



ADAPTATION FUND

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Regular Size Full Proposal

Country/Region: Niger/Africa

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: AF00000299

IE Project ID:

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

Reviewer and contact person: Micol Ullmann Auger

Co-reviewer(s): Imèn Meliane

IE Contact Person:

Technical Summary

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:

Component 1: Climate-proofed agricultural production and post-harvest processing as livelihood diversification (USD 3,477,219);

Component 2: Climate-resilient infrastructure (USD 4,995,419);

Component 3: Dissemination of lessons learned (USD 125,000)

Requested financing overview:

Project/Programme Execution Cost: USD 775,119

Total Project/Programme Cost: USD 9,372,757

Implementing Fee: USD 627,243

Financing Requested: USD 10,000,000

The initial technical review raises several issues, such as the need for comprehensive consultations, a gender assessment and action plan, more details regarding the number and composition of project beneficiaries, especially marginalized groups, more details on how the project will ensure project sustainability, and identifying

	the executing entity as is discussed in the number of Clarification Requests (CRs) and Corrective Action Request (CAR) raised in the review.
Date:	May 17, 2022

Review Criteria	Questions	Comments	Response to the comment
Country Eligibility	1. <i>Is the country party to the Kyoto Protocol?</i>	Yes.	
	2. <i>Is the country a developing country particularly vulnerable to the adverse effects of climate change?</i>	Yes. <i>Niger is a least developed country vulnerable to adverse climate change impacts, including extreme weather events, rising temperatures, and recurrent droughts, which negatively affect the population and threaten natural resources and agricultural yields.</i>	
Project Eligibility	1. <i>Has the designated government authority for the Adaptation Fund endorsed the project/programme?</i>	Yes. <i>As per the Endorsement letter dated January 10, 2022.</i>	
	2. <i>Does the length of the proposal amount to no more than One hundred (100) pages for the fully-developed project document, and one hundred (100) pages for its annexes?</i>	Yes.	

	<p>3. <i>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?</i></p>	<p>Yes. <i>The project supports concrete adaptation actions to strengthen smallholder farmers' resilience to climate change impacts through the adoption of climate-proofed agricultural and post-harvest practices, production diversification activities, and infrastructure improvements to withstand weather extremes.</i></p> <p><i>The proposal includes a theory of change on page 31.</i></p>	
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	<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>Not clear.</p> <p>More information is needed on the project beneficiaries, including the consultation process with all direct and indirect stakeholders of the project. A gender assessment is also needed.</p> <p>The project is expected to deliver benefits to 28,765 direct beneficiaries, mostly smallholder farmers, FBOs including cooperatives, partnering financial institutions, small-scale rural entrepreneurs, women, and rural youth (18 to 35 years old). Female-headed households with recognized land access entitlement comprise 40% of the targeted beneficiaries, while youth with granted inheritance rights comprise 40%.</p> <p>Activity 1.2.1 mentions requirements for youth and women associations to benefit from the provision of solar-powered equipment, while activity 1.2.2 will offer training on PV system fundamentals and solar electric design to “young electricians and representatives of youth and women associations which have a background in electricity. More information is needed to understand how many such associations have this expertise to understand how gender equity and access can be addressed in the project.</p> <p>CR1: Please provide a sex-disaggregated breakdown of the 28,765 beneficiaries, including how many are smallholder farmers versus partnering financial institutions, etc.</p> <p>CR2: Kindly provide more details regarding how many women and youth associations are “already involved in the transformation of postharvest agricultural products and have at least three years of experience, with robust business plans” and for activity 1.2.2, how many youth and women associations in the project area have a background in electricity.</p>	<p>More information is provided regarding the project beneficiaries, including a consultation and a more comprehensive gender action plan</p> <p>CR1: Page 30 – Please see sex-disaggregated indicators per targeted region has been provided. A number of 5670 women in Tahoua, representing 15% of women aged between 20-34 years old and 6 295 men in Tahoua; and 10,500 representing 7% of women aged between 20-34 years old and 6,300 men in Agadez, will be the direct beneficiaries of the project. At least one partnering financial institution per project area will be supported to provide financial services.</p> <p>CR2: Details related to activities 1.2.1 and 1.2.2, provided on page 26 including Bagri practices in providing more concessional resources for women to facilitate their access to finance.</p>
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		<p>CR3: Please provide more details on how climate information will be disseminated by DNM to local farmers in Activity 1.1.2.</p> <p>CAR1: Please carry out a comprehensive, gender-responsive consultative process, involving all direct and indirect stakeholders of the project/programme, including vulnerable groups and taking into account gender considerations, and with attention to minority groups, marginalized and vulnerable groups, and indigenous people in the project/programme target areas, where relevant.</p> <p>Please also include a report documenting the consultative process and containing the list of stakeholders consulted (principles of choice, role ascription, date of consultation) a description of the consultation techniques (tailored specifically per target group), and the key consultation findings (in particular suggestions and concerns raised).</p> <p>CAR2: Please include a comprehensive gender assessment to determine the different needs, capabilities, roles, and knowledge resources of women and men, and/or identify how changing gender dynamics might drive lasting change. A full gender assessment is a requirement at the full proposal stage.</p>	<p>CR3: Details related to the diffusion of the climate information in the project area has been provided (use of community radio stations as a primary channel)</p> <p>CAR1: Gender-responsive consultative process, including vulnerable groups and key stakeholders in the project area, has been described on pages 48 to 49 and the list of people involved in the consultation process is provided as annexes.</p> <p>CAR2: The Gender Action Plan is detailed on pages 32 -33.</p>
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	<p>5. <i>Is the project / programme cost effective?</i></p>	<p>Not clear. <i>The proposal explains the scope and approach of the project, underscoring the income generating activities, the sustainability of the project due to the value chain approach, and the low regret or no-regret nature of the actions, but does include a clear description of alternative options to the proposed measures.</i></p> <p><i>The proposal also presents a comparison of investment per beneficiary with two similar ongoing projects, but does not explain the differences in the proposed measures of each project.</i></p> <p>CR4: <i>Kindly provide a clear description of alternative options to the proposed measures, to allow for a good assessment of the project/programme cost effectiveness.</i></p> <p>CR5: <i>Please explain the differences in the proposed measures of each of the projects used for comparison.</i></p> <p>CR6: <i>Please provide more detail regarding the cost effectiveness of focusing on a single adaptive action on select element of the maize or millet cultivation cycle versus implementing actions in each aspect of the maize and millet value chains example mentioned on page 37.</i></p>	<p>CR4, CR5, CR6: <i>Details and clarification related to the cost-effectiveness, and comparison with alternatives of proposed technologies are provided on page 35.</i></p>
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	<p>6. <i>Is the project / programme consistent with national or sub-national sustainable development strategies, national or sub-national development plans, poverty reduction strategies, national communications and adaptation programs of action and other relevant instruments?</i></p>	<p>Yes.</p> <p><i>The project is designed within the overall framework of the National Programme of Adaptation (NAP) and the recently developed Intended Nationally Determined Contribution (INDC).</i></p> <p><i>Priorities identified as part of the NAP process informed the development of this project proposal, through consultations with the main stakeholders represented under the NAP committee.</i></p> <p><i>The project is aligned with the National Climate Change Policy (NCCP), the National Climate Change Strategy and Action Plan (NCCS and AP). The proposed strategy is consistent with government priorities in the 20121-2026 Economic and Social Development Plan (PDES) and the SDDCI (strategy for sustainable development and inclusive growth), and the SDGs.</i></p> <p><i>Additionally, the project is consistent with priorities outlined in various sectoral plans at national and regional levels.</i></p>	
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	<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>Yes. <i>The project meets relevant national technical standards, including the The Environment Protection Act and policies, the National Environmental Policy, The Environment Protection Act (2010), The Forestry Act (2004), The National Land Policy for Niger, as well as 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, and the Law no. 60-28 of May 25, 1960, which outlines the methods of development and management of agricultural initiatives carried out by public authorities</i></p>	
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	<p>8. <i>Is there duplication of project / programme with other funding sources?</i></p>	<p>Not clear. <i>The proposal cites complementarity with seven existing projects but does not provide details on how the project is complementary with each.</i></p> <p><i>The proposal states that the project will avoid duplication and ensure complementarity by creating knowledge sharing platforms for stakeholders of similar projects.</i></p> <p><i>It is recommended that the project establish a framework for coordination during implementation which can be easily accessed more frequently, and regularly updated to avoid duplication of project activities and exchange lessons learned. The computerized database to generate dashboards mentioned on page 54 could serve as an effective tool for knowledge exchange with development partners and stakeholders of other complementary projects.</i></p> <p>CR7: <i>Kindly provide more detail regarding possible linkages and synergies, including geographic location of other projects, and whether they target the same communities or regions. Please also consider establishing a coordination framework which can be easily accessed more regularly.</i></p>	<p>CR7: <i>The projects cited on pages 45 and 46, take into account the geographic location and component 3 of the proposed project will serve as a platform for the coordination of the project.</i></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. <i>Component 3 is dedicated to the dissemination of lessons learned; however, some clarification is needed regarding the activities under this component.</i></p> <p><i>As outlined in page 54, the project contemplates the development of a computerized database to generate dashboards used in the BAGRI project, for the purpose of monitoring and evaluation of project activities. The 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, however the database is not included under component 3 in the project components section or the detailed budget.</i></p> <p>CAR3: <i>Kindly clarify whether the computerized database will be included in component 3 and if so, please ensure this is reflected in the budget or how the database costs will be covered.</i></p>	
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	<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>No.</p> <p>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), however the site-specific consultations process is currently being carried out.</p> <p>CAR4: Please include a summary of the comprehensive, gender-responsive consultative process, involving all direct and indirect stakeholders of the project/programme, including a list of all participants and a summary of the concerns they raise and how these are integrated in the project design. Please also refer to CAR1.</p>	<p>CAR3: The budget has been updated regarding new changes implemented, including resources allocation to the different implementing partners.</p> <p>CAR4: Please kindly refer to CAR1.</p>
	<p>11. Is the requested financing justified on the basis of full cost of adaptation reasoning?</p>	<p>Yes.</p> <p>The proposed activities are relevant in addressing Niger's adaptation objectives and will help achieve these objectives.</p>	
	<p>12. Is the project / program aligned with AF's results framework?</p>	<p>Partially.</p> <p>The project is aligned with Outcomes 4, 6 and 8 of AF's results framework. However, this is not specified in the Table 3.4 on page 86.</p> <p>CAR5: Please specify how the project outcomes align with Adaptation Fund outcomes in the table.</p>	<p>CAR5: Project outcomes completed in the Adaptation Fund outcomes in the table.</p>
	<p>13. Has the sustainability of the project/programme</p>	<p>Partially.</p> <p>Knowledge sharing, increased capacity of smallholder farmers in climate-resilient practices, and diversification of</p>	<p>CR8: The section related to the social, economic, environmental, institutional, and financial sustainability of the project has been enhanced. The</p>

	<p>outcomes been taken into account when designing the project?</p>	<p>production can all have sustainable benefits beyond the life of the project, but more information is needed regarding how the project will ensure institutional support for the project activities or how road infrastructure will be maintained once the project has ended.</p> <p>It will be important to mention how national and or regional ministries or agencies involved in the project continue to provide support after project completion.</p> <p>CR8: Please provide more information on how the project will ensure social, economic, environmental, institutional, and financial sustainability of the project activities beyond the life of the project, including clarifying the role of national banks mentioned on page 5, and explaining how road infrastructure will be maintained as well as outlining any policies and governance arrangements to be developed and implemented.</p>	<p>implementation arrangement has been improved and the role of each stakeholder is detailed on pages 62-63. The roads infrastructure will be implemented together with BAGRI and ONAHA (National Institution dedicated to the rural infrastructures) to insure the sustainability of the rural road infrastructures.</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>Yes.</p> <p>As outlined section K and the checklist on pages 57-62, as well as pages 76-78. However, clarification is needed on some points mentioned in CR 8. The project is categorized as a Category B.</p> <p>While the involvement of a gender specialist is an essential aspect of the implementation arrangements, a gender assessment and action plan must be provided at full proposal stage in order to assess all potential risks regarding access and equity, gender equality and women empowerment, and to design gender-responsive activities in the project.</p>	<p>CR9: clarified (sentence reformulated)</p>

		<p><i>Additionally, the absence of a comprehensive consultations process as well as lack of information regarding access and equity, characteristics of marginalized and vulnerable, and 'ethnic' groups mentioned, doesn't enable an accurate assessment of the risks or ensuring that their needs and priorities are reflected in project activities.</i></p> <p><i>Please see CAR1 and CAR2.</i></p> <p>CR9: <i>Kindly clarify contradictory statements regarding involuntary resettlement on page 60 and what constitutes justified conversion with regards to protection of natural habitats.</i></p>	
Resource Availability	1. <i>Is the requested project / programme funding within the cap of the country?</i>	Yes.	
	2. <i>Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project/programme budget before the fee?</i>	Yes.	
	3. <i>Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme</i>	Yes. <i>However, given that BAGRI will also be acting as the Executing Entity, the Execution costs are capped at 1.5% (instead of the 9.5%).</i>	

	<p><i>budget (including the fee)?</i></p>	<p>CAR6: Please revise the budget to ensure that the execution costs do not exceed 1.5% of the total project budget (before the implementing entity fees).</p>	
<p><i>Eligibility of IE</i></p>	<p>1. <i>Is the project/programme submitted through an eligible Implementing Entity that has been accredited by the Board?</i></p>	<p>Yes. <i>BAGRI is a AF Board accredited National Implementing Entity.</i></p>	

<i>Implementation Arrangements</i>	<p>1. <i>Is there adequate arrangement for project / programme management, in compliance with the Gender Policy of the Fund?</i></p>	<p>No.</p> <p><i>The implementation arrangements are outlined in Implementation Arrangements Section K on pages 62-73 and include a description of the role of the implementing entity and the project management unit, including gender expertise. However, no executing entity has been identified and its role not described. The cover page of the proposal states that BAGRI (the Implementing Entity) is also the Executing Entity. This is only possible in exceptional circumstances and requires justification and a specific request from the Designated Authority. The endorsement letter from the DA only mentions that the project will be "executed by national executing entity" but does not specify that it is BAGRI.</i></p> <p>CAR7: <i>Please clarify who is the Executing Entity of the project and clearly describe its role. IN the case that BAGRI will act as both as Implementing entity and Executing entity, please provide a clear justification for this exception and provide a written request to that effect form the DA.</i></p>	<p>CAR7: <i>Implementing arrangement has been updated (page 62-63).</i></p>
	<p>2. <i>Are there measures for financial and project/programme risk management?</i></p>	<p>Yes.</p> <p><i>As outlined in Table 3.1 on page 74.</i></p>	

