



ADAPTATION FUND

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Regular Size Full Proposal

Country/Region: Niger

Project Title: Agriculture Climate-Resilient Value Chain Development in Niger

Thematic Focal Area: Agriculture

Implementing Entity: Banque Agricole du Niger (BAGRI)

Executing Entities: Banque Agricole du Niger (BAGRI)

AF Project ID:

IE Project ID:

Reviewer and contact person: Camila Florez

Requested Financing from Adaptation Fund (US Dollars): 9,982,000

Co-reviewer(s): Katya Kuang-Idba

IE Contact Person:

Technical Summary	<p>The project “Agriculture Climate-Resilient Value Chain Development in Niger” aims to strengthen the smallholder farmers' resilience with climate-resilient practices suitable for millet, rice, onion, and sugarcane cropping, processing, conservation, and access to the market. This will be done through the three components below:</p> <p><u>Component 1:</u> Climate-proofed agricultural production and post-harvest combined with livelihood diversification (USD 3,686,000);</p> <p><u>Component 2:</u> Climate-resilient infrastructure (USD 4,156,800);</p> <p><u>Component 3:</u> Coordination, M&E, Dissemination of lessons learned (USD 1,357,200).</p> <p><u>Requested financing overview:</u> Project/Programme Execution Cost: N/A Total Project/Programme Cost: USD 9,200,000 Implementing Fee: USD 782,000 Financing Requested: USD 9,982,000</p> <p>The initial technical review raises several issues, such</p>
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	<ul style="list-style-type: none"> - as compliance with the Environmental and Social Policy, - the cost-effectiveness of the project, - avoidance of duplication with other projects, - the full cost of adaptation reasoning, - - as is discussed in the number of Clarification Requests (CRs) and Corrective Action Requests (CARs) raised in the review.
Date:	January 20, 2022

Review Criteria	Questions	Comments	BAGRI responses
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. Niger is a Least Developed Country, vulnerable to adverse climate change impacts (extreme weather events, temperature rise) which negatively affect the population, particularly those working in agriculture.	
Project Eligibility	1. Has the designated government authority for the Adaptation Fund endorsed the project/programme?	Yes. As per the Endorsement letter dated January 10, 2022. CAR1: Please revise section 4 of the document as the image did not transfer correctly -refer to page 97.	CR1 addressed The Endorsement letter issue on January 10, 2022 is entirely transferred to the last page of the reviewed FP
	2. Does the length of the proposal amount to no more than One	Yes.	

	<p>hundred (100) pages for the fully-developed project document, and one hundred (100) pages for its annexes?</p>	<p>However, there are a number of editorial revisions needed.</p> <p>CAR2: The document includes the instructions given to provide information / fill tables (e.g., Instructions for Table – Project/Programme Components and Financing). Kindly remove these from the document.</p> <p>Also, the numbering of sections is inconsistent, please revise accordingly. Further, tables need to be numbered throughout the document to refer to them easily.</p>	<p>CR2 on progress</p> <p>Instructions lines were flagged in the FP to be deleted at the end of the review process</p> <p>Numbering of the section, plots, tables were adapted to the part throughout the FP to easy the checking and consistency.</p>
	<p>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?</p>	<p>Not clear.</p> <p>The project supports concrete actions that will support adaptive practices and technologies in farming, as well as improving the resilience of rural infrastructure. However, additional details are needed.</p> <p>CR1: For a fully developed proposal, project activities should be detailed. Kindly expand on project activities in the document.</p>	<p>The project description was detailed</p>

	<p>CR2: The target areas are a disconnected and spread apart. What is the rationale for including all of these areas in one project?</p>	<p>CR3: Regarding Output 1.2, please provide the economic competitiveness of apiculture in comparison of current farming activities. This information is important to ensure that the sustainability of the diversification strategy.</p>	<p>CAR2: The project area covers Maradi, Tahoua, Dosso and Tillaberi. Except, their vulnerability to climate change and, inclusion in the country's breadbasket, in this area, productions of the targeted value chains (sugarcane, rice, onion, millet, honey) are important. For the next iteration, BAGRI will consult again the national stakeholders to consider potential limitation of the project sites.</p> <p>CAR3: Beekeeping can be a profitable and viable in value chain in Niger, because: (i) the current price of 1 kg of honey is roughly equivalent to one-fifteenth of the basic monthly salary of civil servant, (ii) the domestic production is far to cover the needs, (iii) filtered and presented in labeled bottle, honey value increases five times and more than 50% can be sell in short time.</p> <p>CAR4: Additional detail on the</p>
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	<p>CR4: Additional detail regarding output 2.2 would be appreciated. Which women and youth, and how were they chosen? What specific training will be provided?</p> <p>CR5: Part of the description for component 3 includes implementation and institutional arrangements. Please clarify what would be the activities within component 3. Please refer to the list of activities that should be part of executing and implementing costs https://www.adaptation-fund.org/generic/costs-and-fees/, and amend accordingly.</p> <p>CAR3: The Theory of Change graph is incomplete -the bottom part is missing. Also, the numbering of Output 1.1 is missing.</p> <p>CAR4: A revision is needed of the project outputs and outcomes. Currently, the phrasings of the outcomes are as the project outputs. Outcomes shall be framed as the resulting impact of the outputs. Also, the outcomes</p>	<p>content of training sessions and the criteria for selecting the beneficiaries were provided for activity 1.2.1; 1.2.2.; 1.2.4 and output 2. 2.</p> <p>CAR5: Implementing Entity fees and executing cost cover staff salary, M&E, Travel and Audit. component 3 has been readjusted and is focused on the dissemination of lessons learned</p> <p>CAR3 Addressed Full picture of the ToC has been added to the FP (see the last section of Part II, A)</p> <p>CAR4: Outcomes rephrased in the result framework and added to the project description.</p>
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	<p>outlined in the results framework (pages 82-85) are not included in the table of project components (pages 27 and 28).</p>	
<p>4. Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?</p>	<p>No.</p> <p>The project states that vulnerable groups will be defined and prioritized during the inception phase. However, for a fully developed proposal, more details are needed to characterize vulnerable groups in the target areas. In addition, the proposal has broadly described the vulnerability of women in the agriculture sector, though particular benefits to them are not outlined.</p> <p>CR6: Please provide more specific information on how this project benefits any relevant vulnerable communities or indigenous groups (if present) in the project areas is needed. Please outline how the proposed project will ensure the equitable distribution of benefits to vulnerable households or individuals.</p> <p>CR7: Please outline the social benefits in terms of increased knowledge for the beneficiaries.</p>	<p>A section on vulnerable groups in the project areas has been developed in Part 1 of the document on page 10</p> <p>CR6: Sub-section, vulnerable communities added</p> <p>CR7: Addressed</p>

		<p>CR8: Under environmental co-benefits, the documents states that there will be improvements on climate and water data. However, this is not part of any of the project outputs or specific activities. Please clarify.</p> <p>CR9: The proposal needs to further inform how it will benefit women considering differentiated gender needs and dynamics. A gender analysis should be provided at fully-developed project stage, but an initial analysis would be useful at this stage.</p>	<p>CR8: Climate and water data improvement section deleted</p> <p>CR9: The gender equity section has been added</p>
	<p>5. Is the project / programme cost effective?</p>	<p>No.</p> <p>The proposal explains the scope and approach of the project, underscoring the income-generating activities and the sustainability of the project due to the value chain approach. However, the document does not explain in detail alternative options to the proposed project activities.</p>	<p>The cost-effectiveness demonstration was based on the comparison between investment per beneficiary from similar adaptation project ongoing in Niger and the proposed project. Using AF and GCF project the investment per beneficiary proposed in the project is the lower. This can be linked to the feeder road and warehouse investments that can impact a large number of people.</p>

	<p>CR10: Please provide a comparison to other possible interventions to adapt to climate change in the agricultural sector, supporting smallholder farmers.</p> <p>CR11: Please indicate whether any alternatives were costed and how these activities are cost effective in comparison.</p> <p>CR12: Please clarify the cost comparison to the “Enhancing Resilience of Agriculture to Climate Change to Support Food Security in Niger, through Modern Irrigation Techniques”, which, according to the proposal costed \$354 per beneficiary.</p>	<p>CR10, CR11, CR12: The proposed project's total investment of USD 9,924,061 will benefit 28,765 direct beneficiaries. This represents USD 345 per beneficiary which is lower than recent adaptation projects such as:</p> <p>Adaptation Fund project titled “Enhancing Resilience of Agriculture to Climate Change to Support Food Security in Niger, through Modern Irrigation Techniques” which costed USD 354 per beneficiary;</p> <p>Inclusive Green Financing for Climate Resilient and Low Emission Smallholder Agriculture funded by Green Climate Fund at the rate of 459 Euro per beneficiary.</p>
6. Is the project / programme consistent with national or sub-national sustainable development strategies, national or sub-national	<p>Not clear.</p> <p>The project is aligned with numerous relevant policies and</p>	

	<p>development plans, poverty reduction strategies, national communications and adaptation programs of action and other relevant instruments?</p> <p>CR13: Please explain in detail the project's alignment with each policy identified.</p>	<p>plans, including the National Programme of Adaptation (NAPA), the Intended Nationally Determined Contributions (INDC), the National Climate Change Policy (NCCP), the National Climate Change Strategy and Action Plan (NCCS), and the 2021-2026 Economic and Social Development Plan (PDES). However, a full developed proposal requires details on the project alignment with these policies.</p>	<p>CR13: Detail on alignment with each policy identified has been added.</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>The document has identified some national policies and ordinances; however, there might be further national technical standards relevant to the project, such as buildings codes or agricultural regulations. Furthermore, compliance with technical standards needs to be explained.</p> <p>CR14: Please identify all relevant technical standards considering project activities.</p> <p>CR15: Please explain the project's compliance with all technical standards and the steps required for meeting the required standards.</p>	<p>CR14 and Cr15: The project will collaborate with national institution that operate in construction or building and equipment provision to ensure the consideration of standards and related – norms (see collaborating partners including ONAHA).</p>	

	<p>8. Is there duplication of project / programme with other funding sources?</p>	<p>Not clear.</p> <p>The project has identified three relevant projects in Niger. However, a thorough review of potentially overlapping projects is required. For example, AF projects in Niger, “Enhancing Resilience of Agriculture to Climate Change to Support Food Security in Niger, through Modern Irrigation Techniques” and “Scaling-up climate-resilient rice production in West Africa”, as well as GEF projects “Promoting Sustainable Agricultural Production and Conservation of Key Biodiversity Species through Land Restoration and Efficient Use of Ecosystems in the Dallol Bosso and Surrounding Areas (PROSAP/COKEBIOS)” and “Niger: Food-IAP: Family Farming Development Programme (ProDAF)”.</p> <p>CR16: Please identify all relevant projects that can potentially overlap with the proposal. Likewise, please include further information on the projects, considering objectives and relevant donors.</p>	<p>CR16The result from the analysis of 4 project to find out complementarities and synergies has been added under the Part II, section F (“Enhancing Resilience of Agriculture to Climate Change to Support Food Security in Niger, through Modern Irrigation Techniques”;</p> <p>“Scaling-up climate-resilient rice production in West Africa”; “Promoting Sustainable Agricultural Production and Conservation of Key Biodiversity Species through Land Restoration and Efficient Use of Ecosystems in the Dallol Bosso and Surrounding Areas”;</p>

		<p>CR17: Kindly assess the linkages and synergies with all relevant potentially overlapping projects, including areas of overlap and complementarity. For example, how will the proposed project avoid duplication with the PRECIS project in regards to training, or how will the proposed project build on lessons learned from the Climate-Smart Agriculture Support project?</p> <p>CR18: Please indicate whether project proponents are coordinating with and informed about projects being financed in Niger with other sources of climate finance (GCF, LDCF, etc).</p>	<p>“Niger: Food-IAP: Family Farming Development Programme”).</p> <p>CR 17: Apart from the perishable commodities, other agricultural commodities (sugarcane, honey, millet) are targeted by the proposed project. In addition, specific training sessions are dedicated to young people and women (carpenters, electricians, farmers) to help them provide services into the targeted value chains (beehives construction or maintenance, solar-powered equipment maintenance).</p> <p>CR 18: Donors 5GEF, IFAD, GCF, AF have been indicated in relevant projects</p>
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<p>9. Does the project / programme have a learning and knowledge management component to capture and feedback lessons?</p>	<p>Yes.</p> <p>The proposal includes activities related to knowledge management. However, a schedule of deliverables would be appreciated.</p> <p>CR19: The fully developed proposal should explain the interlinkages with other projects/initiatives in the country. A more detailed explanation on the plans to learn from relevant projects, programs, initiatives, and evaluations is needed, including how lessons learned will be documented and reported periodically.</p> <p>CR20: Please provide a more detailed account of KM deliverables.</p>	<p>CR19: refer to the answer provided for the CR16. The component 3 of the proposed project will implement platform dedicated to the lessons learned and their incorporation in the proposed project implementation</p> <p>CR 20: A computerized database will be developed to generate dashboards used in BAGRI project. This database will be fed mainly by component 3 activities that will gather working sessions reports, technical notes, maps, study reports, research papers, websites, policy briefs and documentaries.</p>
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			Communication materials edited on the project will bear the logo of Niger, BAGRI and the Adaptation fund.
	<p>10. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations in compliance with the Environmental and Social Policy and Gender Policy of the Fund?</p>	<p>Not clear.</p> <p>The proposal has indicated that a consultative meeting has taken place but further details of the process are needed.</p> <p>For a fully developed proposal it is expected that comprehensive consultations are undertaken to include the interests and concerns of marginalized and vulnerable groups, including gender considerations, relevant to the project. It does not seem that consultations with vulnerable groups have taken place, nor has it included gender considerations.</p> <p>CR21: Kindly provide details of the consultation process (including dates of meetings, list of stakeholders, topics discussed, consultations techniques, gender considerations, among others).</p> <p>CR22: Please clarify/ highlight the gender and vulnerable groups involvement in the consultation process.</p>	<p>CR21, 22, 23 and 24: Consultative process (involving the key stakeholders, and vulnerable groups, including gender considerations in compliance with the Environmental and Social Policy and Gender Policy of the Fund), is not yet closed. Discussions with key stakeholders are ongoing to conduct the consultative processes in targeted project areas.</p>

	<p>CR23: Please indicate if the consultation process has discussed a safeguard process.</p> <p>CR24: Please explain how the consultation process findings have been incorporated in the project design.</p> <p>11. Is the requested financing justified on the basis of full cost of adaptation reasoning?</p>	<p>No.</p> <p>The proposal states the benefits of the project to beneficiaries and climate change adaptation in the agriculture sector. However, the document does not address the baseline scenario and the additionality of the project.</p> <p>CR25: More detail is needed to elaborate on the baseline to determine whether the project provides a benefit. Similarly, it is unclear whether there are existing climate activities financed under the baseline investment. Please clarify.</p> <p>CR26: Please explain how the project activities are responding to climate change threats and will enable adaptation.</p>	<p>CR25 and CR26: Less sensitive cropping systems through the use of tolerant varieties and crops and alternative sources of income able to preserve the ecosystems (promoted in the component 1) are among important actions to implement to guarantee sustainable economic growth under changing climate. The implementation of alternative high income-generating activities, will contribute to reducing the impact of climate change on smallholders and to improve food security and incomes of the local population.</p>
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	<p>CR27: Kindly explain how project activities under Output 2.2 address climate vulnerability and/or increases adaptive capacity.</p>	<p>Income-generating activities and actions which can boost the access to market (promoted in the component 2, output2.2.) will reduce postharvest losses, that are exacerbated by warming temperatures. For the Niger' government, the development of the country depends largely on its ability to practice sustainable management of natural resources, established market-oriented processing, that can create economic value while preserving the environment in the rural area. However, to reduce the operating cost (up to 60% of revenues can be used for energy supply), clean energy is promoted by the proposed project to save the money that would be used to purchase fossil fuel.</p>
<p>12. Is the project / program aligned with AF's results framework?</p>	<p>Yes. The project is aligned with Outcomes 5, 6 and 8 of AF's results framework</p>	<p>–</p>
<p>13. Has the sustainability of the project/programme outcomes been taken into account when designing the project?</p>	<p>No. The document describes synergies between the project and international and national environmental provisions. However, the proposal needs to explain how the adaptation benefits of the project can be sustained over time.</p>	<p>CR28/ Broadly, the sustainability of the project depends on the implementation of measures such as: (i) the capacity building sessions provided to beneficiaries (farmers, women, and young people organizations) during project implementation, (ii) the implication of collaborating</p>

		<p>CR28: Please indicate how the activities financed under this project will be sustained past the lifetime of this project, including the arrangements through which this would be achieved.</p>	<p>partners, mainly national institutions, during the project implementation (iii) the tools and knowledge to maintain the equipment provided (iv) income-generating activities and implications of national banks.</p>
	<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>No.</p> <p>The proposal provides an overview of environmental and social issues. The identified risks (or their lack of) are not substantiated. The document does not provide an environmental and social impact assessment for the risks identified. The document is rated as a Category B project.</p> <p>CR29: Please revise section 9, providing a justification of risk findings, following the Fund's guidance on compliance with ESP. https://www.adaptation-fund.org/wp-content/uploads/2016/07/ESP-Guidance_Revised-in-June-2016_Guidance-document-for-Implementing-Entities-on-compliance-with-the-Adaptation-Fund-Environmental-and-Social-Policy.pdf</p>	<p>CR29: Please, justification of risk is detailed in the screening sheet</p>

		<p>CAR6: In section 9, please indicate the project category based on the screening process.</p> <p>CAR7: For the risks that are identified, kindly carry out an environmental and social impact assessment commensurate to the risks, and provide the findings of such assessment.</p> <p>CAR8: Please include the results of the gender assessment as an annex to the proposal.</p>	CAR6: screening tool added as an annex CAR7: The result of the screening (see annex) required an environmental and social impact assessment which is currently ongoing, as per Adaptation Fund. CAR8: The gender assessment is ongoing.
Resource Availability	1. Is the requested project / programme funding within the cap of the country? 2. Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project/programme budget before the fee? 3. Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme budget (including the fee)?	Yes. Yes. Not clear. CR30: Please clarify if no execution costs will be included in the proposal. Please refer to CR5 above.	
Eligibility of IE	1. Is the project/programme submitted through an eligible	Yes.	Addressed

	Implementing Entity that has been accredited by the Board?	BAGRI is an accredited National Implementing Entity to the Fund.	
Implementation Arrangements	<p>1. Is there adequate arrangement for project / programme management, in compliance with the Gender Policy of the Fund?</p>	<p>No.</p> <p>The document provides a general overview of the project management arrangements, with detailed responsibilities of the IE. However, roles for all those involved in the project need development.</p> <p>CR31: Are the TORs developed yet for the project roles? Please clarify the roles of all actors involved in the project, considering project outputs and activities.</p> <p>CR32: Please indicate the gender considerations for the institutional arrangements presented.</p>	<p>CR31: The section has been reworded and ToRs developed</p> <p>CR32: The project Gender consideration has been stated in Part II section B</p>
	<p>2. Are there measures for financial and project/programme risk management?</p>	<p>Yes.</p> <p>The proposal considers financial risks and indicates management strategies for these.</p>	
	<p>3. Are there measures in place for the management of environmental and social risks, in line with the Environmental and Social Policy and Gender Policy of the Fund?</p>	<p>No.</p> <p>There are a number of items where the proposal indicates further detail will be furnished at phase inception. However, at this stage of project development, there should be a well-defined scope of activities and risks which can be fine-tuned at inception. For</p>	Adressed

	<p>example, regarding vulnerable groups, the proposal indicates that at inception, these groups will be categorized and risk mitigation efforts developed at that time. Further detail and mitigation measures should be provided at this stage of project development. Hence, impact management is not adequately addressed.</p> <p>CR34: Please revise the impact management plan after solving CR 30 and CARs 7 and 8. The management plan should clearly indicate roles and responsibilities for its implementation, indicate budget provisions for these activities, as well as monitoring and evaluation arrangements for this process. The risk management plan should be comprehensive.</p> <p>CR35: The grievance mechanism should be further explained, indicating how grievances will be addressed in the implementation of this project.</p>		
	<p>4. Is a budget on the Implementing Entity Management Fee use included?</p>	<p>No.</p> <p>The proposal has not provided a breakdown of the Implementing Entity Management Fee.</p>	<p>Addressed</p>

	<p>CAR9: Please include in the budget the fees of the IE management.</p> <p>CAR10: Please include budget tables in the proposal document (not in a separate excel file).</p> <p>Please refer to CR5 above.</p>	
<p>5. Is an explanation and a breakdown of the execution costs included?</p>	<p>No.</p> <p>Please refer to CR5 above.</p>	Addressed
<p>6. Is a detailed budget including budget notes included?</p>	<p>No.</p> <p>The proposal provides a detailed budget but the break-down of costs of Component 3 does not cover project activities.</p> <p>The budget of component 3 does not cover project activities (as it is now, it budgets program management). Please refer to CR5 above.</p> <p>CR35: Please clarify the budget for gender-responsive implementation of the project.</p> <p>CAR11: Kindly revised total the Project cycle management costs versus those included in the components section.</p>	Addressed

		CAR12: Kindly review values included in the budget as they are different from those in the cover page, components section and disbursement table.	
	<p>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?</p>	<p>Not clear.</p> <p>The proposal includes M&E provisions; however, it lacks a budgeted M&E plan, with targets and indicators.</p> <p>CR36: Please clarify how will the M&E plan address the environmental and social risks identified (and to be identified after revisions).</p> <p>CAR13: Please include a budgeted M&E plan.</p>	Addressed
	<p>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?</p>	<p>No.</p> <p>CAR14: Please provide a breakdown of IE fees for supervision of M&E function.</p>	Addressed
	<p>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?</p>	<p>Not clear.</p> <p>The proposal provides a results framework but further details are needed. At this stage of the project proposal, targets should be more specific. For example, regarding Output 1.1, the target is 80% of farming households – is this for all</p>	Addressed

	<p>the farming households in Niger? Or of selected project areas?</p> <p>CR37: Please revise results framework to specify target indicators and consider indicators identified in the AF results framework.</p> <p>CR38: Please revise table regarding alignment with the AF results framework to show linkage of each project objective.</p> <p>CAR15: Kindly review values included in the Results Framework.</p>	
10. Is a disbursement schedule with time-bound milestones included?	<p>No.</p> <p>The proposal includes a disbursement schedule but does not indicate time-bound milestones relative to project inception and the annual reporting requirement.</p> <p>CAR16: Please revise the project disbursement table to include milestones, reporting requirements.</p> <p>CAR17: Kindly revise values in the Disbursement table as they currently add to USD 9,960,038.</p>	Addressed



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

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PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category: REGULAR PROJECT

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Country/ies: Republic of Niger

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Title of Project/Programme: Agriculture Climate-Resilient Value Chain Development in Niger

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Type of Implementing Entity: National Implementing Entity

Implementing Entity: Banque Agricole du Niger (BAGRI)

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Executing Entity/ies: Banque Agricole du Niger (BAGRI)

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Amount of Financing Requested: USD 9,982,000

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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.

Project summary

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Niger is a West African country characterized by drastic climate conditions, particularly since two-thirds of its area (1,267,000 km²) is in the Saharan zone and a third in the Sudanese and Sahelian zones. It is dependent on the vagary's climate with a pluviometry with significant interannual, spatial, and temporal variability. Like other West African countries, Niger is very vulnerable to climate change, characterized by high climate variability and precipitation, which leads to recurring rainfall deficits. These deficits result in recurrent droughts. In addition, desertification and land and natural resources degradation have been major concerns for the economic and social development of the country. In 2019, the agriculture sector contributed approximately 40% of the country's GDP and livelihood for over 80% of the population¹. However, food insecurity and drought remain perennial problems for Niger, and the Government plans to invest more in irrigation.

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¹Institut National de la Statistique du Niger. (2019). *Nouveau Système SCN 2008 – Base 2015 Agrégats et tableaux de synthèse 2015 – 2018 Méthodologie, principaux résultats et commentaires sur l'évolution récente de l'économie nigérienne*.

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Niger and other countries in the Sahel experienced decreasing rainfall throughout the 1960s, 70s, and 80s, which caused severe drought and led to catastrophic failure of harvests and prevalence of malnutrition and starvation (particularly the severe droughts that occurred in 1966-1967, 1973-1974 and 1983-1984). Rainfall has recovered slightly since the late 1980s. However, it is still well below the pre-1960s level, and the drought of 2004-2005 shows that the country is still very vulnerable to weak rains. The variability of the rainfall events is compounded by the fact that only 12% of Niger's soils are suitable for agricultural production. Furthermore, the majority of the population (over 60%) live on less than USD 1/day, and high population growth puts more pressure on the fragile ecosystems leading to problems of desertification. Many pastoral communities have been forced to become semi-agricultural because of the prolonged droughts; thus, losing their way of life. Approximately 87% of the population rely on agricultural or pastoral activities for their livelihoods, both of which are highly dependent on good climatic conditions, so any climatic shocks directly impact livelihoods. On the contrary, floods cause less widespread damage than droughts. Still, they can destroy crops and livelihoods in certain areas of the country and are usually associated with an increase in Malaria cases and diarrhoeal diseases.

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Aside from the changes in rainfall and temperatures, communities in Niger report water scarcity challenges leading to digging deeper wells. Moreover, the onset and cessation of the rainy season are becoming less predictable. Community observations related to climate change and variability with other external factors include (i) reduction in agricultural production; (ii) increase in food insecurity and malnutrition; (iii) desertification and degradation of natural resources; (iii) erosion of community solidarity; (iv) drying up of surface water points; (v) reduction in the quality of pasture; (vi) appearance of new parasites and diseases; and (vii) increased conflicts between pastoralists and agriculturalists. Due to the combination of climatic and non-climatic factors, the increasing degradation and scarcity of renewable natural resources pose challenges to sustain livelihoods and can even harm community cohesion.

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Therefore, the project will address key climate vulnerabilities in agriculture by providing integrated solutions in agricultural production value chains (i.e., millet, rice, onion, and sugarcane). Proposed solutions include post-harvest reduction approaches combined with livelihood diversification; hence, contributing to the resilience of vulnerable

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smallholder farmers in Niger while supporting longer-term sustainable development objectives. The resilience of the agricultural sector can only be achieved by identifying and implementing a comprehensive set of agricultural practices and diversification strategies through integrated farming systems designed to increase yields and minimize environmental degradation while maintaining the ecological functions and the agricultural value chains. The project intends to support the country's breadbasket regions (i.e., Maradi, South, Tahoua, Zinder, Tillaberi, Dosso) identified by the Conseil National de l'Environnement pour un Développement Durable (CNEDD) through a process by which they test integrated climate-resilient agriculture with all the actors in the value chain. This approach will draw from existing technologies (e.g., improved varieties and cropping systems) and the integration of new dimensions of climate change resilience on millet, rice, onion, and sugarcane value chains, including environmental management, integrated farming systems, and diversification, integrated pest management, and climate-resilient infrastructures. Reflecting the key development challenges and adaptation needs, BAGRI's project will deliver the objectives through three components: climate-proofed agricultural production and post-harvest combined with livelihood diversification (Component 1); climate-resilient infrastructure (Component 2); and coordination, monitoring, and evaluation (M&E), and dissemination of lessons learned (Component 3).

