



ADAPTATION FUND

REQUEST FOR PROJECT/PROGRAM 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 in filling out the template.

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

Complete documentation should be sent to:

The Adaptation Fund Board Secretariat 1818 H Street NW
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Washington, D.C., 20433 U.S.A
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PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category: *REGULAR PROJECT*

Country/ies: *Republic of Niger*

Title of Project/Program: *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: *Conseil National de l'Environnement pour un Développement Durable (CNEDD) ; Fonds d'Investissement pour la Sécurité Alimentaire et Nutritionnelle (FISAN) ; BAGRI Regional Branches of Tahoua and Agadez*

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

Project / Program Background and Context:

Project summary

Niger is a West African country characterized by drastic climate conditions. Two-thirds of its area is in the Saharan zone, and a third is in the Sudanese and Sahelian zones. Desertification and degradation of natural resources, including land, are major concerns for the socio-economic development of the country. In 2019, the agriculture sector contributed 40% of the country's Gross Domestic Product (GDP) and represents the livelihood for over 80% of the population. However, food insecurity due to droughts remains a perennial problem in Niger, and the Government plans to invest more in irrigation and adaptation techniques. Niger experienced decreasing rainfall throughout the 1960s, 70s, and 80s, which caused severe drought and led to catastrophic harvest loss and the prevalence of malnutrition and starvation (particularly the severe droughts that occurred in 1966-1967, 1973-1974, and 1983-1984). Almost 87% of the population relies on agriculture or pastoralism for their livelihoods. Both are highly dependent on good climatic conditions, so any climatic shocks directly impact communities' livelihoods. Aside from the changes in rainfall and temperatures, communities in Niger report on water scarcity challenges leading to digging deeper wells. Moreover, the onset and cessation of the rainy season are becoming less predictable. Due to the combination of climatic and non-climatic factors, the increasing degradation and scarcity of renewable natural resources pose challenges to sustaining livelihoods and can even harm community cohesion. The proposed project addresses key climate vulnerabilities in the agricultural sector by providing integrated climate-resilient solutions for agricultural value chains 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 (millet, maize, onion, and tomato). Reflecting the key development challenges and adaptation needs, this project will deliver 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

A West African country characterized by drastic climate conditions affecting over two-thirds of its area¹. Niger, is mainly dependent on the vagary's climate, with rainfall patterns showing significant temporal and spatial variability. Indeed, Niger is highly vulnerable to climate change due to its high rainfall variability, which causes recurrent and severe dry spells and droughts. Furthermore, desertification and natural resource degradation are major concerns for the country's socio-economic development. To overcome the country's current environmental and socio-economic challenges, the state continues to develop actions likely to preserve the sustainability of basic productivity through appropriate adaptation strategies. Niger has a poorly diversified economy, with the agriculture sector accounting for 40% of its GDP and providing

¹ 1,267,000 km²

livelihoods for over 80% of the population. As food insecurity and drought remain perennial problems in Niger, the Government plans to invest in adaptation options.

2. Geographical context

Niger, one of the biggest inland nations in West Africa, is also one of the hottest countries in the world. The Sahelian zone of the country 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 trees². Most of the country's population is concentrated in four of the eight administrative regions, namely: Zinder (20.6%), Maradi (19.9%), Tahoua (19.1%), and Tillabéry (16.2%)³. 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. The livelihoods of most people depend on crop and livestock production, which are highly susceptible to climate variability, specifically droughts. In addition, most of the arable lands are in the southern regions (98%). With a total length of 4,200 km, the Niger River plays a significant role in agriculture and fisheries, transport, energy, and ecotourism, with an ecosystem function. The country's natural resources⁴ are prone to deep degradation, mainly due to an imbalance between their exploitation and renewal rates, coupled with marked climate variability during the last decades. Optimal management of natural resources underpinning the development of the rural sector is needed to boost the people's resilience to the adverse effects of climate change. This is an important leverage for policy efficiency in terms of inclusiveness. Otherwise, continuous degradation of the environment could lead to a substantial decline in incomes earned by the poorest people⁵.

3. Socio-economic and food security context

The country's population, estimated in 2015 at 17.7 million inhabitants⁶ reached 23.3 and 25,1 million inhabitants in 2019 and 2020, with a growth rate of 3.9%. Young people represent 51.6% of the population. The economic outlook for 2021 predicted an increase in the agriculture sector (5.1%). Real GDP is projected to reach 6.2% in 2022 and approximately 10% in 2023⁷. But more than 41% of the population⁸ 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, the number of people living in extreme poverty, will remain important. In Niger, agriculture is the main economic activity that provides a livelihood for more people than any other activity. It is also the sector with a significant number of poor people. The country's National Institute of Statistics concludes that poverty has a rural face in one of its recent reports⁹. Rural agricultural households predominate among poor households (96.1%). The high poverty level in the agricultural sector is partially explained by the high number of farmers who sell their crop production immediately after harvest to meet their needs. This practice enhances the

2 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.

3 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>.

4 (i.e., land, water, soil, and biomass)

5 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.

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

7 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>.

8 more than 10 million people

9 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>

vulnerability of households to food shortages, one of the causes of food insecurity¹⁰. There was a deterioration in people under severe food insecurity in 2017 compared to 2013, 2014, and 2015. In 2017, high proportions of populations under severe food insecurity were found in the Tahoua region, precisely in the department of Keita (16.7%), Bagaroua (9.2%), Tahoua (8.8%), and Tillia (6.9%). There, the proportion of the food insecure populations was more than twice the national average of 2.6% (Fig. 1).

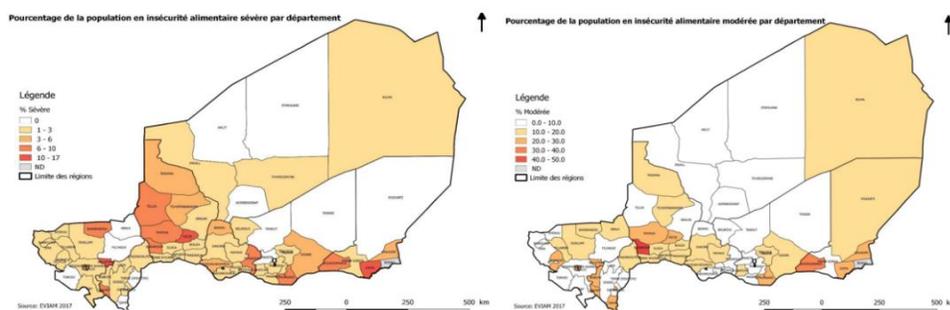


Fig 1: Populations under severe food insecurity (at left) and moderate food insecurity (at right) in the departments of Niger in 2017 (in %)¹¹

To reduce poverty and hunger in the most direct way possible, FAO¹² recommends that the priority must be given to economic growth in areas where the poor are working, where they are being given economic growth; in the sectors where the factors of production belong to the poor and malnourished people, which generate products consumed by these populations, and that develop the regions where they live. In Niger, the agriculture sector meets all these criteria. The combination of climate and non-climate stressors, makes agriculture sensitive to climate change, affecting the most disadvantaged communities. 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. Therefore, the project identifies rural women, young people, and poor smallholder farmers as the most vulnerable groups.

4. Climate trend

Niger has an arid climate with regularly extreme variability. Annual rainfall ranges from 100 to 800 mm and is characterized by significant interannual

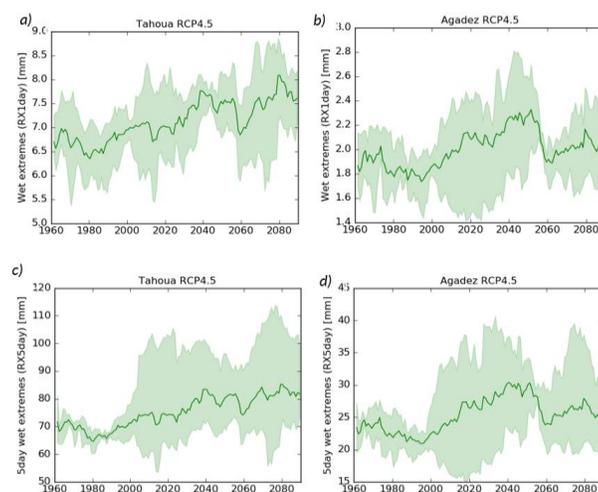


Fig 2: Regional climate model projections for daily wet extremes (RX1day) during the rainy season and extreme 5-day wet spell (RX5day) displayed as 20 years running mean. The line represents the ensemble; meanwhile, the shaded area represents the model spread. The projections are based on the emission scenario RCP4.5.

10 Data of 2011

11 République du Niger (2017). Enquête Nationale sur la vulnérabilité à l'insécurité alimentaire des ménages en milieu rural au Niger

12 The Food and Agriculture Organization

and

spatial variability, resulting in droughts and floods¹³. In Agadez, there is tropical arid, with a relatively rainy season from June to September. The hottest period of the year extends from April to June. The average annual precipitation is 110 mm per year, as the Sahara Desert covers most regions. Tahoua has a tropical arid climate, with a rainy season from June to September and annual precipitation around 365 mm per year.

4.1. Current and Future rainfall trends

Since the 1950s, Niger's climate has experienced three distinct rainfall cycles: (i) between the 1950s and 1970s, a cycle of wet years; (ii) between the years 1970 and 1990, dry years, particularly marked by drought 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 conditions¹⁴. Tahoua and Agadez regions face extreme climatic hydroclimatic hazards that should become more frequent and intense¹⁵ (Fig 2)^{16,17}. This highlights a foreseen increase in temporal and spatial variability, increasing crop diseases and enemies' outbreaks¹⁸.

