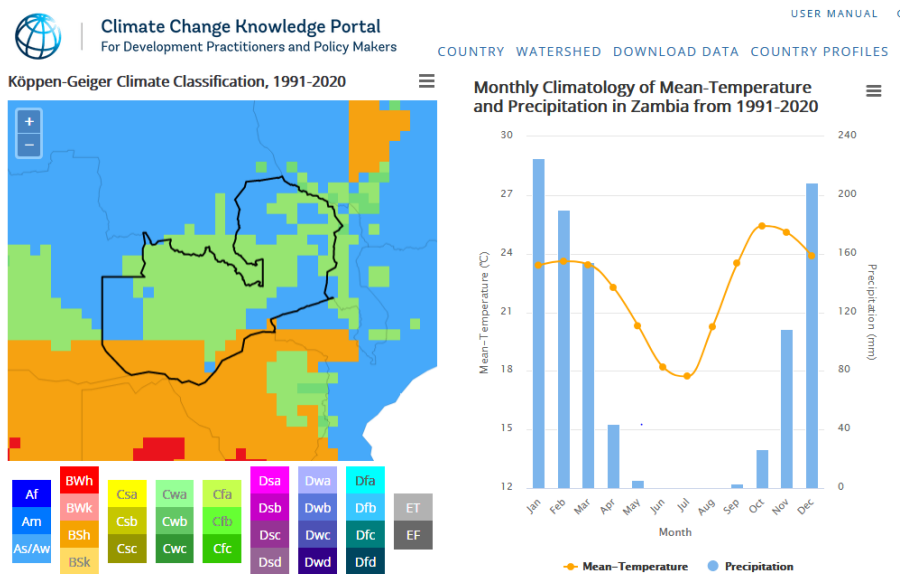
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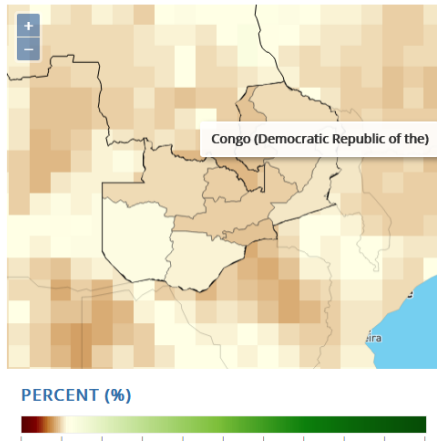
Annex 1

This section presents high-level information for Zambia's climate zones and its seasonal cycle for mean temperature and precipitation for the latest climatology, 1991-2020. Climate zone classifications are derived from the **Köppen-Geiger climate classification system**, which divides climates into five main climate groups divided based on seasonal precipitation and temperature patterns. The five main groups are **A** (tropical), **B** (dry), **C** (temperate), **D** (continental), and **E** (polar). All climates except for those in the E group are assigned a seasonal precipitation sub-group (second letter). See diagram

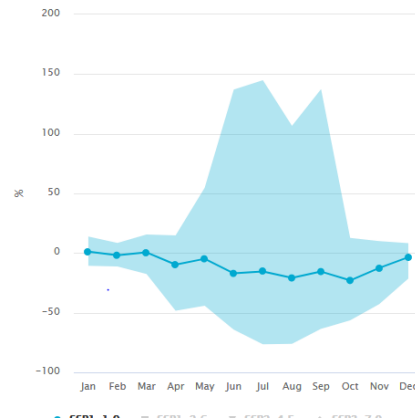


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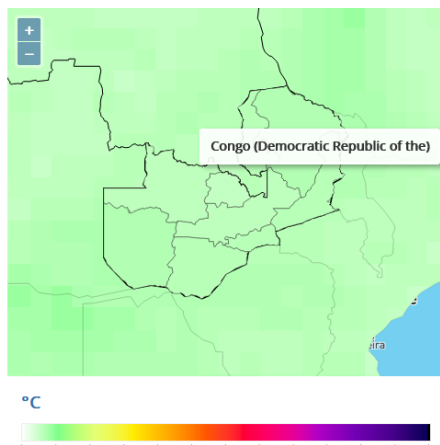
Projected Precipitation Percent Change Anomaly for 2020-2039 (Annual)
Zambia; (Ref. Period: 1995-2014), SSP1-1.9