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1. Background

Niger is a West African country characterized by drastic climate conditions affecting over two-thirds of its area (1,267,000 km²) are in the Saharan and Sudano-Sahelian zones. It is mainly dependent on the vagary's climate, with rainfall patterns showing significant temporal (interannual) and spatial variability. Niger is highly vulnerable to climate change among the West African countries due to the high precipitation variability, which causes recurrent rainfall deficits. These deficits result in recurrent and severe droughts. Furthermore, desertification and the degradation of land and natural resources have been major concerns for the country's socio-economic development. To overcome the country's current environmental and socio-economic challenges, the state continues to develop initiatives to carry out actions likely to preserve the sustainability of basic productivity through appropriate mitigation and adaptation strategies.

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As of 2021, the current population of Niger is estimated at 25,130,817². The country's growth rate is 3.82%, the second-highest globally (based on 2020 to 2021 population growth). In addition, statistics show that more than 10 million people (42.9% of the population) lived in extreme poverty. Niger has a poorly diversified economy, with the agriculture sector accounting for 40% of its Gross Domestic Product (GDP). This sector also provides livelihoods for over 80% of the population. However, food insecurity and drought remain perennial problems for Niger; thus, the government plans to invest more in irrigation to address these challenges.

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•2. Geographical context

Niger, bordering North and sub-Saharan Africa, is one of the biggest inland nations in West Africa. It is one of the hottest countries globally since most of the country is within the Sahara Desert, characterized by a vast plateau with an average elevation of 500 m and low local relief. It has eight administrative regions. The majority of the country's population is concentrated in four regions, namely: Zinder (20.6%), Maradi (19.9%), Tahoua (19.1%), and Tillabéry (16.2%)³. Meanwhile, the Dosso region is medium-sized and home to 12% of the population. The Niamey urban community has nearly 6%, and the two other regions (Diffa and Agadez) are the least populated, with around 3% of the population.

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² World Population Review. (2022). Live 2021 population of Niger estimated by the United Nations. Retrieved 5 January 2022 from <https://worldpopulationreview.com/countries/niger-population>.

³ Institut National de la Statistique du Niger. (2013). 2011 National Survey on Household Living Conditions and Agriculture (ECVM/A-2011). Retrieved 27 December 2021 from <https://micradata.worldbank.org/index.php/catalog/2050/download/31162>.

In the Sahelian zone of the country, the region is characterized by a semi-arid climate with more vegetation cover. The central part of the country is mostly pastoral areas dominated by annual grass species, savannas, and thinly scattered perennial trees (Fig. 1)⁴. The livelihoods of most people depend on crop production and livestock which are highly susceptible to desertification and climate variability, specifically droughts. In addition, there are limited arable lands

in the country as most of them are in the southern regions (98%). With a total length of 4,200 km and the third longest river in Africa, the Niger River is a very important body of water in the country as it plays a significant role in various sectors, specifically agriculture and fisheries, transport, energy, and ecotourism, with an ecosystem function (i.e., water filtration).



Figure 1: Agroecological zones in Niger

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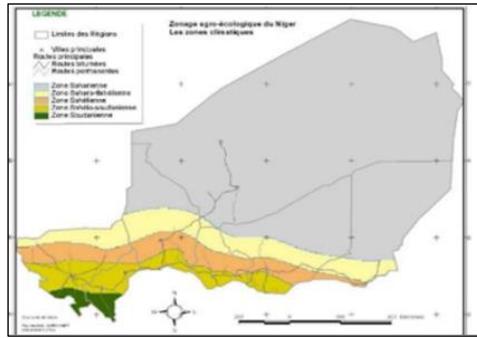


Figure 1: Agro-Ecological Zones of Niger

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⁴ Réseau des Chambres d'Agriculture du Niger. (2004). Le Zonage Agro-écologique du NIGER. Retrieved 27 December 2021 from https://reca-niger.org/IMG/pdf/Le_zonage_agroecologique_du_Niger_Extraits.pdf

Niger is rich in minerals (e.g., phosphates and gold), hydrocarbons (i.e., petroleum) and is a leading producer of uranium. Therefore, the recent increase in mineral and oil exploitation is potentially an important source of income to support the country's economic and social progress, posing challenges for governance, particularly environmental governance, which need to be addressed and strengthened. In line with this issue, Niger recently adopted a national charter on good governance and the management of mineral resources and hydrocarbons. In 2012, the country achieved the status of full compliance with the Extractive Industries Transparency Initiative (EITI), implying that any investor involved in the mining and hydrocarbons sector is required to carry out an Environmental and Social Impact Assessment (ESIA) and have an Environmental and Social Management Plan (ESMP). Furthermore, as part of the Mining Code and the Investment Code revision, the Government plans to strengthen environmental standards based on international frameworks and guidelines. Environmental management is moreover reflected in the 3N (Nigeriens Nourishing Nigeriens) Initiative through (i) sustainable natural resource management; (ii) capacity building for stakeholders; (iii) land tenure support; and (iv) the establishment of a participatory system of governance⁵.

The country's natural resources (i.e., land, water, soil, and biomass) are prone to deep degradation, mainly due to an imbalance between their exploitation and renewal rates, coupled with marked climate variability during the last decades. Optimal management of natural resources underpinning the development of the rural sector is needed to boost the people's resilience to the adverse effects of climate change. This is an important leverage for policy efficiency in terms of inclusiveness. Otherwise, continuous degradation of the environment could lead to a substantial decline in incomes earned by the poorest population segments from the supply of environmental goods and services⁶.

3. Socio-economic and food security context

⁵ African Development Bank. (2017). *Support to reforms and economic resilience programme*. Retrieved 27 December 2021 from https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/NIGER_-_Support_to_Reforms_and_Economic_Resilience_Programme.pdf.

⁶ African Development Bank Group. (2017). *Support to reforms and economic resilience programme*. Retrieved 27 December 2021 from https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/NIGER_-_Support_to_Reforms_and_Economic_Resilience_Programme.pdf.

The country's population is estimated in 2015 at 17.7 million inhabitants, for 3.9% / year as a demographic growth rate⁷ and 23.3 million inhabitants in 2019. In 2019, the young population under 15 years of age represented 51.6%. The synthetic fertility rate, which reflects the average number of children born alive per woman (aged 15-49), is 7.6% for the same year. More than 10 million people (42.9% of the population) lived in extreme poverty. With agriculture contributing the most, a poorly diversified economy is the main characteristic of Niger's GDP (40%). A large part of the population derives income from exploiting natural resources⁸. The favourable economic outlook for 2021 is expected to increase growth in the agriculture sector (5.1%). Moreover, the agricultural sector will benefit from reopening the border with Nigeria, while the industrial sector expects an increase in the global demand for oil production. Real GDP is projected to reach 6.2% in 2022 and approximately 10% in 2023 once the pipeline has been completed and oil exports have begun⁹.

The current population of Niger is estimated at 25,130,817, with a growth rate of 3.87% with a recorded 0.2% drop in per capita income in 2020. The favourable economic outlook is expected to help reduce the poverty rate from 41.2% in 2020 to 37% in 2023. However, an annual population growth rate of 3.8% and a fertility rate of 6.9 children per woman limit the fiscal space available to reduce poverty.

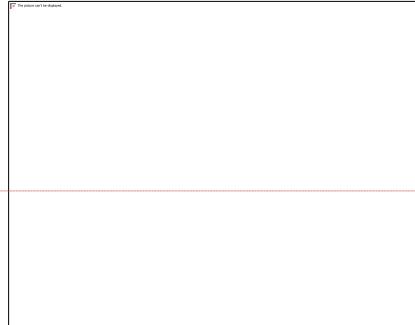


Figure 2: Poverty indices by region (2011)

⁷ Institut National de la Statistique du Niger. (2015). Annuaire Des Statistiques Sanitaires Du Niger. Retrieved 27 December 2021 from https://www.stat-niger.org/wp-content/uploads/2020/06/Annuaire_Statistiques_2015_DS-MSP.pdf.

⁸ Nnubogu A.M., Kala M., Mensah K.A. (2018) Niger: Mineral Policy. In: Tiess G., Majumder T., Cameron P. (eds) Encyclopedia of Mineral and Energy Policy. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-40871-7_218-1.

⁹ World Bank Group. (October 2021). The World Bank in Niger: Niger Overview. Retrieved 27 December 2021 from <https://www.worldbank.org/en/country/niger/overview#1>.

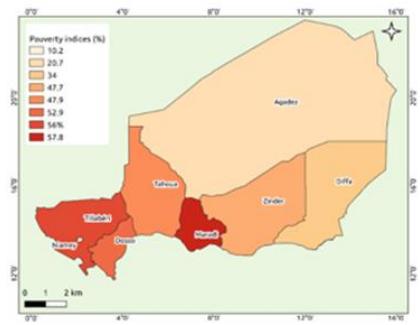


Figure Error! No text of specified style in document.-2: Poverty Index by region (data of 2011)

About a third of the country's poor people (Fig. 2), the regions of Dosso and Tillabéry account for 12% and 16.2% of the population, respectively. Meanwhile, the regions of Zinder and Tahoua have high poverty levels, but slightly less than in the first three regions. These are heavily populated regions (almost 40% of the country's population), they also have high poverty incidence (over 39%). The other three regions are less poverty-stricken but with very significant differences. The poverty level is 34% in Diffa, almost 21% in Agadez, and approximately 10% in Niamey.

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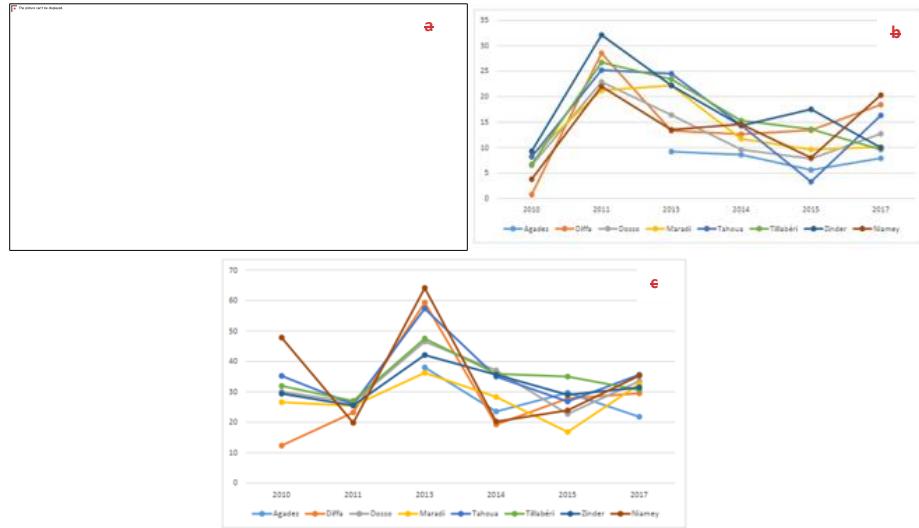
Agriculture in Niger is the economic activity that provides a livelihood for more people than any other activity. At the same time, it is the sector with the most significant number of poor people, to the point where the country's National Institute of Statistics concludes that poverty has a rural face in its report: AGRICULTURE AND LIVING CONDITIONS OF HOUSEHOLDS IN NIGER¹⁰. The study found that rural agricultural households predominate among poor households (96.1%) and non-poor households (90.3%). There are 46.2% of poor people in rural areas compared to 24.7% in urban areas. The high poverty level in the agricultural sector is partly explained by the fact that the number of agricultural producers who sell their food production immediately after harvest to meet their needs appears to be relatively high. This practice contributes to the vulnerability of households to food shortages, which is one of the causes of food insecurity.

¹⁰ [1] Institut National des Statistiques. AGRICULTURE AND LIVING CONDITIONS OF HOUSEHOLDS IN NIGER. <https://pnin-niger.org/pnin-doc/web/uploads/documents/113/Doc-20191021-083658.pdf#page=34&zoom=100.90.745>

From 2010 to 2017, there is a downward trend in the percentage of the populations under severe and moderate food insecurity, and the population under food insecurity risk is stable. However, there is a deterioration in the food situation of populations under severe food insecurity in 2017, as compared to 2013, 2014, and 2015.

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In general, at the regional scale, the proportions of populations under severe food insecurity follow the same dynamic (Fig. 3a). The proportions of populations in food insecurity at the regional level experienced an increase between 2010 and 2011, a downward trend until 2015 except for Zinder and Diffa. The trend stopped declining in 2014. The same proportions increased between 2015 and 2017 except in the regions of Zinder and Tillabéri (Fig. 3a). Finally, regarding the evolution of the proportions of populations at risk of food insecurity from 2010-2017 (Fig. 3b), the highest percentages were registered in 2013. The highest proportion was recorded in 2013 in the Niamey region (64.1%) and the lowest in 2010 in the Diffa region (12.3%).



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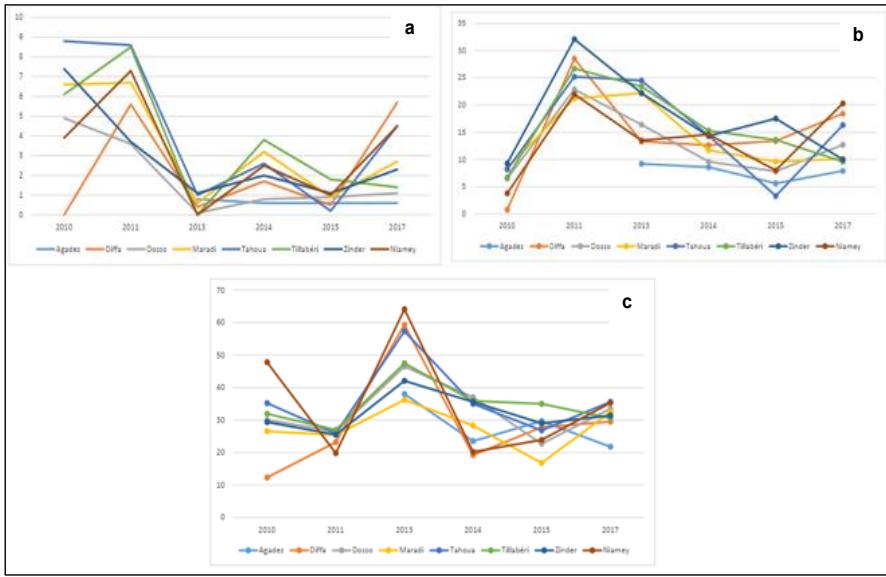


Figure 3-1-3: Changes in percentage (%) of populations in (a) severe food insecurity; (b) moderate food insecurity; and (c) declared in food insecurity by region from 2010 to 2017¹¹

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• Vulnerable groups

According to FAO: “to reduce poverty and hunger in the most direct way possible, priority must be given to economic growth in areas where the poor are working, where they are given to economic growth in sectors where the poor work, where the factors of production belong to the poor and undernourished people, which generate products consumed by these populations and which are undernourished, that generate products consumed by these populations and that develop in the regions where they live. Agriculture meets all these criteria”

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¹¹ Institut National de la Statistique du Niger. (2019). Nouveau Système SCN 2008 – Base 2015 Agrégats et tableaux de synthèse 2015 – 2018 Méthodologie, principaux résultats et commentaires sur l'évolution récente de l'économie nigérienne.

In Niger, the agriculture sector is the primary source of income for the population. As the agriculture sector's contribution to poverty reduction is much higher than non-agricultural related sectors, the combination of climate and none-climate stressors makes agriculture sensitive to climate change, affecting the most disadvantaged parts of the community. Several factors of vulnerability make it possible to identify the most disadvantaged parts:

- the factors that make producers vulnerable include: the annual cereal balance sheet, the proportion of land under rainfed cultivation, percentage of land under irrigation, the volume of cereal crop production; the average yield of legumes, the rate of use of improved seeds (%), the average income per farm household;
- the factors that make young people vulnerable include monetary poverty, food insecurity, lack of water, lack of cultivation space, lack of pasture for animals, unemployment, low school enrollment among young people, lack of training for young people, and lack of information about the sexual and reproductive health of young people.;
- for women, these factors are access to quality health care, education, access to and control of resources (land, credit, agricultural equipment), low representation of women in decision-making bodies, sexual division of labor, women's workload.

In addition, a gender-based poverty analysis revealed that poverty is more prevalent among rural women and youth under the age of 25 due to limited access to assets (water, land, fertilizers, and equipment) and decent employment opportunities. According to the African Development Bank (AfDB) Gender-Equality Index, Niger ranks 45th out of 52 African countries, indicating pronounced inequalities between men and women. Therefore, the project identifies rural women, young, and poor smallholder farmers as the most vulnerable groups.

4.4. Climate trends

4.1. 4.1 Rainfall

4.1.1. 4.1.1 Current Rainfall

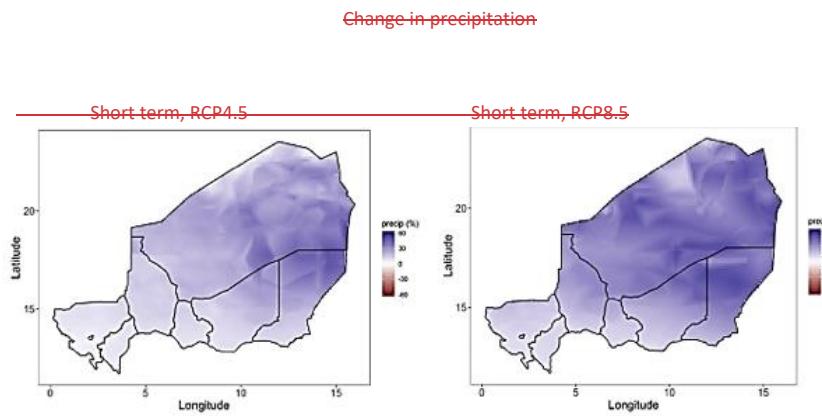
Niger's climate is semi-arid tropical, characterized by two seasons: a dry season from October to May and a rainy season from June to September. The rainfall pattern is unimodal, with maximum precipitation occurring around August. In a wet year, the rainfall allows groundwater recharge, the refilling of water bodies, and the development of plant cover. Since the 1950s, Niger's climate has experienced three distinct rainfall cycles, common to most of Sahel: (i) between the 1950s and 1970s, Niger benefited from a cycle of wet years; (ii) between the years 1970 and 1990, Niger was confronted

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with a cycle of dry years, particularly marked by drought episodes in 1970 and 1984; and (iii) from the 1990s, better rainfall conditions with an increase in the interannual variability of precipitation began to shape its environmental conditions¹².

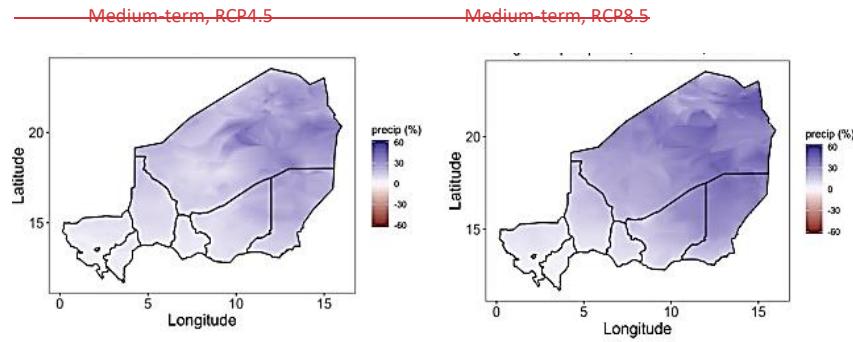
4.1.2. Future Rainfall

Figure 4 represents the projected changes in total rainfall during the rainy season from June to September (JJAS) in the short term (2020-2030) and the medium term (2030-2050) for RCP4.5 (left) and RCP 8.5 (right) scenarios. The models-ensemble from CMIP5 predicts a general increase of total rainfall during the rainy season (JJAS) compared to the climatological reference 1981-2010. This is consistent with the trends previously obtained¹³. According to the models, the increase in rainfall should be significant in the North and East of the country. Furthermore, the increase in rainfall should be greater in the medium term (Horizon 2050) than in the short term and is most pronounced when the pessimistic greenhouse gas emission scenario is considered (RCP 8.5 compared to RCP 4.5).



¹²Ali A, Lebel T, Amani A. (2008). Signification et usage de l'indice pluviométrique au Sahel. *Sécheresse* 19: 227–235.

¹³Bamba Sylla, M., Pal, J. S., Wang, G. L., and Lawrence, P. J. (2016). Impact of land cover characterization on regional climate modelling over West Africa. *Clim. Dyn.* 46, 637–650. doi: 10.1007/s00382-015-2603-4.



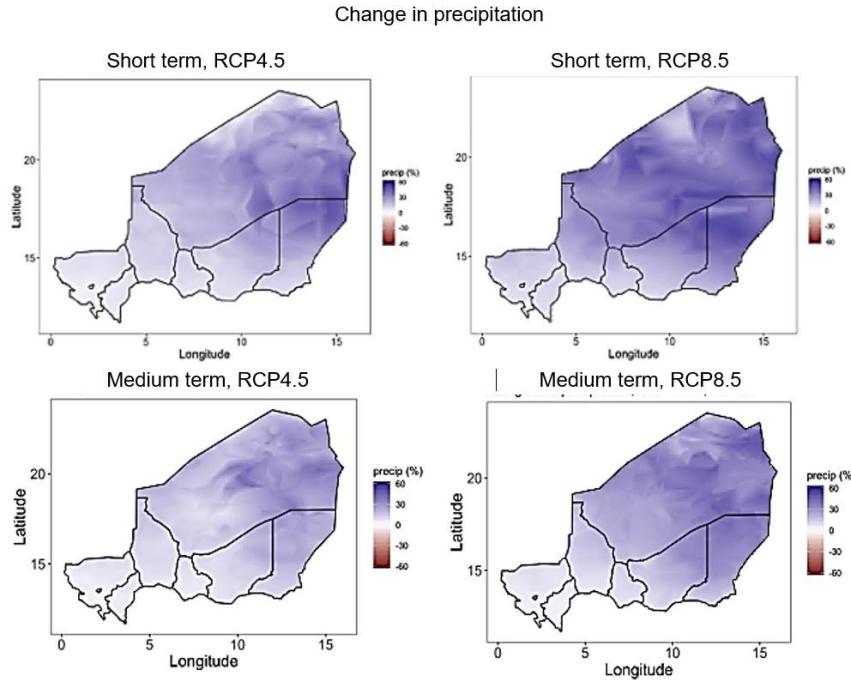


Figure 4.1-4: Projection of total rainfall during the rainy season (JJAS) for the short and medium-term, compared to the reference period 1981-2010. These results are the median of the simulations carried out with 29 global models of the global model intercomparison experiment (CMIP5) for RCP 4.5 and RCP scenarios 8.5. The values represented correspond to the percentage of variation compared to the cumulative of reference precipitation¹⁴.

Niger faces extreme climatic hazards that should become more frequent and intense (i.e., recurrent and successive droughts, floods, strong wind, heatwaves, and sand or dust storms). Figure 5 shows the increasing trend of extreme rainfall events such as heavy rainfall and wet spells using four regional climate models and 1986-2005 as the baseline. This highlights the high variability of rainfall pattern and its poor distribution in

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¹⁴ Republique Du Niger. (2021). Contribution Déterminée Au Niveau National. Retrieved 27 December 2021 from https://www4.unfccc.int/sites/ndctaging/PublishedDocuments/Niger%20First%20CDN_Niger_R%C3%A9vis%C3%A9e_2021.pdf.

time and space, which can increase epidemic and outbreaks (i.e., meningitis and cholera), the pressure of crop enemies (e.g., fall armyworms, flower insects, aphids, seed-eating birds), livestock diseases (e.g. epizootics), and bush fires.

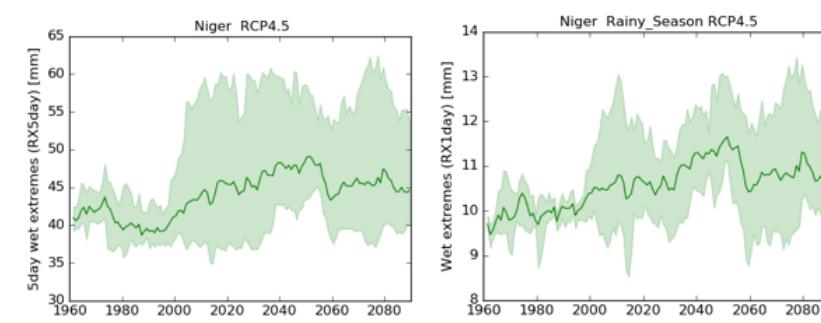


Figure 5.1-5: Regional climate model¹⁵ projections for daily wet extremes (RX1day) during the rainy season and extreme 5-day wet spell (RX5day) displayed as 20 years running mean. The line represents the ensemble; meanwhile, the shaded area represents the model spread. The projections are based on the emission scenario RCP4.5¹⁶ ¹⁷.

4.2. 5.2. Temperature

4.2.1. 5.2.1. Current temperature trend

Between 1970 and 2010, the mean annual temperature has increased by 0.6°–0.8°C, slightly higher than the global average (Fig. 6). An increase in the number of warm days/nights and a decrease in the number of cold days/nights have been observed in that period.

¹⁵ MPIESM-REMO; HADGEM2-CCLM4; ECEARTH-RACMO and IPSL-RCA

¹⁶ Simulated using model projections in RegioClim, ClimateAnalytics, MPIESM-REMO; HADGEM2-CCLM4; ECEARTH-RACMO and IPSL-RCA

¹⁷ Simulated using model projections in RegioClim, ClimateAnalytics

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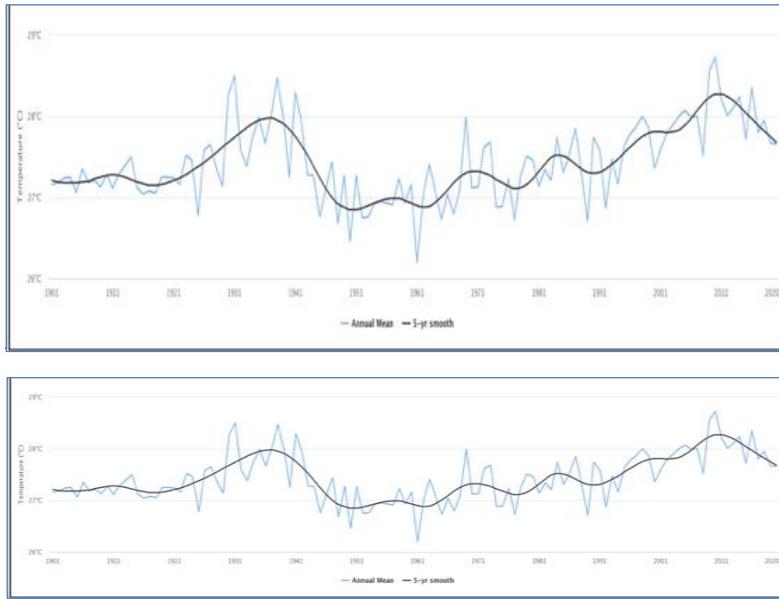


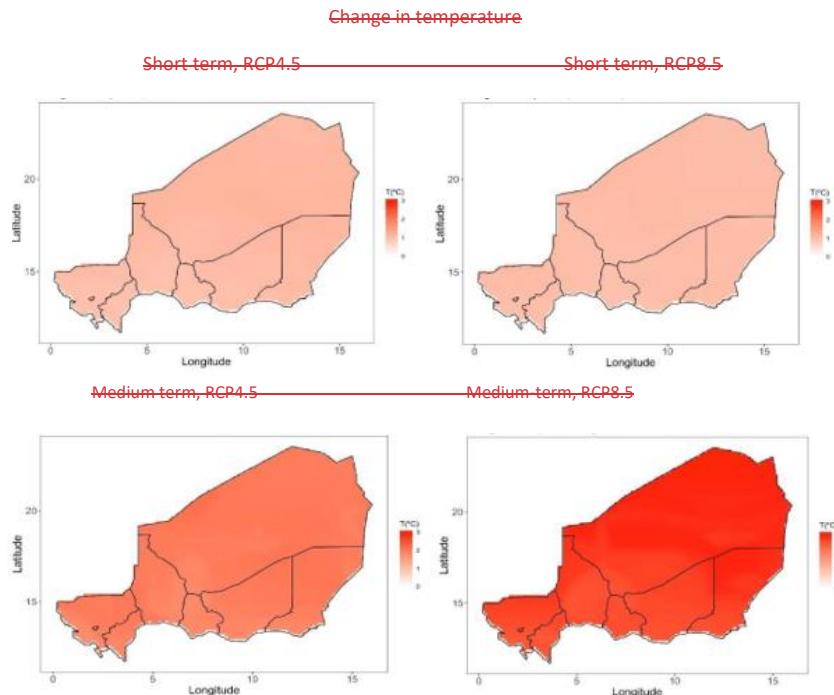
Figure 6-1-6. Average mean temperature in Niger from 1901 - 202018

4.2.2. 5.2.2. Future temperature trend

Figure 7 portrays the simulated evolution of temperatures during the rainy season (JJAS) in the short term (top) and the medium term (bottom) for RCP 4.5 scenarios (at left) and RCP 8.5 (right). The models predict temperature increases during the rainy season (JJAS) in all localities of Niger of 1°C in the short term (horizon 2030), against 1.5 to 3°C in the medium term (horizon 2050). The increase in projected average

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temperatures is significantly greater in the RCP 8.5 scenario than the RCP 4.5 scenario, which makes sense. Models indicate increases in average surface temperatures slightly larger in the northernmost regions than the south and west of Niger. The conclusions obtained are consistent with the trends already noted by several authors.