4.2. Current temperature trend

Between 1970 and 2010, the annual temperature increased by 0.6°–0.8°C at the national level, with an increase in the number of warm days/nights and a decrease in the number of cold days/nights. Models predict temperature increases of 1°C in the short term (horizon 2030) during the rainy season across Niger, against 1.5 to 3°C in the medium term (horizon 2050). The increase in projected average temperatures is more important under RCP 8.5 than in the RCP 4.5 scenario. The increase in ambient

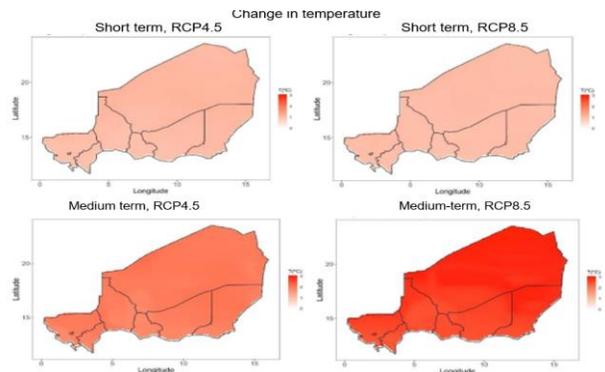


Fig 3: Differences in the mean surface temperatures in Niger during the rainy season (JJAS), simulated over the short term and the medium term by comparison with the period of reference 1981-2010. These results are the median of the simulations carried out with 29 models - global model from the intercomparison experiment (CMIP5) for RCP scenarios 4.5 and RCP 8.5.

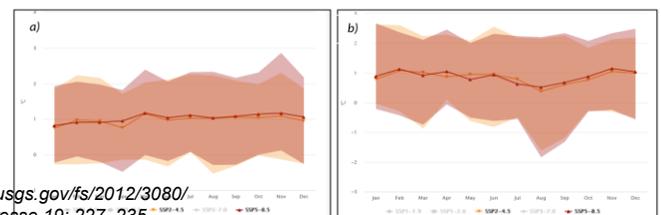


Fig 4: Projected mean temperature anomaly (°C) for 2020-2039 over the year at Tahoua (a) and Agadez (b) (baseline 1995-2014, SSP2-4.5, SSP5-8.5, World Bank, 2021).

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

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

15 (i.e., recurrent and successive droughts, floods, strong wind, heatwaves, and sand or dust storms)

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

17 Simulated using model projections in RegioClim. ClimateAnalytics

18 (e.g., fall armyworms, flower insects, aphids, seed-eating birds)

temperature is slightly larger in the northern regions than in the southern and western regions of Niger. Specifically, for Tahoua and Agadez regions, the mean temperature is above 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 (Fig 3&4). The projections based on the emission scenario RCP4.5 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.

5. Climate impact on the agriculture sector

Niger experienced decreasing rainfall throughout the 1960s, 70s, and 80s which caused severe droughts. They led to catastrophic events (i.e., failure of harvests, malnutrition, and starvation), particularly the severe droughts in 1966-1967, 1973-1974, and 1983-1984¹⁹. Rainfall has recovered slightly since the 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 drought²⁰. The negative effect of rainfall variability is compounded by the small availability of suitable soils for agriculture²¹, the poverty²², and increasing pressure on the country's fragile ecosystems due to population growth²³. The 2009 drought affected 7.9 million people (with losses estimated at USD 805 million). It led to a decline of 4% of GDP. 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 events destroyed livelihoods and infrastructures connecting farmers to the markets in certain localities of Niger ²⁴. Their increasing intensity, results in reduced soil fertility and land degradation. Floods have also been worsened by the impact of increasingly intensive and consecutive rains recorded in Maradi and the Northern region²⁵. Recently, in 2020 and 2021, rainfall has led to severe flooding at Tahoua and Agadez, respectively^{26,27}. 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. 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 predictable²⁸. Other community observations related to climate change impacts with other external factors include (i) reduction in crop yield (up to 25%); (ii) increase in food insecurity and malnutrition; (iii) desertification and degradation of natural resources; (iv) drying up of surface water points; (v) appearance of new parasites and diseases; (vii) increased conflicts between pastoralists and

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

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

21 (only 12% of the country)

22 majority (over 60%) of the population living with less than USD 1/day

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

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

25 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.

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

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

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

agriculturalists; and, (viii) erosion of community solidarity. Common crops in Tahoua and Agadez such as maize, wheat, tomato, and onion are sensitive to climatic conditions (Table 1).

Table 1: List of the main cultivated crops in Agadez and Tahoua^{29,30}.

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

Climate models indicate that maize and millet productions are predicted to decrease by 11.8% and 10.3% at Tahoua, and by 10.1% and 12.2% at Agadez by 2050 (Fig.5)³¹, where late and erratic rainfalls and higher frequency and extent of dry spells have been observed and are projected.

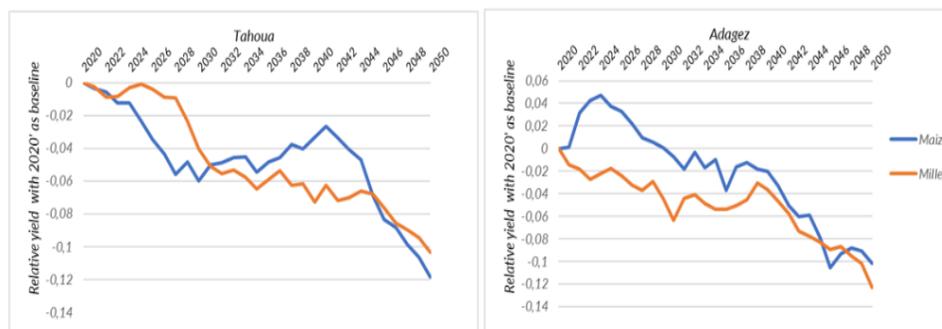


Figure 5: Projected change in rainfed maize and millet yield for 2020-2050 at Tahoua and Agadez under median climate scenario and 2020's yield as the baseline.

In Niger, onion is the most widely produced vegetable for the local and 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)³². 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)³³. Its production at Tahoua and Agadez are 525,515t and 12,359.5 t, respectively³⁴. Onion is sensitive to the increase in ambient temperature and water stress (Table 2). Access to widely distributed post-harvest commodities (such as onion) could be threatened by the increased frequency and amplitude in heavy rain events, thus disrupting road connections.

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

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

31 Based on the International Fund for Agricultural Development (IFAD) Climate Adaptation in Rural Development – Assessment Tool (CARD), over the next 30 years.

32 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>.

33 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.

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

Table 2: Main crops in Tahoua and Agadez, associated climate-related stressors, and adaptative options

<i>Millet, Sorghum, Maize</i>	
<i>Climate risks</i>	<i>Increase in Temperature Rainfall variability</i>
<i>Impacts</i>	<i>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,</i>
<i>Adaptation options</i>	<i>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).</i>
<i>Onion, Garlic</i>	
<i>Climate risks</i>	<i>Increase in Temperature and water table decreases reduction in yield</i>
<i>Impacts</i>	<i>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</i>
<i>Adaptation options</i>	<i>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</i>
<i>Tomato</i>	
<i>Climate risks</i>	<i>Heat and water stress reduce yields, affect growth, and increase the incidence of fruit abortion and disease</i>
<i>Impacts</i>	<i>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 the formation of fewer flowers and affects pollen</i>
<i>Adaptation options</i>	<i>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</i>

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 increase the population's vulnerability to food insecurity, and therefore Niger's stakeholders have defined resilience to food insecurity as a specific objective. Despite the efforts, the 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.

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

The project seeks to address the agricultural sector's vulnerability to climate change and climate variability to sustain continued and increased agricultural productivity and growth for

poverty reduction in Niger. It also addresses the climate-resilient infrastructure capacity to adapt to climate change. Specifically, the project intends to address the following key issues:

- *The decreasing climatic suitability for agricultural production could lead to reduced incomes and the reduced ability of smallholder farmers to access food on the local market.*
- *The decrease in the spatial distribution of rainfall and the dry spell could also reduce the production of subsistence crops, particularly millet, 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.*

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. The key constraints are unsustainable or inadequate agricultural practices (e.g., traditional slash and burn), 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 suitable areas for agriculture is also a key problem resulting from growing energy needs for fuelwood and charcoal. The direct consequence is the accelerated desertification of hectares of land due to deforestation, which can be easily 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 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 the 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 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) to better decide on cropping practices and adjust the cropping calendars. Warehouse and road building resilience, especially in rural areas, is not well adapted for the current and future climatic conditions.

7. BAGRI' experience in implementation adaptation projects

BAGRI implemented several projects supporting the resilience of the rural communities. Recent projects are the following: (i) "Projet de Promotion des Exportations Agro-Pastorales"; (ii) «Programme Nigéro-Allemand de Promotion de l'Agriculture Productive" and BAGRI initiative supported by Luxembourg (Luxdev) cooperation. During the implementation of those projects, seed capital was provided to micro-enterprises led women and youth groups in the regions of Agadez and Zinder.

As the lead financier of agriculture in Niger, BAGRI has great comparative advantage to implement the concessional credit facility (output 1.2, annex 3). BAGRI will collaborate with CNEDD that has all the mandate related to climate change in Niger and with FISAN established to promote public and private investments in food security and agrifood systems. These three institutions will collaborate together on the execution of this project.

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:

- *to integrate climate-proofed agricultural production and post-harvest options to increase the adaptive capacity of the most vulnerable cereal and 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., post-harvest processing, biological fertilizer), and;*
- *to increase the food security of the vulnerable communities through climate-resilient infrastructures in Tahoua and Agadez rural areas.*

This proposed project contributes to outcomes 1, 3, 4, 6 and 8 of the AF results frameworks. The component 1 of the project, will reduce the exposure of the targeted population to climate-related hazards (Outcome 1 of the AF results framework), support the diffusion of innovative adaptation practices and technologies (outcome 8 of the AF results framework) and strengthen the diversification of livelihoods and sources of income for vulnerable people (outcome 6 of the AF results framework).

The component 2 on climate-resilient infrastructure is designed to increase adaptive capacity within relevant development sector services and infrastructure assets (Outcome 4, of AF results frameworks).