	<p>3. Are there measures in place for the management of for environmental and social risks, in line with the Environmental and Social Policy and Gender Policy of the Fund?</p>	<p>No.</p> <p><i>Environmental and social risks that have been identified in section II, and the corresponding impacts that have been assessed, an ESMP is included on page 78 and an environmental specialist, and a gender specialist are included in the budget.</i></p> <p><i>However, there are a number of items where the proposal indicates further detail will be furnished at phase inception. Please note that at this stage of project development, there should be a well-defined scope of activities and a comprehensive assessment of the risks and a detailed plan for their management. Further detail and mitigation measures should be provided at this stage of project development.</i></p> <p><i>A grievance mechanism is mentioned but it is unclear whether Conseil National de l'Environnement pour un Développement Durable CNEED will be in charge of the grievance mechanism or where it will be located or activated.</i></p> <p>CAR8: Please provide a more comprehensive ESMP after addressing CAR1 and CAR2 above.</p>	<p>CAR8: Please kindly note that in line with Niger regulation and the bank policy, the obligation to carry out the environmental impact study depends on the size of the sub-projects. As regulated by the Nigerien environmental law, given the fact that these sub-projects are small projects developed by grassroots communities (organizations of rural promoters), requirements are more about environmental audits. The bank policy and organizational structure planned for appropriate management measures relating to aspects related to the environment and society. This means that no formal Environmental and Social Impact Assessment (ESIA) will be required. Measures planned in the E&S Screening will be implemented during the implementation of the project.</p> <p>CR10: Every complaint or complaint, whether unfounded or well-founded, will have to go through the resolution process. It follows 6 steps</p> <ul style="list-style-type: none"> • Step 1: Receipt and registration of the complaint A complaint from one or more members of the community is received by the
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		<p>CR10: Please provide more details regarding the grievance mechanism and how it can be accessed by project stakeholders.</p>	<p>BAGRI complaint management specialist.</p> <ul style="list-style-type: none"> • Step 2: Eligibility Review Eligible or valid complaints are those related to projects filed by the person(s) concerned directly or indirectly or duly mandated by them. • Step 3: Assessment and Investigation within 30 days. • Step 4: Joint Settlement • Step 5: Implementation of the decision • Step 6: Closure of the complaint and follow-up including the monitoring and evaluation
	<p>4. Is a budget on the Implementing Entity Management Fee use included?</p>	<p>No. The breakdown of the Implementing Entity fee has been included in the disbursement table, rather than the budget, but does not include notes regarding what the fee will cover.</p> <p>CAR9: Kindly move the breakdown of the Implementing Entity Management Fee to the detailed budget and include notes on what the fee will cover.</p>	<p>CAR9: The breakdown of the implementing entity fee is provided in the budget with the note and assumption for each line.</p>
	<p>5. Is an explanation and a breakdown of the execution costs included?</p>	<p>Yes. As outlined on page 94.</p>	

	<p>6. <i>Is a detailed budget including budget notes included?</i></p>	<p>Yes.</p> <p><i>However, there are discrepancies in the budget tables.</i></p> <p>CAR10: <i>Please Review total for activity costs on the Components & Financing table as it adds to US\$ 9,872,581. Please review all totals and ensure that all budget tables are correct and consistent.</i></p>	<p>CAR10: <i>the total amount of activities is reviewed under each component. The sum of components is consistent with the total of grant amount.</i></p>
	<p>7. <i>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?</i></p>	<p>Yes.</p> <p><i>As outlined in section D on pages 80-82.</i></p>	
	<p>8. <i>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?</i></p>	<p>No.</p> <p><i>The proposal has not provided a breakdown of the Implementing Entity Management Fee.</i></p> <p>CAR11: <i>Please provide an M&E Plan budgeted with breakdown of IE fees for the supervision function.</i></p>	<p>CAR11: <i>breakdown provided in the notes of the detailed budget</i></p>

	<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. The project seems to be aligned with the AF's results framework and would contribute to several outcomes. However, there is no specification on the alignment of the project outcomes with the Fund's results framework as Table 3.4 does not specify the particular Fund's outcomes or outputs that align with the project's objectives or outputs. In addition, not all relevant indicators are disaggregated by gender. The results framework is also missing key core impact indicators.</p> <p>CAR12: Please revise Table 3.4 to clearly outline which of the Fund's strategic outcomes is each project objective/outcome aligned with. Please refer this document with the Fund's results framework https://www.adaptation-fund.org/wp-content/uploads/2021/01/Results-framework-alignment-table-March-2019.doc</p> <p>CR11: Please ensure that all relevant indicators are gender responsive and disaggregated by sex as appropriate.</p> <p>CAR13: Please ensure that the project result framework must include at the core impact indicator "Number of indirect beneficiaries" in addition to the number of direct beneficiaries.</p>	<p>CAR12: Table 3.4 revised</p> <p>CR11; CAR13: indicators disaggregated by sex as appropriate.</p>
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	<p>10. Is a disbursement schedule with time-bound milestones included?</p>	<p>No.</p> <p><i>The proposal includes a disbursement schedule but does not indicate time-bound milestones relative to project inception and the annual reporting requirement.</i></p> <p>CAR14: <i>Please revise the project disbursement table to include milestones, reporting requirements.</i></p> <p>CAR15: <i>Please revise values in the Disbursement table and ensure the totals are accurate, as they currently add to different amounts. The Project activities cost adds to US\$8,597,638 and the Total add to USD 10,000,002. Please ensure that all budget related tables are correct and consistent.</i></p>	<p>CAR14: <i>It is provided a disbursement table with milestones for each reporting</i></p> <p>CAR15: <i>The figures of the budget table and disbursement were revised and are accurate</i></p>
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REQUEST FOR PROJECT/PROGRAMME FUNDING FROM THE ADAPTATION FUND

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

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

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

Complete documentation should be sent to:

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

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PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

PART I: PROJECT/PROGRAMME INFORMATION

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Project/Programme Category: *REGULAR PROJECT*

Country/ies: *Republic of Niger*

Title of Project/Programme: *Climate-Resilient Agriculture Chains in Niger (CRAC-Niger)*

Type of Implementing Entity: *National Implementing Entity*

Implementing Entity: *Banque Agricole du Niger (BAGRI)*

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

Amount of Financing Requested: *USD 10,000,000*

Project / Programme Background and Context:

Project summary

Niger is a West African country characterized by drastic climate conditions, particularly since ~~two~~. Two-thirds of ~~its~~the country's area (1,267,000 km²) is in the Saharan zone, and ~~a~~ the remaining third is in the Sudanese and Sahelian zones. It is dependent on the vagary's climate, with a pluviometry ~~with~~displaying significant interannual, spatial, and temporal variability. Like other West African countries, Niger is ~~very~~highly vulnerable to climate change, characterized by high climate variability and precipitation, ~~which leads~~ shifting to recurring rainfall deficits. These deficits ~~result in~~are responsible for the observed 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~~ due to droughts ~~remains~~ a perennial ~~problems~~problem for Niger, ~~and~~forcing the Government ~~plans to invest more~~to plan increased investments in irrigation schemes.

Niger experienced decreasing rainfall throughout the 1960s, 70s, and 80s, which caused severe ~~drought~~droughts and led to catastrophic ~~failure of harvest~~harvest loss and prevalence of malnutrition and starvation (~~that was~~ particularly the ~~case for 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 ~~one dollar~~ USD 1/per-day, ~~and~~ ~~in addition,~~ the high population growth ~~rate~~ 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 ~~areas~~.

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

¹ 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.

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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~~sustaining livelihoods and can even harm community cohesion.

Therefore, the

~~This project will address~~ key climate vulnerabilities in agriculture by providing integrated ~~climate-resilient~~ solutions in agricultural production value chains (i.e., ~~in two of the most vulnerable regions of Niger: Tahoua and Agadez. Critical food crops cultivated in these regions and among the most vulnerable to climate change are targeted in this proposal. They include, among others,~~ millet, maize, onion, and tomato). Proposed ~~adaptation and climate-resilient~~ solutions include post-harvest ~~loss reduction approaches, techniques and methods~~ combined with livelihood diversification; hence, contributing to the resilience of vulnerable smallholder farmers ~~in Tahoua and Agadez regions,~~ 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 across~~ the agricultural value chains.

The project ~~intends to support~~ ~~intervention zones are classified among~~ the country's breadbasket regions (i.e., Tahoua, Agadez) ~~as~~ 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~~ ~~Beyond Niger, the food produced in these two regions feeds several neighboring countries. Proposed adaptation and climate-resilient solutions identified in this project design are drawn from existing~~ ~~proven technologies and practices (e.g., improved varieties and cropping systems) and the, food processing techniques, etc.). In addition, this project will promote the systematic and comprehensive~~ integration of the new dimensions of ~~climate change~~ resilience ~~on~~to millet, maize, onion, and tomato value chains, including environmental management, integrated farming systems, ~~and~~ diversification, integrated pest management, and ~~adoption of concrete adaptation coping strategies, practices, and technologies (e.g., climate-resilient infrastructures).~~ Reflecting the key development challenges and adaptation needs, ~~BAGRI's~~ this project will deliver ~~the its set~~ objectives through three components: Climate-proofed agricultural production and post-harvest processing as livelihood diversification (Component 1); climate-resilient infrastructure (Component 2); and dissemination of lessons learned (Component 3).

1. Background

Niger is a West African country characterized by drastic climate conditions affecting over two-thirds of its area (1,267,000 km²) ~~located~~ in the Saharan and Sudano-Sahelian zones. It

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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 its high rainfall variability, which causes recurrent and severe dry spells and droughts. Furthermore, desertification, land and natural resources resource degradation have been major concerns for the country's socio-economic development. To overcome the country's current environmental and socio-economic challenges, the state government continues to develop initiatives to carry out actions likely to preserve the sustainability of basic productivity through appropriate mitigation and adaptation strategies. In 2021, the population of Niger was estimated at 25,130,817² with a growth rate of 3.82%³. In addition, statistics show that more than 43% of this population (over 10 million people) lives in extreme poverty. Niger has a poorly diversified economy, with the agriculture sector accounting for 40% of its Gross Domestic Product (GDP) and providing livelihoods for over 80% of the population. However, As food insecurity and drought remain perennial problems for Niger. Therefore, the government plans to invest in irrigation to address these challenges.

2. Geographical context

Niger, is one of the biggest inland nations in West Africa. It is one of the hottest countries globally since most of the country is covered by the Sahara Desert, and is characterized by a vast plateau with an average elevation of 500 m and low local relief. The majority of the country's population is concentrated in four of the eight administrative regions of the country, namely: Zinder (20.6%), Maradi (19.9%), Tahoua (19.1%), and Tillabéry (16.2%)⁴. 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.

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 trees⁵ (Fig. 1). 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).

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 the second-highest population growth rate in the world (based on 2020 to 2021 population growth).

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

5 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.

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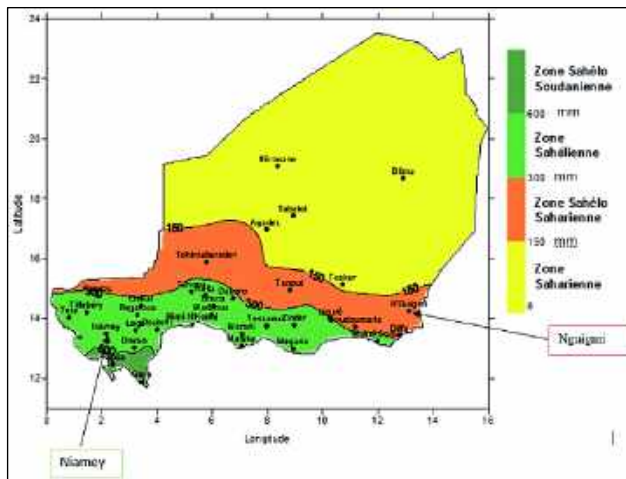


Figure 1: Agro-Ecological Zones of Niger

Niger is rich in minerals (e.g., phosphates and gold,) and hydrocarbons (i.e., petroleum) and is a leading producer of uranium. 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 governance⁶.

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

⁶ 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.

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environment could lead to a substantial decline in incomes earned by the poorest population segments from the supply of environmental goods and services⁷.

3. Socio-economic and food security context

The country's population, estimated in 2015 at 17.7 million inhabitants for a 3.9% as an annual demographic growth rate⁸, reached 23.3 million and 25,130,817 inhabitants in 2019 and 2020, respectively, with a growth rate of 3.87%. Young people under 15 years of age 15 represented 51.6% of the population. The fertility rate, which reflecting the average number of children born alive per woman (aged 15-49), was at 7.6% for the same year. A large part of the population derives income from the exploitation of natural resources⁹. The economic outlook for 2021 is expected to increase growth in the agriculture sector (5.1%). Moreover, the agricultural sector will benefit benefits from reopening the border with Nigeria. Real GDP is projected to reach 6.2% in 2022 and approximately 10% in 2023¹⁰. More than 41% of the population (more than 10 million people) lived in extreme poverty. The favorable 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.%.

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7 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.
8 Institut National de la Statistique du Niger. (2015). Annuaire Des Statistiques Sanitaires Du Niger. Retrived 27 December 2021 from https://www.stat-niger.org/wp-content/uploads/2020/06/Annuaire_Statistiques_2015_DS-MSP.pdf.
9 Nunbogu 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_219_1.
10 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>.

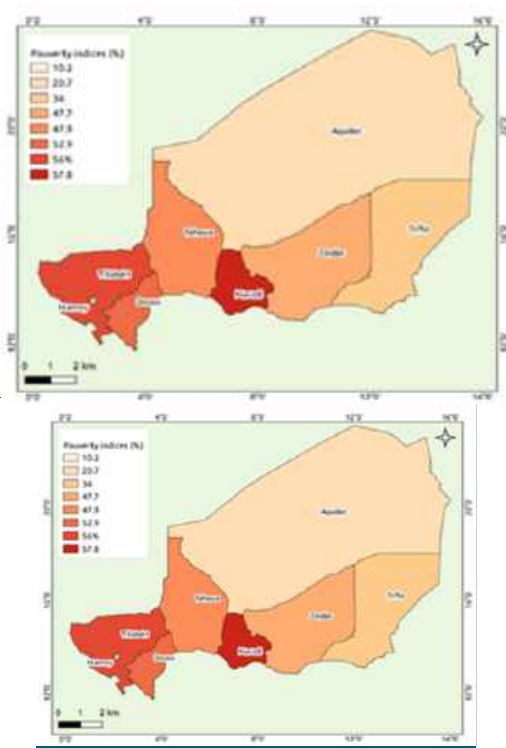


Figure 2: Poverty Index by region (data of 2011)

Regions of Dosso and Tillabéri account for 12% and 16.2% of the poor 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) and 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.

In Niger, Agriculture is the main 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. The country's National Institute of Statistics *even*, concludes that poverty has a

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rural face in one of its recent ~~report~~reports¹¹. 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 farmers 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.~~ The regions of Zinder and Tahoua host almost 40% of the country's total population. They have high poverty levels.

~~From~~
The period 2010 to 2017, ~~there is witnessed~~ 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 was~~ a deterioration in the food situation of populations under severe food insecurity in 2017, as compared to 2013, 2014, and 2015.