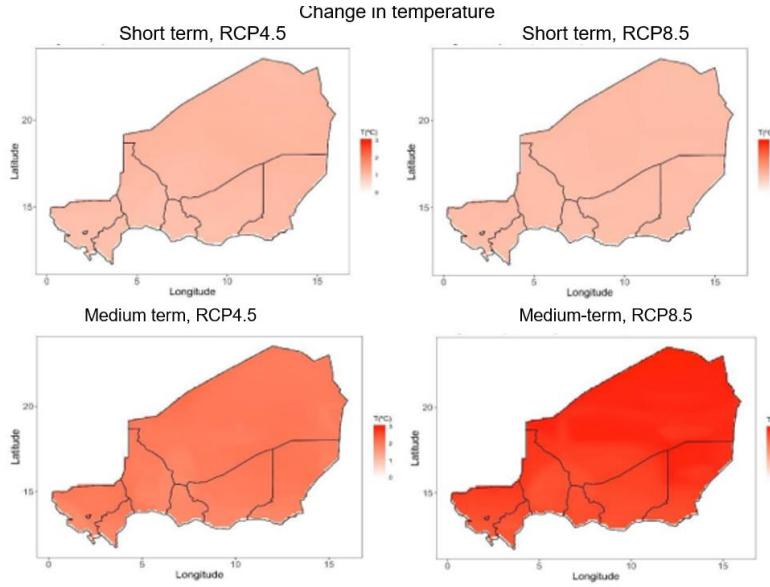


Figure 1-7: Differences in the mean surface temperatures in Niger during the rainy season (JJAS), simulated over the short term and the medium term by comparison with the period of reference 1981-2010. These results are the median of the simulations carried out with 29 models - global model from the intercomparison experiment (CMIP5) for RCP scenarios 4.5 and RCP 8.5.

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•5. Climate change impact on the agriculture sector

Niger and other countries in the Sahel experienced decreasing rainfall throughout the 1960s, 70s, and 80s which caused a severe drought. They led to catastrophic events (i.e., failure of harvests, malnutrition, and starvation), particularly the severe droughts in 1966-1967, 1973-1974, and 1983-1984¹⁹. Rainfall has recovered slightly since the

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¹⁹ Prolnova (2008). Etude des adaptations aux changements climatiques au Niger. Rapport mi-parcours.

late 1980s. However, it is still well below the pre-1960s level, and the drought of 2004-2005 shows that Niger is still very vulnerable to weak rains²⁰. The negative effect of rainfall variability is compounded by the fact that only 12% of Niger's soils are suitable for agricultural production, the majority (over 60%) of the population live on less than USD 1/day, and the high population growth is putting increasing pressure on the country's fragile ecosystems and leading to problems of desertification²¹. As a result, many pastoral communities have been forced to become semi-agricultural due to prolonged droughts and/or low rainfall²². The 2009 drought-affected approximately 7.9 million people and 82.7 million heads of cattle (with losses estimated at USD 805 million). It led to a decline of 4% in per capita GDP with more than 13% in agricultural production. As for the 2011 drought, cereal production declined by 28%, and the stock of animals was reduced by 8% because of a 21% decrease in rainfall.

Floods, on the other hand, cause less widespread damage than droughts. However, in certain parts of Niger, flood events destroy livelihoods and infrastructures and are associated with an increase in Malaria and diarrhoeal diseases²³. In 2012, Niger was a victim of unprecedented floods, which affected more than half a million people. Moreover, floods can also accelerate the spread of crop pests and diseases (i.e. fungal infestations). The heightened intensity of rain events has increased the frequency of flash flooding and topsoil erosion, resulting in reduced soil fertility and land degradation. Recent floods have also been worsened by the impact of increasingly intensive and consecutive rains recorded in Maradi in the North²⁴. Average rainfall levels in the west of Niger are considerably higher and have become more intense, affecting crop production.

Higher temperatures also negatively affect crop production leading to lower yields and less fodder and pasture, which puts animals at risk and reduces their performance. Four major drought-related emergencies have been reported in less than ten years, resulting in a decrease of yields by an average of 25%, increases in the prices of staple

²⁰Danida. (2008). Appréciation des impacts des changements climatiques sur les programmes de développement de la coopération avec le Niger.

²¹Danida. (2008). Appréciation des impacts des changements climatiques sur les programmes de développement de la coopération avec le Niger.

²²Prolnova. (2008). Etude des adaptations aux changements climatiques au Niger. Rapport mi-parcours.

²³Danida. (2008). Appréciation des impacts des changements climatiques sur les programmes de développement de la coopération avec le Niger.

²⁴Mahamadou, B. I., Bouzou Moussa, I., & Faran Maiga, O. (2018). Évolution des caractéristiques pluviométriques et recrudescence des inondations dans les localités riveraines du fleuve Niger. VertigO-la revue électronique en sciences de l'environnement.

crops by up to 50%, and reductions in food availability and economic return from agricultural products.

In addition to the changes in rainfall and temperature, communities in Niger report less water available than before; thus, wells have to be dug deeper. The onset and cessation of the wet season are becoming less predictable²⁵. Other community observations related to climate change impacts with other external factors include (i) reduction in agricultural productivity; (ii) increase in food insecurity and malnutrition; (iii) desertification and degradation of natural resources; (iv) drying up of surface water points; (v) reduction in the quality of pasture; (vi) appearance of new parasites and diseases; (vii) increased conflicts between pastoralists and agriculturalists; and, (viii) erosion of community solidarity. Due to a combination of climatic and non-climatic factors, natural resources are becoming increasingly scarce, damaging community cohesion and making it harder to sustain livelihoods.

Around 87% of the population rely on agricultural or pastoral activities for their livelihoods, which depend on good climatic conditions. With already challenging natural conditions, exposure to a greater frequency of climate shocks weakens the population's resilience, especially due to direct and significant impacts on people's livelihoods²⁶. Based on the International Fund for Agricultural Development (IFAD) Climate Adaptation in Rural Development – Assessment Tool (CARD), over the next 20 years, climate models indicate that millet (*Pennisetum glaucum* L.) production is predicted to decrease by 5.87%, and rice (*Oryza sativa* L.) by 7.82% at the national level. These projections are particularly important in the Maradi, Zinder, Tahoua, and Dosso regions, where late and erratic rainfalls and higher frequency and longevity of dry spells have been observed. The projections based on the emission scenario RCP4.5 predicts a decrease up to 20 mm per year in terms of rainfall for 2031-2050 with delayed and shorter wet seasons compared to an average of 120 mm registered during the period 1986-2005 for the Maradi region and 10 mm for Zinder, Tahoua and Dosso.

Limited evidence for rice production is available in the region. Nonetheless, in Western Africa, irrigated rice yield is projected to decrease between 21% and 45% in 2050 in the high warming scenario (RCP8.5) compared to the 2000s; for rain-fed rice, with already lower yields than irrigated rice, the decrease could range from -22% to -18% –

²⁵ Prolniova. (2008). Etude des adaptations aux changements climatiques au Niger. Rapport mi-parcours.

²⁶ CNEDD (2006). National Adaptation Programme of Action of the Republic of Niger.

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both in the absence of adaptation strategies. With the implementation of adaptation options, such as heat-tolerant rice varieties, the region can potentially increase irrigated and rainfed rice production from 4% (rain-fed, upland rice) to 7% (irrigated)²⁷.

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Onion (*Allium cepa* L.) is the most widely produced vegetable for its edible bulb and scallions. In Niger, this crop is generally produced both for the local and export markets. Indeed, the country is one of the largest onion growers in West Africa, as the total amount produced was estimated at 1,310,444 tonnes (t) with an average yield of 38.59 t/ha in 2020. It is also one of the major cash crops grown in Niger, with a total cultivated area ranging from 33,288 ha to 37,433 ha (2016 – 2020) (Table 2)²⁸. In 2019, despite traditional production practices, Niger became the 32nd largest exporter of onions globally, with a total export amounting to USD 17.2 million and onion as the 6th most exported product. Onion produced is mostly exported to Ghana, Côte d'Ivoire, Togo and Burkina Faso²⁹. In 2012, its production significantly contributed to the country's economy and the agriculture sector as it generated almost 47 billion FCFA (USD 81,396,997)³⁰.

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Table 2.1.1: Trends in the production of onion in Niger from 2016 – 2020

Year	Total Production Area (ha)	Average Yield (t/ha)	Total Yield Produced (t)
2016	33,288	33.50	1,011,577
2017	34,642	36.88	1,159,035
2018	34,798	37.39	1,180,323
2019	37,644	38.45	1,313,179
2020	37,433	38.59	1,310,444

The main favorable regions are : Tahoua (525,515 t), Zinder (37,979.5 t), Tillabéri (37,160 t), Dosso (33,998.6 t), Maradi (26,716.4 t), Diffa (21,192 t), Niamey (17,042.7 t) and Agadez (12,359.5 t)³¹. Sowing takes place from September to October. Planting

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bulbs is possible from October. Transplanting takes place from November to December (Fig 8).

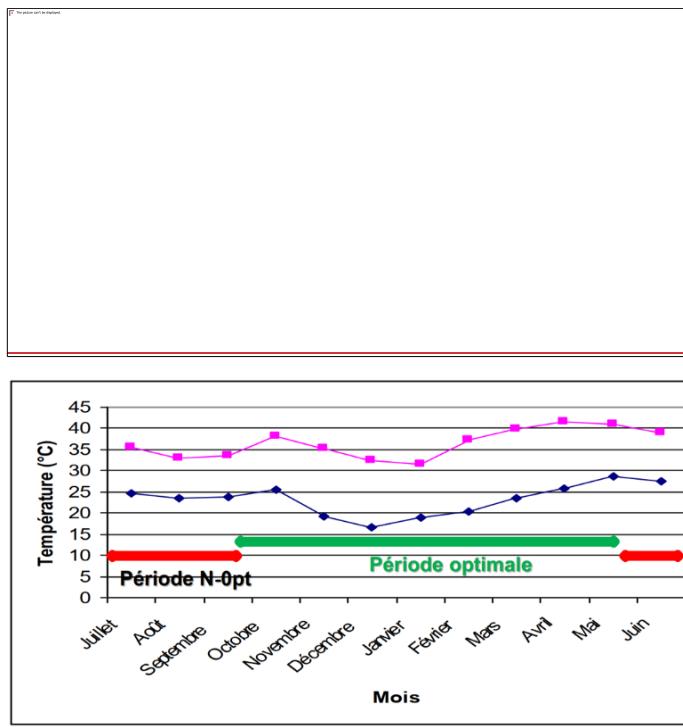


Figure 1-8: Onion Climate conditions

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Sugar cane (*Saccharum officinarum* L.), originating from Asia and possibly New Guinea, is a tropical perennial grass mainly used for sugar production and direct consumption, either as a food cane or juice. In Niger, it is usually harvested between eight to ten months after planting. In 2017, the main sugarcane producing regions were

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Dallol Maouri and Dallol Bosso, specifically in the department of Dioundiou (Dosso), with cultivated areas varying from 0.5 to 1 ha per producer. On average, for a 5,000 m² land area, approximately 23 t can be produced, amounting to a gross product of 950,000 FCFA (USD 1,079,295)³². From 2016 to 2020, the production area significantly fluctuated from 5,840 ha to 10,032 ha, with the total production quantity from 216,037 t to 440,814 t. Utilizing rain-fed and irrigation systems, sugarcane yields in the country averaged 48.44 t/ha in 2020 (Table 3)³³.

Table 3-1.2 Trends in the production of sugarcane in Niger from 2016 – 2020

Year	Total Production Area (ha)	Average Yield (t/ha)	Total Yield Produced (t)
2016	5,840	40.78	216,037
2017	6,474	43.05	252,854
2018	6,777	41.98	258,091
2019	8,099	43.64	320,661
2020	10,032	48.44	440,814

In general, food security is composed of four distinct components: availability, accessibility, utilization, and stability. All four dimensions of food security are threatened by climate change. Availability, through crop production, could decrease because of increased temperature and erratic spatial distribution of precipitation. The projected increase in dry spells could also lead to reduced water availability for irrigation during the dry seasons. Access could also be limited as smallholders could see their incomes from millet production decreasing because of the decreased millet suitability. Access can be threatened by the projected higher frequency of heavy precipitation events, thus disrupting road connections. Finally, due to changing climate patterns and more frequent extreme events, the overall stability of production, external supply, and incomes from agricultural activities could be reduced by future climate change. However, the impacts of climate change on yields depend on the crops and varieties considered and vary according to region. The most recent simulations³⁴ show that climate change will greatly affect crop productivity by 2050 (compared to the average

³²Reseau National Des Chambres D'agriculture Du Niger. (2017). Fte Canne à Sucre /Dosso. Retrieved 9 January 2022 from https://reca-niger.org/IMG/pdf/Fiche_technico-economique_canne_a_sucre_Dosso_Juin2017.pdf.

³³Food and Agriculture Organization of the United Nations. (2020). FAOSTAT statistical database. [Rome]: FAO. Retrieved 9 January 2022 from <https://www.fao.org/faostat/en/#data/QCL>.

³⁴Long, S. P., Ainsworth, E. A., Leakey, A. D., Nösberger, J., & Ort, D. R. (2006). Food for thought: lower-than-expected crop yield stimulation with rising CO₂ concentrations. *science*, 312(5782), 1918-1921.

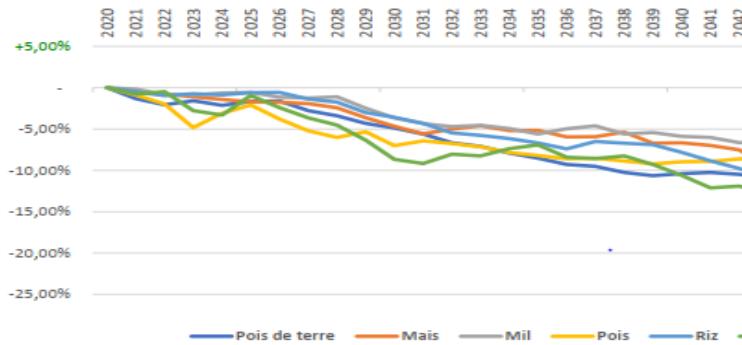
yields from 1981-2010) (Figure 9). Climate change will also modify the distribution of cropping areas³⁵. An extension to the North of the areas for high risk and marginal millet production (0.1 t/ha) is projected.

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The following are the simulated effect on crop productivity:

- a drop of 9 to 15% in grain yields for non-photosensitive millet
- an 18% to 23% drop in sorghum grain yields;
- an increase of 21% to 25% in grain yields of photosensitive millet, and;
- a 17% to 18% increase in maize grain yields



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³⁵Long, S. P., Ainsworth, E. A., Leakey, A. D., Nösberger, J., & Ort, D. R. (2006). Food for thought: lower-than-expected crop yield stimulation with rising CO₂ concentrations. *science*, 312(5782), 1918-1921.

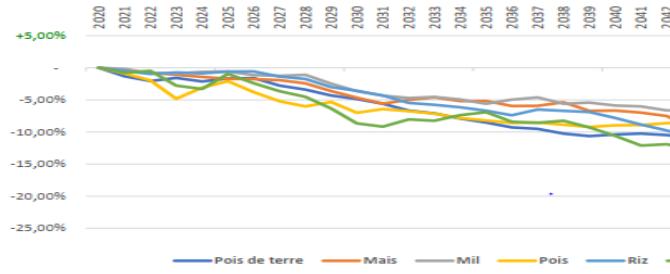


Figure 1-9: Simulated impact of climate change on rainfed crop yields in the Niger for RCP 8.5 (2020 as baseline year)

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Niger is making efforts to promote inclusive green growth. Nevertheless, the country has greater specific structural challenges resulting from a combination of factors relating to the environment, climate change, lack of infrastructure, and high poverty levels. These factors particularly increase the populations' vulnerability to food insecurity, and therefore Niger's stakeholders have defined resilience to such food insecurity as a specific objective. Despite the efforts, the recent and future context marked by larger-scale exploitation of mineral and oil resources aids the funding of economic growth; but also calls for greater focus on governance to enable the country to regulate the exploitation of underground resources and also use the ensuing national income for its priority development actions. The country has other assets and opportunities, including untapped potential for energy production, especially renewable energy. Niger's location as a landlocked nation, compounded by politically unstable neighbouring countries, including Libya, Mali, and Nigeria, is a contributing factor to food insecurity due to secondary effects of conflict and instability on labour migration, market flows, institutional stability, border closures, and staple food prices. Due to increasing insurgent group activity (Boko Haram) in Nigeria, civil insecurity is a current barrier to cross-border trade in cereals and cash crops. Trade with Nigeria is critical for Niger to stabilize prices and supplies; however, shocks in Nigeria such as political uncertainty, violent conflicts, droughts, and changes in macroeconomic policies, can destabilize Niger's agricultural sector. In addition, conflicts in Mali and Libya have resulted in the loss of critical migratory labour for Nigeriens and refugees in Tillaberi.

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5.6. Key issues identified, root causes, barriers, and preferred solutions

The project seeks to address the agricultural sector's vulnerability to climate change and climate variability to sustain continued and increased agricultural productivity and growth for poverty reduction in Niger. It also addresses the climate-resilient infrastructure capacity to adapt to climate change. Specifically, the project intends to address the following key issues:

- The decreasing climatic suitability for agricultural production could lead to reduced incomes and the reduced ability of smallholder farmers to access food on the local market.
- The decrease in the spatial distribution of rainfall and the dry spell could also reduce the production of subsistence crops, particularly millet, rice, onion and sugarcane.
- Combined, these key issues could increase poverty, particularly for transient poor and, therefore, an increased vulnerability to future climate change impacts in smallholder farmers' households.
- The buildings and infrastructures are also exposed to climate change through increased precipitation (i.e., flooding) and increased temperature.

The project intends to address the underlying constraints that further exacerbate the projected climate change impacts and represent major barriers to adaptation and resilience in the agricultural sector. Amongst the key constraints: unsustainable or inadequate agricultural practices (e.g., traditional slash and burn land preparation), inefficient use of water, erosion, diseases of crops due to increased temperatures, and

the absence of adequate infrastructures to withstand climate risks. Deforestation and land clearing in the suitable area for agriculture is also a key problem resulting from growing energy needs, with fuelwood and charcoal. The direct consequence is the desertification of hectares of land due to deforestation.

The above issues prevent the country from achieving optimal yield in the agricultural sector, generating surpluses to respond to food security and nutrition, and improving household incomes. Facing threats to national security due to terrorism (northern Tillabery and northern Tahoua), the country needs to overcome this problem to allow people to go back to their abandoned lands and upgrade infrastructures including earth dams, enhanced storages and warehouses, climate-resilient roads along the agricultural value chain, and improve modern house-building techniques that are more resilient to climate change. Niger needs to improve the capacity of smallholder farmers to access climate knowledge and technical information to shift from unsustainable cultivation methods (e.g., slash and burn) that provide short-term gains but deplete soil fertility and degrade the natural capital and environment. Low crop yields also prevent farmers from generating surplus income to acquire inputs such as drought-tolerant cultivars (i.e., millet, rice, onion, and sugarcane) and improved fertilizers. As climate risks and climate risks management are fairly new concepts, it was proven by previous projects that well-targeted support to smallholder farmers leads to increased yields in the agricultural sector by empowering them to reduce poverty, increase food security, improve nutrition, and strengthen resilience. However, more efforts need to be made to help farmers access timely and relevant agrometeorological information (e.g., the onset of the rainy season) to decide cultivation practices better and cropping calendars. Early warning systems are not well in place yet. House building resilience, especially in an urban area, is not well adapted for the actual climatic conditions (e.g., not resistant to flooding).

Project / Programme Objectives:

List the main objectives of the project/programme.

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The project aims to strengthen the smallholder farmers' resilience with climate-resilient practices suitable for millet, rice, onion, and sugarcane cropping, processing, conservation, and access to the market. Specifically, the project intends the following:

- to integrate climate-proofed agricultural production and post-harvest options to increase the adaptive capacity of the most vulnerable to the adverse effects of climate change;
- to boost the resilience of vulnerable smallholder farming communities with livelihood diversification activities (i.e. apiculture and biological fertilizer), and;
- to increase the food security of the vulnerable communities through climate-resilient infrastructures in rural areas.

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Project / Programme Components and Financing:

Fill in the table presenting the relationships Table 1.3: Relationships among project components, activities, expected concrete outputs, and the corresponding budgets. Please refer to the attached instructions for a detailed description of each term if necessary. For the case of a program, individual components are likely to refer to specific sub-sets of stakeholders, regions, and/or sectors that can be addressed through a set of well-defined interventions/projects.

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Project/Programme Components	Expected Concrete Outputs	Expected Outcomes	Amount (USD)
Component 1: Climate-proofed agricultural production and post-harvest combined with livelihood diversification	Output 1.1: Adaptation measures to foster the resilience of millet, rice, onion and sugarcane production and post-harvest	Adaptation measures to foster the resilience of millet, rice, onion and sugarcane production is implemented	1,391,000
	Output 1.2. Income-generating activities (apiculture) as livelihood diversification options	Outcome 1.2. Alternative income-generating activities (apiculture and gardening) are adopted as livelihood diversification measures of millet, rice, onion and sugarcane farmers	2,295,000 354,500
Component 2: Climate-resilient infrastructure	Output 2.1: Rehabilitation of rural transport network and storage infrastructure to withstand weather extremes	Outcome 2.1. Rural transportation and storage infrastructure to withstand weather extremes are implemented for farmers	2,9683,208,000

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	Output 2.2: Equipment provision for improving processing under current and future climate risks	Outcome 2.2. Equipment provision for improving the processing of millet, rice, onion and sugarcane by farmers under current and future climate risks	1,188,800 <ins>1372300</ins>
<u>Component 3: Coordination, M&E, Dissemination of lessons learned</u>	<u>Output 3.1: Implementation/institutional arrangements</u>	<u>Outcome 3.1: Efficient</u>	1,357,200 <ins>81000</ins>
<u>Operational mechanism for lessons learned dissemination</u>			<u>Coordination, Monitoring and Evaluation (M&E) systems are Stakeholder awareness is implemented as well as knowledge dissemination system through timely and transparent communication of results and consistent stakeholders' engagement</u>
			<u>Project/Programme Activities cost</u> 8,406,800
			<u>Project/Programme Execution cost</u> 9,200,000 <ins>797200</ins>
			<u>Total Project/Programme Cost</u> 9,200,204,000
			<u>Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)</u> 782,778,000
			<u>Amount of Financing Requested</u> 9,982,000

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Projected Calendar:

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

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Table 1.4:Proposed project milestones

Milestones	Expected Dates
Start of Project/Programme Implementation	January 2023
Mid-term Review (if planned)	June 2025
Project/Programme Closing	December 2027
Terminal Evaluation	June 2028

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PART II: PROJECT / PROGRAMME JUSTIFICATION

PART II: PROJECT / PROGRAMME JUSTIFICATION

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

As ~~demonstrated shown~~ in the background, climate change and variability ~~are expected to affect translate by changes in the~~ rainfall patterns, temperatures, ~~damage rising, fragilizing~~ infrastructure, and ~~affecting~~ agriculture. ~~Therefore, the sustainable development of Niger required the implementation of sound~~ adaptation measures ~~must capable to~~ address challenges posed by climate change ~~in Niger~~. The project ~~will is designed to~~ address ~~key~~ climate vulnerabilities in agriculture with ~~practices needed for~~ climate-proofed ~~agriculture agricultural practices~~ and improve the resilience of rural infrastructures- ~~supporting agricultural value chains~~. These actions are aligned ~~with the needs of poor and vulnerable smallholder farmers in Niger~~. This will contribute to ~~the immediate and longer-term resilience and development needs of poor and vulnerable smallholder farmers in Niger~~. ~~The~~ In addition, the resilience of the agricultural sector can only be achieved by ~~implementing needs~~ a comprehensive set of ~~agricultural practices and sound~~ diversification strategies ~~through built on~~ integrated farming systems designed to increase yields, minimize environmental degradation while maintaining ~~the ecological functions and the agricultural production value chains~~.

~~under changing climate~~. The overall objective of this project is to strengthen the smallholder farmers' resilience with climate-resilient practices suitable for millet, rice, onion, and sugarcane cropping, processing, conservation, and access to the market. This will contribute to reducing the vulnerability and increasing the adaptive capacity of the most vulnerable to respond to the impacts of climate change, including variability at local and national levels as well as on natural resources critical for sustainable

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agricultural production, increasing food security and nutrition of vulnerable poor communities and climate-resilient infrastructures in both urban and rural areas.

The project intends to provide integrated solutions to the key issues from climate change on agriculture in regions (Maradi, Tahoua, Zinder, Dosso, Tillabéry) identified by CNEDD, the country's breadbasket, by testing integrated climate-resilient agriculture with all actors sitting along the value chain. This approach will draw from Maradi, Tahoua, Dosso and Tillabéry identified by CNEDD, as part of the country's breadbasket. Indeed, sugarcane is mainly cropped in the department of Dioundiou (Dosso)³⁶. Rice is grown together with other legumes (such as onions) on major irrigated areas in Tahoua and Maradi under polyculture systems (457.25, 955 and 3494.25 ha were respectively covered by rice and other crops at Dosso, Maradi and Tahoua according to the Office National des Aménagements Hydro-Agricoles in 2015). Niger ranked as the second millet producers in west Africa and this crop is widely spread across the project area. Honey is produced in the region of Tillabéry³⁷.