All components of this project include activities (1.2.2, 3.1.1) designed to strengthen awareness and ownership of adaptation and climate risk reduction processes at local level (Outcome 3, AF results framework).

Project / Programme Components and Financing:

Table 3: Relationships among project components, activities, expected outputs, and 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: Improved resilient practices for millet, maize, onion, and tomato production	Outcome 1.1. Adaptation measures to foster the resilience of millet, maize, onion, and tomato production are implemented	2,668,964
	Output 1.2. BAGRI' concessional credit line for 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	1,252,200
Component 2: Climate-resilient infrastructure	Output 2.1: Rural transport network and storage infrastructure rehabilitated to withstand weather extremes	Outcome 2.1. Rural transportation and storage infrastructure to withstand weather extremes are implemented for farmers	4,965,564
Component 3: Dissemination of lessons learned	Output 3.1: Operational mechanism for lessons learned dissemination	Outcome 3.1: Stakeholder awareness is implemented through timely and transparent communication of results and consistent stakeholders' engagement	235,564
<i>Project/Programme Activities cost</i>			9,122,292
<i>Project/Programme Execution cost (up to 1,5%)</i>			138,308
<i>Total Project/Programme Cost</i>			9,260,600
<i>Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable) (up to 8,5%)</i>			739,400
Amount of Financing Requested			10,000,000

Projected Calendar:*Table 4: Proposed project milestones*

Milestones	Expected Dates
<i>Start of Project/Programme Implementation</i>	<i>July 2023</i>
<i>Mid-term Review (if planned)</i>	<i>December 2025</i>
<i>Project/Programme Closing</i>	<i>December 2028</i>
<i>Terminal Evaluation</i>	<i>October 2028</i>

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 are translated by changes in the rainfall patterns, and rising temperatures, affecting fragile rural infrastructure and agriculture in Tahoua and Agadez. Therefore, the sustainable development of those areas requires the implementation of sound adaptation measures for addressing climate challenges. 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 in Iferouane and Timia (for Agadez) and Keita and Dogueraoua (for Tahoua) (Fig. 6). These actions are aligned with the needs of vulnerable smallholder farmers and communities in the project area (see annexes). In addition, the resilience of the agricultural sector needs a comprehensive set of sound diversification strategies built on integrated farming systems and designed to increase yields and minimize environmental degradation while maintaining ecological functions under changing climate. The overall objective will contribute to 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 rural areas.

Indeed, maize is grown together with other vegetables (such as onion in major irrigated areas in Tahoua and Agadez under polyculture systems)³⁵. Niger ranked as the second millet producer in West Africa, and this crop is widely grown in the project area. This project intervention is built on existing technologies³⁶ and the integration of climate change dimensions into cereals and vegetable value chains. This project will deliver the stated objectives through three components:

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

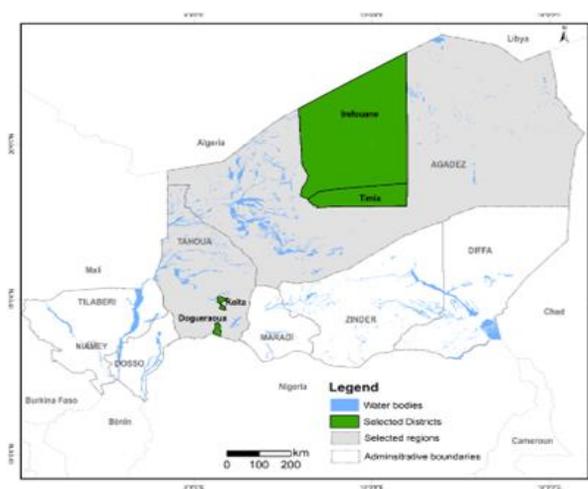


Figure 6: Map of the project area

³⁵ Around 3494.25 ha were respectively covered by maize and other vegetables at Tahoua according to the Office National des Aménagements Hydro-Agricoles in 2015
³⁶ i.e., improved varieties/cultivars and cropping systems

This component focuses on household-/village-level interventions in climate-resilient and sustainable agriculture to reduce the negative impacts of 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, is enhanced with climate-smart agricultural practices, sustainable post-harvest processing options, and livelihood diversification options (outcome 1). The lack of post-harvesting in the millet, maize, onion, and tomato value chains 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 climate change context. The project will focus on the following outputs and activities to support the shift towards a 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 the 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 Nationale de la Météorologie (DNM), and Western African expertise on cereals and 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 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, respectively³⁷*
- *Modernization of agricultural 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 to 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 extreme heat events deployed in smallholder farmers (Activity 1.1.5). Compost management, zaï, and half-moon techniques will enhance soil fertility.*

Output 1.2. BAGRI' concessional credit line for income -generating activities (post-harvest processing) as livelihood diversification options

37 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>

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. It will be sustained by concessional loans from the blending of AF grants and BAGRI loans to support IGA based on postharvest processing or solar powered irrigation for high value crop production. Two activities 1.2.1 and 1.2.2 will enable the effective delivery of this output:

- *Provision of solar-powered equipment to farmer organizations, including women or youth organizations, for post-harvest cleaning, milling, flour packing, and stacking (Activity 1.2.1). Experienced youth or women's associations already involved in transforming post-harvest agricultural products in a rural area, with a robust business idea for expanding their processing activities will be the beneficiaries. 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 a loss reduction of 20% losses for tomatoes and onions while increasing the revenues of the beneficiaries by 25% per harvest.*
- *Training sessions for solar-equipment management and maintenance (Activity 1.2.2). Young representatives of youth associations involved in the informal sector and providing other services (repairs of household goods or 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 Tahoua³⁸.*

Component 2: Climate-resilient rural infrastructure

Among the sectors most vulnerable to climatic hazards in Niger is the land transport sector³⁹. In the project area, the land transport infrastructure is often cut by extreme rains and sand dunes, mainly caused by violent winds. The project area, recorded the heaviest rains for return periods of 10 years, 20 years, 30 years, 50 years. In 2016 the daily rains vary from 30 mm to 263.5 mm (at Karofane) with 173 mm (at Doguéraoua). In 2016, the Agadez and Tahoua recorded, 69 cases of road cuts due to extreme rains and sand dunes. Furthermore, the increase in the occurrence and amplitude of the intense rains over the last decade has led to the reactivation and the silting up of the old koris in the Agadez region. During the period of road cuts, post-harvest products are exposed to rotting, compounded by high temperature, as consequence of the deterioration of the feeder roads. In this context, the component 2 will enhance the storage capacities to avoid

³⁸ 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
³⁹ Identifiés dans le PANA (2006) et les communications nationales ((CNI, 2000), (SCN, 2008), (TCN, 2016)),

agricultural commodities losses, before the clearing of feeder road when they are cut by sand dunes. It will also implement land transport infrastructures for the resilience of agricultural value chains under climate extremes, especially extremes rain events and floods (outcome 2).

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

Fostering productivity is insufficient to ensure that smallholder farmers sustain and increase their incomes. Furthermore, poor road networks and transportation infrastructures threatened by floods and sand dunes, lead to a depreciation of product quality and its value on the market, therefore smallholders' revenues. The already observed and projected intensity of extreme weather events could lead to more value chain disruptions, affecting the capacity of smallholders to gain sufficient income from agricultural production. Consequently, activities planned to support the targeted value chains 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 stored produce, rehabilitated outside flooded areas; and can store commodities if land transport is cut-off by climate events.
- Climate-proofing 75 km feeder roads and farm tracks to ensure year-round and all-weather usability (Activity 2.1.2). This includes expert services to assist (i) in technical studies and resilient feeder road implementation, and (ii) in training relevant technicians.
- The implementation of these activities will engage with local public authorities and farmer-based organizations (FBOs) to sustain the climate-proofed infrastructures over a longer period. They will provide support to local authorities, Public Works services and FBOs for the development of Feeder Roads Maintenance Plans including the distribution of maintenance tools, and development of Farm Roads Maintenance Plans. Periodic in-kind support by local stakeholders will be planned in the Feeder Roads Maintenance Plans for the sustainability of this infrastructure (Activity 2.1.3).

Component 3: Dissemination of lessons learned

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

Output 3.1: Operational mechanism for lessons learned dissemination

Stakeholder awareness and participation through timely and transparent communication of results and consistent stakeholder engagement (Activity 3.1.1). National institutions from the private and public sectors, Donors, and financial institutions (banks, microfinance institutions) will be invited to attend regular working sessions (one session per year) to present actions or result from the project's implementation in targeted value chains). These working sessions will also help improve the synergy with similar projects or initiatives and feed the project lessons learned from other

initiatives undertaken by partners during its implementation. Three policy briefs related to each value chain (onion, tomato, maize, and millet) and a short video documentary will be published to increase public awareness and capitalize on the knowledge generated by the project. The theory of change summarizes the description of the project approach (Fig 7).