¹²~~In general, at the regional scale, the 2017, high proportions of population the population, 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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11 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>

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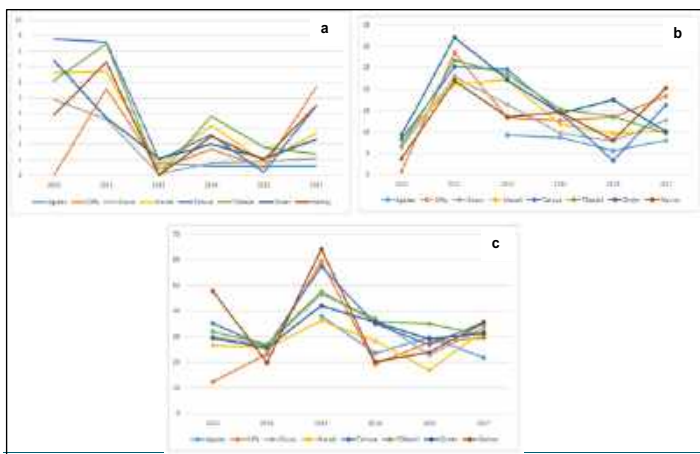


Figure 3: Changes in percentage (%) of populations in (a) severe food insecurity; (b) moderate food insecurity; and (c) declared in food insecurity by region from 2010 to 2017¹³

In 2017, high proportions of the population under severe food insecurity have been found in Tahoua region, precisely in the department following departments of Keita (16.7%), Bagaroua (9.2%), Tahoua (8.8%) and Tillia (6.9%). In those departments, the proportion of food insecure populations was more than twice the national average of 2.6%. In addition, the highest proportions of severe and moderate food insecurity were located in the departments of: Bagaroua (52.8%), Keita (41.2%), and Tahoua (29.6%) (Fig.4).

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¹³ 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.

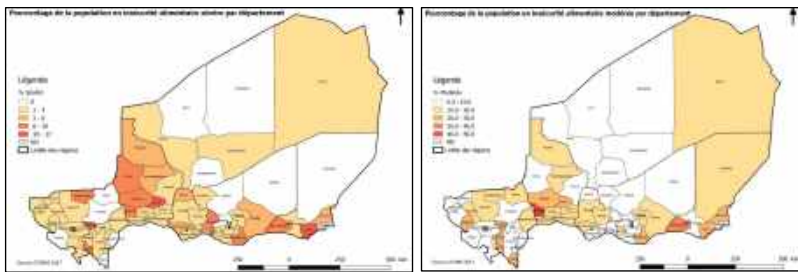


Figure 4-3: Percentage of populations under severe food insecurity (at left) and moderate food insecurity (at right) in the department of Niger in 2017¹⁴

- **Vulnerable groups**

According to FAO: “to

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

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 ~~nonenon~~ 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:

- o the annual cereal balance, the proportion of land under rainfed cultivation, the 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;
- o 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 health for young people as factors that make young people vulnerable;
- o specialllyespeciallly 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, and women’s workload.

14 Republique du Niger (2017). Enquête Nationale sur la vulnérabilité à l’insécurité alimentaire des ménages en milieu rural au Niger

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- o 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 people, and poor smallholder farmers as the most vulnerable groups.

4. Climate trends

A landlocked Sahelian country, Niger has a particularly arid climate with regularly extreme variability. Annual rainfall ranges from 100 to 800 mm, and is characterized by significant interannual and spatial variability, resulting in sequences of droughts and/or floods. These harsh climatic conditions affect agropastoral production and the living conditions of households¹⁵. Subdivided into eight regions, each one has different climatic conditions. The climate in Agadez is tropical arid, with a relatively rainy season from June to September. Located in the Sahel zone, which in summer receives some rain from the African monsoon, the hottest period of the year extentsextends from April to June, before the rainy season. The average annual precipitation is 110 mm per year, as most the region is quite covered with the Sahara Desert: covers most regions. Tahoua has a tropical arid climate, with a rainy season from June to September. The average annual precipitation is 365 mm per year, so it which is quite low.

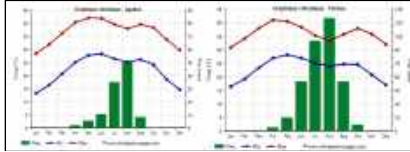


Figure 43: Annual cycle of total precipitation, maximum and minimum temperature¹⁶

4.1. Rainfall

4.1.1. Current Rainfall

Since the 1950s, Niger's climate has experienced three distinct rainfall cycles, common to most of the countries in the 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 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 conditions¹⁷.

15 USGS & FEWS NET. (June 2012). A Climate Trend Analysis of Niger. Retrieved from <http://pubs.usgs.gov/fs/2012/3080/>

16 World bank. (2022). Climate knowledge portal. <https://climateknowledgeportal.worldbank.org/country/niger/climate-data-projection>

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

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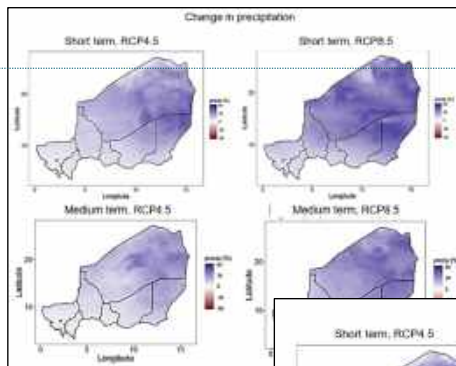
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4.1.2. Future

Figure 5 represents the projected changes during the rainy season (JJAS) (2020-2030) and (2030-2050) for SSP5-8.5 (right) CMIP5 models' ensemble 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 observed in the recent studies¹⁸. 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).



Rainfall

represents the in total rainfall season from June to in the short term the medium term SSP2-4.5 (left) and scenarios. The

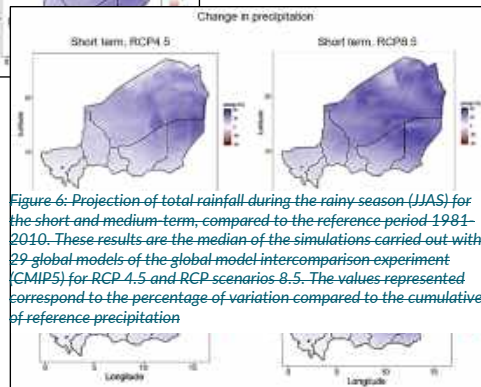


Figure 6: Projection of total rainfall during the rainy season (JJAS) for the short and medium term, compared to the reference period 1981-2010. These results are the median of the simulations carried out with 29 global models of the global model intercomparison experiment (CMIP5) for RCP 4.5 and RCP scenarios 8.5. The values represented correspond to the percentage of variation compared to the cumulative of reference precipitation

Considering the climatological reference of 1995-2014, the scenarios (SSP2-4.5, SSP5-8.5) show the same situation in the project area. The precipitation is below the normal at the beginning of the rainy season (May, Jun) and above the normal situation during the peak period (August) (Fig 7 b & d). Regional climate model projections for precipitation under the scenario SSP2-4.5 show a continuous interannual variability of precipitation between 2020 and 2080 at Tahoua (Fig 7 a) and a reduction trend of projected annual rainfall between 2020 and 2080 at Agadez.

Figure 5 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 precipitation

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

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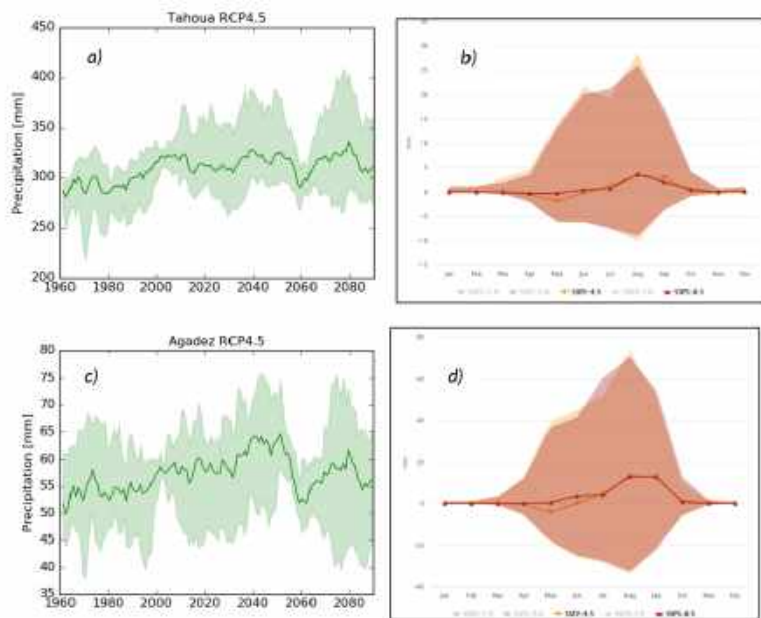


Figure 65: Regional climate model projections for precipitation displayed as a 20-year running mean at Tahoua (a) and Agadez (c). The line represents the ensemble mean, while the shaded area represents the model spread. The projections are based on the emission scenario SSP2-4.5. Projected rainy season (mm) anomaly for 2020-2039 (annual) at Tahoua (b) and Agadez (d) under SSP2-4.5, SSP5-8.5 (Ref. Period: 1995-2014) (RegioClim, Climate Analytics, and World Bank, 2021).

Tahoua and Agadez regions face extreme climatic hydroclimatic hazards that should become more frequent ~~are likely to increase in frequency~~ and intense ~~intensity~~ (i.e., recurrent and successive droughts, floods, strong wind, heatwaves, and sand or dust storms). Figure 8 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 ~~patterns~~ patterns and its poor distribution in time and space, ~~which can increase~~ the increasing crop diseases and ~~enemies outbreak~~ enemies' outbreaks (e.g., fall armyworms, flower insects, aphids, seed-eating birds), and livestock diseases (e.g., epizootics).

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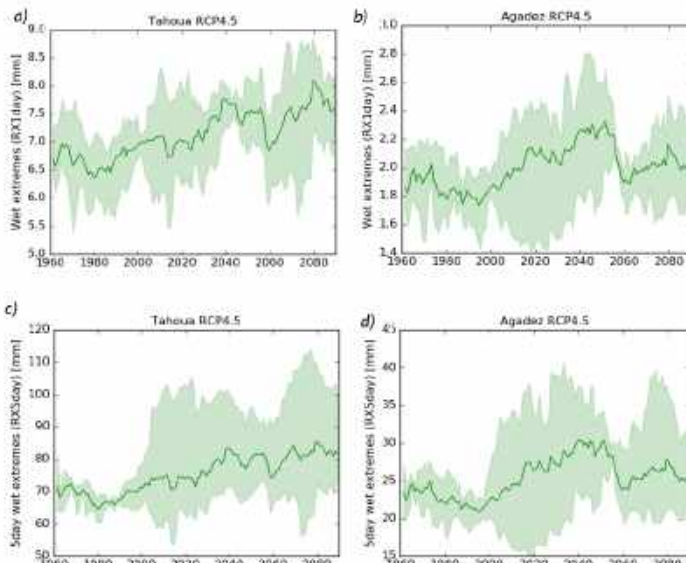


Figure 66: Regional climate model projections for daily wet extremes (RX1day) during the rainy season and extreme 5-day wet spell (RX5day) displayed as 20 years running mean. The line represents the ensemble; meanwhile, the shaded area represents the model spread. The projections are based on the emission scenario SSP2-4.5^{19:20}.

4.2. Temperature

4.2.1. Current temperature

Between 1970 and 2010, the mean annual temperature *has* increased by 0.6°–0.8°C at *the* national level, slightly higher than the global average. This was followed by 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.

4.2.2. Future temperature trend

Figure 9 portrays the predicted 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

19 MPIESM-REMO; HADGEM2-CCLM4; ECEARTH-RACMO and IPSL-RCA
 20 Simulated using model projections in RegioClim. [ClimateAnalytics](#).

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

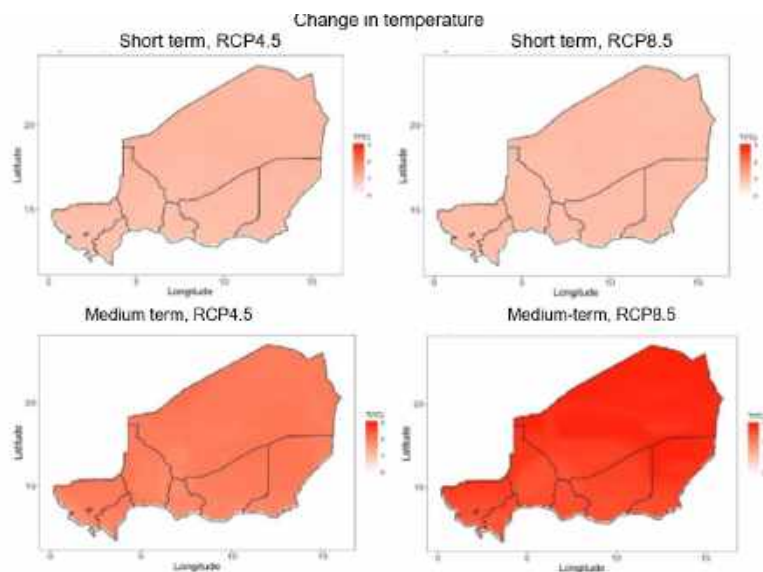


Figure 97: Differences in the mean surface temperatures in Niger during the rainy season (JJAS), simulated over the short term and the medium term by comparison with the period of reference 1981-2010. These results are the median of the simulations carried out with 29 models - global model from the intercomparison experiment (CMIP5) for RCP scenarios 4.5 and RCP 8.5.

Specifically, for Tahoua and Agadez regions, the mean temperature is above the normal during the year, as observed under two scenarios (SSP2-4.5, SSP5-8.5). There is an increase in the mean temperature throughout all months in the two regions.

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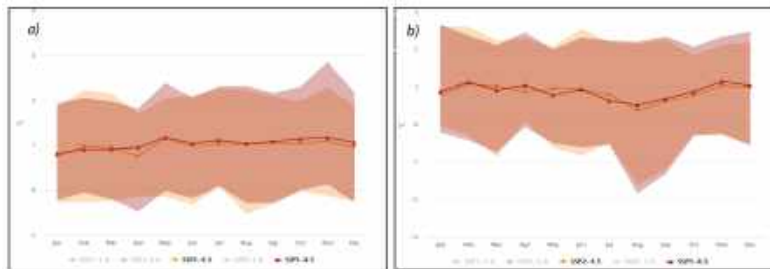


Figure 108: Projected mean temperature (°C) anomaly for 2020-2039 over the year at Tahoua (a) and Agadez (b), (Ref. Period: 1995-2014), SSP2-4.5, SSP5-8.5 (World Bank, 2021)

5. Climate change impact on the agriculture sector

Niger 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 1983-1984²¹. 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 Niger is still very vulnerable to weak rains²². The negative effect of rainfall variability is compounded by the small availability of suitable soils for agriculture (only 12% of the country), the majority (over 60%) of the population live on less than one-USD 1/per-day, and the high population growth is putting increasing pressure on the country's fragile ecosystems and leading to problems of desertification²³. As a result, many pastoral communities have been forced to become semi-agricultural due to prolonged droughts and/or low rainfall²⁴. 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. During 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 destroyed livelihoods and infrastructures and were associated with an increase in Malaria and diarrhoeal diseases²⁵. In 2012, Niger was affected by 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

²¹Prolniova (2008). Etude des adaptations aux changements climatiques au Niger. Rapport mi-parcours.

²²Danida. (2008). Appréciation des impacts des changements climatiques sur les programmes de développement de la coopération avec le Niger.

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

²⁴Prolniova. (2008). Etude des adaptations aux changements climatiques au Niger. Rapport mi-parcours.

²⁵ Danida. (2008). Appréciation des impacts des changements climatiques sur les programmes de développement de la coopération avec le Niger.