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This approach will build on existing technologies (i.e., improved varieties/cultivars and cropping systems) and the integration of climate change dimensions into millet, rice, onion and sugarcane value chains. The model includes environmental suitability, integrated farming systems, livelihood diversification (apiculture), and climate-resilient infrastructures (i.e., building warehouses, feeder road infrastructures) to connect producers to markets and avoid climate-related disruptions of connections between farmers and markets. This project will deliver the stated objectives through three components elucidated below:

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Component 1: Climate-proofed agricultural production and post-harvest combined with livelihood diversification

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This component focuses on household-/village-level interventions in climate-resilient and sustainable agriculture to reduce the negative impacts from climate change and climate variability and contribute to agricultural and rural livelihood development through income diversification. Through this component, the millet, rice, onion and sugarcane farming communities' resilience are enhanced with climate-smart

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³⁶ Chambre Régionale d'Agriculture de Dosso (2017). Fiche Technico-économique pour la culture de la canne à sucre- Région de Dosso. https://reca-niger.org/IMG/pdf/Fiche_technico-economique_canne_a_sucre_Dosso_Juin2017.pdf

³⁷ <https://duddal.org/s/bibnum-promap/item/9515>

agricultural practices and sustainable alternative livelihood diversification options (outcome 1). Along the agricultural value chain, key vulnerability issues which call for adaptation practices are the low productivity and high vulnerability of the agricultural sector, mainly millet, rice, onion, and sugarcane highly dependent on rainwater, which is the sole water source for a large majority of small farms; the increased recurrence of extreme weather events such as floods, droughts, and climate-induced vegetable diseases, which reduce productivity levels; and changes and variations in climate conditions from one year to another. Post-harvesting in the millet, rice, onion, and sugarcane value chains, the lack of adequate equipment for drying and processing to maintain a high-quality product of outputs is still a challenge to stabilize and increase farmers' income in the face of climate change. The project will focus on the following outputs and activities to support the shift towards climate-resilient production and post-harvest systems combined with livelihood diversification in apiculture.

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Output 1.1: Adaptation measures to foster the resilience of improved resilient practices for millet, rice, onion and sugarcane production and post-harvest

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Activities supporting the rice value chain under this component will be the following:

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- Under this output, the project will engage with the National Institute on Agronomical Research (INRAN), Direction National de la Meteorologie (DNM), and Western African expertise on millet production (the International Crops Research Institute for the Semi-Arid Tropics, ICRISAT) for tailored-cropping advice provision and climate information used in millet, rice, onion and sugarcane production, considering local climate conditions (Activity 1.1.1). They will implement 50 demonstration fields for technology transfer;
- Dissemination of climate weather information: Climate weather information will be disseminated by DNM to local millet, rice, onion and sugarcane producers (Activity 1.1.2);
- Modernization of agriculture practice and technology (use modern technologies with a particular focus on solar-based pumping systems, solar-based post-harvest and processing and equipment to attract more youth in agriculture) (Activity 1.1.3), and;

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- Adaptation and improvement of millet, rice, onion and sugarcane varieties will be provided to smallholder farmers in consultation with INRAN and RECA (Activity 1.1.4)
- Soil conservation and drainage techniques to cope with the consequences of drought and heat extreme events deployed in smallholder farmers (Activity 1.1.5).

Output 1.2. ~~Income~~Alternative income-generating activities (apiculture) as livelihood diversification options

In Niger, women traditionally practiced apiculture in all Sahelian and Sahelo-Sudanese zones. The production is oriented towards honey, which does not cover domestic demand, while the wax is not properly exploited. Hence, apiculture is a profitable activity and constitutes a good opportunity for income diversification in rural areas with growth potential. Aside from honey and beeswax, other bee by-products can be produced and sold, such as candles, creams, ointments and propolis.

In Niger, beekeeping is usually practiced with traditional methods. The quantity of honey produced does not cover the domestic demand; while beeswax is not adequately exploited. The profitability of the bee production is high, and it may create good income opportunities in rural areas, with interesting possibilities to increase this production. The local communities will gain economic benefits, but they can also contribute environmentally and ecologically. However, #honey production is limited by the techniques used, insufficient professional training for beekeepers and the presence of parasites of bees (*Apis mellifera* L.), including the small beehive beetle, *Aethina tumida* Murray. Nevertheless, business development and entrepreneurship opportunities are possible with the wide dissemination of modern beekeeping techniques³⁸. The following activities below will be undertaken to ensure the success of this project output:

Beekeeping can be a profitable and viable in value chain in Niger, because: (i) the current price of 1 kg of honey is roughly equivalent to one-fifteenth of the basic monthly salary of civil servant, (ii) the domestic production is far to cover the needs, (iii) filtered and presented in labeled bottle, honey value increases five times and

³⁸ Porporato M and Dosio E. (2021). Analyse de l'apiculture au Niger. Retrieved 27 December from <https://duddal.org/s/bibnum-promap/item/9515>.

more than 50 % of the stock can be sell in short time³⁹. The following activities below will be undertaken to ensure the success of this project output:

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- Construction of bee houses for apicultural activities in suitable areas (i.e., Dosso, Maradi, Zinder) and identification of beneficiaries (vulnerable families Tillaberi) (Activity 1.2.1). The hive will depend fully on the local materials available such as wood, iron bars, etc. Hence, training on designing apiculture projects and hive construction management and maintenance will be organized; The young carpenters living in the project area will be trained by hand -on training sessions on (i) the limits of traditional bee hives, (ii) the step-by-step construction of improved hives (the design of hives, materiel choice and preparation, the construction including the fitting of queen excluder, the hive sealing and roof construction), (iii) implementation of beehives in the field and step for beehive fence construction and (iv) common issues and tips for beehives maintenance.
- Establishment of honey farms, including creating value-chain services (Activity 1.2.2). The target will be the people Youth or women associations already involved in apiculture and in rural women's association, area, or individual (i) with at least 30 years old and at least three years' experience in beekeeping, (ii) whose farms are equipped with at least 5 hives will be selected as beneficiaries of this activity. The improved hives (kenyan beehives), equipment to filter, treat and conserve the honey will be provided to them. One forum per year will be organized to showcase honey and derives and priming the best honey farmers. It will also serve to connect bee-keepers to the customers, banks and other financial partners.
- Establishment of 100 community models of integrated vegetable gardens of at least 4-5 ha with solar pumps, compost systems, a daycare facility for women, agroforestry and crop rotation, transport systems powered by solar applications (Activity 1.2.3), and;
- Conduct 50 training sessions in apiculture (Activity 1.2.4). As a new activity still under development in the country, capacity building services for the construction and management of the apiculture and beekeeping activities will be provided throughout the project. Youth or women associations not yet involved in apiculture in project area, or individual aged 35 or less, with business plan related to the apiculture

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³⁹ Porporato M and Dosio E. (2021). Analyse de l'apiculture au Niger. Retrieved 27 December from <https://uddal.org/s/bibnum-promap/item/9515>.

will be selected as beneficiaries of these training sessions throughout the project.
Advices and tricks needed for encouraging the colonization of hives, for
maintaining and managing occupied hives, for honey harvesting and processing,
for pests and parasites management and for monitoring the productivity of hives
will be shared with the beneficiaries.

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Component 2: Climate-resilient rural infrastructure

The component 2 wants to achieve the following outcomes: the storage, processing and transport infrastructures are enhanced for the resilience of agricultural value chains under climate extremes (outcome 2).

Output 2.1: Rehabilitation of rural
Rural transport network and storage infrastructure
rehabilitated to withstand weather extremes

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Fostering productivity and production is insufficient to ensure that smallholder farmers sustain and increase their revenuesincomes. Furthermore, poor road networks and transportation infrastructures lead to a depreciation of product quality and its value on the market, therefore smallholders' revenues. The already observed and projected intensification of extreme weather events could lead to more value chain disruptions, affecting the capacity of smallholders to gain sufficient incomes from agricultural production. Consequently, two key actions will be undertaken to support the development of the millet, rice, onion and sugarcane value chains: (1) improving the usability of road infrastructure all-year-round and for all weather conditions, and; (2) rehabilitating existing warehouses to withstand wetter climatic conditions. The activities included in this output are:

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- Warehouse rehabilitation to withstand extreme climatic conditions (Activity 2.1.1). With an increasing recurrence of extreme rainfall events, it is essential to ensure that existing warehouses are kept at low humidity levels to preserve the produce, rehabilitated outside flooded areas and not exposed to extreme flood events which can adversely affect the stored produce;

- Climate-proofing 120 km feeder roads and farm tracks to ensure year-round and all-weather usability (Activity 2.1.2). This includes conducting studies and surveys, construction of bridges and culverts, and routine and periodic maintenance, and;

The implementation of these activities will include local public authorities and farmer-based organizations (FBOs) to sustain the climate-proofed infrastructures over a longer period. They will provide support to districts for the development of Feeder Roads Maintenance Plans (Activity 2.1.3) and Support to Farmer-based Organizations (prevent road gangs formation, distribution of maintenance tools, and development of Farm ~~Tracks~~Roads Maintenance Plans) (Activity 2.1.3).

Output 2.2: Equipment provision for improving/improved processing under current facilities to sustain value chains of millet, rice, onion and future climate riskssugarcane.

Activities Two activities 2.2.1 and 2.2.2 are under this output are:

- **Solar-Provision of solar-powered equipment provision to farmer organizations, including women or youth organizations for irrigation, post-harvest cleaning, milling, flour packing and stacking (Activity 2.2.1), and; Youth or women associations already involved in the transformation of post-harvest agricultural products in a rural area, with at least three years' experience, (ii) with robust business plans for expanding their processing' activities will benefit from this activity.**
- Training sessions for solar-equipment management and maintenance (Activity 2.2.2). **Young electricians and representatives of youth and women associations with a background in electricity will be trained on PV system fundamentals, solar electric design and installation, and tools and techniques for operating, optimizing, and maintaining the solar-powered facilities.**

Component 3: Coordination, M&E, Dissemination of lessons learned

~~Project Management Unit will be established within Department of credit studies and partnership of the agricultural sector of BAGRI. The PMU will ensure (i) efficient coordination, monitoring, and evaluation of project activities; and (ii) Under component 3, the stakeholder awareness and participation is implemented through timely and transparent communication of results and consistent stakeholders' engagement.~~

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~~Output 3.1: Implementation/institutional arrangements Operational mechanism for lessons learned dissemination.~~

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~~BAGRI will host the Project Management Unit (PMU). The PMU will be in charge of the (i) efficient coordination, procurement, and M&E of project activities (Activity 3.1.1) and (ii) stakeholder~~Stakeholders~~ awareness and participation through timely and transparent communication of results and consistent stakeholders' engagement (Activity 3.1.2). The PMU1). National institutions from private and public sectors, Donors, Financial institutions (Banks, microfinance institutions) will be invited to attend regular working sessions (one session per year for the presentation of actions or result from the project's implementation in targeted value chains). These working sessions will also help to improve the synergy with similar projects or initiatives and to feed the project with lessons learned from other initiatives undertaken by partners during its implementation. Three policy briefs related to each value chains (Honey, sugarcane and cereals), short video documentary, will be headed by a Project Manager who demonstrated capabilities as a Climate Adaptation Specialist and knows how to implement low emission and climate resilient agriculture, ecosystem-based adaptation (EbA) approach and energy for agriculture. The following staff members will support the Project Manager: a Finance Manager, an Environmental Specialist, a Gender and Youth Specialist, and; an M&E Specialist published to increase the public awareness and capitalize the knowledge generated by the project.~~

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To summarize, below is the Theory of change summarizes the description of the project approach.

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Goal	Strengthen the smallholder farmers' resilience with climate-resilient practices suitable for millet and rice cropping, processing, conservation, and access to the market					
Outcome	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people targeted	Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets	Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses			
AF Outputs	Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability [Output 6]	Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability [Output 4]	Strengthened capacity of national and regional centres and networks to respond rapidly to extreme weather events [Output 2.1]			
Intermediate results	Adaptation measures to foster the resilience of millet, rice, onion and sugarcane production is implemented	Output 1.2: Alternative income-generating activities (apiculture) are adopted as livelihood diversification options	Output 2.1: Rehabilitation of rural transport network and storage infrastructure to withstand weather extremes	Output 2.2: Equipment provision for improving the processing of millet, rice, onion and sugarcane farmers under current and future climate risks	Output 2.3: Local equipment for bee house construction	Output 3.1: Implementation/institutional arrangements
	Activity 1.1.1: Demonstration fields for tailored cropping advice and climate information provided to farmers	Activity 1.2.1: Construction of bee houses for apiculture activities in the suitable areas (Ossio, Maradi/Zinder) and identification of beekeepers and markets	Activity 2.1.1: Warehouse rehabilitation to withstand weather climatic conditions	Activity 2.2.1: Solar-powered equipment provision to farmer associations	Activity 2.3.1: Training on how to design apiculture project	Activity 3.1.1: Efficient coordination, procurement and M&E of project activities between 3.1.2 stakeholders

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Goal	Strengthen the smallholder farmers' resilience with climate-resilient practices suitable for millet and rice cropping, processing, conservation, and access to the market				
Outcome	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets	Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses		
AF Outputs	Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability [Output 6]	Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability [Output 4]	Strengthened capacity of national and regional centres and networks to respond rapidly to extreme weather events [Output 2]		
Intermediate results	Output 1.1: Improved resilient practices for millet, rice, onion and sugarcane production and post-harvest	Output 1.2: Alternative income-generating activities as livelihood diversification options	Output 2.1: Rural transport network and storage infrastructure rehabilitated to withstand weather extremes	Output 2.2: Improved processing facilities to sustain value chains of millet, rice, onion and sugarcane	Output 3.1: Operational mechanism for lessons learned dissemination
Activities	Activity 1.1: Demonstration fields for tailored-cropping advice and climate information are established Activity 1.2: Dissemination of climate weather information for millet and rice farmers Activity 1.3: Adapted and diversified millet and rice varieties are provided to smallholder's farmers Activity 1.4: Development of soil conservation and drainage techniques in farmers' fields	Activity 1.2.1: Construction of bee houses for apiculture activities in the suitable areas (Dossa, Maradi, Zinder) and identification of beneficiaries (vulnerable families) Activity 1.2.2: Establishment of honey farms, including the creation of value-chain services Activity 1.2.3: Establishment of 100 Community models of integrated agriculture/gardening, about 4-5 ha (solar pumps, compost systems, a daycare facility for women, agroforestry and rotation of crops; transport systems powered by solar applications Activity 1.2.4: 50 Training sessions in apiculture	Activity 2.1.1: Warehouse rehabilitation to withstand weather climatic conditions Activity 2.1.2: Climate-proofing 120 km feeder roads and farm tracks to ensure year-round and all-weather usability Activity 2.1.3: Support to districts for the development of Feeder Roads Maintenance Plans Activity 2.2.1: Solar-powered equipment provision to farmer organisations including women or youth organisations for post-harvest cleaning, milling, flour packing and stacking Activity 2.2.2: Training sessions for solar-equipment management and maintenance	Activity 2.2.3: Stakeholders' engagement and participation through timely and transparent communication of results and consistent stakeholders' engagement	
Assumptions	Smallholder farmers are willing to learn and adopt CSA practices to enhance crop productivity and utilise climate risk information to plan cropping calendar	Increase the demand and extend the market for apiculture products and gardening produce. Engage and involve target communities, especially women, youth and elderly, in other income-generating activities (apiculture and gardening) to improve their livelihood. Identify activities that are appropriate for women, youth, and elderly. Conduct specific activities to facilitate market access.	- Reliable and efficient access to locations are a critical factor to a basic social and economic activities - Reduce post harvest losses	Local communities are willing to utilize solar-based processing equipment and learn how to maintain them	Efficient M&E system Develop an efficient stakeholder engagement strategy
Constraints and risks	Risks	Extreme climate conditions which can severely affect crops and vulnerable communities.	Resistance to change of targeted communities to undertake other income-generating activities	Extreme climate conditions which can disrupt rehabilitation works.	Delays in procurement activities and implementation Delays in implementation
KEY CONSTRAINTS		<ul style="list-style-type: none"> - Unsustainable or inadequate agricultural practices - Inefficient use of water - Weak yield caused by diseases of crops due to increased temperatures - weak land use planning causing erosion 			

Figure Error! No text of specified style in document.-1. Theory of change of the proposed project

5.B. Describe how the project/program provides economic, social, and environmental benefits, particularly the most vulnerable communities and groups within communities, including gender considerations. Describe how the project/program will avoid or mitigate negative impacts in compliance with the Adaptation Fund's Environmental and Social Policy and Gender Policy.

Impact potential: The project will target This project aims to support the country's breadbasket regions through a process by testing integrated climate-resilient agriculture with all the actors in the value chain. This approach draws from existing technologies (e.g., improved varieties and cropping systems) and the integration of new dimensions of climate change resilience on millet, rice, onion, and sugarcane value chains, including environmental management, integrated farming systems, and diversification, integrated pest management, and climate-resilient infrastructures. For this purpose, it targets 28,765 direct beneficiaries from smallholder farmers, FBOs including cooperatives, partnering financial institutions, small-scale rural entrepreneurs, women, and rural youth (18 to 35 years old). It is expected to reduce unemployment, especially among youth, reduce poverty, create wealth and income, improve food security, improve access to social (e.g. health and education) and financial services, and reduce travel time, especially among the teeming rural population. Rehabilitation of rural feeder roads and farm tracks will improve the lives and livelihoods of more indirect beneficiaries through savings in transport costs and post-harvest losses resulting from easing in the market. Hundreds more will directly benefit by employing short term labour, contractors, and construction supervisors. Additionally, female headed households with recognized land access entitlement will comprise 40% of the targeted beneficiaries and youth (40%) with granted inheritance rights. The marginalized and vulnerable groups in the targeted areas will be appropriately defined, categorized, and prioritized at the Inception Phase. The process will also include identifying and describing the impacts that marginalized and vulnerable groups may experience from implementing the project and mitigating potential adverse impacts. The project will contribute to achieve the Sustainable Development Goals (SDG), 1 (no poverty) and 2 (zero hunger).

As adopted in the project conception, based on vulnerability criteria and African Development Bank Gender-Equality Index, the most vulnerable populations (youth, women, and poor smallholders) have been targeted to receive significant economic and social benefits from this project. Through the outputs 1.2 and 2.2.).

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the project is designed to build the capacity of the targeted populations to sustain their investments, particularly in the management of their productive assets and capital, by implementing the best climate resilience actions and building capacity from business models in (specify the crops) value chains and climatic goods and services. One of the specific objective is to improve beneficiaries' knowledge with awareness: the project beneficiaries will gradually become aware of their economic and social conditions, the causes of the problems they face (which in the case of the project is the adverse consequences of climate change), and their capacities to adapt or reverse the situation through joint efforts and the adoption of smart farming tools.

Improving beneficiaries' knowledge attempts to develop the capacities of beneficiaries to strive for full participation and self-realization, especially when the project is over. The project promotes decent work principles in that the civil, agricultural, environmental, and hydraulic works planned in the project result in the rehabilitation of degraded lands, small-scale irrigation infrastructure, and rural storage and access to market infrastructure (warehouse, feeder roads) in highly vulnerable areas. Increased honey production and productivity increase employment opportunities, especially for youth and women. These have several positive redistributive effects such as improved living conditions (including food and nutrition security), services in rural areas, reduction of migration phenomena, etc. Increased employment opportunities for youth from sustainable IGAs have an emulation effect among other youth in the community. The project promotes the organization of women into groups or unions to give them a voice and representation and to have access to the projects supports.

[1] Goods and services include climate-resilient infrastructures described above (technologies, equipment, climate information networks, fish value chains infrastructures, storage, and warehouse)

Gender equity

The program systematically addresses gender equity. All components are designed to integrate the gender dimension:

- where relevant, monitoring and evaluation indicators are broken down by gender:

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- female-headed households with recognized land access entitlement comprise 40% of the targeted beneficiaries and youth (40%) with granted inheritance rights;
- the analysis of vulnerability to agro-climatic risks and social conflicts has included a gender perspective;
- particular emphasis is placed on the participation in all activities of women with technical skills. The indicators of participants by gender will be disaggregated;
- it is planned an equitable distribution of agricultural inputs, taking into account the proportion of women farmers in the region and prioritizing households' priority to female-headed households, and beneficiary lists will be disaggregated by gender;
- productive initiatives aimed at improving the benefits of small-scale farmers benefits through value-added processes analyze the specific roles of women and men in the production process, promoting process, promoting equity.

vulnerable communities

In order to ensure the benefits of vulnerable communities, BAGRI will deploy a set of mechanisms that ensure rigorous, open and transparent consultations and continuous monitoring for detecting potential social risks. Community feedback mechanisms will also be set-up.

Sustainable development and Socio-economic co-benefits: The project ~~proposes suggest~~ measures for adapting to climate change through climate-proofing the production, intensification, and sustainable expansion of millet, rice, onion, and sugarcane. It aims to build climate resilience and address the vulnerability of the pearl millet, rice, onion, and sugarcane sector to climate change and climate variability to sustain continued and increased agricultural productivity and growth for poverty reduction in Niger. Aside from sustainably managing millet, rice, onion, and sugarcane production, the project intends to propose actions to reduce climate risks through introducing livelihood diversification interventions (i.e., apiculture and community gardening) as an adaptation strategy, especially during the dry season. This project is expected to be sustainable and generate a sustainable impact. It will further address the multiple and combined impacts of climate change, specifically the anticipated modification of rainfall patterns, decreased water availability and increases in temperatures. The project will also contribute to Niger's Nationally Determined Contributions (NDCs) and help fulfil its

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international commitment with the Paris Climate Agreement and the Sustainable Development Goals (SDGs), mainly SDG1 (end poverty); SDG 2 (zero hunger); SDG 13 (climate action). Vulnerable people will receive capacity building from implementing the best climate resilience business models in millet, rice, onion, sugarcane value chains and climatic goods and services. Goods and services will include climate-resilient infrastructures (e.g., technologies, equipment, climate-proofed roads, storage, and warehouse). Other socio-economic benefits will come from all activities related to resilient post-harvest, with a potential side benefit of increasing crop yields. Likewise, it is expected to positively impact local food security and nutrition, including producing reserves in extreme climate events. Sustainable management of other income-generating resources, such as bee farming and gardening, will benefit overall nutrition and improve incomes. Beyond the increase of yields and income, the project will help increase knowledge on millet, rice, onion and sugarcane resilience and best practices by defining an integrated climate-resilient millet, rice, onion and sugarcane business model. This project is expected to increase data on crop vulnerability and water-related future stresses, water and sanitation infrastructures, improved roads to access markets, post-harvest and processing facilities to add value on raw materials. It can also improve the health and well-being of local populations through enhanced nutrition, reduced erosion, and pollution. Finally, the participatory and collaborative processes of the project will promote awareness and understanding of climate risks and potential policy gaps.

Environmental co-benefits: Potential environmental benefits will include improving technical data on climate and water projections, maintaining The project contributes to the Nationally Determined Contributions (NDCs) of Niger and for the country to fulfill its international commitment with the Paris Climate Agreement and the Sustainable Development Goals (SDGs), mainly SDG 13 (climate action). This project also contributes to maintain ecosystem services (e.g., soil fertility, nutrient cycling, carbon sinks, biodiversity, and water), and enhancing water use efficiency (WUE) through adaptive and resilient millet, rice, onion and sugarcane varieties. Using crop residues (i.e., millet glume, rice straw, husk or hull, and bran) can enhance soil organic matter (SOM), improving soil fertility and crop yield⁴⁰. Climate-smart agriculture (CSA) techniques such as mulching, terracing, tiered

⁴⁰ Ibrahim Bio Yerima, A. R., & Achigan-Dako, E. G. (2021). A review of the orphan small grain cereals improvement with a comprehensive plan for genomics-assisted breeding of fonio millet in West Africa. *Plant Breeding*, 140(4), 561-574.

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ridges, moon ridges, and organic composting will also improve soil fertility by reducing leaching and retaining moisture and nutrients. Other environmental benefits are nationwide climate risk mapping to help identify better climate suitable areas for millet production. The Ministry of Agriculture staff will receive training in best practices for climate change adaptation, climate vulnerability and slash-and-burn mapping exercises. This analysis will inform project site locations for millet, rice, onion and sugarcane cultivation, climate-smart agriculture, and earth dam locations. Farmers will also receive appropriate organic fertilizer usage training to reduce unnecessary waste and indirect GHG emissions.

Additionally, the project intends to build the capacity of lowland and upland communities involved in millet, rice, onion and sugarcane production. Technical support delivered to participating farmers is expected to percolate to other producers in the region. Evidence of increased yields will help convince other farmers to adopt better practices and technologies for the selected value chains.

~~Gender sensitive development impact: The dialogues, stakeholder consultations, and mobilization will focus on FBOs, including women groups and implementing partners, to identify challenges, their needs, and the type of technical support to be provided by the project partners to support their capacity in adapting to climate change. A strong focus on building local knowledge, capacities, and incentives and a strong project focus on ensuring gender equity in all operational matters is expected to lead to social sustainability. Thus, it will be very important to identify community based champions in climate resilient millet, rice, onion and sugarcane value chains, and women led community organizations during these activities.~~

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Paradigm shift potential: To achieve the project goals, BAGRI needs to build the capacity of all actors in the agricultural sector to be able to understand climate change and the best way to address it (e.g., climate field schools) and improve the capacity of smallholders with low emission and climate-resilient equipment and infrastructures. Additionally, to address adaptation and mitigation gaps in agriculture, it is important to mobilize domestic and international funds from private investors and banks to support mitigation and adaptation through highly concessional terms. Support for smallholder farmers and all actors affected by climate change along the entire value chains favor developing national markets and consolidating international markets for millet, rice, onion and sugarcane

through a strategy of quality improvements with equipment. The project will take action to ensure the pre-eminent role of smallholder farmers. Moreover, the project will promote a paradigm shift towards sustainable climate-resilient rice and millet value chains with low carbon emissions by working with other national and private institutions to strengthen national capacities on climate-resilient value chains.

6.

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

The activities proposed in this project form a collection of low-regret or no-regret strategies and activities that can easily manage and induce measurable benefits for local communities. Such an approach will boost the interventions' cost-effectiveness, particularly as there will be a common management structure and a linked M&E framework. Other benefits expected are improved coordination and communication, the application of common procurement and supervision procedures (reducing costs); also, the implementation of complementary project interventions in the project districts. The project will use proven mechanisms for community participation, community food systems (CFS) and other capacity-building exercises (for farmers), public staff (Direction Nationale de la Météorologie), ~~staff, Ministry in charge of agriculture and rural development~~, also skilled youth, government involvement, and technology transfer. Adaptation Fund funding for Niger is also designed to be catalytic for scaling-up adaptation to climate change using sustainable land and natural resources management, including reducing the use of bush fallow systems and improving access to weather and climate information through targeted targeting technical and institutional capacity development and field demonstration activities. The project will work with existing community structures such as the Plateforme Paysanne du Niger (PFPN), Reseau National des Chambres d'Agriculture du Niger (RECA or the National Network of Chambers of Agriculture of Niger), Office National des Amenagements Hydro-Agricoles (ONAHA), Chambre Regional d'Agriculture (CRA), and Practical Institute for Rural Development (IPDR).