Annex 5 to OPG Amended in October 2017

Goal	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.			
Outcome	Outcome 1: millet, maize, onion and tomato farming communities' resilience are enhanced with climate-smart agricultural practices and sustainable post-harvest processing options as livelihood diversification options 	Outcome 2: to enhance the storage, and transport infrastructures for the resilience of agricultural value chains under climate extremes 	Outcome 3: stakeholder awareness is implemented through timely and transparent communication of results and consistent stakeholders' engagement to reduce risk associated with climate-induced socio-economic and environmental losses	
AF Outputs	Targeted communities' livelihood strategies strengthened in relation with climate change impacts	Resilience of physical and social assets strengthened in response to climate change	Strengthened capacity of national and regional networks responding to adverse climate events	
Intermediate results	Output 1.1: Improved resilient practices for millet, maize, onion and tomato production 	Output 1.2: BAGRI' concessional credit line for income-generating activities (post-harvest processing) as livelihood diversification options 	Output 2.1: Rehabilitation of rural transport network and storage infrastructure to withstand weather extremes 	Output 3.1: Operational mechanism for lessons learned dissemination
Activities	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 and rice farmers Activity 1.1.3: Adapted and improved millet and rice varieties are provided to smallholder's farmers Activity 1.1.4: Development of soil conservation and drainage techniques in farmers' fields	Activity 1.2.1: Provision of solar-powered equipment 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	Activity 2.1.1: Warehouse rehabilitation to withstand weather climatic conditions Activity 2.1.2: Climate-proofing 120 km feeder roads and farm tracks to ensure year-round and all-weather usability Activity 2.1.3: Support to districts for the development of Feeder Roads Maintenance Plans and support to Farmer-based Organizations (road gangs' formation, distribution of maintenance tools, development of Farm Tracks Maintenance Plans)	Activity 3.1.1: Stakeholders' awareness and participation through timely and transparent communication of results and consistent stakeholders' engagement
Assumptions	Smallholder farmers are willing to learn and adopt CSA practices to enhance crop productivity and utilise climate risk information to plan cropping calendar	Increase the demand and extend the market for apiculture products and gardening produce. Engage and involve target communities, especially women, youth and elderly, in other income-generating activities (apiculture and gardening) to improve their livelihood. Identify activities that are appropriate for women, youth, and elderly. Conduct specific activities to facilitate market access.	- Reliable and efficient access to locations are a critical factor to a basic social and economic activities - Reduce post harvest losses	Efficient M&E system Develop an efficient stakeholder engagement strategy
Constraints and risks	Extreme climate conditions which can severely affect crops and vulnerable communities.	Resistance to change of targeted communities to undertake other income-generating activities	Extreme climate conditions which can disrupt rehabilitation works.	Delays in implementation
KEY CONSTRAINTS	- Unsustainable or inadequate agricultural practices	- Inefficient use of water	- Weak yield caused by diseases of crops due to increased temperatures	- weak land use planning causing erosion

Fig 7. Theory of change of the proposed project

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

This project aims to support the climate resilience of the country's breadbasket regions by an 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), integrated farming systems, diversification, climate-resilient feeder roads and warehouses. For this purpose, it targets 28,765 direct from smallholder farmers, FBOs including cooperatives, partnering financial institutions, small-scale rural entrepreneurs, women, and rural youth (20 to 34 years old). The indirect beneficiaries were estimated at 160,000⁴⁰.

Potential financial institutions with the necessary capacity to act as partners financial institutions at Tahoua and Agadez are: Capital Finance⁴¹, Acep⁴², Mc Daouré and Yarga Tarka Maggia for the proposed project upscaling. 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^{43,44}. 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 rural population. Rehabilitation of rural feeder roads and farm tracks will improve the lives and livelihoods of more indirect beneficiaries through savings in transport costs and post-harvest losses resulting from easing 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).

Through outputs 1.1 and 1.2, and 2.1, the project is designed to build the capacity of the targeted populations to sustain their investments, particularly in the management of their productive assets and capital, by implementing the best climate resilience actions and building capacity from business models in (specify the crops) value chains and climatic goods and services⁴⁵. 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

40 Using the size of households in Agadez and Tahoua regions are respectively 5.6 and 6.6 RGPH (2012). *Caracteristiques sociodemographiques des menages.*

41 <https://www.niameysoir.com/economie-dans-le-cadre-du-volet-finance-inclusive-du-projet-desert-capital-finance-ouvre-ses-portes-a-agadez-avec-lappui-de-luncdf-et-aics/>

42 <https://m.facebook.com/pg/ACEP-microfinance-cr%C3%A9dit-104196078593022/posts/>

43 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*).

44 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*).

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

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. 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 project support.

Gender equity: *The project addresses gender equity. It considers gender through:*

- *female-headed households and youth, respectively involve at 30% and 40% of the direct beneficiaries;*
- *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 participants to the training session disaggregated by gender will be provided;*
- *an equitable distribution of agricultural inputs, will be adopted considering 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.*

To ensure the benefits of women, youth and vulnerable communities, BAGRI will deploy its grievance mechanisms based on community feedbacks that ensure rigorous, open, and transparent consultations and continuous monitoring for detecting potential social risks. The Gender Assessment and Action Plan will be developed in the stage of the full proposal formulation based on public consultations focused on women and youth in the project area.

Sustainable development and socio-economic co-benefits: *Aside from sustainably managing millet, maize, onion, and tomato production, the proposed project intends to propose actions to reduce climate risks through introducing livelihood diversification interventions⁴⁶ as an adaptation strategy and mainstreaming of climate change into rural infrastructure. The project will also contribute to Niger's Nationally Determined Contributions (NDCs) and help fulfill its commitment to the Paris Climate Agreement and the SDG1 (end poverty), SDG 2 (zero hunger), SDG 13 (climate*

⁴⁶ i.e., post-harvest processing, business around drip irrigation, water saving-irrigation systems

action)⁴⁷. Vulnerable people will receive capacity building for implementing climate resilience business models in millet, maize, onion, and tomato value chains. Goods and services will include climate-resilient infrastructures and climate information⁴⁸. Beyond the increase in yields and income, the project will help increase knowledge and best practices around an integrated climate-resilient business model. It can also improve the health and well-being of local populations through enhanced nutrition and food security.

Environmental co-benefits: The project will contribute to maintaining ecosystem services⁴⁹ and enhancing water use efficiency through resilient crops value chains. Crop residues can enhance soil organic matter, improving soil fertility and crop yield⁵⁰⁻⁵¹. Climate-smart agriculture (CSA) techniques such as mulching, moon ridges, and organic composting will also improve soil fertility by reducing leaching and retaining moisture and nutrients. Farmers will also receive appropriate organic fertilizer (compost) usage training to reduce unnecessary waste and indirect GHG emissions.

Paradigm shift potential: To achieve the project goals, the capacity of key actors in the agricultural sector will be improved to understand climate change and the best way to address it (e.g., climate field schools) (output 1.1) and improve the capacity of smallholders with low emission and climate-resilient equipment and infrastructures (component 2). Additionally, to address adaptation and mitigation gaps in agriculture, it is important to mobilize domestic and international funds from public and private sectors. The banking sector is the backbone of the economy in Least Developed Countries (LDCs) like Niger and can provide a substantial contribution to mitigation and adaptation through concessional terms. For that purpose, the grant from AF will be blended with loans from BAGRI to provide concessional loans to support IGA based on postharvest processing or solar powered irrigation for the high value crop production (output 1.1 & 1.2). Such efforts towards sustainable finance and green banking are consistent with the Paris agreement in its article 2, objective (c): “Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development”. Moreover, the project will promote a paradigm shift toward sustainable climate-resilient crops value chains with low carbon emissions by disseminating the lessons learned to other national and private institutions (component 3).

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

The proposed activities form a collection of low-regret or no-regret options that can be managed and induced measurable benefits for local communities. Such an approach will boost the interventions' cost-effectiveness, particularly as a common management structure and a linked M&E framework will be used. Other benefits expected are improved coordination and communication, and the application of common procurement and supervision procedures

47 Sustainable Development Goals (SDG)

48 e.g., technologies, equipment, climate-proofed roads, storage, and warehouse

49 soil fertility, nutrient cycling, carbon sinks, and biodiversity

50 i.e., millet glume, maize straw

51 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.

(reducing costs). 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, the 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 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 Niger), Office National des Aménagements Hydro-Agricoles (ONAHA), Chambre Régionale 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 special attention of the Nigerien Government to the resilience of the agricultural sector. The project activities are designed to obtain optimum results that will benefit 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 characterize the country's context, smallholders' resilience through a combination of food crop production (such as millet, maize, onion, and tomato) and other income-generating activities is more profitable than other livelihood options in the agricultural sector. The proposed project's total investment of USD 10,000,000 will benefit 28,765 direct beneficiaries. This represents about USD 348 per beneficiary, which is lower than recent adaptation projects such as: (i) Adaptation Fund project titled "Enhancing Resilience of Agriculture to Climate Change to Support Food Security in Niger, through Modern Irrigation Techniques"⁵², with an investment of USD 354 per beneficiary; and (ii) the Inclusive Green Financing for Climate Resilient and Low Emission Smallholder Agriculture funded by Green Climate Fund at the rate of USD 600 per direct beneficiary⁵³.

To date, limited efforts have tackled millet, maize, onion, and tomato production issues in an integrated approach, which could have led to sustainable incentives in these sub-sectors. However, it is increasingly recognized that a single adaptive action of a select element of the agricultural value chain⁵⁴ will be less effective if not coupled with adaptive actions across their value chains.

Several alternatives were analyzed during the project preparation including technological solutions such as climate-controlled greenhouse structures, vertical agriculture and other modern technologies available today to improve farming system resilience. Most of these solutions required high capital and might not be affordable for an average nigerien. Moreover, they can present some technological and technical challenges including technology obsolescence and lack of adoption. A detailed alternatives analysis will be presented at full proposal formulation.

⁵² <https://www.adaptation-fund.org/project/enhancing-resilience-of-agriculture-to-climate-change-to-support-food-security-in-niger-through-modern-irrigation-techniques-2/>

⁵³ <https://www.greenclimate.fund/sites/default/files/document/funding-sap012-ifad-niger.pdf>

⁵⁴ e.g., seed enhancement

The project by supporting water-saving irrigation will save farmers' incomes. Improving irrigation efficiency will reduce the irrigation time and charges related to the pumping. The drip irrigation' efficiency is 90% to 95% against 40-50% for surface irrigation and 70% to 80% for sprinkling. Water needs in the real system of drip system are 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. Thus, maximum resilience can only be achieved by implementing those adaptation options in maize, millet, onion, and tomato value chains.

Three options have been considered in the assessment of alternatives for resilient farm roads: ordinary farm roads, modern farm road and paved roads.