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heightened intensity of rain events has increased the frequency of flash flooding and topsoil erosion, resulting in reduced soil fertility and land degradation. Floods have also been worsened by the impact of increasingly intensive and consecutive rains recorded in ~~Maradia~~ Maradi and the Northern region²⁶. Recently, in 2020 and 2021, rainfall has led to severe flooding at Tahoua and Agadez, respectively²⁷⁻²⁸. Average rainfall levels in the west of Niger are considerably higher and 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 ~~fin~~ yields by an average of 25%, ~~increases in the pmaizes of staple 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 predictable²⁹. 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~~ rely on agricultural or pastoral activities for their livelihoods, which strongly depend on climatic conditions. Crops such as maize, wheat, peanut, beans, tomato, and onion are common in Tahoua, and Agadez ~~are~~ is sensitive to ~~the climate~~ climatic conditions.

Table 1.1: List of the main cultivated crops in Agadez and Tahoua^{30,31}.

Region	Food crop crops	Cash crops	Market gardening
Agadez	maize, wheat, millet, sorghum	onion, beans	tomato, garlic, potato
Tahoua	millet, sorghum, beans, maize, peanut	onion, okra, tomato, pepper, pumpkin	cassava, sweet potato, potato

26 Mahamadou, 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.

27 <https://reliefweb.int/map/niger/tahoua-niger-flood-situation-27092020-delineation-overview-map-01>

28 <https://floodlist.com/africa/niger-floods-leave-over-30-dead-thousands-of-homes-destroyed>

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

30 REGIONALE DE L'INSTITUT NATIONAL DE LA STATISTIQUE. (2017). ANNUAIRE DES STATISTIQUES REGIONALES. Region D'Agadez

31 REGIONALE DE L'INSTITUT NATIONAL DE LA STATISTIQUE. (2017). ANNUAIRE DES STATISTIQUES REGIONALES. Region de Tahoua

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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 livelihoods³². 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 maize (*Oryza sativa* L.) by 7.82% at the national level. These projections are particularly important in the Tahoua and Agadez, where late and erratic rainfalls and higher frequency and extent of dry spells have been observed. The projections based on the emission scenario RCP4.5 ~~predicts~~predict a decrease ~~of~~ up to 10 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 Tahoua.

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~~the regional 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 tons (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)³³. 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, Cote d'Ivoire, Togo, and Burkina Faso³⁴. 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)³⁵.

Table 1.2: 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 production area~~ : in the targeted areas is 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)³⁶. ~~Sowing takes place from September to October.~~

³² CNEDD (2006). National Adaptation Programme of Action of the Republic of Niger.

³³ Food 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>.

³⁴ Observatory of Economic Complexity. (2019). Onions in Niger. Retrieved 9 January 2022 from <https://oec.world/en/profile/bilateral-product/onions/reporter/ner>.

³⁵ Rabiou, M. M., Moussa, I., Mella, M. T., & Sadou, H. (2018). Panorama of onion production in Tillabéri, a region of the far west of Niger. European Scientific Journal, 14, 175-196.

³⁶ Ministry of Agriculture. (2014). Final result of horticultural production. Republic of Niger.

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Planting bulbils is possible from October. Transplanting takes place from November to December. Onion is sensitive to the increase in ambient temperature and water stress (Table 3). The table Table 3 also summarizes the other main crop, the climate sensitivity, and viable adaptation options in the context of Tahoua and Agadez regions.

Table 1.3: Main crops in the project area (Tahoua and Agadez), their associated climate-related stressors, and adaptative options:

Crops	Climate risks	Impacts	Adaptation options
Millet Sorghum Maize	Increase in Temperature Rainfall variability	The average yield of millet and sorghum, the staple millet and sorghum crops, the staple food of the Sahelian populations, would decrease by 15% to 25% by 2080 due to the temperature increase and rainfall variability	Climate-resilient practices such as inter-cropping; soil fertility (compost) and water retention (Zai and half-moons) techniques; Better adjustment of the cropping calendars (sowing dates, use of photosensitive varieties).
Onion Garlic	Increase in Temperature and water table decrease reduce the decreases reduction in yield	An increase in temperature-induced an increase in evaporation and an increased irrigation rate. Beyond a certain threshold, onion is exposed to the heat stress, which can reduce its productivity	Sustainable agricultural on-farm and post-harvest practices, Solar-powered equipment for production, processing, and packaging, Installation of solar-powered modules for cold storage, Water harvesting, efficient irrigation infrastructure, develop modern storage technics
Tomato	Heat and water stress reduce yields, affect growth, and increased the incidence of fruit abortion and disease	Studies show significant declines in yields due to heat and water stress. High temperatures affect plant growth and reproduction, with an increased incidence of abortion of fruit. Lack of water results in formation of fewer	Sustainable agricultural on-farm and post-harvest practices, Solar-powered equipment for production, processing, and packaging, Installation of solar-powered modules for cold storage, Water harvesting, efficient irrigation infrastructure, using of solar energy for the conservation

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		flowers and affects pollen	
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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~~ income decrease 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 simulations³⁷ show that climate change will greatly affect crop productivity by 2050 (compared to the average yields from 1981-2010) (Figure 11). Climate change will also modify the distribution of cropping areas³⁸. An extension to the North of the areas for high risk and marginal millet production (0.1 t/ha) is projected.

The following are the simulated climate effect on crop productivity: (i) a drop of 9 to 15% in grain yields for non-photosensitive millet; (ii) an 18% to 23% drop in sorghum grain yields; (iii) an increase of 21% to 25% in grain yields of photosensitive millet; and 17% to 18% increase in maize grain yields.

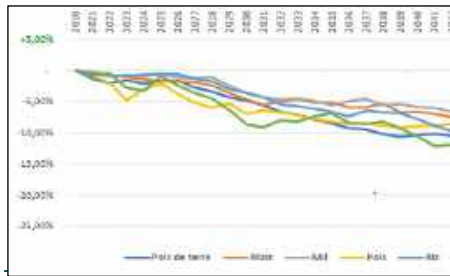


Figure 11 : Simulated impact of climate change on rainfed crop yields in the Niger for RCP 8.5 (2020 as baseline year)

³⁷Long, 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.

³⁸Long, 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.

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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'~~ population's 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~~ 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~~ 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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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:

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- 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, maize, onion, and tomato.
- 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 which support agriculture systems are also exposed to climate change through increased precipitation (i.e., flooding) and increased temperature.

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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~~ areas for agriculture is also a key problem resulting from growing energy needs, ~~with for~~ fuelwood and charcoal. The direct consequence is the accelerated desertification of hectares of land due to deforestation, which can be easily ~~noticed~~ noticed in Tahoua and Agadez regions.

The above issues prevent Tahoua and Agadez 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, 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~~ storage 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 and improved fertilizers. As climate risks and climate ~~risk~~ risk 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 ~~rainy season's~~ onset of the rainy season) to ~~better~~ decide cultivation practices ~~better~~ and ~~to~~ adjust the cropping calendars. 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:

The project aims to strengthen the smallholder farmers' resilience with climate-resilient practices suitable for cereals (millet, maize) and vegetables (onion, tomato) cropping, processing, conservation, and access to the market. Specifically, the project intends the following:

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- to integrate climate-proofed agricultural production and post-harvest options to increase the adaptive capacity of the most vulnerable ~~cereals~~cereal and ~~vegetables~~vegetable farmers to the adverse effects of climate change at Tahoua and Agadez;
- to boost the resilience of vulnerable smallholder farming communities with livelihood diversification activities (i.e., postharvest processing, biological fertilizer), and;
- to increase the food security of the vulnerable communities through climate-resilient infrastructures in Tahoua and Agadez rural areas.

Project / Programme Components and Financing:

Table 1.4: Relationships among project components, activities, expected concrete outputs, and the corresponding budgets

Project/Programme Components	Expected Concrete Outputs	Expected Outcomes	Amount (USD)
Component 1: Climate-proofed agricultural production and post-harvest processing as livelihood diversification	Output 1.1: Adaptation measures to foster the resilience of cereals (millet, maize) and vegetables (onion, tomato) production and post-harvest	Outcome 1.1. Adaptation measures to foster the resilience of millet, maize, onion, and tomato production is <u>are</u> implemented	2,261,000 <u>668,964</u>
	Output 1.2. Income-generating activities (post-harvest processing) as livelihood diversification options	Outcome 1.2. Alternative income-generating activities (post-harvest processing) are adopted as livelihood diversification measures by maize, millet, onion, and tomato farmers	1,088,800 <u>252,200</u>
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	4,995,419 <u>965,564</u>
		Outcome 3.1: Stakeholder awareness is	125,000 <u>253,564</u>

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Component 3: Dissemination of lessons learned	Output 3.1: Operational mechanism for lessons learned dissemination	implemented through timely and transparent communication of results and consistent <u>stakeholders'</u> stakeholders engagement	
Project/Programme Activities cost			8,597,6399,122,293
Project/Programme Execution cost			775,119138,307
Total Project/Programme Cost			-9,372,757 260,600
Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)			627,243739,400
Amount of Financing Requested			10,000,000

Projected Calendar:

Table.1.5: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

- A. Describe the project/program components, particularly focusing on the concrete adaptation activities of the project and how these activities contribute to climate resilience.

As shown in the background, climate change and variability ~~translate~~are translated by changes in the rainfall patterns, rising temperatures ~~rising, fragilizing, fragile~~ infrastructure, and affecting agriculture in Tahoua and Agadez. Therefore, the sustainable development of the targeted ~~area requires~~areas requires the implementation of sound adaptation measures capable ~~to address~~of addressing challenges posed by climate change. The project is designed to address climate vulnerabilities in agriculture with climate-proofed 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 immediate and longer-term resilience and development. In addition, the resilience of the agricultural sector needs a comprehensive set of sound diversification strategies built on integrated farming systems designed to increase yields, and minimize environmental degradation while maintaining ecological functions under changing climate. The overall objective of this project is to strengthen the smallholder farmers' resilience with climate-resilient practices suitable for cereals (millet, maize) and vegetables (onion, and tomato) 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 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~~of climate change ~~onto~~ agriculture in regions of Tahoua, and Agadez ~~identified by CNEDD and BAGRI,~~recognized as part of the country's breadbasket. The project will be implemented in Iferouane and Timia (for Agadez) and Keita and Dogueraoua (for Tahoua).

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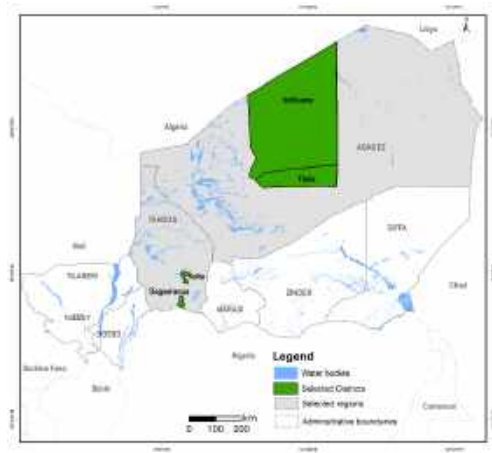


Figure 7: Map of the project area

Indeed, maize is grown together with other vegetables (such as onions) on one major irrigated area in Tahoua and Agadez under polyculture systems (3494.25 ha were respectively covered by maize and other vegetables at Tahoua according to the Office National des Aménagements Hydro-Agricoles in 2015). Niger ranked as the second millet producer in West Africa, and this crop is widely spread across the project area. This project intervention is built on existing technologies (i.e., improved varieties/cultivars and cropping systems) and the integration of climate change dimensions into cereals and vegetables value chains. The model includes environmental suitability, integrated farming systems, livelihood diversification (post-harvest storage and processing), 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:

Component 1: Climate-proofed agricultural production and post-harvest processing as livelihood diversification

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, maize, onion, and tomato farming communities' resilience are enhanced with climate-smart agricultural practices and sustainable post-harvest processing options as and livelihood diversification options

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(outcome 1). Along the agricultural value chain, key vulnerability issues ~~which call for requiring~~ adaptation ~~practices~~ are the low productivity and high vulnerability of ~~the agricultural sector~~ critical crops, mainly millet, maize, onion, and tomato 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~~The lack of post-harvesting in the millet, maize, onion, and tomato value chains, ~~the lack of and~~ 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 as livelihood diversification.

Output 1.1: Improved resilient practices for millet, maize, onion, and tomato production

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

- Under this output, the project will engage with the National Institute on Agronomical Research (INRAN), Direction ~~National~~Nationale de la Meteorologie (DNM), and Western African expertise on cereals and ~~vegetables~~vegetable production (the International Crops Research Institute for the Semi-Arid Tropics, ICRISAT) for tailored-cropping advice provision and climate information used in millet, maize, onion, and tomato production, considering local climate conditions (Activity 1.1.1). They will implement 50 demonstration fields for knowledge and technology transfer;
- Dissemination of climate information: Climate information will be disseminated by DNM to local millet, maize, onion, and tomato farmers after ~~the assessment of~~ assessing climate information needs (Activity 1.1.2); Community radios located in the project area will disseminate the climate information in national languages. In May 2021, Agadez and Tahoua had 21 and 31 community radio stations, respectively³⁹
- Modernization of agriculture practices and technologies (use modern and water-saving technologies with a particular focus on solar-based pumping systems and drip irrigation; to attract more youth ~~into~~ agriculture and enhance the resilience of water bodies) (Activity 1.1.3), and;
- Climate-resilient cultivars of millet, maize, onion, and tomato will be provided to smallholder farmers in consultation with INRAN and RECA (Activity 1.1.4)
- Soil conservation techniques to cope with the consequences of drought and ~~heat~~ extreme heat events deployed in ~~the communities of~~ smallholder farmers (Activity

³⁹ République du Niger (2021). Répertoire des radios communautaires du Niger, available on <http://www.csc-niger.ne/wp-content/uploads/2021/10/Repertoire-radio-communautaire2021.pdf>

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1.1.5). ~~Technics such as compost~~Compost management, zai, and half-moon techniques will enhance ~~the soil~~ fertility.

Output 1.2. Income-generating activities (post-harvest processing) as livelihood diversification options.

This output has been proposed to scale up pilot activities undertaken by BAGRI to support climate-resilient post-harvest and solar activities in the two regions.

Two activities 1.2.1 and 1.2.2 ~~are under~~will enable the effective delivery of this output:

~~Provision of resources to purchase solar-powered equipment to farmer organizations, including women or youth organizations, for post-harvest processing [cleaning, milling, flour packing, and stacking], (Activity 1.2.1). Youth or~~This activity will target youth and women associations already involved in the transformation of transforming post-harvest agricultural products in a rural area the targeted regions, with at least three years' experience, (ii) with:
Eligibility will include the existence of robust business plans for expanding their processing activities will benefit. In the project areas, the level of development of conservation and processing capability is very low. Traditional granaries allow the onion to be stored for nearly 10 months, with losses estimated at 30%. The project will promote modernized dryers to keep the processed crops even longer while reducing loss to near zero. In the targeted regions, processing and marketing of agricultural products are activities dominated by women making this particular activity impactful in promoting women empowerment. Previous attempts to pilot initiatives based on the processing of post-harvest products undertaken by local women's associations are proven to be effective in reducing losses and increasing revenues. The review of the credit recovery and monitoring forms suggested that the pilot of similar activities has contributed to loss reduction by 20% losses for tomato and onion while increasing the revenues of the beneficiaries by 25% per harvest.