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The project design is cost-effective as it is based on income-generating activities and benefits from the Nigerien Government's special attention to the agricultural sector. The project activities are designed to obtain optimum results that will benefit direct and indirect beneficiaries in tangible ways. These activities are based on the experience of past interventions in similar contexts and adapted so that they can be easily managed and achieve the expected benefits for the local communities. Since difficulties in accessing food mark the country's context, smallholders' resilience through a combination of food crops (such as millet, rice, onion and sugarcane) and other income-generating activities (apiculture) is more profitable than other livelihood options in the agricultural sector. The proposed project's total investment of USD 9,924,061 will benefit 28,765 direct beneficiaries. ~~Compared to the adaptation project funded by the Adaptation Fund (Enhancing Resilience of Agriculture to Climate Change to Support Food Security in Niger, through Modern Irrigation Techniques) costs This represents USD 354 345 per beneficiary, which is lower than recent adaptation projects such as:~~

- Adaptation Fund project titled "Enhancing Resilience of Agriculture to Climate Change to Support Food Security in Niger, through Modern Irrigation Techniques⁴¹" which costed USD 354 per beneficiary;
- Inclusive Green Financing for Climate Resilient and Low Emission Smallholder Agriculture funded by Green Climate Fund at the rate of 459 Euro per beneficiary⁴².

Approaches to making the millet, rice, onion and sugarcane sector more productive will focus on the production chain, processing segments including technical production standards (i.e., inputs) and management cycle, and the marketing issues that regulate prices (i.e., outputs). To date, few efforts have tackled all millet, rice, onion and sugarcane production issues in an integrated manner, which could have led to sustainable incentives in these sub-sectors. However, it is increasingly recognized that a single adaptive action on a select element of the rice or millet cultivation cycle (e.g., seed enhancement) will be less effective if not accompanied by adaptive actions in all other elements of their value chains. Therefore, maximum

⁴¹ <https://www.adaptation-fund.org/project/enhancing-resilience-of-agriculture-to-climate-change-to-support-food-security-in-niger-through-modern-irrigation-techniques-2/>

⁴² <https://www.greenclimate.fund/sites/default/files/document/funding-sap012-ifad-niger.pdf>

resilience impact can only be achieved by implementing adaptations in each aspect of the rice and millet value chains.

7.D. Describe how the project/program 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.

The project is designed within the overall framework of the National Programme of Adaptation (NAPA) and the recently developed Intended Nationally Determined Contribution (INDC), National Climate Change Policy (NCCP), and National Climate Change Strategy and Action Plan (NCCS and AP). Efforts are currently underway in Niger to convert the NCCP into a climate change act, to establish and strengthen the high-level National Climate Change Council (NCCC) in the office of the Premier Minister and to support the National Climate Change Secretariat (NCCS) as the primary national government agency for climate change response. The longer-term aim is for Niger to further develop adaptation and mitigation measures through developing the NAP and Nationally Appropriate Mitigation Actions (NAMAs). The proposed strategy is consistent with government priorities in the 20121-2026 Economic and Social Development Plan (PDES) and, in addition, the SDDCI (strategy for sustainable development and inclusive growth) strength the PDES strategy. This contributes to the implementation of the Bank Group's 2013-2022 ten-year Strategy, particularly the broad aspects relating to infrastructure development, regional economic integration, private sector development and promotion of good governance. The proposed Bank strategy will further contribute to implementing the West Africa Regional Integration Strategy and the Bank's Sahel Initiative under preparation.

Regarding the country priority needs to address adverse effects of climate change, the technology transfer process for mitigation and adaptation to climate change must take into account economic and social development priorities, as defined by

strategic frameworks, i.e. the Fast Track Development and Poverty Reduction Strategy (SDRP), the Rural Development Strategy (SDR), the NAPA, the Declaration on Energy Policy (DPE), the National Strategy for Access to Modern Energy Services (SNASEM) and other strategic documents on sub-regional integration. Strategic development options in these program documents set quantitative goals that are quite ambitious and achievable. It should be noted that the issue of technology transfer is particularly important in the energy sector, given the country's resource potential. Finally, the project is relevant with the following policies:

3N (Nigeriens Nourish Nigeriens) Initiative

The 3N Initiative (I3N) is a major focus of the President of the Republic Programme for the rebirth of Niger. It is built on the achievements of the SDR. It is part of the implementation process of the Comprehensive Development Plan for Agriculture in Africa (CAADP), the Common Agricultural Policy of ECOWAS (ECOWAP), and the WAEMU Agricultural Policy (PAU). The I3N enables Niger to accelerate the achievement of the Millennium Development Goals (MDGs), particularly MDG 1 (eradicate extreme poverty and hunger) and MDG 7 (environmental sustainability). The desired overall goal is to "help put Niger people free from hunger and guarantee the conditions for full participation in domestic production and the improvement of their income." The specific objectives are "building national capacity for food production, supply, and resilience to food crises and disasters." The implementation of the I3N is based on five strategic areas:

Axis 1: Increase and diversification of agro-forestry-pastoral production. The I3N comes, therefore, as a catalyst for technology transition by creating the appropriate conditions for a significant and sustainably increase of the productivity of integrated agriculture-forest-livestock production systems. For that reason, it will be necessary to invest significant resources to (i) improve the productive capacity of land and water; (ii) extend the use of techniques and technologies, innovative and adapted to the ecological and socio-economic realities of Niger; (iii) create the legal, institutional and fiscal conditions of promotion of agricultural development, transformation, and modernization of production systems.

Axis 2: Regular supply of rural and urban markets in agricultural and food products. The I3N's investments will be focused on the: (i) the promotion of agro-processing and agro-industrial production to meet urban demand increasingly turned to finished products; (ii) the improvement of infrastructure and marketing channels including export by helping to facilitate the transport of basic food products, cereals, horticultural crops, livestock, and certain forest products market infrastructures.

Axis 3: The improvement of the resilience of populations faced with climate change, crises, and disasters. The I3N proposes to overcome the deficiencies in crisis management while improving the response capacity of households and grassroots communities to cope with the deficit situations of agricultural production and natural disasters. The measures to be promoted will allow to: I) improve the efficiency of anticipation and coordination of interventions in emergencies mechanisms; (ii) contribute to providing appropriate and adequate responses in emergencies, especially by increasing national reserves of stocks of agricultural and food products and the creation of conditions to ensure an emergency rehabilitation-development continuum for the most vulnerable socio-economic groups, and; (iii) contribute to the development of a risk management plan that integrates various types of risks faced by farmers, households and communities.

Axis 4. Improving the nutritional status of Nigeriens, the I3N provides measures and investments aiming to contribute to (i) the promotion of balanced food consumption patterns, good lifestyle in rural and urban areas; (ii) the reduction of the prevalence of various forms of malnutrition through the transition to a larger-scale application of good essential family practices (iii) the effective management of acute malnutrition in situations of crises through the improvement of curative care capacities (including screening) of cases of acute malnutrition (moderate and severe); (iv) the strengthening of the institutional framework for the management of malnutrition; (v) the strengthening of the health monitoring system of foodstuffs (cold chain, hygiene, etc.), and; (vi) the strengthening of the National Nutrition Surveillance System and evaluation of Nutrition Interventions (SNIS, Sentinel Sites, SAP, Nutrition Surveys).

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Axis 5. Axis Animation and Coordination of the I3N. The I3N is intended to be a mobilizing and unifying framework. So, it will involve: (i) maintaining a continuing and growing effort in financing investments for food and nutrition security and agricultural development through greater mobilization of public and private resources and; (ii) ensuring effective coordination and governance of the I3N through the establishment of transparent governance arrangements, participatory and inclusive, mobilization of rural and urban communities and stakeholders on the objectives of the I3N and institutional strengthening of the High Commission in the I3N. The I3N intervention guiding principles are (i) concentration of actions and support at the municipalities, agricultural villages, and family farms levels; (ii) inclusion of gender and specific groups in all actions; (iii) targeting to optimize investments; (iv) sustainability of the productive base through the promotion of sustainable practices of natural resource use and adaptation to climate change, and; (v) mobilization and empowerment of all groups of stakeholders at all stages of the design and implementation process, paying attention to farmers' organizations, women and youth.

The implementation of the I3N will be based on the five strategic areas that are translated into five strategic programs (SPs), 12 operational programs, and on an institutional mechanism whose main characteristics are inclusiveness, co-responsibility, consultation, and permanent dialogue. PS1: Increase and diversification of agroforestry-pastoral production PS2: Regular supply of rural and urban markets in agricultural and food products PS 3: Improvement of the resilience of vulnerable groups to climate change, crises, and disasters PS4: Improvement of nutritional status of Nigeriens PS5: Animation, coordination of the I3N and impulse of reforms. [The proposed project is aligned with the axe 2, 3 and 4 of this policy.](#)

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Niger's Intended Nationally Determined Contribution (INDC)

It should be recalled that in June 1992, Niger signed the United Nations Framework Convention on Climate Change (UNFCCC) and ratified it on 25 July 1995. It also signed the Kyoto Protocol in December 1996 and ratified it on 17 March 2004. In implementing this agreement, Niger prepared and presented to various Conferences of the Parties (COP) the Initial National Communication and the Second National Communication on climate change. The Third National

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Communication highlighted that the GHG inventories were performed in five sectors: land use and land-use change and forestry (LULUCF); agriculture/animal husbandry; energy; industrial process and use of solvents; and waste management. For more than three decades, Niger has made important investments in reducing vulnerability to climate change, particularly with projects implementing the Maradi commitment (1984) to combat desertification. In line with this, Niger participates in the global effort to stabilize GHG emissions by presenting its ambitions and capacity to mitigate emissions. This capacity depends largely on applying sectoral priorities and the national strategic frameworks for sustainable development. Thus, Niger's priority is to focus on adaptation and resilience to climate change strategies. The proposed project wants to increase the resilience of communities and is promoting renewable energy, as source of energy for post-harvest processing.

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National Sustainable Agriculture Development Plan (2015-2035)

The analysis was carried out within the framework of the I3N. The Programme National d'Investissement Agricole (PNIA) preparation indicates that an average annual agricultural growth equal to or greater than 6% over 2015-2035 will achieve development goals in terms of growing economic, structural transformation well as reduction of decent underemployment and poverty. Rural poverty could then decline from 62% in 2015 to around 35% in 2035. The rural poor would stabilize at its 2015 level (between 9 and 10 million in 2015). A more productive agricultural sector would also allow the emergence of a rural economy dynamic capable of offering decent jobs to rural youth and slowing the rural exodus. Finally, the increase in agricultural income and the diversification of the rural economy would reduce the vulnerability of rural households to climate change and natural disasters. Achieving such growth is possible. The demand for agricultural products does not constitute a constraint. Urban demand is expected to grow by 6-7% per year (due to increased population and income, import substitution) and rural demand of about 4% per year. The rapid development of exports to regional markets, particularly Nigeria, offers almost limitless possibilities. However, strong action will have to be taken on the supply, particularly the introduction of value chains to all agro-pastoral sectors. Analysis of agricultural GDP shows that this 6% growth target can only be achieved if all sub-sectors contribute. The development of irrigated agriculture will play a central role (e.g., high value-added crops, climate risk management). Still, rainfed crops and livestock, critical factors in the country's

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food security and households, will also require sustained attention. Agricultural production will have to evolve towards more value-added products like processed goods. Finally, the sources of growth will have to gradually shift from a quantitative increase in traditional factors of production (land and labour) to a sustained improvement in their productivity using more efficient technologies. To achieve this objective, considerable efforts must be made by promoting the assets available to the country in terms of agro-pastoral production and other potential resources, namely: (i) 15 million hectares of cultivable land; (ii) a known irrigable potential of approximately 10,942,560 ha; (iii) vast pastoral areas; (iv) room for improvement in considerable productivity for all its main productions; (v) forests (areas forest areas estimated at 16 million hectares, of which 4.4 million are suitable for development); (vi) fauna (several rich biotopes with biodiversity of around 3,200 animal species); (vii) bodies of water and wetlands (fishing potential estimated at 400,000 hectares of bodies of water sweet, an ichthyofauna of around 112 species), and; (viii) a growing young rural population. However, these resources require strong actions to be mobilized.

The proposed project will contribute to: (I) the intensification of cultivable land; (ii) increase irrigable area; (iii) be the room for improvement of key agricultural value chains; (v) protect fauna by introducing bee; (vii) sustainable use of water bodies through improved irrigation systems, and; (viii) empower the young and women living in rural population. Irrigated areas could increase from 113,060 ha to 350,000

ha. Average yields of irrigated crops for rice and horticultural crops could increase by over 50%. It is necessary to rehabilitate the existing hydro-agricultural development (AHAs) and create more. However, AHAs are very heavy public investments requiring good control over land and restrictive technical and agricultural management. Special attention should be given to developing agro-industry, mainly based on private investment. Thirty-three (33) products have been identified to achieve these effects. Defined into intervention programs and subprograms, the actions planned to achieve these products must be implemented using a gender-sensitive approach. Actions and measures will prioritize the following:

- investments in structuring infrastructures (communication routes, hydraulic agricultural, pastoral and village, storage and processing units);

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- support for the transition of operations to climate-smart agriculture, structured around: (i) ecological intensification of integrated agriculture-forest-livestock systems' production, (ii) the diversification of activities at the farm level, (iii) increased agriculture-livestock integration, (iv) the development of integrated management of soil fertility, and (v) the dissemination of innovative techniques to increase the climate resilience of producers;
- investments to expand and densify irrigated areas, to secure agricultural systems rainfed and to improve the performance of mobile and sedentary livestock systems;
- actions in favour of the rehabilitation of degraded agroecosystems, through the reintroduction and protection of wood resources in anthropized environments, soil recovery, and rehabilitation of pastoral routes;
- actions aimed at strengthening the availability and accessibility of agricultural equipment and inputs, including seeds and improved breeds, and to promote local varieties and adapted animal breeds;
- support for the deployment of agricultural product price stabilization and guarantee mechanisms prices for producers;
- strengthening of mechanisms for securing livelihoods and rapid recovery of farms facing shocks of climatic origin in particular, and;
- support actions at the level of functions related to production, focused more particularly on (i) strengthening the training and information system for producers to inform their tactical and strategic decision-making, (ii) the dissemination of agricultural technologies can be mobilized for climate-smart agriculture (improved seeds and varieties, treatment and conservation of fodder, solar dewatering equipment, etc.) accompanied by appropriate advice, and (iii) strengthening access to campaign and investment credits.

Niger National Action Plan to Combat Desertification and Land Degradation

The Constitution of the Republic of Niger stipulates in its article 35: The State has an obligation to protect the environment for the benefit of present and future

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generations. Everyone is called to contribute to the preservation and improvement of the environment in which he lives; Law no. 2008-005 of 30 May 2008, on the framework law on the environment indicates in its Articles 151 to 158: Create the conditions for rational and sustainable management of resources natural for present and future generations. Niger has developed and adopted its National Strategic Investment Framework for SLM since 2010 as part of the Terre Africa Initiative, whose vision for 2015 is based on three main dimensions, namely: the institutional dimension linked to the I3N strategy; the time dimension defined in the PDES 2012-2015 action plan and the field of action that fits into food security programs; The establishment of the Nigerien Agency for the Promotion of Electrification in Rural Areas (ANPER), one of whose missions is to promote, popularize and make accessible to rural populations the different energy technologies while favouring energies renewable. The state of environmental degradation prompted the government to adopt on 28 September 2016 a National Policy for the Environment and Sustainable Development defining a more coherent framework for intervention and investment. Development of the Policy document National Strategy is supported by the SDGs, the environment of ECOWAS and the Common Policy for the Improvement of the Environment of UEMOA, the Nationally Determined Contribution - Niger CDN (Horizon 2030) prepared within the framework of the COP 21 and the Sustainable Land Management Strategy (CS-GDT) and its 2015-2029 investment plan. Thus, the 2016-2020 action plan of the I3N foresees by 2020 the recovery of 1,065000 ha of degraded land, i.e. 213,000 ha/year. Considering the current stock of land degraded by 3.9 million ha, a third of this stock will be restored by the 2020 deadline.

Paris Climate Agreement

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Under the Paris Climate Agreement signed in 2015, Niger has committed to an unconditional 3.5% reduction in emissions by 2030 with a business-as-usual scenario and a 34.6% reduction by 2030 on the condition that it receives international support. Key optimum adaptation and mitigation measures suggested in National Adaptation Plan (NAP) for the agricultural sector and the National Development Plan (Plan de Développement Économique et Social,

PDES) for 2017-2021 include building skills and knowledge (approaches, tools, and instruments) to mainstream climate change considerations into the agricultural sector and local planning and budgeting processes; and strengthening institutional and regulatory frameworks including those related to financing adaptation and mitigation measures and adaptation options (e.g. drought-tolerant seeds in light of their contributions to medium and long-term sustainable socio-economic development, cost-effectiveness and efficiency).

National Adaptation Plan

According to the Niger National Adaptation Plan⁴³, climate change will increase vulnerability and livelihood impacts without appropriate climate finance, affordable credit, and proper investment. These impacts include reduced agricultural production, food insecurity, reduced fishery resources, water shortage, and groundwater depletion, increased disease and or health problems, loss of forest areas, production, biodiversity, and land, as well as land degradation and acceleration of desertification process. There is enough evidence to prove the correlation between climate risks and the lack of investment from the financial sector. Greater access to green financing is essential for creating opportunities to pursue adaptation and mitigation goals and unlocking investment opportunities in low emission and climate-resilient smallholder agriculture.

9.

9.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.

The project will ensure potential adverse environmental impacts are identified and avoided. Where impacts cannot be avoided, a suitable plan is prepared to mitigate

⁴³United Nations Development Programme. (2021). Supporting Niger to advance their NAP Process. Retrieved 27 December 2021 from <https://www.adaptation-undp.org/projects/niger-nap-process>.

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and manage those impacts. Applicable and relevant national technical standards, including best environmental practices, will deliver the planned activities. Under this project, an Environment and Climate Specialist and a Gender Specialist will be engaged to ensure compliance with the environmental and social policy of the Adaptation Fund and meet the requirement of Niger's National technical standards. These include The Environment Protection Act and policies. The process will identify, prevent and minimize any damage the proposed activities could cause to people and the environment. During the annual work planning, the project will identify and propose mitigation measures on activities that could negatively impact the beneficiaries. The project will be implemented following norms and standards from those national acts and policies:

- **National Environmental Policy:** Through the effects it produces, communication (the media and communication channels) plays a role in the environmental issue. Niger has experienced significant growth for almost a year concerning the evolution of media support. Thanks to the private and state press development, particularly with the installation of regional radio stations that represent a potential for education and sensitization of populations in the environment. The media have also enabled many actions favouring the environment and cultural activities. The development of the media is all the more important as it facilitates the ability to assimilate certain environmental notions, despite the country's high rate of illiteracy. Concerning the means of communication, by looking at the evolution of the Nigerien road network, we observed a significant increase from 9,949 km in 1986 to 13,808 km in 1990. For the last five years, only a few achievements have been made. Despite everything, the evolution of the network has had a definite impact on the environment in several respects. In opening up certain regions, the roads facilitate access to many resources such as wood or certain cultivable areas. At the same time, the channels of communication, by facilitating exchanges, convey information. But very often, in the absence of a sustained policy, road construction takes little effect considers the preservation of the environment. It should be noted that since 1997, the law16 has made it compulsory to carry out an environmental impact assessment before the start of execution of the works and to integrate into the body of the works all measures aimed at mitigating negative effects on the environment.

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• **The Environment Protection Act (2010):** The protection of the environment has been enshrined in the fundamental law of the Republic of Niger, namely the Constitution of 25 November 2010. It stipulates in article 35, "The State has an obligation to protect the environment for the benefit of present and future generations. Everyone is required to contribute to safeguarding and improving the environment in which he lives [...] The State ensures the evaluation and control of the impacts of any project and program of development on the environment." In addition, Niger has an arsenal of legislative and regulatory texts dealing with the management of environmental and social impacts and most aspects related to the protection of the environment, the fight against pollution, and the improvement of the living environment, including preventive instruments as well as coercive measures against natural persons and legal entities committing pollution or environmental degradation offences. For this AF project, the activities identified that will require an Environmental Impact Assessment (EIA) include building earth dams under Output 1.2. and infrastructures under Output 2.2:

- substantial changes in renewable resource use (e.g., the conversion of land to agricultural production, forestry or pasture land, rural development, timber production);

- substantial changes in farming practices (e.g., the introduction of new crops, large scale mechanization or use of chemicals in agriculture);

- transport infrastructure (e.g., roads, bridges), and;

- exploitation of hydraulic resources (e.g., dams, drainage and irrigation projects, water basin development, water supply)

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- **The Forestry Act (2004):** The BAGRI project will ensure forest protection, reforestation, and agroforestry will be promoted under Output 1.1 activities.

Some provisions of the Forest Act related to the project are the following:

- Act 1: The purpose of this law is to determine the regime for the management and value of forest resources.
- Act 2: Forest resources constitute natural resources and, as such, are an integral part of the Nation's common heritage. Everyone must respect this national heritage and contribute to its conservation and regeneration.
- Act 3: The State guarantees the preservation of national forest resources in consultation with stakeholders concerned with the management, use, and exploitation of forests.

The national forest policy is based on the following fundamental orientations:

- meeting the energy needs of the population and improving the living environment;
- the preservation and enhancement of the various uses and functions of forests and trees in the framework of economic and social development and based on rational policies land use;
- forest regeneration by appropriate methods;
- conservation of biological diversity through forest management environmentally sound in the long term;
- effective participation of interested parties, particularly that of communities territorial and local populations, in planning, developing, implementing, and evaluating forestry activities.

- **The National Land Policy for Niger:** In the Republic of Niger, the regime of expropriation for utility public applies to customary rights subject to the provisions following: When the perimeter whose expropriation is planned includes unsuitable land under the rules of the Civil Code or the registration regime, the order of transferability is preceded, in addition to the investigation of commode et incommode, by a public and adversarial inquiry intended to reveal, if applicable, the existence of customary rights that encumber these lands and their exact consistency as well as the identity of the people who exercise them. This investigation, carried out ex officio by the expropriating

authority, is carried out according to the customary rights determination procedure provided for in Articles 4 and 11 of this law. Land on which no right was found during the investigation may be immediately occupied and registered in the name of the State of Niger before being allocated or assigned to the public authority or to the public establishment for the account from which the procedure is continued. When the investigation finds the existence of customary rights, their expropriation will be prosecuted under the expropriation procedure for public utility in force in the Republic of Niger. In the event of the expropriation of collective rights, the amount of compensation is divided between each of the joint holders according to the agreement concluded between the interested parties. Different laws have provisions on this issue:

- Ordinance No. 2010-09 of April 1, 2010, on the Water Code in Niger
- Ordinance No. 93-015 of March 2, 1993, established the guiding principles of the Rural Code
- Law no. 60-28 of May 25, 1960, fixed the methods of development and management of agricultural developments carried out by the public authorities

Regarding land management, the policy mandated the government to ensure the sustainability of land for agricultural development programs; and the Ministry of Agriculture shall develop comprehensive training in land-use and capacity assessment for trainers of small farmer organizations to facilitate best practices in land resource management. It also mandated the government to promote tree plantation projects in deforested areas, support village community forests development initiatives, and promote re-afforestation and conservation measures. It encourages the preparation of participatory environmental action plans by communities and individuals living in environmentally sensitive areas, introduces incentives to encourage the use of technology and scientific methods for soil conservation, encourages the use of traditional soil conservation methods, put measures in place to control the degradation of land through abuse of inputs and inappropriate land-use practices, and put in place institutional mechanisms for conservation of the quality of land for environmental conservation purposes. The project's activities under Output 1.1

(sustainable millet farming and rice value chain development) will follow the policy on land tenure. They will support the Ministry of Agriculture in training farmers on sustainable land management.

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

This project will focus on millet, rice, onion, and sugarcane value chains and develop alternative livelihood options (apiculture and community gardening). The project will also promote the use of technologies for sustainable land resource management to mitigate the effects of desertification and climate change. It will rehabilitate and build market infrastructure, increasing access and sale of farmers' products. The objective of this five-year inclusive green financing for climate-resilient and low emission smallholder agriculture project is to increase the resilience of smallholder farmers to adverse impacts of climate change. This will be done by removing barriers to climate-resilient production, processing, and access to the market. Additionally, the project will adopt and implement innovative adaptation and mitigation measures. These measures will include: (i) Water capture; (ii) In situ reintroduction of more stress-tolerant crop varieties; (iii) Land management and agronomic techniques; (iv) Ecosystem-based adaptation (EbA); (v) Capacity-building and awareness-raising on adaptation and mitigation in agriculture; (vi) Renewable energy technologies (RETs), and; (vii) Value addition along value chains (processing, packaging, maintenance).

In terms of safeguarding food security for smallholder farmers and generating income, the project is in complementarity with the following projects:

Project to Strengthen Resilience of Rural Communities to Food and Nutrition Insecurity (PRECIS) built small-scale farmers' capacity in production, storing, and processing of perishable products, feeding, good nutrition, and hygiene practices. This project also promotes vocational training and rural entrepreneurship skills for young people and helps create jobs in the agropastoral sector in selected regions. It was funded by Transition Support Facility (TSF), International Fund for

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Agriculture Development (IFAD), OPEC Fund for International Development (OFID), Global Environment Facility (GEF), Green Climate Fund (GCF) and BAGRI. Apart from the perishable commodities, other agricultural commodities (sugarcane, honey, millet) are targeted by the proposed project. In addition, specific training sessions are dedicated to young people and women (carpenters, electricians, farmers) to help them provide services into the targeted value chains (beehives construction or maintenance, solar-powered equipment maintenance). To avoid duplication, the proposed project through its component 3, will implement platforms where stakeholders of similar projects will share the lessons learned. This will help the proposed project to implement actions based on the lessons learned from ongoing or recent closed projects.

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The concept of agroforestry that Niger and the NGO World Vision have successfully implemented: Instead of using excess resources to plant new trees, Niger farmers have protected the trees that spontaneously grow on their lands, and as a result, have added five million trees to the landscape in the past 20 years. Trees provide numerous benefits such as increased soil fertility, firewood, and fruits for human consumption. In 2009, a report stated that this new style of sustainable agriculture in Niger increased food production by 500,000 tons, enough to feed 2.5 million people. In 2011, the World Bank approved USD 111 million in finances to improve sustainable agriculture in Niger.

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The Climate-Smart Agriculture Support project, the first in Africa to assist specifically with climate-smart agriculture, will directly benefit 500,000 farmers in 44 communities in the country. It hopes to enhance productivity and provide resilience against greenhouse gas emissions. More specifically, it will distribute, and use improved, drought-tolerant seeds and expand agroforestry to combat climate issues. With this action, the World Bank and Niger hope to combat climate shocks, particularly droughts.

With stabilityThe Adaptation Fund project "Enhancing Resilience of Agriculture to Climate Change to Support Food Security in mind, Niger finds innovation, through Modern Irrigation Techniques"

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The weather variability and projects to make its climate change, translated by the insufficient water availability or the difficulties to access available water, is adversely affected agricultural sector more profitable production in Niger. This pilot project aiming to strengthen the resilience of populations and to prevent so called "maladaptation." It targets expenses related to fetching water together with the weak management of water resources. The main objective is to strengthen the resilience of agriculture to climate change to support food security in Niger, through the promotion of modern irrigation techniques. The specific objectives are: (i) strengthen the capacity of stakeholders on resilient irrigation systems to climate change and disseminate lessons learned during the project execution; (ii) support the development of efficient technologies for sustainable management of water resources, conserve soil of irrigated areas and reduce energy costs associated with pumping of irrigation water and (iii) support the diversification of livelihoods to improve the incomes of farmers.

The proposed project complements this ongoing project through its component 3 by emphasising on sustainable value chains such as honey, sugarcane and vegetables (onions). It will support the development of irrigation schemes to support the vegetables gardens but also is seeking to implement the resilient infrastructure of transport and conservation capable to improve the targeted value chains under changing climate. Through its components 3 (Dissemination of lessons learned), a platform will be established to share the lessons learned and experiences with the similar project including AF' project.