Modern farm road including resilient feeder road infrastructures built with resilient standards for farm roads and tracks and local climate-proof materials (e.g. laterite) appears to be the best option in the context of climate change. Their engineering structures designed for the fifty-year flood and those of sanitation for the ten-year flood. They are covered by continuous wearing layers in lateritic gravel which available at national level, reduces the implementing and maintenance cost compared to the use of imported material (such as ceramic). This option allows further upgrade by asphaltting. The alternative ordinary farm roads built often without climate consideration, while paved roads often required high operating & maintenance costs⁵⁵. Further analyses will be undertaken to present the detailed cost-benefit analysis of these options as part of the full feasibility at the proposal development stage.

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

The project is designed within the framework of the National Programme of Adaptation (NAPA) and the recently developed Nationally Determined Contribution (NDC), National Climate Change Policy (NCCP), and National Climate Change Strategy and Action Plan (NCCS and AP). The proposed project is consistent with government priorities in the 20121-2026 Economic and Social Development Plan (PDES) and, the strategy for sustainable development and inclusive growth (SDDCI). Regarding the country's priority needs to address adverse effects of climate change, the technology transfer process for mitigation and adaptation to climate change must consider economic and social priorities, as defined by the Fast Track Development and Poverty Reduction Strategy (SDRP), the Rural Development Strategy (SDR), the NAPA, the Declaration of Energy

⁵⁵ PROJET D'ACTION COMMUNAUTAIRES POUR LA RESILIENCE CLIMATIQUE (PACRC) UNITE DE COORDINATION DU PROJET (2018). Contribution a l'elaboration des normes nigériennes sur les matériaux de construction routière prenant en compte les changements et la variabilité climatiques.

Policy (DPE) and the National Strategy for Access to Modern Energy Services (SNASEM). Finally, the project is relevant to the following policies:

- **3N (Nigériens Nourish Nigériens) Initiative**

The 3N Initiative (I3N) is a major programme of the President of the Republic for the rebirth of Niger.

The I3N enables Niger to accelerate the achievement of the Millennium Development Goals (MDG 1-eradicate extreme poverty and hunger and MDG 7-environmental sustainability. Its goal is to "help put Niger people free from hunger and guarantee the conditions for full participation in domestic production and improving their income". The specific objectives are "building national capacity for food production, supply, and resilience to food crises and disasters". The proposed project is aligned with its three strategic axes such as axe 2 (increase and diversification of agro-forestry-pastoral production), axe 3 (improvement of the resilience of populations faced with climate change, crises, and disasters), and axe 4 (improving the nutritional status of Nigériens).

- **Niger's revised National Determined Contribution (NDC, 2021)**

The revised NDC aims for a reduction, compared to Business as Usual (BAU) baseline scenario. In the Agriculture, Forest and other Land Use sector: unconditional reductions of 4.50% and 12.57% is expected in 2025 & 2030 and conditional reductions of 14.60% and 22.75% is expected. In energy sector: unconditional reductions up to 11.20% and 10.60% in 2025 & 2030 and conditional reductions: of 48% and 45% in 2025 & 2030 are expected. The implementation the proposed adaptation project, at a total cost of USD 10 million USD will contribute to the achievement of the new NDC with financial, technological, logistical assets and human capacity building resources.

National Sustainable Agriculture Development Plan (PNIA, 2015-2035)

PNIA indicates that an average annual agricultural growth will be equal to or greater than 6% over 2015-2035 for achieving the goals of growing economic, structural transformation, and poverty eradication. A productive agricultural sector would offer decent jobs to rural youth and slow down the rural exodus. Finally, increased agricultural income and the rural economy diversification would reduce the vulnerability of rural households to climate change. However, resilient agro-pastoral value chains action will have to be implemented. The development of irrigated agriculture will play a central role (e.g., high value-added crops, climate risk management). Agricultural production will have to evolve towards more value-added products through processing. Therefore, the proposed project will contribute to (i) the intensification of cultivable land; (ii) increasing irrigable area with improved irrigation systems; (iii) is the room for improvement of key agricultural value chains and (vii) empowers the young and women in rural area.

Niger National Action Plan to Combat Desertification and Land Degradation

The Constitution of the Republic of Niger stipulates in article 35: The State has an obligation to protect the environment for the benefit of present and future generations. Niger has developed and adopted its National Strategic Investment Framework for Soil and Land Management since 2010

with a vision, based on three main dimensions : 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. Development of the Policy on National Strategy is supported by the SDGs, the environment of ECOWAS and the Common Policy for the Improvement of the Environment of the 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.

National Adaptation Plan

According to the Niger National Adaptation Plan⁵⁶, 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, water shortage and groundwater depletion, increased disease and/or health problems, loss of forest areas, production, biodiversity, and land degradation, and acceleration of desertification process. Greater access to climate 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 recruited 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. Norms and standards from following national acts and policies will be implemented:

- **National Environmental Policy**

Looking at the evolution of the Nigerien road network, a significant increase from 9,949 km in 1986 to 13,808 km in 1990 had been made. But for the last five years, only a few achievements have been done. Despite everything, the evolution of the network has had a definite impact on the environment, the past, due to the absence of a required policy, road construction less considered 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 works, all measures aimed at mitigating the negative effects of road construction on the environment.

- **Environment Protection Act (2010)**

56 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>.

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. 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 offenses. For this AF project, the activities identified that will require an Environmental Impact Assessment (EIA) include the use of modern and water-saving technologies with a particular focus on solar-based pumping systems and drip irrigation and soil conservation technics, building climate resilient feeder roads and warehouse rehabilitation under Output 1.1. Output 1.2. and infrastructures under Output 2.2. They can induce a: substantial changes in natural resource use; substantial changes in farming practices; changes in commodities transport.

- **National Land Policy for Niger**

In the Republic of Niger, the regime of expropriation for the public utility applies to customary rights subject to the provisions following: when the perimeter whose expropriation is planned includes unsuitable land under the rules of the Civil Code or the registration regime, the order of transferability is preceded. In addition to the investigation of commode and incommode, by a public and adversarial inquiry intended to reveal, if applicable, the existence of customary rights that encumber these lands and their exact consistency as well as the identity of the people who exercise them. This investigation, carried out ex officio by the expropriating authority, is carried out according to the customary rights determination procedure provided for in Articles 4 and 11 of this law. Different laws have provisions on this issue: Ordinance No. 2010-09 of April 1, 2010, on the Water Code in Niger; Ordinance No. 93-015 of March 2, 1993, established the guiding principles of the Rural Code; Law no. 60-28 of May 25, 1960, fixed the methods of development and management of agricultural developments carried out by the public authorities

Regarding land management, the policy mandated by the government to ensure the sustainability of land for agricultural development programs. 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 encourages the preparation of participatory environmental action plans by communities and individuals living in environmentally sensitive areas, encourages the use of traditional soil conservation methods, puts measures in place to control the degradation of land through abuse of inputs and inappropriate land-use practices, and puts in place institutional mechanisms for conservation of the quality of land for environmental conservation purposes. The project's activities under Output 1.1 will follow the policy on land tenure.

- **Construction standards for transport infrastructure integrating climate constraints**

The National Strategy of Transport considering climate change, recommended as part of relevant actions, the elaboration of standards and norms for the design and quality control of transport infrastructure⁵⁷. Therefore, once adopted, the project will apply them in the design, construction and quality control of resilient feeder roads.

F. Describe if there is duplication of the project / programme 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). It will also promote the use of technologies for sustainable land management to mitigate the climate change and desertification effects. It will rehabilitate and build access to market infrastructure, increasing access and sale of farmers' products. Additionally, the project will implement adaptation and mitigation measures which include: (i) water capture; (ii) In situ reintroduction of stress-tolerant crop varieties; (iii) Land management and agronomic techniques; (iv) Ecosystem-based adaptation; (v) Capacity-building and awareness-raising on adaptation and mitigation in agriculture; (vi) Renewable energy technologies, and (vii) Value addition along value chains (processing, packaging, maintenance). The following table summarizes the status of the ongoing projects, the risk of duplication, and the complementarity of the proposed project.

Table 5: Description and objectives, complementarity, synergy and duplication with ongoing project in the project area

Project to Strengthen Resilience of Rural Communities to Food and Nutrition Insecurity (PRECIS)	
<i>Description and objectives</i>	<i>PRECIS is Funded by the TSF, IFAD, OFID, GEF, GCF and BAGRI. It aims to support small-scale producers to overcome production and marketing constraints through (i) hydro-agricultural development to ensure water access, (ii) various types of support for capacity building in production techniques and techniques, (iii) specific support to enable women and young people to get access to productive resources and their empowerment, and (iv) investments to facilitate access markets. PRECIS project mainly covers four regions that are Dosso, Tahoua, Maradi and Zinder. It 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.</i>
<i>Complementarity and synergy</i>	<i>The current project will leverage interventions supported by PRECIS in Tahoua preparing the ground to pilot sustainable private sector interventions in adaptation using a blended finance approach.</i>
<i>Duplication</i>	<i>No, because PRECIS follows a typical public sector interventions type of approach for adaptation support to promote resilience building in water resource management and rural entrepreneurship. BAGRI adopts an innovative financial instrument to scale-up adaptation finance. Moreover, Agadez was not covered in PRECIS intervention areas.</i>
The Adaptation Fund project "Enhancing Resilience of Agriculture to Climate Change to Support	

57 Ministère de l'Équipement et Ministère des Transports (2017). Rapport annexe à la stratégie nationale des transports pour la prise en compte du changement climatique, Niger, 124 p.