In fact, as part of an initial pilot scheme under the "Projet de Promotion des Exportations Agro-Pastorales," "Programme Nigéro-Allemand de Promotion de l'Agriculture Productive" and the micro-enterprise projects seed capital was provided to women and youth groups, from this activity, the regions of Agadez and Zinder facilitated by BAGRI and LuxDev (Luxembourg cooperation). This pilot has successfully empowered women and youth communities in entrepreneurship in the agropastoral sector, including processing several products (onions and tomatoes), crafts, industries, and other services. Grants provided by Luxdev were combined with Bagri loans. The grants enable an initial share of capital in the form of a grant (40% for men and 45% for women). BAGRI provides the remaining capital in loans (50%) while beneficiaries bring the remaining as personal capital (Minimum requirement of 10% for men and 5% for women). The beneficiaries use the capital to produce dried or powdered tomato, onion, chili, and pepper, locally consumed or sold in Niamey. Currently, the conservation and processing of agricultural products can be realized only by a tiny proportion of producers that

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are not under pressure to sell off their perishable products but can keep them longer and can increase the value of these perishable crops instead of simply being the price takers.

- Training sessions for solar-equipment management and maintenance (Activity 1.2.2). Young ~~electricians and~~ representatives of youth ~~and women~~ associations ~~with a background~~involved in the informal sector and providing other services (repairs of household goods, fixing ~~electricity issues~~) 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.

Bagri has experience in providing training to these categories of actors. After the training, those young who can set up their business are accompanied by appropriate financial concessional products made possible with grants. At the national level, 32% of active people aged from 15 to 35 years old are involved in this informal sector, with 15.6% and 16.9%, in Agadez and Tahoua⁴⁰.

Component 2: Climate-resilient rural infrastructure

The component

Component 2 wants to enhance the storage, and transport infrastructures for the resilience of agricultural value chains under climate extremes (outcome 2).

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

Fostering productivity and production is insufficient to ensure that smallholder farmers sustain and increase their incomes. 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~~income from agricultural production. Consequently, two key actions will be undertaken to support the development of the millet, maize, onion, and tomato 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:

- 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,

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⁴⁰ INS, (2019). Enquête régionale intégrée sur l'emploi et le secteur informel 2017. Rapport Final. http://www.uemoa.int/sites/default/files/bibliotheque/rapport_final_niger_0.pdf

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 Roads Maintenance Plans) (Activity 2.1.3).

Component 3: Dissemination of lessons learned

Under component 3, ~~the stakeholder key stakeholders'~~ awareness is implemented through timely and transparent communication of results and consistent stakeholders' engagement to reduce ~~the~~ risk associated with climate-induced socio-economic and environmental losses (Outcome3).

Output 3.1: Operational mechanism for lessons learned dissemination

Stakeholders' awareness and participation through timely and transparent communication of results and consistent ~~stakeholders'~~ stakeholders engagement (Activity 3.1.1). National institutions from ~~the~~ private and public sectors, Donors, ~~and~~ Financial institutions (~~Banksbanks~~, microfinance institutions) will be invited to attend ~~regular~~ working sessions (one session per year ~~for the presentation of~~ to present 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~~ (~~Honeychain~~ (onion, tomato, ~~maize~~, and ~~cereals~~),millet) and a short video documentary will be published to increase ~~the~~ public awareness and capitalize ~~on~~ the knowledge generated by the project.

Theory of change summarizes the description of the project approach.

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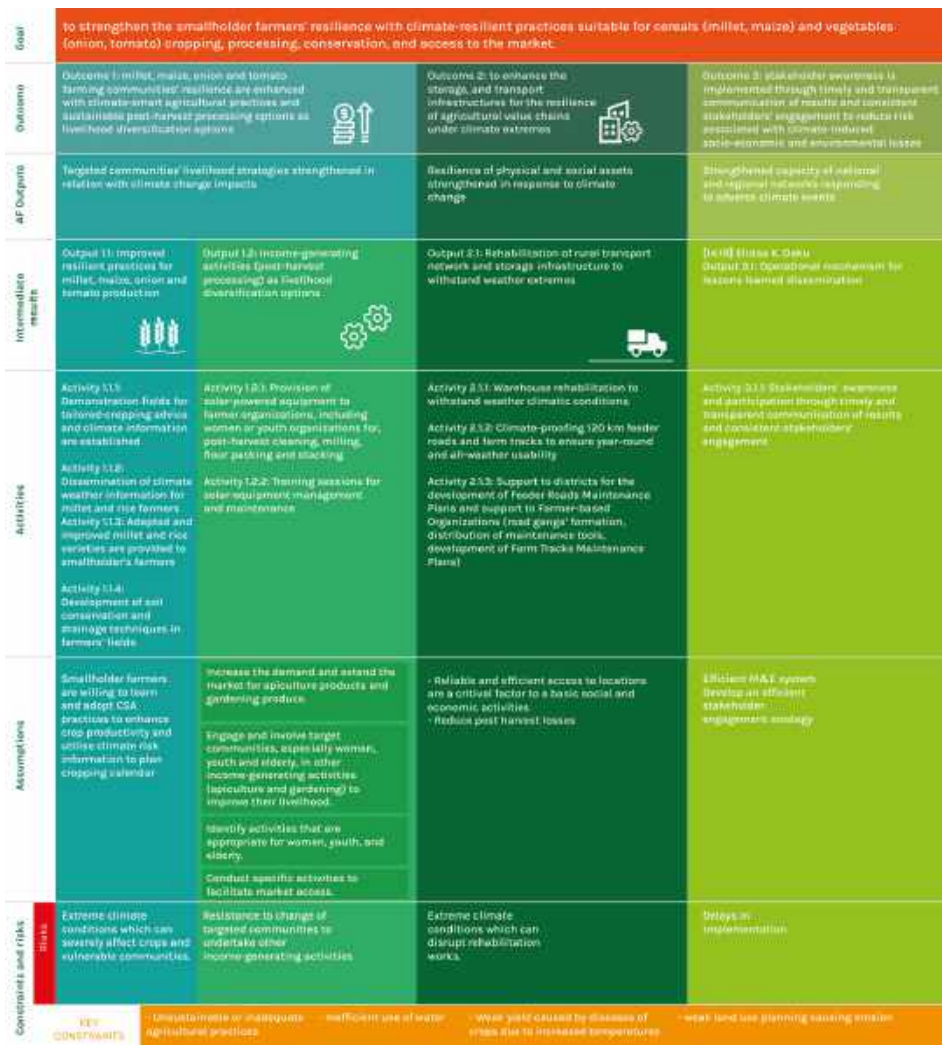


Figure 12. Theory of change of the proposed project

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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.

This project aims to support the country's breadbasket regions through a process by testing integrated climate-resilient agriculture with the main actors in the maize, millet, onion, and tomato value chains. This approach draws from existing technologies (e.g., improved varieties and cropping systems, water-saving technologies) and the integration of new dimensions of climate change on millet, maize, onion, and tomato value chains, including environmental management, integrated farming systems, and diversification, 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 (182018 to 35 years old). A number of 5670 women in Tahoua, representing 15% of women aged between 20-34 years old and 6 295 men in Tahoua; and 10,500, representing 7% of women aged between 20-34 years old and 6,300 men in Agadez, will be the direct beneficiaries of the project^{41,42}. 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 reduction of post-harvest losses resulting from easing the access to market and the production of climate-resilient crops. The project will contribute to achieving the Sustainable Development Goals (SDG), 1 (no poverty) and 2 (zero hunger).

The As adopted in the project origination, design, and conception, based on were benchmarked against vulnerability criteria and African Development Bank Gender-Equality Index. Accordingly, the most vulnerable populations (youth, women, and poor smallholders) have been targeted to receive significant support to enhance their adaptative capacity. Through the outputs 1.1 and 1.2, and 2.1, the project is designed to build the capacity of the targeted

⁴¹ The project will affect 15% of the women-led household aged between 19 and 34 years. The population aged between 19 and 34 years old estimated at 470,177 men and 482,272 women in Tahoua (Institut National de la Statistique 2018. Annuaire Statistique régional de Tahoua 2013-2017). Its accounts for 56% of farmers on average: 14.2% of women farm header and 31% of youth are involved in the type of agriculture suitable for water-saving technologies, improved varieties, and the integration of new dimensions of climate change on millet, maize, onion, and tomato value chains (GIZ, 2020. Rapport du diagnostic agricole dans la région de Tahoua).

⁴² The project will affect 10% of the women-led household aged between 19 and 34 years. The population aged between 19 and 34 years old estimated at 1,949,826 men and 2,093,369 women in Agadez (Institut National de la Statistique 2018. Annuaire Statistique régional de Agadez 2013-2017). In Agadez, the population accounts for 89.8% of farmers on average with 8% women farm header and 59% of youth (GIZ, 2020. Rapport du diagnostic agricole dans la région d'Agadez).

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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 services⁴³. One of the specific objectives is to improve beneficiaries' knowledge with awareness: the project beneficiaries will gradually become aware of their economic and social conditions, and 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. 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 post-harvest processing 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 supportsproject support.

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;

- 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;
 - Preferred financial terms are offered for women to facilitate their access to finance.
- particular emphasis is placed on the participation in all activities of women with technical skills. The indicators of reporting on participants by gender will be disaggregated during implementation;

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⁴³ Goods and services include climate-resilient infrastructures described above (technologies, equipment, climate information networks, climate-resilient cereals, and vegetables value chains including climate-proof infrastructures, storage, and warehouse)

- it is ~~planned~~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
- ~~where feasible, monitoring and evaluation indicators are broken down by gender,~~

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The following Gender Action Plan will be implemented within the framework of the project Component 1

Activity 1.1.1: Demonstration fields for tailored-cropping advice and climate information are established.

- Ensure balanced representation of women and men farmers benefiting from the advisory services

Activity 1.1.2: Dissemination of climate weather information for millet, maize, onion, and tomato farmers

- Commitment to ensuring gender balance in capacity building and training activities for farmers

Activity 1.1.3: Adapted and improved millet, maize, onion, and tomato varieties are provided to smallholder farmers

- Collect and present sex-disaggregated data to measure women's improved access to new agricultural varieties

Activity 1.1.4: Development of soil conservation and drainage techniques in farmers' fields.

- Commitment to include women in the management and maintenance of these new agricultural infrastructures.

Activity 1.2.1: Solar-powered equipment provision to farmer organizations, including women or youth organizations, for post-harvest cleaning, milling, flour packing, and stacking

- Equipment is provided to farmers' organizations and women's organizations that will allow women to reduce their working hours and devote part of their time to training and education, skills development, or earning other income.
- The commitment of the project initiators to provide farmers with solar equipment in a gender-equitable manner.
- Facilitate access to women beneficiaries by providing a larger grant for women as a share of the seed capital (45% for women vs. 40% for men)

Activity 1.2.2: Training sessions for solar-equipment management and maintenance

- For the selection of the maintenance agents after the training, ensuring equal opportunities for women and men in the appointment, and the recruitment of personnel for the management and the maintenance of the solar equipment

Component 2

Activity 2.1.1: Warehouse rehabilitation to withstand climatic weather conditions

- Ensuring equal access to warehouses resistant to climatic stresses to help farmers store their products and especially women to keep their sales products.

Activity 2.1.2: Climate-proofing 120 km feeder roads and farm tracks to ensure year-round and all-weather usability

- Ensuring engineering firms to be procured have a gender policy and commit to equal job opportunities for men and women

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)

- Engage stakeholders, including districts and women's associations, in the maintenance plan for agricultural tracks.
- Provide farmers' organizations with technical assistance to develop feeder road maintenance plans and ensure women's effective participation in the maintenance of agricultural roads.

Component 3:

Activity 3.1.1: Stakeholder awareness and participation through timely and transparent communication of results and consistent stakeholders' engagement

Efforts in stakeholder sensitization will be made during project implementation to ensure women's participation in all forms of consultations that the project will undertake;

The gender action plan is mainstreamed in the project implementation and will not require an additional budget for the project outputs budget

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 suggest measures for adapting to climate change through climate-proof production, intensification, and sustainable expansion of millet, maize, onion, and tomato. It aims to build climate resilience and address the vulnerability of the pearl millet, maize, onion, and tomato 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, maize, onion, and tomato production, the project intends to propose actions to reduce climate risks through introducing livelihood diversification interventions (i.e., post-harvest processing, business around drip irrigation, water saving-irrigation systems) 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 climate change's multiple and combined impacts of climate change, specifically the anticipated modification of rainfall patterns,

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decreased water availability, and increases in temperatures increase. The project will also contribute to Niger's Nationally Determined Contributions (NDCs) and help fulfill its 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, maize, onion, tomato 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, maize, onion, and tomato resilience and best practices by defining an integrated climate-resilient millet, maize, onion, and tomato 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, and post-harvest and processing facilities to add value to 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.

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Environmental co-benefits: 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, maize, onion, and tomato varieties. Crop residues (i.e., millet glume, maize straw) can enhance soil organic matter (SOM), improving soil fertility and crop yield⁴⁴. Climate-smart agriculture (CSA) techniques such as mulching, terracing, tiered 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, maize, onion, and tomato cultivation, climate-smart agriculture, and earth dam locations. Farmers will also receive appropriate organic fertilizer (compost) usage training to reduce unnecessary waste and indirect GHG emissions.

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44 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.

Additionally, the project intends to build the capacity of lowland and upland communities involved in millet, maize, onion, and tomato 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.

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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, maize, onion, and tomato 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 maize 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.

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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: will be used. Other benefits expected are improved coordination and communication, the application of common procurement and supervision procedures (reducing costs); also, and 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, 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), Réseau National des Chambres d'Agriculture du Niger (RECA or the National Network of Chambers of Agriculture of

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Niger), Office National des Amenagements Hydro-Agricoles (ONAHA), Chambre Regional d'Agriculture (CRA), and Practical Institute for Rural Development (IPDR).

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, maize, onion, and tomato) 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. This represents USD 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 Techniques,"⁴⁵ 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 beneficiary.⁴⁶

Approaches to making the millet, maize, onion, and tomato sector more productive will focus on the production, processing segments, including technical production standards (i.e., inputs) and management cycle, and the vulnerabilities issues. To date, few limited efforts have tackled all millet, maize, onion, and tomato 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 maize 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.

Several alternatives were analyzed during the project preparation. The project supports water-saving irrigation, and thus, it will save farmers' incomes. Improving irrigation efficiency will reduce the irrigation time and charges related to the pumping. Drip irrigation' efficiency, for instance, is 90% to 95% against 40-50% for the surface irrigation and 70% to 80% for the sprinkling. water needs in the real system of Drip system is 4400 m3/ha against a need of 10 000 to 14 000m3/ha for other types of irrigation. It is a very effective technique, but unfortunately a little too expensive for farmers, but very economical to operate. Compared to the direct solar drying method, the solar- dryer reduces monumental post-harvest losses in the agricultural sector and increases production capacity. Therefore, maximum resilience impact

⁴⁵ <https://www.adaptation-fund.org/project/enhancing-resilience-of-agriculture-to-climate-change-to-support-food-security-in-niger-through-modern-irrigation-techniques-2/>
⁴⁶ <https://www.greenclimate.fund/sites/default/files/document/funding-sap012-ifad-niger.pdf>

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can only be achieved by implementing adaptations in each aspect of the maize and millet, onion, and tomato value chains.