Scaling-up climate-resilient rice production in West Africa

Funded by Adaptation Fund, it is regional project covering Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo, its intervention varies with the country of intervention. In Niger, the project will include the four regions of Tillaberi, Dosso, Tahoua and Zinder, covering a total of nine communes. The project will work on irrigated and rainfed lowland systems in Tillaberi and Dosso, and on rainfed lowland systems in Tahoua and Zinder. SRI practices will be promoted on the irrigated systems along the Niger River to reinforce the impacts of the SRI-WAAPP project.

In Niger, there is a large potential for the rice expansion, the proposed project wants to contribute filling this gap through a promotion of tolerant varieties of rice and smart cropping practices (SRI, drip irrigation (in upland)) that can improve the resilience of rice cropping systems. In addition, other segments of the rice value chain (processing, transport, conservation) are targeted by the proposed project.

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Promoting Sustainable Agricultural Production and Conservation of Key Biodiversity Species through Land Restoration and Efficient Use of Ecosystems in the Dallol Bosso and Surrounding Areas (PROSAP/COKEBIOS)

Funded by GEF. This project revolves around four components, such as: Enhanced National Capacity for LDN Implementation (component 1); Improved Biodiversity Conservation and Land degradation actions in the Dallol Bosso Landscape (component 2); promote innovative resilient solutions along selected agricultural value chains (component 3); Creating enabling capacity environment at local level to manage post-harvest losses (component 4). The proposed project will complement the post-harvest losses reduction technologies (sealed bags) by providing processing equipment able to add value to the harvested products and to improve their conservation. In the case of PROSAP /COKEBIOS, dealing with post-harvest losses includes better infrastructure to connect smallholders to markets; opportunities to adopt collective marketing and better technologies supported by access to microcredit; and the public and private sectors sharing the investment costs and risks in market-orientated interventions. Therefore, the proposed project will operate in synergy with the PROSAP/COKEBIOS, to implement climate resilient feeder roads.

Niger: Food-IAP: Family Farming Development Programme (ProDAF)

Funded by GEF, ProDAF objective is to help sustainably guarantee food and nutrition security and rural households' resilience to crises in the Maradi, Tahoua and Zinder regions. The ProDAF approach is grounded in the following three intervention principles: (I) the improvement of food and nutrition security; (ii) the territorial continuity of the interventions through the economic development pole; (iii) and the scaling up the current project activities of IFAD and its partners. The programme also targets women and young people. The proposed project will also contribute to ensure the food and nutrition security in the project area (Maradi, Tahoua, Dosso and Tillaberi) by boosting the production of cereals (millet), vegetables(onions) and other high nutritional agricultural commodities such as honey and sugarcane. High income generating activities (bee-keeping, post-harvest processing) will also contribute to the implementation of SMEs led by women and young people for the economic growth of area of intervention.

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

Project Monitoring and Evaluation (M&E) will be under the oversight of the Project Management Unit (PMU) and led by the M&E officer, who will work closely with the

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implementing partners. The M&E system should: (i) produce, organize and disseminate the information needed for the strategic management of the project; (ii) document the results and lessons learned for internal use and public dissemination on the achievement and; (iii) respond to the information needs of Adaptation Fund, CNEDD and the Nigerien Government on the activities, immediate outcomes, and impact of the project. A monitoring and evaluation manual describing a simple and effective system for collecting, processing, analysing, and disseminating data will be prepared in the project's first year. analyzing, and disseminating data will be prepared in the project's first year. A computerized database will be developed to generate dashboards used in the BAGRI project. This database will be fed mainly by component 3 activities that will gather working sessions reports, technical notes, maps, study reports, research papers, websites, policy briefs and documentaries. Communication materials edited on the project will bear the logo of Niger, BAGRI, and the Adaptation fund.

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A computerized database will also be developed to generate dashboards used in BAGRI projects.

The system will be regularly fed from data collected by the implementing partners and the assorted studies carried out as part of the project's implementation. The M&E system will be coupled with a geo-localized information system (GIS) that will allow mapping and spatial-temporal analyses. Training will be organized to strengthen the capacities of the various stakeholders involved in the monitoring and evaluation system. The following key considerations will guide project M&E activities:

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1. Data will be disaggregated by poverty, livelihood group, and gender;
2. Each implementing or partner agency will have clear M&E responsibilities with specific reporting deadlines and a forum for presenting and discussing the findings of the monitoring exercise; and
3. M&E will be linked to the project rationale, logical framework, and annual work plans and budgets. M&E findings will be used to take corrective or enhancing measures at the level of project management.

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6.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 Adaptation Fund's Environmental and Social Policy and Gender Policy.

The project idea was identified in August 2021 through consultations with the NDA (Nationally Designated Authority) and BAGRI in the margin of the adaptation planning launch meeting (09-13 August 2021) in Dosso. Participants to the Dosso meeting recognized the urgency of the agriculture sector face to climate change and called for the operationalization of the direct access entity by BAGRI. Priorities identified as part of the NAP process informed the development of this project proposal being developed in consultations with the main stakeholders represented under the NAP committee. A first draft concept note was presented and validated by the CNEDD in November 2021. The committee confirmed that the proposed AF project responds to Niger's national needs and climate change adaptation and mitigation priorities. A letter of non-objection has been issued to support the submission to the AF. The site-specific consultative process (involving the key stakeholders, and vulnerable groups, including gender considerations in compliance with the Environmental and Social Policy and Gender Policy of the Fund), is not yet closed. Discussions with key stakeholders are ongoing to finalize the consultative processes in targeted project areas.

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

To mitigate climate impacts that are increasingly fragilized the agricultural sector of Niger, less sensitive cropping systems through the use of tolerant varieties and crops and alternative sources of income able to preserve the ecosystems (apiculture) (promoted in the component 1) are among important actions to implement to guarantee sustainable economic growth under

changing climate. The implementation of alternative high income-generating activities, will contribute to reducing the impact of climate change on smallholders and to improve food security and incomes of the local population. In addition, income-generating activities and actions which can boost the access to market (promoted in the component 2) will reduce postharvest losses, that are exacerbated by warming temperatures. For the Niger' government, the development of the country depends largely on its ability to practice sustainable management of natural resources, established market-oriented processing, that can create economic value while preserving the environment in the rural area. However, to reduce the operating cost (up to 60% of revenues can be used for energy supply), clean energy is promoted by the proposed project to save the money that would be used to purchase fossil fuel.

This project is considered additional climate financing to climate-proof and mainstream climate considerations in BAGRI-Niger baseline investment on millet, rice, onion and sugarcane value chain. This Adaptation Fund project will provide direct support to 28,765 most vulnerable smallholder farmers engaged in millet, rice, onion and sugarcane production in their transition to more sustainable agricultural practices and adaptation to climate change. It will also facilitate their access to the market and credits provided by BAGRI. To further raise the technical capacity of the farmers' organizations involved, a gap in training needs assessment will be conducted to identify required capacity developments for effective and efficient training delivery, focusing on climate in the millet, rice, onion, and sugarcane sectors.

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

Synergy exists between the adaptation measures identified as part of the BAGRI project and the provisions of the three post-Rio Conventions: the Convention to Combat Desertification (CCD), the Convention on Biological Diversity (CBD), and the UNFCCC. Aside from that, all activities planned in the implementation of the BAGRI Resilience Programme are fully compatible with the five lines of approach of the I3N for food safety and agricultural development and the Government of

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Niger Emergency Programme, which are: (i) Establishment of an integrated service platform or "Farmers' Houses"; (ii) Restoration and protection of land and water through labour-based and income-generating activities; (iii) Improved nutrition, and; (iv) Conservation, transformation, and marketing of integrated agriculture- livestock- forestry systems productions.

This project for Niger identifies three main components: (i) Climate-proofed agricultural production and post-harvest combined with livelihood diversification; (ii) Climate-resilient rural infrastructure. And (iii) Coordination, M&E, Dissemination of lessons learned and (iii) Dissemination of lessons learned. Broadly, the sustainability of the project depends on the implementation of measures such as: (i) the capacity building sessions provided to beneficiaries (farmers, women, and young people organizations) during project implementation, (ii) the implication of collaborating partners, mainly national institutions, during the project implementation (iii) the tools and knowledge to maintain the equipment provided (iv) income-generating activities and implications of national banks.

Planned activities under the Adaptation Fund on climate adaptation and sustainable management of natural resources will mitigate climate risks on the millet, rice, onion and sugarcane value chain development while reducing GHG emissions and complementing the BAGRI baseline investment in Niger. Best practices from this project will be replicated at the national and regional levels.

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

- **Compliance with the law:** Security of tenure by women and youth remains a challenge in Niger. Without secure ownership or at least guaranteed access to land for women and youth, sustainable agri-enterprises will be extremely difficult, if not impossible, and this could negatively affect the project. Women and youth are often not sufficiently represented even in making decisions that affect them.

Thus, women and youth risk being marginalized in land access and when opportunities or slots are allocated for economic activities in the community. Weak and non-transparent governance structures and exclusionary and divisive politics pose the risk of the project being hijacked or captured by the political and administrative elite to benefit only their cronies with significant impacts on the target beneficiaries. Conflicts resurgence in a context of a post-conflict country could also undermine the project's potential benefit. The project at the Inception phase will demonstrate compliance to AF's policy by describing the process of allocating and distributing programme benefits and mitigating. It will also state clearly that there will be neither discrimination nor favouritism in accessing project benefits.

- **Access and equity:** Beneficiaries have all information about the project, and information and transfer knowledge are being used through community radio, communication specialists, community groups such as youth and women organizations, family groups, management committees, farmers associations, value chain actors. Without impeding access, the foundation for fair and equitable access to benefits will be promoted. The communication specialist will raise the awareness of communities and information.
- **Marginalized and vulnerable groups:** The project targets poor smallholder farmers, women, and rural youth (18–35 years old) most vulnerable to climate change. Female-headed households with recognized land access entitlement will comprise 40% of the targeted beneficiaries and youth consisting of 40% with granted inheritance rights. At Inception Phase, the project will define the characteristics of marginalized and vulnerable groups in the targeted areas using categories that define them appropriately. The process will also include identifying and describing impacts that each marginalized and vulnerable group is likely to experience from the programme and how the adverse impacts will be mitigated.
- **Core labor rights:** Core labor rights concern gender aspects, respect for workers; maximum work hours; child labor, etc. The project will ensure that national working standards are respected on production sites. The project will also ensure that appropriate wages will be paid per assigned task and that no child labour will be employed.

- **Public health:** Working conditions across sectors are generally poor in the selected rural areas of Niger because of general poverty, poor production methods, and limited awareness of and non-compliance with health and safety standards. Most farmers do back-breaking work in the agricultural sector and are regularly exposed to agrochemical toxins from biological fertilizers and pesticides. In addition, due to the elevated level of poverty, children often help in the production and/or processing of agricultural commodities. The project will partner with the Ministry of Health to raise awareness of local communities about the potential risk of health problems that may cause fertilizer use.
- **Human rights:** Niger recognizes fundamental human rights and freedom in its constitution that exists and shall continue to exist without discrimination because of race, nationality, origin, color, religion, opinion, belief, or sex. The project activities will not engage in any activity that may result in the infringement on the right of any person during implementation.
- **Gender equality and women empowerment:** The programme activities will be designed and implemented in such a way that both men and women have equal opportunities to participate in consultation, training, and awareness activities; receive comparable social and economic benefits; and not suffer disproportionate adverse effects during the development process. The Gender Specialist will ensure equal participation of men and women during the inception phase and throughout the implementation of the project. Approved and developed gender policies identified in Section D will guide this process.
- **Indigenous people:** No indigenous people have been listed in Niger, but the project will work to include minority groups in the project. At the inception phase, various ethnic groups can be identified at project activity sites, and their roles are identified.
- **Involuntary resettlement:** Involuntary resettlement due to project activities is not planned as the project will not construct feeder roads longer than 10 km each

but rehabilitate existing projects. However, the project activities will be designed and implemented to avoid or minimize the need for involuntary resettlement. When limited involuntary resettlement is unavoidable, due process should be observed so that displaced persons shall be informed of their rights, consulted on their options, and offered technically, economically, and socially feasible resettlement alternatives or fair and adequate compensation. This is anticipated in areas where irrigation infrastructures and road rehabilitation are planned. Potential situations can be identified at the Inception Phase and necessary measures taken.

- **Protection of natural habitats:** The project will not involve unjustified conversion or degradation of critical natural habitats, including those that are (a) legally protected; (b) officially proposed for protection; (c) recognized by the national government for their high conservation value, including as critical habitat; or (d) recognized as protected by traditional leaders and communities.
- **Conservation of biodiversity:** Clearing of lands and infrastructure rehabilitation that can potentially lead to loss of biodiversity and deforestation through physically removing endangered and protected species will be avoided by this project. The intervention will happen early in the planning process by prioritizing rehabilitation and the use of abandoned lands, which will lead to biodiversity restoration.
- **Climate change:** The project will not generate a significant and/or unjustified increase in GHG emissions or any other cause of climate change. Climate-resilient rice and millet value chain will contribute to avoiding and sequestering CO₂. The Climate and Environment Specialist engaged at inception and during the design and implementation of the project will monitor and manage the clearing and burning and, if required, will be addressed early in the project.
- **Pollution prevention and resource efficiency:** The project will reduce waste generation, ensure minimal slash and burn, and release pollutants into the environment. Fertilizer and agrochemicals use is limited in Niger, but it is made available on a one-bag-for-two-bushels-of-rice basis for rice farmers.

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- **Physical and cultural heritage:** The project will avoid the alteration, damage, or removal of any physical, cultural resources, cultural sites, and sites with unique natural value recognized. During site assessments, traditional leaders will be consulted to identify any cultural sites and sites with unique natural values. Before any site modification, a verification letter will need to be received from the highest authority to endorse the traditional leaders that a proposed activity will not interfere with any cultural site or site of unique natural value.
- **Lands and soil conservation:** Where land is to be modified, for example, farmlands that may cause soil erosion or deforestation, standards will be followed to maintain the land in its natural state or as close to its natural state as possible; and, if the land is to be converted, it must promote and protect its current function.

Table 2.1: Environmental and social principles checklist

Checklist of environmental and social principles	No further assessment is required for compliance	Potential impacts and risks – further assessment and management required for compliance
Compliance with the Law	X	
Access and Equity		X
Marginalized and Vulnerable Groups		X
Human Rights	X	
Gender Equality and Women's Empowerment		X
Core Labour Rights	X	
Indigenous Peoples	X	
Involuntary Resettlement	X	
Protection of Natural Habitats		X
Conservation of Biological Diversity		X

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Climate Change		X
Pollution Prevention and Resource Efficiency	X	
Public Health		X
Physical and Cultural Heritage	X	
Lands and Soil Conservation		X

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PART III: IMPLEMENTATION ARRANGEMENTS

+A. Describe the arrangements for project/program implementation.

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The arrangement for project implementation will revolve around the following units:

Steering Committee of the Project is responsible for the strategic guidance, monitoring, and internal evaluation of the implementation of the project. It approves Annual Work Plan Budgets (AWPB) and meets twice a year. It is chaired by the Ministry of Agriculture and includes all stakeholders and considering the key actors, including:

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- The Ministry of Agriculture;
- The Initiative 3N High Commission;
- The Ministry of Planning and Community Development;
- The Ministry of the Environment;
- The Ministry of Finance and Economy;
- The Executive Secretariat of CNEEDD;
- A representative of the Governorate and Regional Council of selected regions;
- A representative of the Rural Code;
- A representative of RECA ;
- A representative of the FBOs, and;
- A representative of the national implementation entity (BAGRI - Observer)

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A national technical planning workshop will be organized once a year, before the first session of the National Steering Committee (NSC). This workshop will bring together all actors involved in the project's technical implementation. The procedures manual will specify the relevant structures. The NSC will serve as a space for debate on the project's themes and interdepartmental coordination of project activities. It will review and approve the manual of procedures, schedules, progress, and audit reports of the project. The organizational structure is further illustrated in [Fig. 9](#)

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Implementing Entity: Banque Agricole du Niger (BAGRI) is a state-owned bank created on 20 July 2010 with a capital of 10 billion FCFA. The Republic of Niger holds 57.8 per cent of its capital; private entities, 25%; Sonibank, 4.96%; and other shareholders own 11.4%. BAGRI (or "the Bank") started its activities in 2011 with the mission of establishing a system of financing the agro-pastoral sector that combines social and development objectives to its financial and performance objectives, including the fight against food insecurity. Its target groups are promoters of family-owned businesses, transhumance companies, subsistence farming, and agribusinesses. Its intervention strategy combines the geographical coverage of the national territory with relations with farmers' organizations and other strategic partnerships at the national and international levels. In 2018, as part of implementing its business plan and its local banking policy, the Bank continued to extend its network to 24 agencies distributed among urban and rural areas located across the country. It is, therefore, the most extensive network in Niger. BAGRI applies the lowest interest rate in the market (10%), compared to other commercial banks, where interest rates are 12%.

The indicative services provided by the implementation entity are summarized below:

Identification, Sourcing and Screening of Ideas:

- Provide information on substantive issues in adaptation associated with the Adaptation Fund (AF) purpose.
- Engage in upstream policy dialogue related to a potential application to the AF.
- Verify soundness and potential eligibility of identified ideas for AF.

Feasibility Assessment / Due Diligence Review:

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- Provide up-front guidance on converting a general idea into a feasible project;
- Source technical expertise in line with the scope of the project;
- Verify technical reports and project conceptualization;
- Provide detailed screening against technical, financial, social, and risk criteria and provide a statement of likely eligibility against AF requirements;
- Determination of execution modality and local capacity assessment of the national executing entity; - Assist in identifying technical partners;
- Validate partner technical abilities;
- Obtain clearances from AF.

Development & Preparation of sub-project:

- Provide technical support, backstopping, and troubleshooting to convert the idea into a technically feasible and operationally viable project;
- Source technical expertise in line with the scope of the project needs;
- Verify technical reports and project conceptualization;
- Verify technical soundness, quality of preparation, and match with AF expectations;
- Negotiate and obtain clearances by AF;
- Respond to information requests, arrange revisions.

Implementation of the project:

- Technical support in preparing TORs and verifying expertise for technical positions;
- Provide technical and operational guidance to project teams;
- Verification of technical validity/match with AF expectations of inception report;
- Provide technical information as needed to facilitate implementation of the project activities;

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- Provide advisory services as required;
- Provide technical support, participation as necessary during project activities;
- Provide troubleshooting support if needed;
- Provide support and oversight missions as necessary;
- Provide technical monitoring, progress monitoring, validation, and quality assurance throughout;
- Receipt, allocation, and reporting to the AFB of financial resources;
- Allocate and monitor Annual Spending Limits based on agreed work plans;
- Oversight and monitoring of AF funds;
- Return unspent funds to AF.

Evaluation and Reporting:

- Provide technical support in preparing TOR and verifying expertise for technical positions involving evaluation and reporting;
- Participate in briefing/debriefing;
- Verify technical validity/match with AF expectations of all evaluation and other reports;
- Undertake technical analysis, validate results, and compile lessons;
- Disseminate technical findings.

Project Management Unit (PMU): BAGRI will implement a PMU. The PMU will be headed by a project manager (with demonstrated capabilities as Climate Adaptation Specialist on how to implement low emission and climate-resilient agriculture, EbA approach, energy for agriculture) who will be in charge of the daily management of the project and will be supported by the following key staff: a Finance Manager, an Environmental Specialist, a Gender Specialist, M&E Specialist, Procurement Specialist, and a Secretary. In addition to the key project staff, the following additional staff will support the PMU and other partners: the Administrative Officer and Finance Officer,

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assigned by BAGRI, which will provide administrative and financial management support, respectively. The project management costs will fund these positions. To ensure synergies with BAGRI operations, a Finance Officer from the Bank will be seconded to the PMU. The PMU offices, and the financial resources necessary for its operation. The M&E unit will benefit from the assistance of an Officer recruited for this purpose at the start of the project to establish an M&E system. Focal Points will be appointed to ensure project activities' planning, coordination, and monitoring at the regional level.

Duties and Responsibilities

- Supervise and coordinate the production of project outputs to the required standard of quality and within the specified constraints of time and cost as outlined in the project document;
- Mobilize all project inputs in accordance with procedures for nationally implemented projects;
- Supervise, guide and coordinate the work of the Project Implementation Team (Technical Advisory Group), all project staff, consultants and activity/sub-project contractors under Component 1 and 2 of the project;
- In close liaison with his staff, he prepare and revise project work and financial plans;
- Liaise with relevant government agencies, and all implementing partners for effective coordination of all project activities;
- Oversee and ensure timely submission of the Inception Report, Combined Project Implementation Review/Annual Project Report (PIR/APR), technical reports, financial reports, and other reports as may be required;
- Disseminate project reports and respond to queries from stakeholders;
- Report progress of project to the NSC, and ensure the fulfilment of AF directives;
- Assist relevant government agencies and implementing partners with development of essential skills through training workshops and on the job training, thereby upgrading their institutional capabilities;
- Carry out regular, announced and unannounced inspections of all sites and activities.

Qualifications

- A university degree in Environmental Management; a post-graduate degree is preferred;
- At least 10 years of experience in natural resource planning and management;

- Prior experience in a senior management role;
- Working experience with the project stakeholder institutions and agencies;
- Ability to effectively coordinate a multi-stakeholder project;
- Ability to administer budgets, lead a team, train and work effectively with counterpart staff at all levels, and interact effectively with all groups involved in the project;
- Excellent communication skills and effective interpersonal and negotiation skills, proven through successful interactions with all levels of stakeholder groups, including senior government officials, business executives and local people/communities;
- Strong writing, presentation and reporting skills;
- Strong computer skills
- A good working knowledge of English is a requirement

Finance Manager: combining a strong knowledge of finance and accounting with project management experience, the Project Financial Manager is a versatile contributor to the Project Manager. With strong organizational skills, a good sense of detail, and strong analytical skills, he/she is responsible for the financial operations of the project and the maintenance of financial documents related to the project.

Duties and Responsibilities

- Overseeing projects relating to cash flow, financial reporting, and revenue and expenses;
- Assisting departments in creating and managing forecasts and budgets for various projects;
- Gathering and analyzing data to identify areas for improvement and/or develop solutions to keep projects on budget and on time;
- Establishing appropriate internal controls and project governance;
- Supporting design and execution of the implementation process, including business requirement gathering, process documentation and solutions design;
- Implementing change management strategies, ensuring stakeholders and teams are trained and adjusted to the new process;

Qualifications

- A university degree in Finance, Economics. A post-graduate degree is preferred;
- At least 7 years of experience in finance and Project management;

- Good knowledge of accounting and IFRS standards
- Ability to administer budgets, lead a team, train and work effectively with counterpart staff at all levels, and interact effectively with all groups involved in the project;
- Strong writing, presentation and reporting skills;
- Strong computer skills
- A good working knowledge of English is a requirement

Environmental specialists: he monitors the impact of the project on the environment, identifying environmental issues, and recommending solutions. He is responsible for performing field inspections, designing environmental training programs, preparing detailed reports, and analyzing test samples. Their chief goal is to improve the living conditions of the environment.

Responsibilities:

- Conduct Environmental and social Impact Studies;
- Design and implement environmental training programs;
- Develop social and environmental management plans.

Requirements:

- Master's degree in environmental science or relevant field;
- A minimum of 5 years' experience in a similar role;
- Aptitude to solve problems quickly with advanced conflict resolution skills;
- Excellent written and verbal communication skills;
- Outstanding analytical abilities;
- Strong computer skills;
- A good working knowledge of English is a requirement.

Gender Specialist: he is responsible for providing technical and programmatic support in gender equality and Women's Economic Empowerment.

Responsibilities:

- Provide direct technical assistance and guidance on women's economic empowerment to the program and its delivery partners;
- Support the development of tools, systems, processes and approaches that continuously improve technical excellence and impact in the area of transformative approaches to women's economic empowerment;

- Lead, coordinate, support, and/or conduct gender and power analyses, effectiveness and efficacy studies, appraisal, evaluation and needs assessments as required by the program;
- Assist with quantitative/qualitative assessments in targeted communities to assess effectiveness of interventions and impact;
- Support delivery partners to understand the role of gender equality and women's economic empowerment for the project impact groups;
- Ensure gender equality and women's economic empowerment criteria are well integrated into market-systems approaches;
- Work closely with other technical specialists to integrate gender across all Project components;
- Facilitate and support a strong learning and knowledge sharing community around gender-transformative practices amongst delivery partners;
- Represent work being done in gender-transformation and women's economic empowerment under the Project in relevant internal and external forums;

Qualifications

- Master's degree (or equivalent) in social sciences, international studies, or a related field with a focus on gender;
- Minimum of 8 years' experience in development sector (NGOs, CSO), with at least 5 years' experience with women's economic empowerment, and/or gender/social inclusion related job;
- Good experience in project management, advocacy and knowledge management;
- Good understanding of business and private sector;
- Initiative and creative in solving problems with strong facilitation and analytical skills;
- Strong ability to work both independently and in a team;
- Good organizing skills and interpersonal skills;
- Excellent English

M&E Specialist: he provides technical leadership and support in three major areas:

Duties and Responsibilities

- Long-term strategic plans and implementation with a view toward M&E requirements;
- Monitoring and evaluation progress against stated results for the project M&E plans; and;

- Analysis of Work Plan implementation and objectives, including activities linking planning with regular progress reviews and resource allocations.

Required Skills and Experience

- A minimum of a Master's Degree in a development-related field, i.e. International Relations, Statistics, Economics, Finance, Social Sciences or Public Administration;
- A minimum of 7 years directly applicable experience, of which at least 5 is at the international level, in providing management advisory services, hands-on experience in design of monitoring and evaluation tools at the systemic level in development contexts;
- Knowledge of and experience in planning;
- Proven experience with statistical applications and data analysis; familiarity with both qualitative and quantitative information analysis tools;
- Excellent interpersonal, consensus building and negotiating skills essential;
- Strong knowledge and understanding of monitoring and evaluation concepts, with the ability to explain them with clarity;
- Strong knowledge of the Niger situation: the political, cultural and socio-economic context;
- Fluency in both written and spoken French. Knowledge of English an asset

Procurement Specialist: He is responsible for sourcing goods and services for the project at the best value while working within budget constraints to increase profitability. Other duties of this position include assisting in the analysis and preparation of contracts and working closely with senior management teams as well as outside vendors to meet project requirements.

Responsibilities for Procurement Specialist

- Identify suppliers of goods and services;
- Negotiate terms with suppliers such as price, quality of goods, deadlines, expectations, etc;
- Liaise with suppliers and project managers regarding updates and details of goods;
- Create purchase orders and tally these with supply requests and orders;
- Analyze invoices to ensure accuracy of goods delivered
- Monitor inventory to ensure the flow of goods remains positive
- Attend meetings with the legal department to ensure any contractual obligations are favorable to the project;

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- Work closely with the projects team to understand details of procurement requirements;

Qualifications for Procurement Specialist

- Master's degree in a related field preferred;
- Proven experience working as a procurement specialist in the same area required;
- Additional certification in the field of procurement desired;
- Strong knowledge of the industry and market conditions
- Excellent written and verbal communication skills
- Impeccable negotiation and problem-solving skills
- Exceptional interpersonal skills and rapport building
- Flexible to work long hours as demanded by projects
- Able to travel to meet vendors and suppliers as necessary

Regional Focal Points: To facilitate the implementation of the project in the four targeted regions, a Focal Point by region (Agricultural Engineer) will be appointed by BAGRI under the supervision of the Steering Committee chaired by the Minister of Agriculture based on the standard qualifications. Under the Project Manager's authority, the focal point will be responsible for planning and monitoring the project's technical activities; ~~The Focal Point. He will have an equipped office in the regional branch of BAGRI with pickupmotobike~~ and desktop computers. He will work closely with the Regional Directorate of Rural Engineering to monitor the project.