Food Security in Niger, through Modern Irrigation Techniques (PRRA-CC)	
<i>Description and objectives</i>	<i>This pilot project aims to strengthen the resilience of populations and 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 the climate change to support food security in Niger by promoting modern irrigation techniques. This project operated in regions such as Agadez (department of Tchirozénine), Dosso (department of Loga), Tahoua (departments of Abalak, Bagaroua, Illéla, and Tchintabaraden), Tillabéri (departments of Abala, Banibangou, Filingué, and Ouallam), and Niamey (department of Niamey).</i>
<i>Complementarity and Synergy</i>	<i>By emphasizing sustainable value chains such as honey, tomato, and vegetables (onions), the proposed CRAC project will leverage the irrigation infrastructure provided by the PRRA-CC project. Both projects are complementary to strengthen the resilience of vulnerable populations to the climate change.</i>
<i>Duplication</i>	<i>There is no duplication. The two projects (PRRA-CC and CRAC) intervene in Tahoua and Agadez region but not in the same department. PRRACC covers department of Tchirozénine (in Agadez) and departments of Abalak, Bagaroua, Illéla, and Tchintabaraden (in Tahoua), while CRAC actions are located in Iferouane and Timia (for Agadez) and Keita and Dogueraoua (for Tahoua). PRRA-CC interventions are focused on the irrigated perimeters and CRAC interventions go beyond existing irrigated areas to promote resilience building in rainfed areas for rural communities.</i>
Scaling-up climate-resilient rice production in West Africa	
<i>Description and objectives</i>	<i>Funded by Adaptation Fund, it is a regional project covering Benin, Burkina Faso, Côte d’Ivoire, The Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo. The project aims to improve climate resilience and increase rice system productivity of smallholder rice farmers across West Africa using a climate-resilient rice production approach. Its intervention varies with the country of intervention. In Niger, the project will include the four regions of Tillabéri, Dosso, Tahoua, and Zinder, covering a total of nine communes. The project will work on irrigated and rainfed lowland systems in Tillabéri and Dosso and rainfed lowland systems in Tahoua and Zinder. SRI practices will be promoted in the irrigated systems along the Niger River to reinforce the impacts of the SRI-WAAPP project.</i>
<i>Complementarity and synergy</i>	<i>CRAC project fills the gap in other crop value chains not covered by the Scaling-up climate-resilient rice production in West Africa project. In addition, CRAC’ actions for facilitating agricultural commodities transport (with resilient feeder roads) and conservation (with warehouses), will indirectly benefit the access to market of rice products.</i>
<i>Duplication</i>	<i>There is no duplication, because the regional project “Scaling-up climate-resilient rice production in West Africa” follows a typical public sector interventions type of approach for capacity building, partnerships, and adaptation practices dissemination in rice value chain. BAGRI adopts a community-based adaptation approach supported by innovative financial instrument to sustain the resilience of rural communities.</i>
Promoting Sustainable Agricultural Production and Conservation of Key Biodiversity Species through Land Restoration and Efficient Use of Ecosystems in the Dallol Bosso and Surrounding Areas (PROSAP/COKEBIOS)	
<i>Description and objectives</i>	<i>Funded by GEF, PROSAP/COKEBIOS occurs in the Dallol Bosso (situated in the Dosso region) and its surrounding areas. This project aims to strengthen national, regional and municipal capacity and actions to implement an integrated ecosystem management approach in the Dallol Bosso landscape in Niger. It revolves around four components such as Enhanced National Capacity for on Land Degradation Neutrality (LDN) Implementation (component 1); Improved Biodiversity Conservation and Land degradation actions in the Dallol Bosso Landscape</i>

	<i>(component 2); 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 post-harvest loss reduction technologies (sealed bags) by providing processing equipment that adds value to the harvested products and 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, better technologies supported by access to microcredit, and the public and private sectors sharing the investment costs and risks in the market-orientated interventions.</i>
<i>Complementarity and synergy</i>	<i>Tackling the climate change impact, need interventions based on multiple approaches. CRAC project completes the set of approaches to address climate issues by facilitating the engagement of the private sector (banks, agroentrepreneurs) in the implementation of adaptation actions in Niger.</i>
<i>Duplication</i>	<i>There is no duplication between PROSAP/COKEBIOS project and CRAC project considering the geographical intervention areas. Moreover, PROSAP/COKEBIOS approach for building the resilience is based on LDN that promote the increase in land coverage, the net productivity and carbon sequestration. BAGRI adopts an holistic approach deploying concessional credit provision, for supporting IGA based on processing and resilient rural infrastructure.</i>
Food-IAP: Family Farming Development Programme (ProDAF)	
<i>Description and objectives</i>	<i>Funded by GEF, 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.</i>
<i>Complementarity and synergy</i>	<i>The current project will leverage interventions supported by ProDAF in Tahoua preparing the ground to pilot sustainable private sector interventions in adaptation using a blended finance approach and extend it in region not yet covered by ProDAF (Agadez)</i>
<i>Duplication</i>	<i>No, ProDAF aims at enhancing ecosystem goods and services, sustainable land management, and transformational shifts towards a low-emission with reforestation. BAGRI project is designed to overcome agricultural value chains barriers (lack of means of transport, storage, low productivity...) in changing climate, based on the innovative financial instrument.</i>

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 the Adaptation Fund, CNEDD and the Nigerien Government on the activities, immediate outcomes, and impact of the project. A M&E manual describing a simple and effective system for collecting, processing, analyzing, and disseminating data will be prepared in the project's first year. A computerized database will be used to generate the project dashboards. This database will be fed mainly by component 3 activities that gather working session 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: (i) data will be disaggregated by poverty, livelihood group, and gender; (ii) 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 (iii) 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 Environmental and Social Policy and Gender Policy of the Adaptation Fund.

The project idea was identified in August 2021 through consultations with the NDA (Nationally Designated Authority) and BAGRI, during the adaptation planning kickoff meeting at Dosso (09-13 August 2021). Participants of that meeting recognized the need to strengthen the climate resilience of the agriculture sector facing climate change and called for the operationalization of BAGRI as AF implementing entity. Priorities identified in the National Adaptation Plan 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. On 30th May 2022, public consultation meetings have been held in Tahoua and Agadez (involving the key stakeholders and vulnerable groups, including women (15% of the participants, but representatives of large women associations). Dedicated focus groups engaging women will be organized as part of the gender and social inclusion assessment and action plan as part of the PFG implementation in line with the Fund's Environmental and Social Policy and Gender Policy. The stakeholders consulted include members of the agriculture and water resources, regional government administration and representatives of communities including representatives of women groups, youth and farmers' organizations, private sector (microfinance institutions), and ongoing projects managers (see participants list in annex).

The first draft of the proposal submitted in January 2022, has been shared with the stakeholders, enabling further discussions mainly 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 concept has been improved. These consultations enable discussions and clarification about options promoted by the proposed project. The selection criteria of the project area, and objective, including geographic and socio-economic vulnerability 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 identification of districts was informed by experiences from previous pilot initiatives implemented by BAGRI and Lux Dev, to consolidate and expand the successful results achieved so far. These two workshops enable gathering input from the key local stakeholders during the design process.

Building on the initial three stakeholders' consultations, BAGRI and CNEDD will continue to engage all relevant stakeholders. The preparation of the ESIA and ESMP; Gender assessment and action plan will provide further opportunities for wider consultations. The project targets vulnerable farmers including women and youth in high-value vegetable and cereal value chains. Those representatives of farmers' organizations are involved in the project' steering committee. The proposed project is focused on solar-powered postharvest processing, conservation, and solar-powered irrigation with water-saving techniques. The project complementarity and synergies with the ongoing and past projects has been reviewed under the section F of the proposal⁵⁸. The project is highly supporting post-harvesting processing and conservation of high vegetables and cereal value chains in the project area (maize, millet, onion and tomato) mainly practiced by women. Therefore, the project is expected to reach 28 765 direct beneficiaries with 30% of women. It has a potential to be upscaled for covering other value chains such as garlic and potato chains.

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

Climate change poses a severe threat to the agriculture sector and to rural infrastructure in Niger. To mitigate these impacts significant investments are required.

For the agriculture sector, less sensitive cropping systems, alternative sources of income, post-harvest processing such as solar modules for cold storage for vegetables, solar-powered dryer (component 1) are among important actions to implement resilient economic growth under changing climate. Previous attempts to support resilient measures in the agriculture sector in Niger have been funded through donor support and public interventions with the scale of the needs largely surpassing the resources made available to date. It is imperative to mobilize significant amount of capital to make the agriculture sector resilient to climate change in Niger. Although the financial and banking sector has significant resource available, current credit terms and conditions prevent the deployment of those resources to agricultural resilient measures. By combining AF

⁵⁸ Section titled Describe if there is duplication of project/program with other funding sources, if any.

grant to BAGRI resources, this project promotes an innovative way to further scale-up affordable finance in this critical area. Without the AF resources, BAGRI credit offering will be too expensive and without BAGRI resources, the AF grant will lack sustainability.

Government and donors are the traditional financiers of rural infrastructure, often supplemented by in-kind contribution from the local communities. Considering the increase and severity of climate extremes, there is a need to provide climate resilient infrastructure to enable all-weather access and mobility to market for food commodities.

This project is considered additional financing to support the resilience and adaptation measures in agriculture and rural infrastructure sectors in Niger. 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 credits provided by BAGRI, while facilitating access to markets under changing climate.

Financial resources are also needed to raise the technical capacity of the beneficiary farmers' organizations to increase their awareness, knowledge, skills and know-how as related to adaptation and resilient measures.

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

Synergy exists between the adaptation measures identified as part of the BAGRI project and the provisions of the three post-Rio Conventions: The Convention to Combat Desertification (CCD), the Convention on Biological Diversity (CBD), and the UNFCCC. Aside from that, all activities planned in the implementation of the BAGRI Resilience Programme are fully compatible with the five lines of approach of the I3N for food safety and agricultural development and the Government of Niger Emergency Programme, which are: (i) Establishment of an integrated service platform or "Farmers' Houses"; (ii) Restoration and protection of land and water through labor-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 being relevant to the project / programme.