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 implementing the Bank Group's 2013-2022 ten-year Strategy, particularly the broad aspects relating toof 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 countrycountry's 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

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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 improving 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:

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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 1: Increase and diversification of agro-forestry-pastoral production.

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Axis 2: Regular supply of rural and urban markets infor agricultural and food products.

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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.

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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

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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 3: The improvement of the resilience of populations faced with climate change, crises, and disasters.*

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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). *Axis 4. Improving the nutritional status of Nigeriens.*

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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. *Axis 5. Animation and Coordination of the I3N.*

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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 with main characteristics are: inclusiveness, co-

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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 axes 2, 3, and 4 of this policy.

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 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 a source of energy for post-harvest processing.

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 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

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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 by~~ 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 food security and households, rainfed crops and livestock will also require sustained attention.

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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~~labor) 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 the 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.

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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 maize 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

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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);
- 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 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.

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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 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 on 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

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).

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National Adaptation Plan

According to the Niger National Adaptation Plan⁴⁷, 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.

- 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 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 for activities that could negatively impact the beneficiaries. The project will be implemented/implemented the 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*

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⁴⁷ United 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>.

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~~*considering* 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~~*offenses*. 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:

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- ~~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:

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- *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.*

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

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- *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 on 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.*

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- *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 commodum et incommodum, 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:*

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- 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~~forest development initiatives, and promote re-forestation 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 maize value chain development) will follow the policy on land tenure. They will support the Ministry of Agriculture in training farmers on sustainable land management.

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

This project will focus on millet, maize, onion, and tomato value chains and develop alternative livelihood options (post-harvest processing). 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).

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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 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 (tomato, 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 ~~recently~~ closed projects.

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.

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.

The Adaptation Fund project "Enhancing Resilience of Agriculture to Climate Change to Support Food Security in Niger, through Modern Irrigation Techniques".

The weather variability and climate change, translated by ~~the~~ insufficient water availability or the difficulties ~~to access~~ accessing available water, ~~is~~ adversely affected/affect agricultural production in Niger. This pilot project ~~aiming~~ aims to

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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 by promoting~~ 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~~emphasizing sustainable value chains such as honey, tomato, and vegetables (onions). It will support the development of irrigation schemes to support the ~~vegetables~~vegetable gardens ~~but also and~~ is seeking to implement the resilient infrastructure of transport and conservation capable ~~to improve of~~improving the targeted value chains under changing climate. ~~Through its components~~Component 3 (Dissemination of lessons learned), ~~will establish~~ will be established a platform ~~will be established to~~ share the lessons learned and experiences with ~~the~~a similar project, including ~~AF~~the AF project.

Scaling-up climate-resilient maize production in West Africa

Funded by Adaptation Fund, it is ~~a~~ regional project covering Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo, ~~its. 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 Dossa, ~~and on~~rainfed lowland systems in Tahoua and Zinder. SRI practices will be promoted ~~on~~in 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~~maize expansion, ~~the. The~~ proposed project wants to ~~contribute filling~~fill this gap ~~through a promotion of by~~ promoting tolerant varieties of maize and smart cropping practices (SRI, drip irrigation (in upland) ...) that can improve the resilience of maize cropping systems. In addition, other segments of the maize value chain (processing, transport, conservation) are targeted by the proposed project.

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

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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 Dallon Bosso Landscape (component 2); ~~promote~~promotion of innovative, resilient solutions along selected agricultural value chains (component 3); Creating enabling capacity environment at the local level to manage post-harvest losses (component 4). The proposed project will complement ~~the~~ post-harvest ~~losses~~loss reduction technologies (sealed bags) by providing processing equipment ~~able to add~~that adds value to the harvested products and ~~to improve~~improves 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~~cooperate with the PROSAP/COKEBIOS; to implement climate-resilient feeder roads.

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

Funded by GEF, ~~ProDAF~~ProDAF's 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 of 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~~ensuring 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 tomato. 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 the~~ intervention area.

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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 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, analyzing, and disseminating data will be prepared in

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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.

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:

- o Data will be disaggregated by poverty, livelihood group, and gender;
- o 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
- o 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 enhanced measures at the level of project management.

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 at the Dosso meeting recognized the urgency of the agriculture sector facing 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. In May 2022, the project's validation meetings have been held in Tahoua and Agadez potential beneficiaries (involving the key stakeholders and vulnerable groups, including gender considerations in compliance with the Fund's Environmental and Social Policy and Gender Policy). The regional

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stakeholders consulted to identify the priorities include members from various sectors, including agriculture and water resources, communities (representative of the communities and the private sector.

Following the first draft submission in January 2022, a first version of the proposal has been prepared and shared with key stakeholders, enabling further discussions mainly around the narrowing down of the project intervention sites, the selection of crops, and the selection of the beneficiaries, etc. These consultations enable progressively resolving these open questions and finalise the options.

Regarding the zone selection, objective criteria, including geographic vulnerability and socio-economic impact to climate change, and high exposure of main crops to climate change, have informed the discussions and led to Tahoua and Agadez's final confirmation. The further determination of districts was informed by previous pilot initiatives by BAGRI and Lux Dev to consolidate and expand the successful results achieved so far.

In May 2022, the final 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.) has been undertaken by BAGRI. A project validation workshop has been organized in Tahoua and Agadez with key regional stakeholders, including members from various sectors including agriculture and water resources, regional government administration and representatives of communities (representative of the communities and communes, farmers' organizations), private sector (microfinance institutions), and ongoing projects management. (See participants list as attachment)

During the consultations, representatives from BAGRI and CNEDD present the geographical context, including the climate rationale, objectives, components, activities, and the project's budget. Discussions with key stakeholders are ongoing to finalize the consultative processes in targeted project areas. revolved around (i) the need to target both small and large holders' farmers; (ii) the involvement of local communities' representatives in the steering committee, and (iii) readjustment of the implementing arrangement by incorporating institutions with expertise in capacity building, the resilience of agricultural value chains, (iv) the synergy with the local initiatives, (v) the need to empower communities with solar-powered crop production, processing, and storage; (vi) the need to consider garlic and potatoes as well as tomatoes and onion and (vii) the definition of expected indicator for gender inclusion in the project. Following those recommendations, the project has been improved.

Women in agriculture associations represented the most vulnerable gender groups (see annex for list of stakeholders consulted). These two workshops enable gathering input from the key stakeholders before finalizing the design process.

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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 and climate-proof varieties and alternative sources of income able to preserve the ecosystems (post-harvest processing such as solar modules for cold storage for vegetables, solar-powered dryer) (promoted in the component 1) are among important actions to implement and guarantee resilient economic growth under changing climate. The implementation of income-generating activities, will contribute to reducing reduce the impact of climate change on smallholders and to improve the food security and incomes of the local population. In addition, income-generating activities and actions which that 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 country's development of the country depends largely on its ability to practice sustainable management of natural resources, established and establish 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 otherwise would be used to purchase fossil fuel fuels.

This project is considered additional climate financing to climate-proof and mainstream climate considerations in the BAGRI-Niger baseline investment on in the millet, maize, onion, and tomato value chain. This Adaptation Fund project will provide direct support to 28,765 most vulnerable smallholder farmers engaged in millet, maize, onion, and tomato 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, maize, onion, and tomato sectors.

J. 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

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Resilience Programme are fully compatible with the five lines of approach of the I3N for food safety and agricultural development and the Government of 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 identifies three main components: (i) Climate-proofed agricultural production and post-harvest as livelihood diversification; (ii) Climate-resilient rural infrastructure 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, maize, onion, and tomato 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.

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~~with 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.

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• **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~~In the Inception Phase, the project will ~~define the characteristics of~~put safeguards to ensure these marginalized and vulnerable groups in the targeted areas ~~using categories that define them~~selected on ambiguous criteria – are appropriately. ~~The represented in the beneficiaries. This process will also include identifying and describing~~document the impacts that each marginalized and vulnerable group ~~is~~will 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 level, 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~~in local communities about the potential risk of health problems that may ~~cause~~derive from 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 rights 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 maize 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-maize basis for maize farmers. In addition, the project is focused on ~~the~~ organic fertilizer use.

• **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~~Traditional leaders will ~~always~~ be consulted ~~during site assessments~~ 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
Climate Change		X

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Pollution Prevention and Resource Efficiency	X	
Public Health		X
Physical and Cultural Heritage	X	
<u>Lands</u> <u>Land</u> and Soil Conservation		X

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PART III: IMPLEMENTATION ARRANGEMENTS

A. Describe the arrangements for project/program implementation.

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

The 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 It includes all stakeholders and considering/considers the key actors, including:

- 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 CNEDD;
- 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)

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)

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 to establish a system of financing the agro-pastoral sector that combines social and development objectives to with its financial and performance objectives, including the fight against food insecurity. Its target groups are promoters of family-owned businesses, transhumance companies, subsistence

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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 offers the lowest interest rate in the market (10%), compared to other commercial banks, where interest rates are 12%.

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

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Identification, Sourcing, and Screening of Ideas:

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- 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.

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Feasibility Assessment / Due Diligence Review:

- 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 partnerpartners' technical abilities;
- Obtain clearances from AF.

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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, and arrange revisions.

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Implementation of the project:

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- *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;*
- *Provide advisory services as required;*
- *Provide technical support, and 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.*

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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.*

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Project Management Unit (PMU): BAGRI will implement a PMU. The PMU will be headed by a project manager (with demonstrated capabilities as a Climate Adaptation Specialist on how to implement low emission and climate-resilient agriculture, EbA approach, and 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 Secretarysecretary. In addition to the key project staff, the following additional staff will support the PMU and other partners: the Administrative Officer and Finance Officer, 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.

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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 Components 1 and 2 of the project;
- In close liaison with his staff, he prepares and revises 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 the project to the NSC, and ensure the fulfillment of AF directives;
- Assist relevant government agencies and implementing partners with the 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.

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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

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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;

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Qualifications

- A university degree in Finance, and 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

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Environmental specialists: he monitors the project's 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.

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Responsibilities:

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

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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;

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- A good working knowledge of English is a requirement.

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

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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 the 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;

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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 the 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 creativecreativity, 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

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

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Duties and Responsibilities

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- 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 analysis, including activities linking planning with regular progress reviews and resource allocations.

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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 of direct~~ applicable experience, of which at least 5 is at the international level, in providing management advisory services, hands-on experience in the 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 are essential;
- Strong knowledge and understanding of monitoring and evaluation concepts, with the ability to explain them with clarity clearly;
- Strong knowledge of the Niger situation: the political, cultural, and socio-economic context;
- Fluency in both written and spoken French. Knowledge of English is an asset

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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.

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Responsibilities for Procurement Specialist

- Identify suppliers of goods and services;
- Negotiate terms with suppliers such as optimize prices, 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;
- Work closely with the projects team to understand details of procurement requirements;

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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 is desired;

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- 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

Below is a description of the project implementing partners

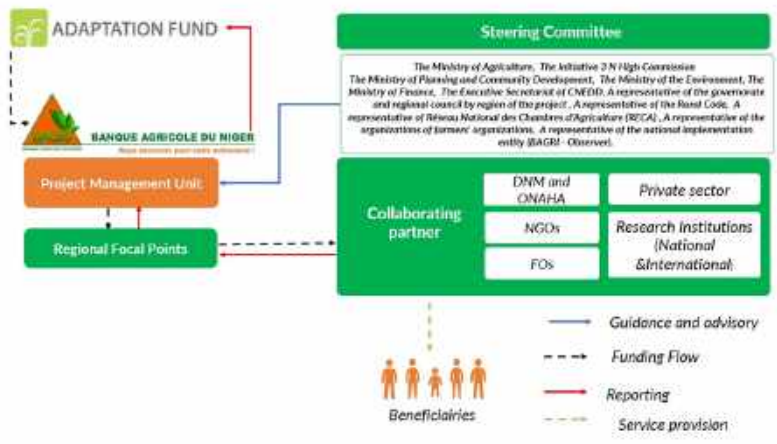
CNEDD: *The CNEDD is an institution under the Cabinet of the prime minister's supervision. The national political focal point for post-Rio conventions, the CNEDD is the National Coordination and Monitoring activities relating to the post-Rio conventions and their protocols and any other convention that Niger would come to subscribe to in the matter. Therefore, it ensures the coordination and monitoring of interventions related to the PNEDD and all other Post-UN Conference activities United on Environment and Development. Among other tasks, CNEDD's mission is to (i) define a national reference framework containing: the policy, orientations, objectives, strategies, and environmental action programs for sustainable development; (ii) design and promote the establishment of a framework and adequate institutional mechanisms, ensuring the coordination and harmonization of the activities of all stakeholders in the PNEDD process; (iii) ensure compliance with environmental standards national and international in all the activities of economic, social, and cultural development; (iv) promote a real change in mentality and attitude towards the sustainable use of Natural Resources and rational management of the environment; (v) ensure the integration of climate change and adaptation in policies, strategies, and programs of development; (vi) mobilize the financial resources necessary for the implementation of climate change activities and adaptation; and (vii) ensuring climate governance and the administration of funds related to climate change and adaptation. In the framework of the project, the CNEDD will implement the activity 1.1.2 and 1.1.5.*

Fonds d'Investissement pour la Sécurité Alimentaire et Nutritionnelle (FISAN): *is a Public Financing Establishment (EPF), governed by Ordinance No. 99-54 of 22 November 1999, establishing a category of Public Establishments called "Public Financing Establishments" (EPF). (Article 1 of Decree No. 2017-665/PRN of August 2, 2017). It has legal personality and administrative and financial autonomy. It is placed under the technical supervision of the*

Minister, Chief of Staff of the President of the Republic, and under the financial supervision of the Minister in charge of Finance” (Article 2 of Decree No. 2017-665/PRN of August 2, 2017). FISAN is administered by a Board of Directors and general management with regional representations (Article 9 of Decree No. 2017-665/PRN of August 2, 2017). It applies the rules of public accounting and is subject to the control of the Court of Auditors and other State control bodies. (Articles 10-11-12 of Decree No. 2017-665/PRN of August 2, 2017). FISAN relies on existing intervention systems to reach beneficiaries through three facilities, namely: Facility 1: “Agricultural financing support”; Facility 2: “Financing of structuring Agricultural Investments,” and Facility 3: “Funding for agricultural advice, applied agronomic research and capacity building.” Facility 3 will support the implementation of activity 1.1.1, activity 1.1.4, and activity 1.2. 2.

BAGRI Regional Focal Points: To branches of Tahoua and Agadez will facilitate the implementation of the project in the four targeted regions, a Focal Point by. In each region (an 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 regional branches will be responsible for planning and monitoring the project's technical activities. He will have an equipped office in related to the regional branch implementation of BAGRI with motorcycle activities 1.1.3; 1.2.1; 2.1.1; 2.1.2; 2.1.3, and desktop computers. He will work closely activity 3.1.1, with the Regional Directorates support, of Rural Engineering to monitor the project collaborating partners.