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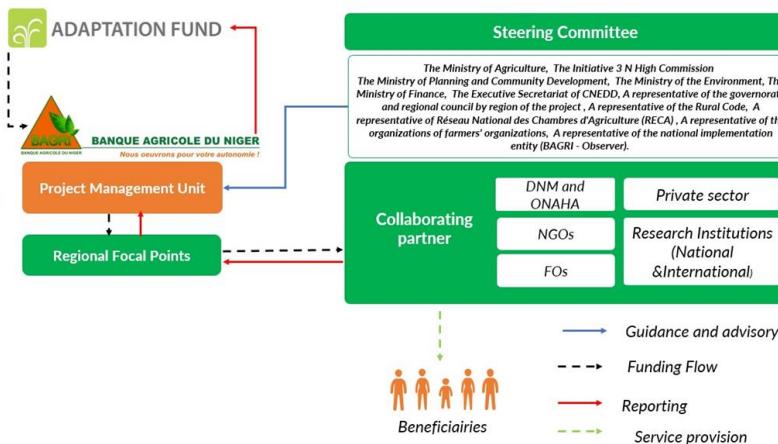
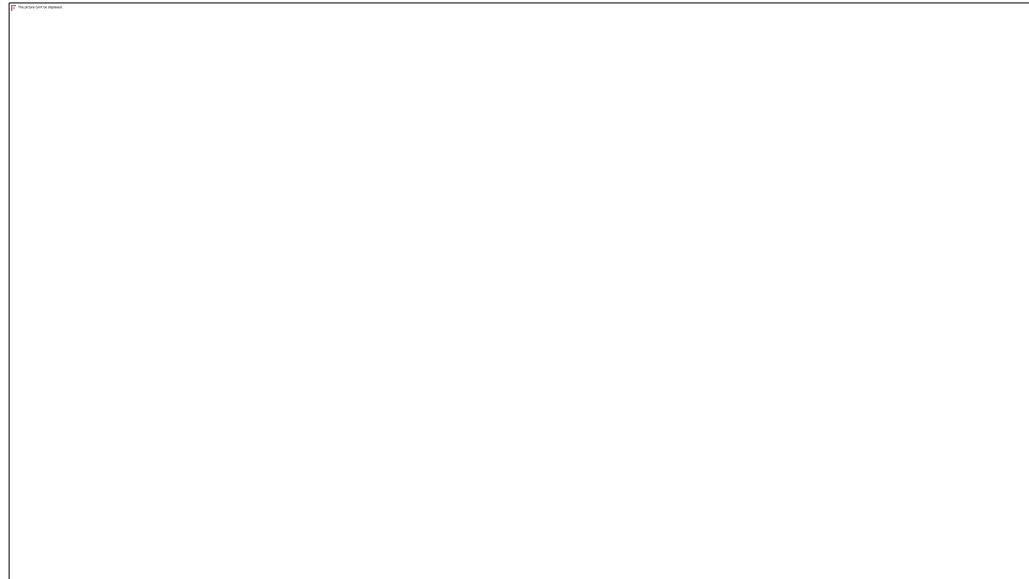


Figure 93.1: Organizational structure, staffing and relevant stakeholders

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

~~The table below~~Table 3.1 describes the ~~levels of the~~ financial risks and mitigation measures implemented in the framework of the project.

Table 3.1: Financial risks and mitigation measures implemented

Risk	Initial risk assessment*	Proposed mitigation measure	Final risk assessment*
Insufficient capacities to appropriately manage the day-to-day implementation of the project	M	<p>The PMU with administrative and financial management autonomy will assume the fiduciary management functions of the project.</p> <p>Recruitment of experts with specific experiences in development project management and financial management procedures and mastery of accounting software.</p> <p>The staff of the PMU will be linked to the project by annual renewable contracts based on a performance evaluation,</p> <p>Start-up support considers training in financial management</p>	L
The project budgeting process doesn't respect procedures and doesn't allow for a good implementation of project activities	M	<p>The PMU staff will carry out the budget preparation process. The Budget will provide activities, unit and overall costs, expected results and monitoring indicators, and implementation modalities, including procurement procedures.</p> <p>The budgeting process will be defined in the project procedures manual.</p> <p>The approved Budget must be entered into the accounting and financial management software to monitor its implementation.</p> <p>Quarterly financial reports including information on budget monitoring</p>	L
Project financial flows and disbursement processes are not timely and jeopardize the	M	Availability of funds will be made through the standard circuit planned. This includes replenishment of the designated account, direct payment and reimbursement.	L

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implementation of activities on the ground		<p>The use of Certified Statement of Expenditures in support of expenses incurred by the Project is also planned.</p> <p>With regards to the implementing partners and public services, the resources will be transferred in accordance with the signed agreements and service contracts, which will have to provide mechanisms for the provision of funds based on the work plan and budget of the convention/contract, and disbursements based on a quarterly/semi-annual report of the activities carried out by the beneficiary/provider/partner</p>	
Project implementation and financial management procedures do not guarantee sufficient transparency and accountability	H	<p>Three (3) levels of security will ensure transparency and control of operations and also mitigate the risk of distortion and dysfunction related to management:</p> <p>The fact that only one person cannot conduct an operation in its entirety (from beginning to end, from execution to final control);</p> <p>The implementation of accounting self-audits;</p> <p>Implementation of the BAGRI Representation's proximity monitoring in Niger to support and supervise missions and an annual audit of the accounts.</p>	L
The project accounting system and financial procedures are not sufficiently formalized	H	<p>The Project will be equipped with management software covering all financial aspects: accounting, commitment, financial statements, budget monitoring, contracts, etc. The staff will have to master the software to parameterize it to meet the needs of management correctly.</p> <p>The monitoring of financial commitments and achievements will be based on accounting and financial management software and the production of financial dashboards for CNEDD.</p> <p>The Project's financial statements will be drafted according to the applicable standards & principles required.</p> <p>The annual financial statements of the Project for the year N will be established no later than the end of February of the year N + 1. The unaudited annual financial statements will be submitted CNEDD for review.</p> <p>The Procedures Manual will provide a detailed phasing of all the stages leading to the closing of the accounts (monthly / quarterly/annual) and the preparation of the financial statements</p>	L

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		The accounting system used in the framework of the Project should allow the registration of tax exemptions obtained from the government	
The project financial procedures do not allow for proper and regular monitoring	M	<p>Financial monitoring will be based on:</p> <p>regular preparation of withdrawal requests, based on rolling quarterly cash plans, and bank monitoring of the designated account and the account of operations;</p> <p>Budget monitoring; accounting monitoring; technical and economic monitoring provided by the administrative and financial officer</p> <p>The administrative and financial officer will prepare quarterly financial and accounting reports (interim financial reports), which will be submitted to BAGRI manager for signature and sent for review to CNEDD</p>	L

*Risk assessments: H = high, M = moderate, L = low

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4.C. Describe the environmental and social risk management measures in line with the Adaptation Fund's Environmental and Social Policy and Gender Policy.

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The potential environmental and social risks posed by the BAGRI project, when assessed against the 15 Principles of the Adaptation Fund, are limited and constrained to feeder road rehabilitation, rice and millet production, small-scale irrigation and drainage, fertilizer usage, and agricultural rehabilitation of millet, rice, onion and sugarcane. The project will not have any negative impacts, such as the involuntary taking or restriction on land use resulting in physical or economic displacement or negatively affecting indigenous peoples or sites of historic, religious, or cultural significance. The project is rated as a 'Category B' project, (see the screening sheet in annexes), which means that no formal Environmental and Social Impact Assessment (ESIA) will be required. However, further analysis and environmental management plans will be mainstreamed throughout project design and implementation and be largely covered by the Adaptation Fund. The project target group depends on climate-sensitive natural resources such as rain-fed agriculture. It is very vulnerable to increases in unpredictable rainfall patterns and increases in temperature, which are also predicted to reduce the climate suitability of high yield millet. Funding from the AF is expected to address some of the causes of the elevated vulnerability to climate change.

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Potential Negative Environmental Impacts

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- **Deforestation and land degradation issues:** Expanding millet, rice, onion, and sugarcane crops due to project activities could result in direct deforestation through farms expanding into forest land, or indirect deforestation where new plantation displaces other vegetable crops in the same farm. The project will build safeguards by regularly mapping plot sites and monitoring third-party service providers' land use and forest cover. The maps generated will be compared with a new database on protected forests to ensure

that the activities will not cause direct or indirect deforestation of designated protected forests.

- **Road construction and rehabilitation:** The rehabilitation of feeder roads is essential to sustain the market linkages of the core commodity value chains supported by the BAGRI and the community and local economies at large. Lessons have been learned from the PRECIS (Project to Strengthen the Resilience of Rural Communities to Food and Nutrition Insecurity in Niger). The AF will support the carrying out of Environmental Assessments that will be conducted in accordance with the Environmental and Social Management Framework (ESMF). Procedures to ensure planned activities such as culverts are included in the design and implementation of the feeder roads.
- **Pollution from agrochemical use:** One of the potential environmental impacts is that of improper agrochemical use. The ~~CNEOP project~~ will partner with the Ministry of Agriculture and Breeding (MAB) to train a Lead Farmer per community to educate and monitor his or her community members on the correct application of fertilizers to reduce crop damage and fertilizer waste, reduce indirect GHG emissions, and improve productivity. Youth will also be encouraged to create gainful employment and business value chain in fertilizer and agrochemicals application.

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- **Beekeeping farms:** To reduce farmer vulnerability to rain-fed agriculture and hereby climate change. The project will focus on the existing regions that already engage in apiculture activities (Dosso, Maradi, ~~Zinder Tillaberi~~). The areas will be rehabilitated, and new sites will be constructed in consultation with the local authority. People will be informed about a potential risk related to apiculture.

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Potential Negative Social Impacts

- **Land access issues:** The development of sustainable agri-enterprises will not be an issue as the government of Niger supports the projects targeted to increase agricultural

productivity and reduce poverty. The risk of being pushed out of the land leads to loss of investments after mitigated improvements.

- **Unsafe and non-healthy working conditions:** Working conditions across sectors are generally poor in the rural areas of Niger because of general poverty, poor production methods, and limited awareness of and noncompliance with health and safety standards. Most farmers do back-breaking work in the agricultural sector and are regularly exposed to agrochemical toxins from overuse fertilizer and pesticides. In addition, due to the high poverty level, children often help in the production and/or write signs for agricultural commodities prices.
- **Managing expectations and conflicts resurgence:** Niger naturally is a peaceful country. People are very kind and ready to help with any social project that will ameliorate their living conditions. Hence, there will be no challenges regarding the social aspect of implementing the project.
- **Elite capture:** There is hope with the new government to have transparency in the administration. Thus, this will help to implement the project and appropriately target the beneficiaries.

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Environmental, Climate, and Social Management Plan

- **Responsibilities:** The ESMF will help ensure that planning permissions and decisions comply with the government's environmental and social approval processes. Updating ESMF and a decision as to whether an EIA is required will be the final step. Additional to these processes, the specific committees will be responsible for confirming each sub-projects and monitoring the implementation. During pre-inception, the initial actions will involve coordinating the roles and responsibilities of those involved in managing these risks, with the Environmental and Social Safeguards (ESS) Specialist taking the lead with support from the Gender and M&E Specialists.

- **Outline of the Management Plan:** The potential environmental and social risks posed by the project are limited and constrained to feeder road rehabilitation, rice and millet production, small-scale irrigation and drainage, fertilizer usage, and apiculture activities. The project will not have any negative impacts such as the involuntary taking or restriction on land use resulting in physical or economic displacement or negatively affecting indigenous peoples or sites of historic, religious or cultural significance.

- **Stakeholder Engagement, Community Sensitization, and Expectation Management:** In the absence of clear communication with relevant stakeholders and appropriate sensitization of local communities, the possibility of circulating rumors, misinformation, speculations, accusations and tensions can happen to result in (violent) conflicts within and between communities. Therefore, for any potential environmental and social impacts, the management plans will recommend developing a stakeholder engagement plan with a clear communication strategy and the organization of community sensitization activities regularly. A stakeholder engagement plan should include at least the following components:

- Principles, objectives, and scope of the engagement;
- Regulations and (institutional) requirements;
- Summary of previous stakeholder engagement activities;
- Stakeholder mapping and analysis;
- Strategies of engagement;
- Key messages and communication channels;
- Grievance mechanism;
- Resources and responsibilities, and;
- Monitoring and evaluation

- **Grievance Management:** Whenever a project causes negative environmental or social impacts, there will be grievances (complaints) from affected people. Having a good overall community engagement process in place and providing regular access to information can help prevent grievances and escalation to a level that can potentially undermine project performance. To reduce conflicts, a robust grievance/complaints mechanism that meets at least the following 'effectiveness' criteria should be instituted:

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

The procedure allows affected complainants to resolve their concerns fairly and timely through an independent process. Although CNEDD normally addresses potential risks primarily through its enhanced QE/QA process and by means of project implementation support, it remains committed to: (i) collaborating proactively with the affected parties to resolve complaints; (ii) ensuring that the complaints procedure is responsive and operates effectively, and; (iii) maintaining records of all complaints and their resolutions.

9.
9.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.

The project key M&E activities will include the following:

- **Project Inception Workshop:** A Project Inception Workshop will be conducted within two months of project start-up with BAGRI, the full project team, and relevant stakeholders. The Inception Workshop is crucial to building ownership for the project results and planning the first-year annual work plan. The fundamental objective of the Inception Workshop will be to present the modalities of project implementation and execution and assist the project team in understanding and taking ownership of the project's goals and objectives. An Inception Workshop Report will be prepared and shared with participants.
- **Reporting:** The Project Semi-annual and Annual Project Reports will be prepared by BAGRI and Steering Committee regarding the progress made since the start of the project and for the previous reporting period. These reports include, but are not limited to the following:
 - Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative);
 - Project outputs delivered per project outcome (annual);
 - Lessons learned/good practices;

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- Annual expenditure reports, and;
- Reporting on project risk management

Quarterly Progress Reports will also be prepared by project implementing partners in the field and submitted to the PMU to ensure continuous monitoring of project activities and identify challenges to adopt necessary corrective measures in due time. Technical reports, such as a best practices and lessons learned report, will also be completed, as determined during the project inception report. A Terminal project report will also be completed at least two months before project closure.

- **Financial Reporting.** The project team is an entity of BAGRI and its staff. Therefore BAGRI will transmit the financial report to the CNEDD and the Steering Committee. This exercise is also a legal obligation of the bank, which is carried out every six months
- **External Evaluations.** The project will undergo an independent external Mid-Term Evaluation at the mid-point of project implementation, determining progress toward achieving outcomes and identifying course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project term. A Final Evaluation will be conducted three months before project closure.
- **Field visits.** BAGRI staff and Government authorities will conduct regular field visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first-hand project progress.

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Knowledge management and lack of country-level M&E framework for measuring the results and contributions towards Agenda 2030 will be promoted. Over the past year, BAGRI has moved towards a country programme approach in Niger with dedicated M&E resources and has provided capacity-building support in monitoring, analyzing results, and documenting lessons learned for greater knowledge management. The project will strengthen the existing structure of the M&E Unit in the Project Management Unit to

monitor outcomes in concert with the Project Monitoring and Evaluation and prepare a clear KM and implement it throughout the entire project cycle and beyond.

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

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The table below describes the components and related activities.

Table 3.2: Results framework for the project

Narrative Summary	Indicator	Baseline*	Target (End of Project)	Means of Verification	Risks and Assumptions
Overall objective: Strengthen the smallholder farmers' resilience with climate-resilient practices suitable for millet, rice, onion, and sugarcane cropping, processing, conservation, and access to the market	Number of smallholder farmers adopting climate-resilient practices for millet, rice, onion, and sugarcane cropping, including processing, conservation, and market access	ND (baseline)	28 765 direct beneficiaries (40% women, 40% youth)	<ul style="list-style-type: none"> - Baseline and end-line surveys - Project Monitoring and Evaluation Reports (M&E) - Progress reports - Mid-term and final project evaluations 	<ul style="list-style-type: none"> - Local farmers are willing to adopt climate-resilient agricultural practices and use climate risk information. - Extreme climate conditions can severely affect crops and vulnerable communities - Possible effects related to COVID-19 (SARS-CoV-2) include protocols and restrictions - Political instability esp. in affected target areas
Component 1: Climate-proofed agricultural production and post-harvest combined with livelihood diversification					
Outcome 1: Local Millet, rice, onion and sugarcane farming communities resilience are made resilient and responsive to climate variability as smallholder farmers are more aware and capable of using sustainable enhanced with climate-smart agricultural (CSA) practices, weather information, and have access to sustainable alternative livelihood diversification options					
Output 1.1: Adaptation measures to foster	Percentage of farmers who benefited from	ND (baseline)	80% of farming households	- Baseline and end-line surveys	- Smallholder farmers are willing to learn and adopt CSA practices to

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<p>the resilience of improved resilient practices for millet, rice, onion and sugarcane production is implemented and post-harvest</p>	adopting climate-resilient agricultural practices and weather information		(% women/girls, % men/boys, % elderly)	<ul style="list-style-type: none"> - Focus group discussions (FGDs) - Project M&E reports - Progress reports - Mid-term and final project evaluations 	<ul style="list-style-type: none"> - enhance crop productivity and utilize climate risk information to plan cropping calendars. - Extreme climate conditions can severely affect crops and vulnerable communities.
	Percent change in millet productivity (i.e. yield)	ND (Baseline)	TBD(to be determined)		
	Percent change in rice productivity (i.e. yield)	ND (Baseline)	TBD		
Output 1.2: Alternative income-generating activities (apiculture) are adopted as livelihood diversification options	Percentage of male and female-led households and communities who benefitted from engaging in alternative livelihood options	ND (Baseline)	80% of farming households (% women/girls, % men/boys, % elderly)	<ul style="list-style-type: none"> • Gender-sensitive household surveys • FGDs 	<ul style="list-style-type: none"> - There is demand for apiculture products and gardening produce. - Target communities, especially women, youth and elderly, are willing and interested in participating in other income-generating activities (apiculture and gardening) to improve their livelihood. - Activities are appropriate for women, youth, and the elderly.

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					<ul style="list-style-type: none"> - Specific activities to facilitate market access.
Component 2: Climate-resilient rural infrastructure					
Outcome 2: <u>Rural Storage, processing and transport</u> infrastructures are <u>upgraded to withstand enhanced for the resilience of agricultural value chains under climate extremes, and variability and solar-powered equipment are provided to improve post-harvest and processing</u>					
Output 2.1: Rehabilitation of rural transport network and storage infrastructure rehabilitated to withstand weather extremes	Length (km) of rehabilitated and climate-proofed transport networks	ND (Baseline)	Climate-proofed 120 km feeder roads and farm tracks	<ul style="list-style-type: none"> - Project Field reports - Project M&E Reports - Progress reports - Mid-term and final project evaluations 	<ul style="list-style-type: none"> - Delays in procurement activities and implementation - Extreme climate conditions can disrupt rehabilitation works.
	Number of rehabilitated storage infrastructures	0	Warehouse upgraded		
Output 2.2: Equipment provision for improving the improved processing facilities to sustain value chains of millet, rice, onion and sugarcane by farmers under	Number and type of equipment utilised utilized	0	TBD	<ul style="list-style-type: none"> - Project Field reports - Project M&E Reports - Progress reports - Mid-term and final project evaluations 	<ul style="list-style-type: none"> - Delays in procurement activities and implementation - Local communities are willing to utilise solar-based processing equipment and learn how to maintain them.
	Number of farmers/	0	TBD		

<u>current and future climate risks</u>	operators who benefitted from solar-equipment		(X women/girls, X men/boys, X elderly)		
Component 3: Coordination, M&E, Dissemination of lessons learned					
Outcome 3: Efficient Coordination, Monitoring, and Evaluation systems are Stakeholder awareness, implemented as well as knowledge dissemination system through timely and transparent communication of results and consistent stakeholders' engagement					
Output 3.1: <u>Implementation/institutional arrangements</u> <u>Operational mechanism for lessons learned dissemination</u>	<u>M&E systems</u> manual developed and validated	Available	<u>M&E manual</u> <u>Manual for Lessons learned capitalization</u>	<ul style="list-style-type: none"> - Project M&E reports - Progress reports - Mid-term and final project evaluations 	<ul style="list-style-type: none"> - Delays in implementation - Lessons learned and experience from previous projects
	<u>Number of procurement plans developed</u>	0			
	<u>Communication strategy plan developed</u>	0	TBD		
	<u>Knowledge sharing tools and sessions developed</u>	Promoted	TBD		
	<u>Gender mainstreaming promoted and ensured</u>		5		

			Gender disaggregated data available		
<u>KEY ACTIVITIES</u>					
Component 1					
Activity 1.1.1: Demonstration fields for tailored-cropping advice and climate information are established					
Activity 1.1.2: Dissemination of climate weather information for millet, rice, onion and sugarcane farmers					
Activity 1.1.3: Adapted and improved millet, rice, onion and sugarcane varieties are provided to smallholder's farmers					
Activity 1.1.4: Development of soil conservation and drainage techniques in farmers' fields					
Activity 1.2.1: Construction of bee houses for apicultural activities in the suitable areas (Dosso, Maradi, <u>Zinder</u> , <u>Tillaberi</u>) and identification of beneficiaries (vulnerable families)					
Activity 1.2.2: Establishment of honey farms, including the creation of value-chain services					
Activity 1.2.3: Establishment of 100 community models of integrated vegetable gardens of at least 4-5 ha (solar pumps, compost systems, a daycare facility for women, agroforestry and rotation of crops; transport systems powered by solar applications					
Activity 1.2.4: Conduct 50 Training sessions on how to design apiculture projects, including honey harvesting and protection equipment, hive fabrication, management and maintenance to avoid potential diseases of honey					
Component 2					
Activity 2.1.1: Warehouse rehabilitation to withstand climatic weather conditions					
Activity 2.1.2: Climate-proofing 120 km feeder roads and farm tracks to ensure year-round and all-weather usability					
Activity 2.1.3: Support to districts for the development of Feeder Roads Maintenance Plans and support to Farmer-based Organizations (road gangs' formation, distribution of maintenance tools, development of Farm Tracks Maintenance Plans)					
Activity 2.2.1: Solar-powered equipment provision to farmer organizations, including women or youth organizations, for post-harvest cleaning, milling, flour packing and stacking					
Activity 2.2.2: Training sessions for solar-equipment management and maintenance					
Component 3:					

Activity 3.1.1: Efficient coordination, procurement, and M&E of project activities	Formatted: Font: Arial, Bold
Activity 3.1.2: Stakeholder awareness and participation through timely and transparent communication of results and consistent stakeholders' engagement	Formatted: Font: Arial

¹Baseline values are not determined (ND) but will be validated through a baseline study (at the start of the project to gauge progress).

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

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Table 3.4: Alignment of the project with the AF Results framework

Project Objective(s) ¹	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
Overall objective:				
Strengthen the smallholder farmers' resilience with climate-resilient practices suitable for millet, rice, onion and sugarcane cropping, processing, conservation, and access to the market				
Strengthen the smallholder farmers' resilience with climate-resilient practices suitable for millet, rice, onion and sugarcane cropping, processing, conservation, and	Number of smallholder farmers adopting climate-resilient practices for millet, rice, onion and sugarcane cropping, including processing, conservation, and market access	Outcome 1: Reduced exposure to climate-related hazards and threats. Strengthen the smallholder farmers' resilience with climate-resilient practices suitable for millet, rice, onion, and sugarcane cropping, processing, conservation, and	1. Relevant threat and hazard information generated and practices disseminated to stakeholders on a timely basis	9,967,895 982,000

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access to the market		access to the market		
Component 1: Climate-proofed agricultural production and post-harvest combined with livelihood diversification				
Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)
Local farming communities are made resilient and responsive to climate variability as smallholder farmers are more aware and capable of using sustainable climate-smart agricultural (CSA) practices, weather information and have access to alternative livelihood diversification options	<p>Number of farmers adapting climate-resilient agricultural practices</p> <p>Percent change in millet productivity (i.e. yield)</p> <p>Percent change in rice productivity (i.e. yield)</p> <p>Percent change in sugarcane productivity (i.e. yield)</p> <p>Percent change in onion productivity (i.e. yield)</p> <p>Percentage of male and female-led households and communities who benefitted from engaging in alternative</p>	<p>Output 1.1: <u>Improved resilient practices for millet, rice, onion and sugarcane production and post-harvest</u></p> <p>Output 1.2: <u>Targeted population groups covered by adequate risk reduction systems</u> <u>Alternative income-generating activities</u></p>	<p>1.2.1.1 Percentage of target population covered by adequate risk reduction systems</p> <p>millet, rice, onion and sugarcane farmers that adopted resilient practices</p> <p>2.354.500</p>	<p>4,5231,391,000</p>

	livelihood options (apiculture and gardening)	<u>(apiculture) are adopted as livelihood diversification options</u>		
Component 2: Climate-resilient rural infrastructure				
Rural infrastructures are upgraded to withstand climate extremes and variability, and solar-powered equipment is provided to improve post-harvest and processing	Length (km) of rehabilitated and climate-proofed transport networks Number of rehabilitated storage infrastructures ▲ Number and type of equipment utilised Number of farmers/operators who benefitted from solar-equipment Number of bee houses constructed Number and type of equipment provided for bee-farming	Output 4.2.1: <u>Vulnerable physical, natural, and social assets strengthened in response to climate change</u> <u>impacts, including variability, Rural transport network and storage infrastructure rehabilitated to withstand weather extremes</u> <u>Output 2.2. Rural transport network and storage infrastructure rehabilitated to withstand weather extremes</u>	4.2.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by asset types) 3,306,800 208,000 1,372,300	
Component 3: Coordination, M&E, Dissemination of lessons learned				

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<p>Efficient Coordination, Monitoring, and Evaluation systems are implemented as well as a knowledge dissemination system</p>	M&E systems manual developed and validated	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability Output 3.1: Operational mechanism for lessons learned dissemination	63.1.1. No. and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community livelihood strategies	1,357,20081,000
	Number of procurement plans developed			
	Communication strategy plan developed			
	Gender mainstreaming promoted and ensured			

¹ The AF utilised OECD/DAC terminology for its results framework. Project proponents may use different terminology, but the overall principle should still apply

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4. Detailed Budget of the Proposed Project

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4.Outputs	4.Activity	4.Notes and Assumption	4.Totals (USD)
4.Component 1: Climate proofed agricultural production and post harvest combined with livelihood diversification			
4.Output 1.1: Adaptation measures to foster the resilience of millet, rice, onion and sugarcane production and post harvest			4.1,234,000
4.ACTIVITIES	4. Activity 1.1.1: Demonstration fields for technology transfer: tailored cropping advice provision and climate information used in millet, rice, onion and sugarcane farming, considering local climate conditions	4.National agriculture climate service advisor to engage with various stakeholders, including farmers, to transfer technology in millet, rice, onion and sugarcane farming @ USD 400 per day / 8 field trainings (x10 days per training). Three days Training demonstrations on 8 fields will be organized each year for 30 participants per region @ USD10,000 per training	4.700,000
	4. Activity 1.1.2: Dissemination of climate weather information: Climate weather information to local Millet producers specifically for droughts and floods	4.Communication specialist to develop and implement communication plan and tools @ USD 400 per day for 50 days per year (2years). Annual lump sum to organize awareness and dissemination activities	4.165,000
	4. Activity 1.1.3: Modernization of agriculture practice and technology (use of	4.Solar based pumping systems, solar based post harvest and processing and equipment (lumpsum	4.200,000