The proposed project will reinforce the resilience of vulnerable communities to the adverse effects of climate change. Also, it will reduce food insecurity by strengthening of food systems, using climate-resilient practices able to reduce soil nutrient depletion and allow soil conservation. Climate-resilient practices coupled with diversification based on post-harvest will enhance productivity and rentability of the resilience measures. Despite the positive impacts, the project may generate limited negative impacts and potential risks, in particular the rehabilitation and development of 75 km of farm road and warehouses linking farms to public markets. Thus, the environmental and social principles of AF and Niger will be triggered to limit those negative impacts and risks. Some specific risks and mitigation measures are the following:

- *For climate-resilient feeder road building, the extraction of local raw materials may damage environment. As mitigation measure, the selected constructors shall follow government environmental laws and standards and extract building materials in sustainable ways from authorized sites;*
- *where pollution from feeder roads or warehouses implementation is identified, construction activities shall comply with the ESMP to be developed in line with national and AF standard;*
- *Agricultural production using climate-resilient varieties and technologies can induce depletion of water supplies. To mitigate such negative effects, a sustainable use of water through water saving technologies is promoted in this project (e.g., drip irrigation).*

The proposed CRAC project has been assigned to the Environmental and Social Safeguards category B, based on the review of potential adverse impacts associated with its activities, foreseen to be low in intensity, minor and site-specific, and lend themselves to available and widely used mitigation measures.

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
Compliance with the Law	All components of the project are aligned with the texts, laws and decrees currently applied in Niger. The project complies with the legal framework for agriculture, water and environmental protection.	Low Low capacity of local communities to implement environmental and social measures, in line with national legislation and AF principles. One the project sites are selected environmental and social impact assessment will be

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		<i>developed in line with the AF's ESP principles and Environment and Social Management Plan (ESMP) will be developed in adequation with AF requirements</i>
<i>Access and Equity</i>	<i>The project logic is to provide beneficiaries in the target area with fair and equitable access to project activities and facilities throughout the planning and implementation phases. Criteria will be provided to ensure the effective participation of less empowered groups, including women, youth, minorities and highly vulnerable groups.</i>	<i>Low</i> <i>The project from its design phase emphasized on access and equity for women and youth groups. The activities are designed to engage and benefit vulnerable people. In addition, the Gender Assessment results and Action plan provide guidance on implementation of this measure</i>
<i>Marginalized and Vulnerable Groups</i>	<i>The project respects the fundamental rights of people in the areas of intervention and will not infringe on their freedom. It does not have any activities that are unacceptable to the habits and customs of the beneficiaries. Further, the project will maintain strictly non-discriminatory approaches for all activities and is not expected to result in any risks to people with disabilities, or children and vulnerable adults.</i>	<i>Low</i> <i>All parties will be consulted to avoid human rights risks</i>
<i>Human Rights</i>	<i>Project activities are not expected to have any negative human rights impacts, but rather enhance rights to food, water, health and jobs.</i>	<i>Low</i> <i>All parties will be consulted to avoid human rights risks</i>
<i>Gender Equality and Women's Empowerment</i>	<i>The project pays special attention to women and youth. It will specifically ensure that gender-sensitivity is mainstreamed throughout project activities. The Gender Specialist will ensure equal participation of men and women during the inception phase and throughout the implementation of the project. Gender action plan, will be developed at the full proposal stage and will guide this process.</i>	<i>Low</i> <i>Women and youth will be the significant beneficiaries of the project. Gender-sensitive indicators and activities will ensure that the priorities of women, youth and other vulnerable groups are included</i>
<i>Core Labour Rights</i>	<i>The project will ensure that children do not work on the project sites and that</i>	<i>Low</i> <i>In rural areas, children help parents in rural activities. So, there is a risk</i>

Annex 5 to OPG Amended in October 2017

	<p><i>national health and safety legislation is applied.</i> <i>There are no activities planned</i></p>	<p><i>of child labour outside the boundaries set by law. The monitoring of the labor rights will be carried out throughout the project</i></p>
<p><i>Indigenous Peoples</i></p>	<p><i>The project is likely to have a positive effect on Indigenous people (Touareg, Peulhs, Toubou)⁵⁹especially those living in the two regions. By facilitating access to concessional finance to people usually marginalized.</i></p>	<p><i>Low</i> <i>The project will comply with (i) all adaptation fund requirements, and (ii) national laws. Broad community support will be obtained. Documentation of stakeholder engagement will be provided</i></p>
<p><i>Involuntary Resettlement</i></p>	<p><i>None of the project activities are envisaged to lead to relocation or displacement.</i></p>	<p><i>Low</i> <i>No expropriation, relocation of farmers are envisaged as part of implementation of this project. However, temporary displacements of IGA in local communities can be foreseen. These are usually compensated by increased activities as the results of seasonal workers in the region. ESIA will further assess the implications and remedies will be included as part of the ESMP. compensation.</i></p>
<p><i>Protection of Natural Habitats</i></p>	<p><i>The project includes a capacity building component for farmers to equip them with good agricultural practices that will reduce the risk of deforestation and slash and burn practices. However, the infrastructure building and postharvest deployment may have negative impacts on the biophysical environment, including natural habitats, if project activities are not properly monitored.</i></p>	<p><i>Low</i> <i>Measures will be proposed in the environmental and social management plan and will ensure that there is no large-scale deforestation or forest degradation</i></p>
<p><i>Conservation of Biological Diversity</i></p>	<p><i>Project activities will be undertaken outside of protected areas. No invasive alien species are likely to be introduced by project activities. However, there is a possibility that some activities may lead to minor and localised impacts on biodiversity or natural habitat in agricultural settings and on feeder road margins.</i></p>	<p><i>Low</i> <i>The ESIA will demonstrate that the risks and impacts of feeder road and warehouse development on biodiversity will be avoided, mitigated or compensated for in accordance with the Adaptation Fund's environmental and social policies and national</i></p>

59 <https://www.ifad.org/en/web/knowledge/-/publication/r%C3%A9publique-du-niger-note-technique-par-pays-sur-les-populations-autochtones>

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		<i>environmental and social regulations</i>
<i>Climate Change</i>	<i>The project includes adaptation and mitigation actions and is inherently designed to enhance resilience to climate change. Negligible GHG emissions may arise from agricultural activities, e.g., use of vehicles running on fossil fuels for commodities transport.</i>	<i>Low The project design will strengthen the resilience in agricultural sector.</i>
<i>Pollution Prevention and Resource Efficiency</i>	<i>Water resources are currently exposed to various forms of pollution from the use of fertilizers, pesticides and manure. The project is only expected to lead to minor and negligible release of pollutants, largely from emissions from agricultural and processing equipment. Some pesticides may be used during the project for agricultural activities.</i>	<i>Low Measures will be proposed in the ESIA to avoid the risks and impacts of water and soil pollution. All pollution and use of chemicals will be strictly monitored and managed to ensure that it remains within relevant regulations and in compliance with environmental and social safeguard standards management Minor.</i>
<i>Public Health</i>	<i>The project is not envisioned to have any negative impacts on public health.</i>	<i>Measures will be proposed in the ESIA to avoid</i>
<i>Physical and Cultural Heritage</i>	<i>No impacts on cultural heritage are anticipated</i>	<i>Low Sites to be selected will not be located in a known or suspected cultural heritage area</i>
<i>Lands and Soil Conservation</i>	<i>The project will have positive effects on the landscape of the intervention areas and on conservation agriculture. Soil conservation and fertility restoration are key activities of the project through the planned smart agriculture</i>	<i>Low Project actions will improve soil fertility and sustainable land management</i>

PART III: IMPLEMENTATION ARRANGEMENTS

- A. Describe the arrangements for project / programme implementation.

This section will be developed at full proposal stage.

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

This section will be developed at full proposal stage.

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

This section will be developed at full proposal stage.

- 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.

This section will be developed at full proposal stage.

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

This section will be developed at full proposal stage.

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

This section will be developed at full proposal stage.

Project Objective(s) ¹	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)

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

Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)

- 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.

This section will be developed at full proposal stage.

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

This section will be developed at full proposal stage.

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

A. Record of endorsement on behalf of the government²

A. Record of endorsement on behalf of the government²

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

Dr KAMAYE MAAZOU, Secrétaire Exécutif du CNEDD, Cabinet du Premier Ministre	26/08/2022
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B. Implementing Entity certification Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (3N (Nigeriens Nourish Nigeriens) Initiative; Niger's revised National Determined Contribution (NDC, 2021); National Sustainable Agriculture Development Plan (PNIA, 2015-2035); National Adaptation Plan; Niger National Action Plan to Combat Desertification and Land Degradation and other relevant policies and regulations) and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy and the Gender Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.

Name & Signature	
MAMAN LAWAL MOSSI BAGOUDOU	
Implementing Entity Coordinator	
Date: (08, 26, 2022)	Tel. and email: + 227 90 83 71 18/ +227 99 83 71 18 mossi.lawal@bagriniger.ne
Project Contact Person: SAIDOU BARAZE ABDOUL RAZAK	
Tel. And Email: baraze.abdoulrazak@bagriniger.ne	

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

ANNEX 1- ENDORSEMENT LETTER

REPUBLIQUE DU NIGER



Fraternité – Travail – Progrès

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CABINET DU PREMIER MINISTRE

=====

CONSEIL NATIONAL DE L'ENVIRONNEMENT POUR UN DEVELOPPEMENT DURABLE

SECRETARIAT EXECUTIF

=====

Niamey, le 26/08/2022

Le SECRETAIRE EXECUTIF

N°000205/SE/CNEDD/CAB/PM

To

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

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

In my capacity as the designated authority for the Adaptation Fund in Niger, I confirm that the abovementioned project concept note 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 concept note requesting grant support from the Adaptation Fund. If approved, the project will be developed, implemented by Banque Agricole du Niger (BAGRI) and executed by CNEDD; Fonds d'Investissement pour la Sécurité Alimentaire et Nutritionnelle (FISAN); BAGRI Headquarters in Niamey as well as its two regional branches of Tahoua and Agadez.