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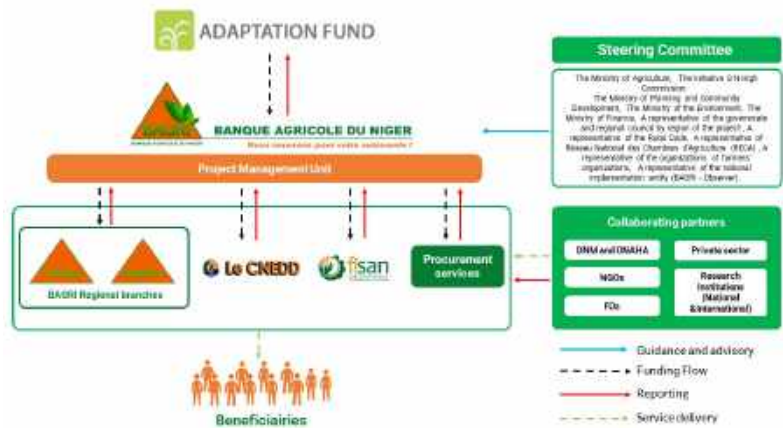


Figure 13: Organizational structure, staffing and relevant stakeholders

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

Table 3.1 describes 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	The PMU with administrative and financial management autonomy will assume the fiduciary management functions of the project. Recruitment of experts with specific experiences in development project management and financial management procedures and mastery of accounting software. The staff of the PMU will be linked to the project by annual renewable contracts based on a performance evaluation, Start-up support considers training in financial management	L
The project budgeting process doesn't respect procedures and doesn't allow for a good implementation of project activities	M	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. The budgeting process will be defined in the project procedures manual. The approved Budget must be entered into the accounting and financial management software to monitor its implementation. Quarterly financial reports, including information on budget monitoring	L
Project financial flows and disbursement processes are not timely and jeopardize the implementation of activities on the ground	M	Availability of funds will be made through the standard circuit planned. This includes replenishment of the designated account, direct payment, and reimbursement. The use of a Certified Statement of Expenditures in support of expenses incurred by the Project is also planned. 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	L
Project implementation and financial management procedures do not guarantee	H	Three (3) levels of security will ensure transparency and control of operations and also mitigate the risk of distortion and dysfunction related to management: The fact that only one person cannot conduct an operation in its entirety (from beginning to end, from execution to final control);	L

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sufficient transparency and accountability		The implementation of accounting self-audits; Implementation of the BAGRI Representation's proximity monitoring in Niger to support and supervise missions and an annual audit of the accounts.	
The project accounting system and financial procedures are not sufficiently formalized	H	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. The monitoring of financial commitments and achievements will be based on accounting and financial management software and the production of financial dashboards for CNEDD. The Project's financial statements will be drafted according to the applicable standards & principles required. 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 to CNEDD for review. 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 The accounting system used in the framework of the Project should allow the registration of tax exemptions obtained from the government	L
The project's financial procedures do not allow for proper and regular monitoring	M	Financial monitoring will be based on: regular preparation of withdrawal requests, based on rolling quarterly cash plans; and bank monitoring of the designated account and the account of operations; Budget monitoring; accounting monitoring; technical and economic monitoring are provided by the administrative and financial officer The administrative and financial officer will prepare quarterly financial and accounting reports (interim financial reports), which will be submitted to the BAGRI manager for signature and sent for review to CNEDD	L

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

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

The potential environmental and social risks posed by the BAGRI proposed project, when assessed against the 15 Principles of the Adaptation Fund, are limited and constrained to feeder road rehabilitation, crop production (maize, millet, onion, tomato production, small-scale irrigation, fertilizer usage, and agricultural soil replenishment of millet, maize, onion, and tomato). The project will not have any negative adverse and irreversible environmental and social 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 the annex). However, consistent with Niger regulation and the bank policy, the obligation to carry out the environmental impact study depends on the size of the sub-projects. As regulated by the Nigerien environmental law, given the fact that these sub-projects are small projects developed by grassroots communities (organizations of rural promoters), requirements are more about environmental audits. The bank policy and organizational structure planned for appropriate management measures relating to aspects related to the environment and society. This means that no formal Environmental and Social Impact Assessment (ESIA) will be required. However, further analysis and environmental management plans Measures planned in the E&S Screening will be mainstreamed throughout project design and implemented during the implementation and be largely covered by of the Adaptation Fund. The project.

The project's 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 millet, maize, onion, and tomato. Funding from the AF is expected to address some of the causes of the elevated vulnerability to climate change.

Potential Negative Environmental Impacts

• **Deforestation and land degradation issues:** Expanding millet, maize, onion, and tomato 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 on 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

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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 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 a business value chain in fertilizer and agrochemicals application.

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 the overuse of fertilizer and pesticides. In addition, due to the high poverty level, children often help in the production and/or write signs for agricultural commodities.

- **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 to improve~~ 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.

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~~ Additionally, the specific committees will be responsible for confirming each sub-~~projects~~ project and monitoring the implementation. During pre-inception, the initial actions will

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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, maize 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.

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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.

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

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- ***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 of~~ 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 the 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:

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

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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

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• **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 project implementation's 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. FindingsThe 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 projectthe project's closure.

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• **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 the lack of a 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.

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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.

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, maize, onion, and tomato cropping, processing, conservation, and access to the market	Number of smallholder farmers adopting climate-resilient practices for millet, maize, onion, and tomato 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: Millet, maize, onion, and tomato farming communities' resilience are enhanced with climate-smart agricultural practices and sustainable post-harvest processing as livelihood diversification options					
Output 1.1: Improved resilient practices for millet, maize, onion, and	Percentage of farmers who benefited from adopting climate-resilient	ND (baseline)	80% of targeted crops farming households (millet, maize,	<ul style="list-style-type: none"> - Baseline and end-line surveys 	<ul style="list-style-type: none"> - Smallholder farmers are willing to learn and adopt CSA practices to enhance crop productivity and utilize

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tomato production and post-harvest	agricultural practices and weather information Percent change in millet productivity (i.e., ²⁷ yield) Percent change in maize productivity (i.e., ²⁷ yield) Percent change in onion and tomato productivity (i.e., ²² yield)	ND (Baseline) ND (Baseline)	onion, and tomato) (% women/girls, % men/boys, % elderly) 25% 20% 20%	- Focus group discussions (FGDs) - Project M&E reports - Progress reports - Mid-term and final project evaluations	climate risk information to plan cropping calendars. - Extreme climate conditions can severely affect crops and vulnerable communities.
Output 1.2: Income-generating activities (post-harvest processing) as livelihood diversification options	Number and type of equipment utilized Number of farmers/operators who benefitted from solar-equipment	0 0	TBD ²⁶ 25% of farmers' cooperatives in the targeted areas 80% women/girls, 20% men/boys, 10% elderly	- Project Field reports - Project M&E Reports - Progress reports - Mid-term and final project evaluations	- Delays in procurement activities and implementation - Local communities are willing to utilise solar-based processing equipment and learn how to maintain them.
Component 2: Climate-resilient rural infrastructure					
Outcome 2: Storage, processing, and transport infrastructures are enhanced for the resilience of agricultural value chains under climate extremes					
Output 2.1: Rural transport network and storage infrastructure rehabilitated to withstand weather extremes	Length (km) of rehabilitated and climate-proofed transport networks Number of rehabilitated storage infrastructures	ND (Baseline) 0	Climate-proofed 120 km feeder roads and farm tracks Warehouse upgraded	- Project Field reports - Project M&E Reports - Progress reports - Mid-term and final project evaluations	- Delays in procurement activities and implementation - Extreme climate conditions can disrupt rehabilitation works.
Component 3: Dissemination of lessons learned					

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Outcome 3: Stakeholder awareness implemented through timely and transparent communication of results and consistent stakeholders' engagement

Output 3.1: Operational mechanism for lessons learned dissemination	Systems manual developed and validated	Available	Manual for Lessons learned capitalization	- Project M&E reports - Progress reports - Mid-term and final project evaluations	- Delays in implementation - Lessons learned and experience from previous projects
	Communication strategy plan developed	0	1		
	Knowledge sharing tools and sessions developed	0	5		
	Gender mainstreaming promoted and ensured	Promoted	Gender disaggregated data available		

KEY ACTIVITIES

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, maize, onion and tomato farmers

Activity 1.1.3: Adapted and improved millet, maize, onion and tomato varieties are provided to ~~smallholder's~~smallholder farmers

Activity 1.1.4: Development of soil conservation and drainage techniques in farmers' fields

Activity 1.2.1: Solar-powered equipment provision to farmer organizations, including women or youth organizations, for post-harvest cleaning, milling, flour packing, and stacking

Activity 1.2.2: Training sessions for solar-equipment management and maintenance

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)

Component 3:

Activity 3.1.1: Stakeholder awareness and participation through timely and transparent communication of results and consistent stakeholders' engagement

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

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, maize, onion, and tomato cropping, processing, conservation, and access to the market				
Strengthen the smallholder farmers' resilience with climate-resilient practices suitable for millet, maize, onion, and tomato cropping, processing, conservation, and access to the market	Number of smallholder farmers adopting climate-resilient practices for millet, maize, onion, and tomato cropping, including processing, conservation, and market access	Strengthen the smallholder farmers' resilience with climate-resilient practices suitable for millet, maize, onion, and tomato cropping, processing, conservation, and access to the market	1. Relevant practices disseminated to stakeholders	10,000,000
Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)
Component 1: Climate-proofed agricultural production and post-harvest processing combined with livelihood diversification				
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)	Number of farmers adapting climate-resilient agricultural practices Percent change in millet productivity (i.e., yield) Percent change in maize productivity (i.e., yield) Percent change in tomato productivity (i.e., yield)	Output 1.1. Improved resilient practices for millet, maize, onion, and tomato production and post-harvest	1.1.1. Percentage of target millet, maize, onion, and tomato farmers who adopted resilient practices	2,261,000,638

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<i>practices, and weather information and have access to alternative livelihood diversification options</i>	<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 livelihood options</p> <p>Number and type of equipment utilized</p> <p>Number of farmers/operators who benefitted from solar-equipment</p> <p>Number and type of equipment provided for post-harvest processing</p>	Output 1.2: Alternative income-generating activities (post-harvest processing) are adopted as livelihood diversification options		1,088,800
Component 2: Climate-resilient rural infrastructure				
<i>Rural infrastructures are upgraded to withstand climate extremes and variability, and solar-powered equipment is provided to improve post-harvest and processing</i>	<p>Length (km) of rehabilitated and climate-proofed transport networks</p> <p>Number of rehabilitated storage infrastructures</p>	Output 2.1: Rural transport network and storage infrastructure rehabilitated to withstand weather extremes	2.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by asset types)	7,995,419
Component 3: Dissemination of lessons learned				
<i>Efficient Coordination, Monitoring, and Evaluation systems are implemented as well as a knowledge dissemination system</i>	<p>M&E systems manual developed and validated</p> <p>Number of procurement plans developed</p> <p>Communication strategy plan developed</p> <p>Gender mainstreaming promoted and ensured</p>	Output 3.1: Operational mechanism for lessons learned dissemination	3.1.1. No. and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community livelihood strategies	125,000

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

- 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.

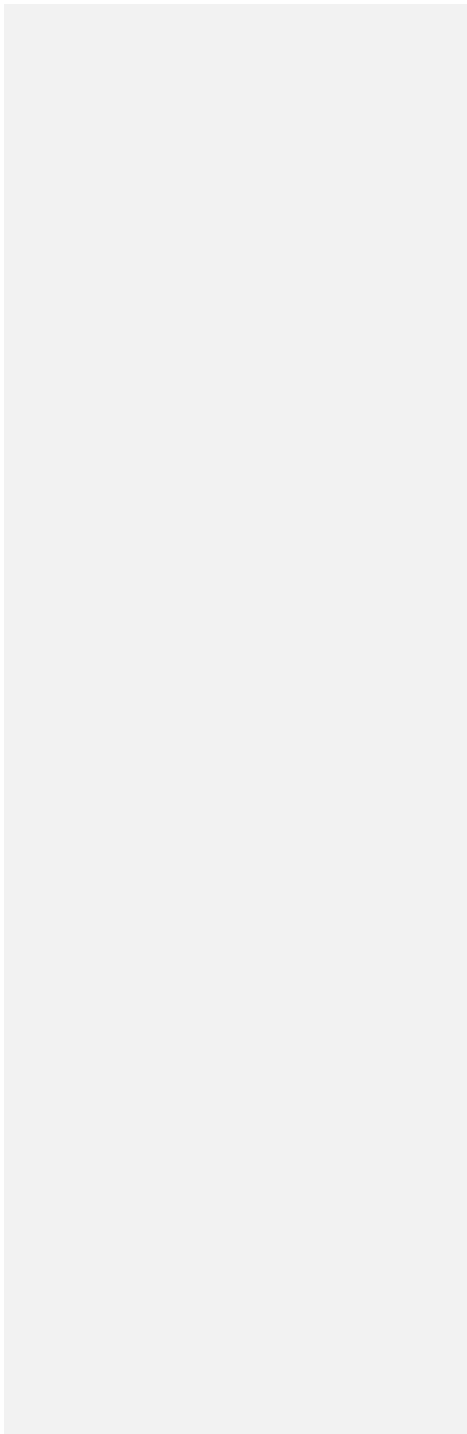


Table 3.5. Detailed Budget of the Proposed Project

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)		
Component 1: Climate-proofed agricultural production and post-harvest processing as livelihood diversification	Output 1.1: Improved resilient practices for millet, maize, onion and tomato production	Activity 1.1.1: Demonstration fields for technology transfer: tailored-cropping advice provision and climate information used in millet, maize, onion, and tomato, considering local climate conditions	National FISA - Local consultant	National agriculture and climate service advisors specialists to engage with various stakeholders, including farmers, for the transfer of technology used in millet, maize, onion, and tomato farming @ USD 400 per day (6 days to set up demonstration field, 3 days for to each demonstration field in Y1, 1-day training on best practice per demonstration field each year)	40 000	-	-	-	-	40 000		
			FISAN - Workshop	Two workshops to setup of demonstration fields groups @ USD 5000 - each WS will serve to organise 25 demonstrations fields.	10 000						10 000	
			FISAN - Training	Semester Annual training on best practices exchanges for demonstration field members - training @ USD 500 per group - 1st year will know one training by Y2	25 000	50	50	50	50	225 000	100	
			National SE CNEDD - Local consultant	Specialist in climate weather information specialist to develop and implement dissemination plan and tools @ USD 400 per day for 50(20 days per region) and support in awareness and dissemination (10 days per year)	20 000	-	-	-	-	-	20 000	32
			Dissemination SE CNEDD - Awareness and dissemination	Annual lumpsum of USD 45000 to organise awareness and dissemination activities (including outreach, radio broadcasting, and relevant materials and media)	50 000	50	50	50	50	250 000	225	