	<p>modern technologies with a particular focus on solar-based pumping systems, solar-based post harvest and processing and equipment to attract more youth in agriculture)</p>		
	<p>4.Activity 1.1.4: Dissemination of adapted and improved millet, rice, onion and sugarcane varieties</p>	<p>4.Communication specialist to develop and implement communication plan and tools. lumpsum to organise awareness and dissemination activities @ USD 25,000</p>	<p>4.37,000</p>
	<p>4.Activity 1.1.5: Development of soil conservation and drainage techniques</p>	<p>4.Training for smallholder farmers, soil conservation specialists and drainage specialists @ USD 400 per day (x40 days: 10 days per region). Soil conservation and drainage equipment support smallholder farmers (lump sum). 4days training of smallholder farmers (25 participants per region) @ USD 5,500 per training per region (x 3 years)</p>	<p>4.132,000</p>
<p>4.Output 1.2. Income generating activities (apiculture) as livelihood diversification options</p>			<p>4.3,289,000</p>
<p>4.ACTIVITIES</p>	<p>4.Activity 1.2.1: Construction of bee houses for apicultural activities in suitable areas (Dosso, Maradi, Zinder)</p>	<p>4.Installation of 10 bee houses per year @ lumpsum of USD15,000 per bee (included clothes, tools, accessories and training of beneficiaries)</p>	<p>4.750,000</p>

	4.Activity 1.2.2: Establishment of honey farms, including the creation of value-chain services	4.Creation and promotion of 5 nurseries of honey plants per year and per region @ annual lumpsum of USD 5,000 per nursery (included tools, accessories and training of beneficiaries) 4. 4.Workshop to develop honey farms and value-chain services / 5 WS in the first year and 2 WS per year during the next four years / 3-days WS for 25 participants @ USD 3,000	4.789,000
	4.Activity 1.2.3: Establishment of 100 Community models of integrated vegetable gardens of at least 4.5 ha (solar pumps, compost systems, a daycare facility for women, agroforestry and rotation of crops; transport systems—powered by solar applications	4.Establishment of 100 Community models of integrated vegetable gardens @ lumpsum of USD 15,000 per garden / 20 gardens per year	4.1.500,000
	4.Activity 1.2.4: 50 Training sessions to support farmers in bee farming	4.Training session to support bee farmers s / 10 trainings per year / 2-days WS for 25 participants @ USD 5,000	4.250,000
4.Component 2: Climate-resilient infrastructure			
4.Output 2.1: Rehabilitation of rural transport network and storage infrastructure to withstand weather extremes			4.2.968,000
4.ACTIVITIES	4.Activity 2.1.1: Warehouse rehabilitation to withstand extreme climatic conditions	4.Lumpsum of USD 45,000 for the rehabilitation of warehouse (5 per region)	4.800,000

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	4.Activity 2.1.2: Construction and maintenance of agriculture infrastructures: (climate proofing 120 km feeder roads and farm tracks to ensure year round and all weather usability)	4.studies and surveys, works, construction of bridges and culverts where necessary, routine, and periodic maintenance @ lump sum of USD 200,000 per region	4.600,000
	4.Activity 2.1.3: Support to districts for the development of Feeder Roads Maintenance Plans and Support to Farmer-based Organizations	4.Development and implementation of roads maintenance plan by local communities @ USD 400 per day (per region) 2 regions in Y1 and 2 regions the next. Road maintenance tools	4.368,000
4.Output 2.2—Equipments provision for improving processing under current and future climate risks			4.338,800
4. ACTIVITIES	4.Activity 2.2.1: Solar powered equipment provision to farmer organisations	4.Solar powered equipment provision for post harvest cleaning, milling, flour packing and stacking	4.250,000
	4.Activity 2.2.2: Training sessions for solar equipment management and maintenance	4.Solar equipment specialist @ daily rate of USD 400 to train farmers on the utilization and maintenance (x6 days per training in each region)	4.28,800
		4.Annual training for solar equipment management and maintenance @ USD 5,000 (x30 participants per region)	4.60,000
4.Component 3: Coordination, M&E, Dissemination of lessons learned			
4.Output 3.1: Implementation/institutional arrangements			4.1,357,200

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4.ACTIVITIES	4.Monitoring and evaluation	4.Two M&E specialists @ USD 3,000 per month	4.360,000
	4.Procurement management	4.Two Procurement specialists @ 2,000 per month	4.240,000
	4.Environmental specialist	4.One Environmental specialist @ USD 2,000 per month	4.120,000
	4.Gender and youth specialist	4.One Gender and youth specialist @ USD 2,000 per month	4.120,000
	4.Finance Manager	4.One Finance Officer @ USD 1,500 per month	4.90,000
	4.Admin officer	4.Admin Officer @ @ USD 1,200 per month	4.72,000
	4.Project management	4.Project Manager @ USD 5,000 per month	4.300,000
	4.Office equipment	4.Office Equipment (laptops @ USD 1,500 per unit, desks and chair @ USD 800 per unit, and other equipment @ lumpsum of USD 500)	4.25,200
	4.Office supplies	4.Lumpsum of USD 500 per month	4.30,000
4.Total Component Amount			4.9,187,000

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4. Project cycle management (8.5%)	4.780,895
4. Total Project Cost	4.9.967,895

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4.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.

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Table 3.5. Detailed Budget of the Proposed Project

(Refer to the excel sheet)

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Component	Output	Activity	Budget Account Description	Notes and Assumptions	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)
Climate-proofed agricultural production and post-harvest combined with livelihood diversification	Output 1.1: Improved resilient practices for millet, rice, onion and sugarcane production and post-harvest	Activity 1.1.1: Demonstration fields for technology transfer: tailored-cropping advices provision and climate information used in millet, rice, onion and sugarcane production, considering local climate conditions	National consultant	National agriculture climate service advisor to engage with various stakeholders including farmers for transfer of technology used in millet, rice, onion and sugarcane farming @ USD 400 per day	40 000	-	-	-	-	40 000
			Workshop	Two workshops to setup of demonstration fields groups @ USD 5000 - each WS will serve to organise 25 demonstrations fields,	10 000	-	-	-	-	10 000
			Training	Semester training, best practices exchanges of demonstration field members - training @ USD 500 per group - 1st year will know one training	25 000	50 000	50 000	50 000	50 000	225 000
		Activity 1.1.2: Dissemination of climate weather information: Climate weather information will be disseminated by DNM to local millet, rice, onion and sugarcane producers	National consultant	Specialist in climate weather information to develop and implement dissemination plan and tools @ USD 400 per day for 50 days	20 000	-	-	-	-	20 000
			Dissemination	Annual lumpsum to organise awareness and dissemination activities	20 000	20 000	20 000	20 000	20 000	100 000
		Activity 1.1.3: Modernization of agriculture practice and technology (use modern technologies with a particular focus on solar-based pumping systems, solar-based post-harvest and processing and equipment to attract more youth in agriculture)	Equipments	Provide in the four regions (Maradi, South Tahoua, Zinder, Dosso) a package of solar-based pumping systems, solar-based post-harvest and processing equipment @ USD 120000 per package equipments (including procurement, transport, taxes, and installation)	-	480 000	-	-	-	480 000

Output 1.2, Alternative income- generating activities as livelihood diversificatio n options	Activity 1.1.4: Adaptation and improvement of millet, rice, onion and sugarcane varieties will be provided to smallholder farmers in consultation with INRAN and RECA	National consultant	Specialist in Agriculture (adapted and improved millet and rice varieties) to develop and implement dissemination strategy, tools and advise farmers @ USD 400 per day for 50 days	-	20 000	-	-	-	20 000
			Annual training of farmers on adaptive and improvement deeds @ USD 3000 per training of 30 farmers (10 training per year)	-	30 000	30 000	30 000	30 000	120 000
		Seeds varieties	Annual distribution of adaptive and improved seeds to farmers to the trainees farmers @ USD 200 per farmer	-	60 000	60 000	60 000	60 000	240 000
		National consultant	Soil conservation specialist and drainage specialist @ US\$400 per day to train smallholder farmers (x40 days: 10 days per region)	-	4 000	4 000	4 000	4 000	16 000
		Training	10 x 5 days training of smallholder farmers (per region) @ USD 3000 per training per region (x 3 years)	-	30 000	30 000	30 000	30 000	120 000
	Total output 1.1	-	-	115 000	694 000	194 000	194 000	194 000	1 391 000
	Activity 1.2.1: Construction of bee houses for apicultural activities in the suitable areas (Dosso, Maradi, Tillaberi)	Bee house installation	Installation of 10 bee houses in 3 regions (Dosso, Maradi and Tillaberi) @ lumpsum of USD 10000 per bee (included clothes, tools, accessories and training of beneficiaries)	100 000	100 000	100 000	-	-	300 000
		Nursery of plants	creation and promotion of 10 nurseries of honey plants per regions @ annual lumpsum of USD 5000 per nursery (included tools, accessories and training of beneficiaries)	100 000	100 000	100 000	-	-	300 000
		Workshop	Workshop to develop honey farm and value-chain services / 5 WS per region @ USD 3000	15 000	15 000	15 000	-	-	45 000

		<u>Activity 1.2.3: Establishment of 100 community models of integrated vegetable gardens of at least 4-5 ha with solar pumps, compost systems, a daycare facility for women, agroforestry and crop rotation, transport systems powered by solar applications</u>	<u>Vegetable gardens</u>	<u>Establishment of 100 Community model of integrated vegetable gardens @ lumpsum of US\$15000 per garden / 20 gardens per year</u>	300 000	300 000	300 000	300 000	300 000	1 500 000
		<u>Activity 1.2.4: 50 Training sessions to support farmers in apiculture</u>	<u>Training</u>	<u>Training session to support apiculture farmer in stocking and management of the beekeeping activities and business / 10 trainings per year / 2-days WS for @ USD3000</u>	30 000	30 000	30 000	30 000	30 000	150 000
-		<u>Monitoring and evaluation</u>	<u>Personnel cost</u>	<u>M&E specialists (with focus on Climate-proofed agricultural production) @ US\$ 3000 per month for the M&E activities - 90% under the component 1</u>	2 700	2 700	2 700	2 700	2 700	13 500
-		<u>Environmental support</u>	<u>Personnel cost</u>	<u>One Environmental specialist (Climate-proofed agricultural production) @ US\$ 2000 per month - 90% under the component 1</u>	1 800	1 800	1 800	1 800	1 800	9 000
-		<u>Gender and youth support</u>	<u>Personnel cost</u>	<u>One Gender and youth specialist (Climate-proofed agricultural production) @ US\$ 2000 per month - 90% under the component 1</u>	1 800	1 800	1 800	1 800	1 800	9 000
-		<u>Regional focal specialist support</u>	<u>Personnel cost</u>	<u>Four Regional focal points, expert in Agricultural engineers to oversee activities respectively in Maradi, South Tahoua, Zinder, Dosso @ US\$ 3500 - 40% under component 1</u>	5 600	5 600	5 600	5 600	5 600	28 000
<u>Total output 1.2</u>	-	-	-	-	556 900	556 900	556 900	341 900	341 900	2 354 500
<u>Total Component 1</u>	-	-	-	-	671 900	1 250 900	750 900	535 900	535 900	3 745 500

		Activity 2.1.1: Warehouse rehabilitation to withstand weather climatic conditions	Rehabilitation	Lumpsum of USD 175000 for the rehabilitation of warehouse (5 per region)	175 000	175 000	175 000	175 000	-	700 000
	Output 2.1: Rural transport network and storage infrastructure rehabilitated to withstand weather extremes	Activity 2.1.2: Construction and maintenance of agriculture infrastructures: (climate-proofing 120 km feeder roads and farm tracks to ensure year-round and all-weather usability)	National consultant	Studies and surveys @ lumpsum of USD 150000 per region	150 000	150 000	150 000	150 000	-	600 000
			Construction	Works, construction of bridges and culverts where necessary, routine, and periodic maintenance @ USD 365000 per region	365 000	365 000	365 000	365 000	-	1 460 000
		Activity 2.1.3: Support to districts for the development of Feeder Roads Maintenance Plans and Support to Farmer-based Organizations	National consultant	Development and implementation of roads maintenance plan by local communities @ US \$ 400 per day (per region) 2 regions in Y1 and 2 regions the next	24 000	24 000	-	-	-	48 000
			Maintenance tools	Roads maintenance tools	-	100 000	100 000	100 000	100 000	400 000
	Total output 2.1				714 000	814 000	790 000	790 000	100 000	3 208 000
	Output 2.2: Improved processing facilities to sustain value chains of millet, rice, onion and sugarcane	Activity 2.2.1: solar-powered equipment provision to farmer organisations	Equipments	Installation of a solar-powered equipment provision for post-harvest cleaning, milling, flour packing and stacking @ USD 600000 in 2 main regions	-	600 000	600 000	-	-	1 200 000
		Activity 2.2.2: training sessions for solar-equipment management and maintenance.	National consultant	Solar equipment specialist @ daily rate of US\$ 400 to train farmer on the utilization and maintenance (x6 days per training) - recycling the last two years	-	-	9 600	9 600	9 600	28 800
			Training	Annual training for solar-equipment management and maintenance @ US\$ 5000 (x30 participants)	-	-	20 000	20 000	20 000	60 000
		Monitoring and evaluation	Personnel cost	M&E specialists (with focus on Climate-resilient infrastructure) @ US\$ 3000 per month for the M&E activities - 90% under the component 2	2 700	13 500				
		Environmental support	Personnel cost	One Environmental specialist (with focus on Climate-resilient infrastructure) @ US\$ 2000 per month - 90% under the component 2	1 800	9 000				
		Gender and youth support	Personnel cost	One Gender and youth specialist (with focus on Climate-resilient infrastructure) @ US\$ 2000 per month - 90% under the component 2	1 800	9 000				
		Regional focal specialist support	Personnel cost	Four Regional focal points, expert in Agricultural engineers to oversee activities respectively in Maradi, South Tahoua, Zinder, Dosso @ US\$ 3500 - 40% under component 2	5 600	28 000				
			Transportation equipment	Four motobikes and accessories for Regional focal point for trips @ US\$ 6000 per unit	24 000	-	-	-	-	24 000

	<u>Total output 2.2</u>	-	-	-	35 900	611 900	641 500	41 500	41 500	1 372 300	
	<u>Total Component 2</u>	-	-	-	749 900	1 425 900	1 431 500	831 500	141 500	4 580 300	
	<u>Output 3.1: Operational mechanism for lessons learned dissemination</u>	<u>Activity 3.1.1: Stakeholders' awareness and engagement</u>	<u>Workshop</u>	One session per year to present the actions or result from the project's implementation in targeted value chains (honey, sugarcane, cereals) @ US\$ 5000	5 000	5 000	5 000	5 000	5 000	25 000	
<u>Component 3: Dissemination of lessons learned</u>			<u>professional firm</u>	Climate change Communication firm to lead the drafting of three policy briefs related to each value chains (Honey, sugarcane and cereals), produce short video documentary @ US\$ 35000	-	-	15 000	10 000	10 000	35 000	
-	<u>Monitoring and evaluation</u>		<u>Personnel cost</u>	Two M&E specialists @ US\$ 3000 per month for the M&E activities - 10% under the component 3	600	600	600	600	3 000		
-	<u>Environmental support</u>		<u>Personnel cost</u>	Two Environmental specialist @ US\$ 2000 per month - 10% under the component 3	400	400	400	400	2 000		
-	<u>Gender and youth support</u>		<u>Personnel cost</u>	Two Gender and youth specialist @ US\$ 2000 per month - 10% under the component 3	400	400	400	400	2 000		
-	<u>Regional focal specialist support</u>		<u>Personnel cost</u>	Four Regional focal points, expert in Agricultural engineers to oversee activities respectively in Maradi, South Tahoua, Zinder, Dosso @ US\$ 3500 - 20% under component 3	2 800	2 800	2 800	2 800	14 000		
<u>Total output 3.1</u>	-		-	9 200	9 200	24 200	19 200	19 200	81 000		
<u>Total Component 3</u>	-		-	9 200	9 200	24 200	19 200	19 200	81 000		
Project activities cost (A) - Component 1 + Component 2 + Component 3					1 431 000	2 686 000	2 206 600	1 386 600	696 600	8 406 800	
<u>Project execution cost</u>	<u>PEC</u>	<u>Procurement management</u>	<u>Personnel cost</u>	Procurement specialist @ 2500 per month	30 000	30 000	30 000	30 000	30 000	150 000	
		<u>Finance Manager</u>	<u>Personnel cost</u>	One Finance Manager @ US\$ 2500 per month	30 000	30 000	30 000	30 000	30 000	150 000	
		<u>Admin officer</u>	<u>Personnel cost</u>	Admin officer @ US\$ 1500 per month	18 000	18 000	18 000	18 000	18 000	90 000	
		<u>Project management</u>	<u>Personnel cost</u>	Project Manager, specialist in Climate Adaptation @ US\$ 5000 per month	60 000	60 000	60 000	60 000	60 000	300 000	
		<u>Annual financial audit</u>	<u>Financial audit</u>	Financial audit @ US\$ 4000 per year	4 000	4 000	4 000	4 000	4 000	20 000	
		<u>Communication services</u>	<u>communication</u>	annual lump sum to support internet, phone credit, cloud/visio tools	3 000	3 000	3 000	3 000	3 000	15 000	

	<u>Local travel</u>	<u>trip</u>	<u>lump sum for trips and travels under the project</u>	3 000	3 000	3 000	3 000	3 000	15 000
	<u>Office equipments</u>	<u>Furniture</u>	<u>Office Equipment (laptops @ US\$ 1500 per unit, desks and chair @ US\$ 800 per unit, and other equipement @ lumpsum of US\$ 500)</u>	39 200	-	-	-	-	39 200
	<u>Office supplies</u>	<u>Supplies</u>	<u>Lumpsum of US\$ 300 per month</u>	3 600	3 600	3 600	3 600	3 600	18 000
Project execution cost (B)				190 800	151 600	151 600	151 600	151 600	797 200
Total project cost (A+B)				1 621 800	2 837 600	2 358 200	1 538 200	848 200	9 204 000
Implementing entity fee (up to 8.5%)				-	-	-	-	-	778 000
Amount of funding requested / Grant amount				-	-	-	-	-	9 982 000

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

Below is the Project Disbursement Schedule:

Table 3.6: Disbursement Plan of the project

	Upon Agreement signature	One Year after Project Start	Year 2	Year 3	Year 4	Year 5	Total
Scheduled Date	May 22 TB D.	Dec 23 TB D.	Dec 23 TB D.	Dec 25 TB D.	Dec 26 TBD	Dec 27	
Project Funds (USD)	2,000 1,431 000	2,000 686,0 00	2,000 00020 6,600	1,300, 00038 6,600	1,200,000 696 .600 06,800	700,0 008.4 0 0	9,200,0 00 06,800 0
Project Execution cost (B)(USD)	190,8 00	151,6 00	151,6 00	151,6 00	151,600		797,200
Total Project cost (A+B)	1,621 .800	2,837 .600	2,358 .200	1,538 .200	848,200		9,204,000
Implementing Entity Fee (USD)	176,9 2313 7,088	176,9 2323 9,858	176,9 2319 9,335	92,84 6130, 022,	76,92 371,6 9	59,500	782,000

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Total (USD)	2,176	2,176	2,176	1,392	1,276	759,50	9,982,000
	9231	9233	92355	84666	92391	0	
	758,8	077,4	7,535	8,222	9,897		
	88	58					

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

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

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REPUBLIQUE DU NIGER



Fraternité - Travail- Progrès
CABINET DU PREMIER MINISTRE

=====
CONSEIL NATIONAL DE L'ENVIRONNEMENT
POUR UN DEVELOPPEMENT DURABLE
=====

SECRETARIAT EXECUTIF

Niamey, le 10 JAN 2014

0006

N°/

LE SECRETAIRE EXECUTIF

To

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

Subject: Endorsement for Agriculture Climate Resilient Value Chain Development
in Niger.

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

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by Banque Agricole du Niger (BAGRI) and executed by national executing entity.

Sincerely,

C.N.E.D.D
BP : 10 193 Niamey
Tél : (227) 20 72 25 59/ 20 72 42 64
Email : biocnedd@intnet.ne

SER Screening Questionnaire		Risk Description		Risk assessment to be completed only if the answer is “Yes” under the risk description column	Score
		Yes, No, n/a, TBD	If no answer, please shortly justify If Yes answer, describe potential issues, specify activities causing the risk identified. characterize the identified risk or impacts (likelihood, intensity, duration, reversibility) Indicate the risk localization (local/national/global)	Where applicable, identify the remedial actions that would mitigate the identified risk	Characterize the risk level: Low (L), Medium (M) high (H)
1. Labour and Working Conditions	Will the project present unsafe, indecent or unhealthy working conditions for stakeholders involved?	No	There are no activities planned that would entail unsafe, indecent, or unhealthy working conditions.		L
	Is there potential for the project to apply adverse discriminatory practices based on religious, racial, gender, disability, or political considerations?		The project will maintain strictly non-discriminatory approaches for all activities.		L
2. Climate change	Could the project adversely contribute to climate change by generating greenhouse gas emissions including through deforestation or forest degradation?	Yes	Small GHG emissions may arise from agricultural activities (rice farming), however, clean energy is promoted by the project for post-harvest processing and irrigation	The project will build safeguards by regularly mapping plot sites and monitoring third-party service providers' land use and forest cover. This will help to avoid direct or indirect deforestation of designated protected forests.	L

	Could the project negatively affect the resilience to climate change?	No	The project is inherently designed to enhance resilience to climate change.		L
3. Resource Efficiency and Pollution Prevention	Will the project generate hazardous waste? Is the project likely to lead to environmental damages due to uncontrolled management of waste?	No	The project is unlikely to generate large amounts of waste, and no waste generated is expected to be hazardous. It is also designed to reduce post-harvest losses.		L
	Is the project likely to lead to pollutants release? Are chemicals (including pesticides) likely to be used during the project?	Yes	The project is only expected to lead to the minor and negligible release of pollutants, largely from emissions from agricultural and processing equipment. Reasonable and not harmful pesticides may be used during the project for agricultural activities.	All pollution and use of chemicals will be strictly monitored and managed to ensure that it remains within relevant regulations. The project with the support from the Ministry of Agriculture and Breeding (MAB) to train a Lead Farmer per community to educate and monitor his or her community members on the correct application of fertilizers and pesticides to reduce crop damage and fertilizer waste, reduce indirect GHG emissions, and improve productivity. Youth will also be encouraged to create profitable businesses in eco-friendly fertilizer and agrochemicals solutions.	M
4. Human Rights	Is the project likely to negatively impact on human rights of the affected populations? (e.g. their rights to water, work, health, to a healthy environment, etc.)?	No	Project activities are not expected to have any negative human rights impacts, but rather enhance rights to food, well-being, and health.		L

	Is the project likely to create less favorable treatment of, or discrimination against, any person or group?	No	The project management unit will ensure that there is no discrimination during the project implementation.		L
	Is the project likely to increase the risk to people with disability (physical, hearing, visual, intellectual, and sensory impairments)?	No	The project is not expected to result in any risks to people with disabilities.		L
	Is the project likely to increase risks to children or vulnerable adults through interaction with SPC staff and non-staff?	No	The project is not expected to result in any risks to children or vulnerable adults.		L
5. Impacts on Affected communities	Any risk that populations perceive they did not receive enough opportunities to raise their concerns regarding the project?	Yes	It will not be possible to consult with all potential beneficiaries during the project design. Therefore, it is possible that some populations may feel that they were not afforded the opportunity to raise their concerns.	Project consultations will – to the greatest extent possible – attempt to engage with all of the interested stakeholders as possible. Parties feeling aggrieved will be able to use a Grievance Mechanism to share their concerns.	L
	Is there a risk that the project would create or exacerbate conflicts with or within affected populations?	No	None of the project activities are judged to improve the social cohesion, since it is focused on youth, women groups and close the gaps between clients and producers.		L
	Is the project likely to increase community exposure to disease (water-borne, water-based, water-related and vector-borne diseases as well as communicable diseases)?	No	Project activities are not expected to have any impacts on exposure to diseases of any sort.		L
6. Gender	Is there a likelihood that the project would have adverse impacts on gender equality, and/or the situation of women and girls?	No	The project will specifically ensure that gender sensitivity is mainstreamed throughout project activities.	Gender-sensitive indicators and activities will ensure that the priorities of women and other vulnerable groups are included.	L
	Have community groups/leaders raised gender equality concerns regarding the project during the stakeholder engagement process?	No	To date, no such concerns have been raised.	During ongoing stakeholder engagement, project proponents will ensure that gender equity is included as a core aspect of consultations.	L

	Would the project potentially limit women's ability to access or use natural resources upon which they depend for a livelihood?	No	The project will enhance the ability of women to access natural resources, equipment for processing to improve their livelihoods.		L
	Is the project likely to increase risks of sexual harassment or sexual exploitation?	No	All project activities will be strictly monitored to ensure no risk of sexual harassment or exploitation occurs.		L
7. Resettlement	Could the project involve the physical relocation of people (encompassing displacement as well as planned relocation)?	No	None of the project activities are envisaged to lead to relocation or displacement.		L
8. Use of natural resources	Could the project lead to adverse impacts on biodiversity or natural habitat?	No	There is a possibility that some activities may lead to minor and localized impacts on biodiversity or natural habitat.	All project activities will be strictly monitored and managed to ensure that they remain within relevant regulations.	M
	Is the project likely to negatively impact a protected area?	No	Project activities will be undertaken outside of protected areas.		L
	Is the project likely to introduce invasive alien species to the project area?	No	No invasive alien species are likely to be introduced by project activities. Beehives will be used to control their introduction in the project area.		L
	Is the project likely to restrict people's access to natural resources and their means of livelihood?	No	Project activities are designed to enhance people's access to natural resources and livelihoods.		L
	Is the project likely to favor the unsustainable exploitation of a renewable resource?	No	While the use of renewable resources (especially water and soil) is likely to take place, it will be ensured that this is done sustainably.		L

9. Peoples right and tenure	Is the project likely to negatively affect peoples' or communities' rights: rights of affected populations, including procedural rights such as the right to be consulted or to have access to information, or substantive rights (real or personal) such as the right of access to natural resources or benefit-sharing related to these natural resources (carbon rights, benefits from access to genetic resources...).	No	The people-centred approach adopted by BAGRI for all of its activities ensures that peoples' and communities' rights are always protected.		L
	Could the project require the relocation of people from their homes or lands subject to traditional ownership or customary use?	No	Project activities do not entail any relocation or displacement of people or communities.		L
10. Cultural heritage	Is the project likely to negatively affect cultural heritage?	No	No impacts on cultural heritage are anticipated.		L
	Is the project likely to negatively affect a legally protected cultural heritage area?	No	No impacts on cultural heritage are anticipated.		L
Risk categorization process		<ul style="list-style-type: none"> • If only L on the right-hand column, then the project is Low risk > no further assessment is required • If one or more M then the project is Medium risk > further assessment is required to formulate alternatives • If one or more H, > topic assessment is compulsory, including for the assessment of credible alternatives (NB: the project may have to be categorized as Medium or High risk depending on the outcome of the ESIA) 			

Conclusion:

- Risk Categorization (tick the relevant answer in the right-hand box): - Low - Medium - High