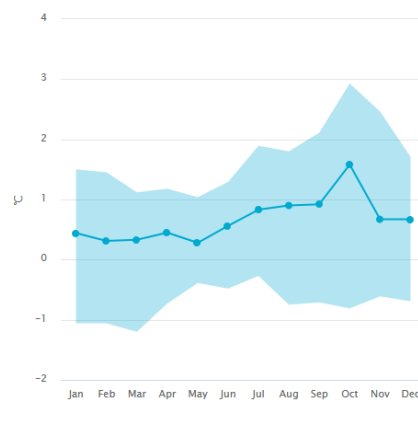
Projected Precipitation Percent Change Anomaly for 2020-2039
Zambia; (Reference Period: 1995-2014), SSP1-1.9, Multi-Model Ensemble

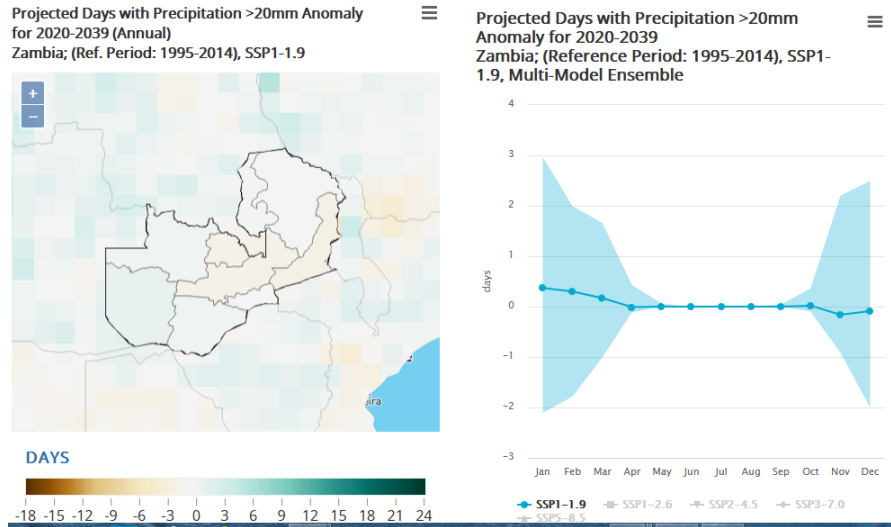


Projected Mean-Temperature Anomaly for 2020-2039 (Annual)
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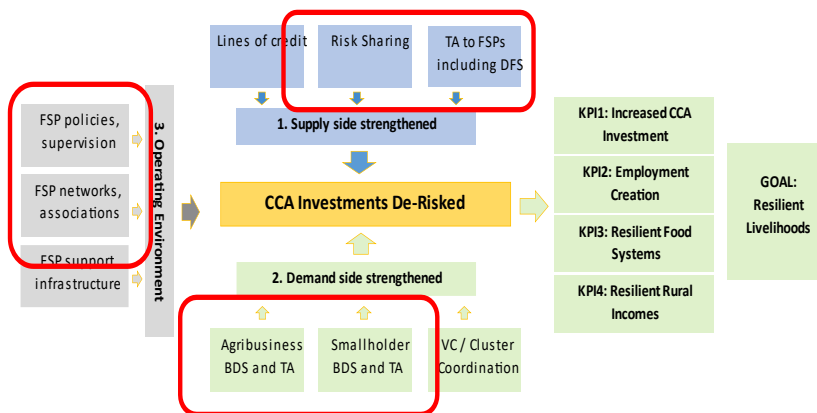
Projected Mean-Temperature Anomaly for 2020-2039
Zambia; (Reference Period: 1995-2014), SSP1-1.9, Multi-Model Ensemble





Annex 2: Catalytic Market & Resilience Building through Markets for CCA Investments

Catalytic Market Building For CCA Investments



Mainstreaming Table (UNFCCC) Adapted by H Shalaby (Nov, 2021)

Finding the Entry Points and Making the Case	Mainstreaming Adaptation into Policy Processes	Meeting the Implementation Challenge
Preliminary assessment Understanding the climate development-poverty linkages (build on NAPA and INC)	Collecting country-specific evidence Assessments, economic analysis and demonstration projects	Strengthening the national monitoring system for adaptation
Preliminary assessment Understanding the governmental institutions and political contexts	Influencing policy processes National, sector and subnational levels	Budgeting and financing National, sector and subnational levels (building on Adaptation Funding mechanisms)
Raising awareness and building partnerships	Developing and climate-proofing policy measures (building on NC and NAPA)	Supporting policy measures National, sector and subnational
Evaluating the institutional and capacity needs	Strengthening institutions and capacities Learning by doing	Strengthening institutions and capacities Mainstreaming as standard practice
Engaging stakeholders and coordinating within the development community Government, non-government and development actors		



Administrative Map of Zambia