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<p>Activity 1.1.3: Modernization of agriculture practices and technologies (use modern technologies with a particular focus on solar-based pumping systems, solar-based post-harvest and equipment to attract more youth in agriculture)</p>	<p>EQUIPMENTS BAGRI - Equipment</p>	<p>Provide in the four two regions (Maradi, South Tahoua, Zinder, Dosso and Agadez) a package of solar-based pumping systems, solar-based post-harvest and processing, and equipment @ USD 300000 750000 per package equipment of equipment (including procurement, transport, taxes and installation)</p>	<p>1 200500 000</p>	<p>1 200500 000</p>
<p>Activity 1.1.4: Provision of climate-resilient of millet, maize, onion, and tomatoes will be provided to smallholder farmers in Consultation with INRAN and RECA</p>	<p>National FISA N - Local consultant</p>	<p>Specialist in Climate-resilient Agriculture (adapted and improved millet and rice varieties) to develop and implement dissemination strategy and tools and advise farmers @ USD 400 per day for 50 10 days for strategy and 2 days for training per year per demonstration field</p>	<p>20 14 000 000</p>	<p>40 40 000 000</p>
<p>FISAN - Training</p>	<p>Annual training of farmers on adaptative and improvement deeds @ USD 3000 500 per training of 30 farmers (10 training per year for 50 demonstration fields) (from Y2)</p>	<p>30 25 000</p>	<p>30 25 000</p>	
<p>FISAN - Seeds varieties</p>	<p>Annual lumpsum for the annual distribution of adaptative and improved seeds to farmers to the trainees smallholder farmers @ USD 200 500 per farmer demonstration field each year</p>	<p>60 25 000</p>	<p>60 25 000</p>	
<p>Activity 1.1.5: Soil conservation techniques to cope with the consequences of drought and heat extreme events deployed in smallholder farmers</p>	<p>National SE CNEDD - Local consultant</p>	<p>Soil conservation specialist and drainage specialist @ US\$400 per day to train smallholder farmers (x40 days: 10 from each demonstration field (of the 2 regions) from Y2 (5 days per region training)</p>	<p>4 20 000</p>	<p>4 20 000</p>
<p>SE CNEDD - Training</p>	<p>10 x 5 days training Training of smallholder farmers (per region) @ USD 3000 per training per region (x 3 years) - 5 training sessions per region each year</p>	<p>30 30 000</p>	<p>30 30 000</p>	

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	Monitoring and evaluation	BAGRI - Local consultant	M&E specialists for mid-term and final evaluation @ US\$ 1500 per month - considering annual inflation of 3%	18 000	540	18	19	19 662	20 259	95 564
Total output 1.1				145 000	444	1	224	224	224 000	2 261
				151 400	907	56	253	253 096	254 259	668 964
					540					
Output 1.2: Income-generating activities (post-harvest processing) as livelihood diversification options	Activity 1.2.1: solar-powered equipment provision to farmer organisations/farmers' organizations	Equipments FISAN - Equipment	Installation/Coordinate the selection, acquisition and installation of a solar-powered equipment provision for post-harvest cleaning, milling, flour packing and stacking @ USD 500 000 in the 2 main regions - (including transport, taxes, and installation)		500	500				1 000 000
					600 000	600 000				000
	Activity 1.2.2: training sessions for solar-equipment management and maintenance.	National FISAN - Local consultant	Solar equipment specialist @ daily rate of US\$ 400 to train farmerfarmers on the utilization and maintenance (x67 days per region) - recycling the last two years by Y3		-	9 600	9 600	9 600	9 600	28 800
					2 800	4 800	4 800	4 800	4 800	17 200
		FISAN - Training	Annual training for solar-equipment management and maintenance @ US\$ 5000 (x30 participants)		-	20	20	20	20	60 35
					5 000	10 000	10 000	10 000	10 000	000
Total output 1.2					500	529	29 600	29 600	29 600	1 088
					607 800	614 800	14 800	14 800	14 800	252 200
	Monitoring and evaluation	National consultant	M&E specialists @ US\$ 2000 per month - considering annual inflation of 3%	24 000	24 720	25 462	26 225	27 012		127 419
Total Component 1				169 000	1 968	720	779 062	279	280	3 477
				151 400	2 364	867 896	825	612	219 921	1 164
					340		268 469	269 059		
Component 2: Climate-resilient infrastructure	Output 2.1: Rural transport network and storage infrastructure rehabilitation	Activity 2.1.1: Warehouse rehabilitation to withstand weather climatic weather conditions	Rehabilitation of BAGRI - professional firm	Lumpsum of USD 75000 for the rehabilitation of warehouse (510 per region) @ Lumpsum USD 65000-Five each year	375	375	375	375	375	1 500 000
				325 000	325 000	325 000	325 000	325 000	325 000	000
		SE CNEDD - Local consultant	ESS specialists to conduct environmental and social impact studies and annual monitoring @	50 000	50 000	50 000	50 000	-	-	200 000

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ed to withstand weather extremes

			lumpsum of USD 10000 per rehabilitation									
	Activity 2.1.2:	NationalBAGRI - Local consultant	Studies and surveys @ lumpsum of USD 150000 per region	150 000	150 000	150 000	150 000	150 000	150 000	600 000		
	Construction and maintenance of agriculture infrastructures: (climate-proofing 120 km feeder roads and farm tracks to ensure year-round and all-weather usability)	ConstructionBAGRI - Professional firm	Works infrastructure firm for the construction of bridges and culverts where necessary, routine, and periodic maintenance @ USD 500000 per construction (2 per region)	500 450 000	500 450 000	500 450 000	500 450 000	500 450 000	500 450 000	2 000 800 000	1	
		SE CNEDD - Local consultant	ESS specialists to conduct environmental and social impact studies and annual monitoring @ USD 25000 per construction (2 per region)	50 000	50 000	50 000	50 000	50 000	50 000	200 000		
	Activity 2.1.3: Support to districts for the development of Feeder Roads Maintenance Plans and Support to Farmer-based Organizations	NationalBAGRI - Local consultant	Development and implementation of roads maintenance plan by plans for local communities @ US \$ 400 per day (- for 30 days per district) - 2 per region - 2 regions in Y1 and 2 regions remaining the next	24 000	24 000					48 000		
		BAGRI - Maintenance and tools	Roads maintenance and tools @ US\$ 157000 per year		180 157 000	180 157 000	180 157 000	180 157 000	180 157 000	720 628 000		
		SE CNEDD - Local consultant	ESS specialists to support for the considering of social and environmental issue related to the Feeder Roads Maintenance Plans @ USD 7500 per district and @ USD 16000 for monitoring of tools development and maintenance	1 049 15 000	1 229 31 000	1 205 16 000	1 205 16 000	180 16 000	180 16 000	4 868 000	94	
Total output 2.1				1 049 15 000	1 229 31 000	1 205 16 000	1 205 16 000	180 16 000	180 16 000	4 868 000	94	
	Monitoring and evaluation	NationalBAGRI - Local consultant	M&E specialists for mid-term and final evaluation @ US\$ 29000/1500 per month - considering annual inflation of 3%	24 18 000	24 720 18 540	25 462 19 096	26 225 19 669	27 012 20 259	27 012 20 259	127 419 95 564		
Total output 2.1				24 18 000	24 720 18 540	25 462 19 096	26 225 19 669	27 012 20 259	27 012 20 259	127 419 95 564		
Total Component 2				1 073 082 000	1 253 720 255 540	1 230 462 217 096	1 231 225 217 669	1 207 012 193 259	1 207 012 193 259	4 995 419 965 564		

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Component 3: Dissemination of lessons learned	Output 3.1: Operational mechanism for lessons learned dissemination	Activity 3.1.1: Stakeholders' awareness and participation through timely and transparent communication of results and consistent stakeholders' engagement	WorkshopBAGRI - Workshop	Annual working sessions 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 - @ US\$ 10000 per year	10 000	10 000	10 000	10 000	10 000	50 000
			National consultantsBAGRI - Local consultant	Three Climate Agri national consultants to produce a policy brief related to each value chains (Honey, tomato and cereals)chain - US\$ 20000 per policy					60 000	60 000
			Communication agencyBAGRI - Professional firm	ProductionCommunication and strategy firm to produce of short video documentary that will be published to increase the public awareness and capitalize on the knowledge generated by the project - @ Lumpsum of US\$ 1500030000					15 30 000	15 30 000
	Total output 3.1	-	-	-	10 000	10 000	10 000	10 000	85 000	125 000
	Total Component 3	-	-	-	10 000	10 000	10 000	10 000	85 000	125 000
Project activities cost	-	-	-	-	1 252 000	3 232 440	2 019 523	1 521 051	572 624	8 597 639
Project Executing Cost (PEC)	-	Procurement management	National consultant	Two Procurement specialist @ 1500 per month - considering annual inflation of 3%	36 000	37 080	38 192	39 338	40 518	191 129
		Environmental specialist	National consultant	One Environmental specialist @ US\$ 2000 per month - considering annual inflation of 3%	24 000	24 720	25 462	26 225	27 012	127 419
		Gender and youth specialist consideration	NationalBAGRI - Local consultant	One Gender and youth specialist @ US\$ 1500 per month - considering annual inflation of 3%	18 000	18 540	19 096	19 669	20 259	95 564
	Total output 3.1	Finance Manager	Personnel cost	One Finance Manager @ US\$ 1000 per month - considering annual inflation of 3%	12 000	12 360	12 731	13 113	13 506	63 710

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				Total Component 3	28 000	28 540	29 096	29 669	120 259	235 564
Project activities cost (A)	Admin officer	Personnel cost	Admin Officer @ @ US\$ 800 per month - considering annual inflation of 3%	9 600 1 261 400	9 888 3 648 420	10 185 2 114 089	10 490 1 515 807	10 805 582 577	50 968 122 293	9
Project Execution costs (up to 1,5%) - (B)	Project management	BAGRI - Personnel cost	Project Manager @ US\$ 3500 per month - considering annual inflation of 3%	36 24 000	37 080 24 720	38 192 25 462	39 338 26 225	40 518 27 012	191 129 127 419	
	Office equipment	BAGRI - Furniture	Office Equipment (laptops @ US\$ 1500 per unit, desks and chairs @ US\$ 800 per unit, and other equipment @ lumpsum of US\$ 500) for the permanent staff (Project Manager, two M&E specialists, and Gender and youth specialist)	25 200 10 887					25 200 10 887	
		Office-supplies	Supplies	Lumpsum of US\$ 500 per month	-6 000	-6 000	-6 000	-6 000	-6 000	-30 000
	PEC (up to 9,5%) - (B)				166 800 34 887	145 24 720	149 858 25 462	154 26 225	158 27 012	775 119 138 307
Total Component Amount				1 418 800	378 108	369 350	675 033	731 243	9 372 757	260 600
Implementing Entity Fees (up to 8,5%) - (C)	Start-up activities	Professional firm	Appraise and finalize project implementation arrangements, including travel and meeting @ US\$ 57200	- 57 200				627 243	57 200	
	Start-up activities	Professional firm	Assistance and advice on the establishment of project management structure/unit @ US\$ 57200	57 200	-	-	-	-	57 200	
	Monitoring and evaluation	Professional firm	Supervision of preparation of annual (including mid-term and final) project monitoring reports and project evaluation reports @ US\$ 25000 in Y1, Y2 and Y4 @ US\$ 50000 in Y3 and Y5	25 000	25 000	25 000	25 000	50 000	175 000	

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	Monitoring and evaluation	Professional firm	Oversee each year procurement and financial management to ensure implementation is in line with the policies and timelines @ US\$ 10000	10 000	10 000	10 000	10 000	10 000	50 000
	Travel	Travel cost	Travel costs for Project supervision missions and steering committee meetings @ US\$ 10000	15 000	15 000	15 000	15 000	15 000	75 000
	Outreach	Professional firm	Annual project outreach and knowledge-sharing @ US\$ 20000	20 000	20 000	20 000	20 000	20 000	100 000
	Audit	Professional firm	Annual audit (including mid-term and final) @ US\$ 25000 in Y1, Y2 and Y4 @ US\$ 50000 in Y3 and Y5	25 000	25 000	50 000	25 000	50 000	175 000
	Closing activities	Professional firm	Support to prepare and finalize project closing documents for submission @ US\$ 50000	-	-	-	-	50 000	50 000
	IE fees (up to 8.5%) - (C)	-	-	209 400	95 000	145 000	95 000	195 000	739 400
	TOTAL GRANT AMOUNT (USD)	-	-	1 505 687	3 768 140	2 284 550	1 637 033	804 590	10 000 000

	DISBURSEMENT SCHEDULE				
	1st disbursement	2nd disbursement	3rd disbursement	4th disbursement	5th disbursement
	Upon contract signature - Y1	Year 2	Year 3	Year 4	Year 5
	TOTAL PROJECT COST-REPORTING				
	-Inception report - Y1		-Mid-term report - Y3		-Final report - Y5

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COST REPARTITION PER ACTORS

BAGRI	6 302
FISAN	1 868
SE CNEDD	951
	693

NOTE

Inflation rate from worldbank website:
<https://www.banquemondiale.org/fr/country/niger/overview#1>

FISAN: Fonds d'Investissement pour la Sécurité Alimentaire et Nutritionnelle / Investment Fund for Food and Nutrition Security

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SE - CNEDD: Secrétariat Exécutif du Conseil National de l'Environnement pour un Développement Durable / Executive Secretariat of the National Council for the Environment for Sustainable Development

DNM: Direction de la Météorologie Nationale / Directorate of National Meteorology

Total activities costs	9 122
PEC & IE Fees (BAGRI)	877
TOTAL GRANT AMOUNT	10 000

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

Below is the Project Disbursement Schedule:

Table 3.6: Disbursement Plan of the project

	One Year after Project Start	Year 2	Year 3	Year 4	Year 5	Total		
Scheduled date	USD 5,047,805 at the beginning of the project 1 st disbursement		USD 4,095,503 at the end of the second year of implementation 2 nd disbursement		856,692 at the end of the year 4 of the project implementation 3 rd disbursement	4 th disbursement	5 th disbursement	
Project activities cost (A)	1,252,000 261,400	3,232,440 0648,420	2,019,520 3114,089	1,521,050 1515,807	572,624 582,577	8,597,693 399,122,293		
Project Execution cost (B)(USD)	166,800 34,887	145,668 24,720	149,858 25,462	154,174 26,225	158,619 27,012	775,119 138,307		

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Total Project cost (A+B)	1,418,80 0296,287	3,378,10 8673,140	2,169,38 1139,550	1,675,22 5542,033	731,243 609,590	9,372,75 7260,600
Implementing Entity Fee (USD)	125,449 209,400	125,449 95,000	125,449 145,000	125,449 95,000	125,449 195,00	627,243 739,400
Total (USD)	1,544,24 9505,687	3,503,55 7-768,140	2,294,83 0284,550	1,800,67 3637,033	856,692 804,590	10,000,00 0

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

REPUBLIQUE DU NIGER



Fraternité - Travail - Progrès
CABINET DU PREMIER MINISTRE

CONSEIL NATIONAL DE L'ENVIRONNEMENT
POUR UN DEVELOPPEMENT DURABLE

SECRETARIAT EXECUTIF

Niamey, le 30 JAN 2022

LE SECRETAIRE EXECUTIF

To

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

0006
N°

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: hncnedd@minstn.ni

Annex 1 Social and Environmental Risks Screening

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, 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

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3. Resource Efficiency and Pollution Prevention	Will the project generate hazardous waste? Is the project likely to lead to environmental damages due to uncontrolled waste 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. Youth will also be encouraged to create profitable businesses in eco-friendly fertilizer and agrochemical 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 rights.	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

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	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 allowed to raise their concerns.	Project consultations will to the greatest extent possible , project consultations will 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, and women groups and else closes 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 and communicable diseases)?	No	Project activities are not expected to have any impacts sort of impact 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, projectProject proponents will ensure that gender equity is included as a core aspect of consultations during ongoing stakeholder engagement.	L

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	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, and 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	No	The people-centred approach adopted by BAGRI for all of its activities ensures that peoples' and communities' rights are always protected.		L

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	access to natural resources or benefit-sharing related to these natural resources (carbon rights, benefits from access to genetic resources...).				
	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 <u>Medium</u> 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

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