Yours sincerely,

Dr Kamayé Maazou



C.N.E.D.D

BP : 10193 Niamey

Tél : (227) 20 72 25 59 / 20 72 42 64

Email : blocnedd@intnet.ne



Project Formulation Grant (PFG)

Submission Date: 08/08/2022

Adaptation Fund Project ID:
 Country/ies: *Republic of Niger*
 Title of Project/Programme: *Climate-Resilient Agriculture Chains in Niger (CRAC-Niger)*
 Type of IE (NIE/MIE): *National Implementing Entity*
 Implementing Entity: *Banque Agricole du Niger (BAGRI)*
 Executing Entity/ies: *Conseil National de l'Environnement pour un Développement Durable (CNEDD) ; Fonds d'Investissement pour la Sécurité Alimentaire et Nutritionnelle (FISAN) ; BAGRI*
Headquarters and its two (2) Regional Branches of Tahoua and Agadez.

A. Project Preparation Timeframe

Start date of PFG	<i>December 2022</i>
Completion date of PFG	<i>May 2023</i>

B. Proposed Project Preparation Activities (\$)

Describe the PFG activities and justifications:

List of Proposed Project Preparation Activities	Output of the PFG Activities	USD Amount
<i>Gender study and action plan (including consultation)</i>	<i>The existing gender inequalities in the project implementation area and sector are assessed and served to guide the project's development ensuring equity of access and enjoyment of project outputs by men and women. An action plan is developed for the social inclusion strategy that the project has adopted.</i>	<i>10,000</i>
<i>Environment and Social Impact Assessment (including consultation)</i>	<i>The environmental and social risks and impacts of project implementation are assessed and an action plan is developed to eliminate, mitigate and/or circumvent risks. The data from the study are used to design the project to ensure that it protects and safeguards the environment, in alignment with the Adaptation Fund investment criteria.</i>	<i>20,000</i>
<i>Project Cost-benefit analysis</i>	<i>Cost benefit analyses using national</i>	<i>7,000</i>

	benchmark costs are undertaken to eliminate, cost underestimation risks, and document the choice of efficient options that will be implemented by the project.		
Stakeholder engagement (Including consultation)	A matrix of project stakeholders in Niger is established and analyzed to show each member's capacities, levels of influence, and roles. Categorization of stakeholders informed project development on how and at which levels the need to be involved to ensure successful implementation and sustainability after closure.	12,000	
Total Project Formulation Grant		49,000	

C. Implementing Entity

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

Implementing Entity Coordinator, IE Name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
MAMAN LAWAL MOSSI BAGOUDOU		08/26/2022	SAIDOU BARAZE ABDOUL RAZAK	+227 93 50 90 05/ +227 90 31 95 49	baraze.abdoulrazak@bagriniger.ne



ANNEX 2-LIST OF PARTICIPANTS TO THE PRELIMINARY STAKEHOLDERS' CONSULTATIONS



Liste des participants à l'atelier de validation de la proposition de BAGRI au Fonds d'adaptation
Agadez le 30 Mai 2022

NON ET PRENOM	STRUCTURE	ADRESSE MAIL	CONTACT	SIGNATURE
Stuss H. Hassane	SIE Sagesse	stuss@sigmail.com	91539066	[Signature]
Alhassane Houmou	Exp. Nour YAZ	ahoumou@gmail.com	91062740	[Signature]
Ali Sadou Garba	Projet P&R	padouali@yahoo.com	96584785	[Signature]
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Madoua N. Noubou	FRUS Coop/IAZ	frucosagade@gmail.com	96585313	[Signature]
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Soussini Bakouba	PIHELAN	bakouba@yahoo.com	93381331	[Signature]
Amadou Elhadji Awana	DRH/IAZ	amawana@yahoo.com	90116971	[Signature]
Alwin Salifou	Capital Financ	alwin@yahoo.com	96873941	[Signature]
Adama Saloum	CRA/IAZ	adama.saloum@gmail.com	92100179	[Signature]
Abdourahmane Abdallah	CRA/IAZ	-	92725262	[Signature]
Bello Atou	UCAD	-	90007661	[Signature]
Sidi Mouhammad	UCMUT/Thiou	-	97553965	[Signature]
Ahali Ibrahim	UCMUT/Thiou	-	91003616	[Signature]
Mehoued Alhassane	UCM TOP	-	90805939	[Signature]
Saïti Abdouzeïdi	FRUCH	-	96047177	[Signature]
Nouh Anouba	amaciak	-	-	[Signature]
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Amoué M. M. M. M.	UCSA	-	97777847	[Signature]
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MAMADO T. HAN	ASVSU. SA	mtamadout@yahoo.com	99275630	[Signature]
Djibrilla Halidou	DRGR/IAZ	djibrilla@gmail.com	96472961	[Signature]



Mohamed Koumame	UCST	UCS TOP	[Signature]	92.65.65269
Alz. Souleymane	Sulfanet	94 22 76 25	[Signature]	
Leïla Tchella	ICIL	81 06 19 03	[Signature]	
Moukoul Hamidou	BAC/IAZ	92 50 74 0	[Signature]	
Issaka Mohamed Bachir	BAC/IAZ	99 15 11	[Signature]	

List of participants of public consultation at Tahoua



BANQUE AGRICOLE DU NIGER
Nous ouvrons pour votre autonomie !

Liste des participants à l'atelier de validation de la proposition de BAGRI au Fonds d'adaptation
Tahoua le 30 Mai 2022

N°	NOMS ET PRENOMS	STRUCTURES	CONTACT	SIGNATURE
1	Chef de Canton Tahoua			
2	Mohamadou Maoum	Chef de Canton	96469576	[Signature]
3	Salifou Allassane	Provicou CRA	96041344	[Signature]
4	Mainassana Reou	Représentant DRGR/TA	96290212	[Signature]
5	Ahmadou Oumarou	DRA ITA	96489813	[Signature]
6	Ali Mamane	DRH/A/TA	98940909	[Signature]
7	Ayouba Tankari	DR-APCA	96474135	[Signature]
8	Mohamadou Maliki	SG. CR/Tahoua	96599374	[Signature]

9	SOULEYMANE CHEKRAOUI MOHAMED	CRN/TAHOUSA	96209490 92750672	[Signature]
10	Sani Maoussani	UNION BABAN ZOUKE DOUGBERNOU	37 22 40 36	[Signature]
11	Elbaka Alio Farka	DREL/Tah	96 88 90 34	[Signature]
12	Mamadou Sildo Abdoulaye	Plateforme paysanne	89655096	[Signature]
13	Mouhou Mahamane	Ville-Tahoua/SCA	96184798	[Signature]
14	Toufi Harouna Beckoum	Chief d'agence Bagnou	96-15-6189	[Signature]
15	Abouma Nohamed	Chief d'agence NCP/Niger/TA	96622658	[Signature]
16	Dan Idriss Azika	Consulaire	95993544	[Signature]
17	Soufianou Hamidou	Gouvernator/Baga	9904 9137	[Signature]
18	Mabrou Kine Maïna	Asusu SA/Tahoua	96876002	[Signature]
19	Mamadou Amadou	Gouvernator Akema	96-03-50-13	[Signature]



20	ARZIKI Mamane	DRE/LEO/TAH	98768950	[Signature]
21	Moussa Amadou	ONDIAA	99997399	[Signature]
22	Abdou Moussa Bassirou	Stagiaire B.AGRITA	89 0865 58	[Signature]
23	Adamou Moussa Aboubakar	Stagiaire B.AGRITA	99.5057.85	[Signature]
24	Abdoulatif Chabba	SCOUR d'adim	08592351	[Signature]
25	Mahamadou Loualy	SEICNEDD	96556166	[Signature]
26	Issoufou Assoumane	Sa'a Arewa	96646446	[Signature]
27	Imakou Assoumane	Taimakon juna	97596599	[Signature]
28	Sani Ousseini	Haske Taramna	94116605	[Signature]
29	Salissou Idrissa	Albarka Keita	96579305	[Signature]
0	Alhassane AMADOU	Union Dan. Ouara	96974565	[Signature]

1	Loualy Loupy Ismael	Copied Finance	95955269	[Signature]
2	Raminator Oumarou	Rufelle (adaba)	96239895	[Signature]
33	Aminatorou Ali	gop'oun Talba	96739580	[Signature]
34	MAHAMADOU MOUSSA	chef. canton TAHOUA	96469576	[Signature]
35	Houdachirou Andilla Houssa	Riclé/TD	96880898	[Signature]
36	Rachidou Ibrahim	Fairé Foul Tamaké	96387000	[Signature]
37	Alamane Issa	CRISWITA	90663116	[Signature]
38	Boubacar Sala Abdoul AZIZ	Bagri / Tahoua	96559682	[Signature]
39	Abdoul Rahamane	Bagri / Tahoua	91.02.0269	[Signature]
40	BOUYE DAOUA	BAGRITA	97883368	[Signature]
1	Moussa Rachid	BAGRI Tahoua	92.02.8921	[Signature]



42	Mahamadou Abdoul Aziz D	Touba Tokona	96308090	Q
43	Souleymane Zabeirou	Takona/Talibé	96475760	X
44	Ahousmane Alher	Ibrahimane	90124545	P
45	Souleymane Mahamadou	Yoro/BARDOU	96656797	A
46	Moussalé SAIDOU	BADAGUICHINI	96498100	O
47	ENSE Khamoud A	Akouounou/Abala	96820022	#
48	Saidou Moussa IRO	chauffeur/CR	89728826	V
49	Ilio Abdou	chauffeur/Sultan	96482952	#
50	Harouna Mahamadou	chauffeur/CRA	80313246	#
51	Radjickou Moussa	cheffer/DRA	90059350	#
52	Mahamadou Abdourahamane	CHAUFFEUR/IBN	96528028	#
53	Moussa SAMI	chauffeur/Plaine	96222249	#

QUAD CAMERA

ANNEX 3: FINANCING MODALITY

I. CONTEXT AND JUSTIFICATION (WHAT PROBLEMS ARE TO BE SOLVED BY THE PROJECT APPROACH?)

1. The degradation of the productive economic environment by:

- mitigation of negative impacts related to climate change (reforestation, carbon sequestration, reduction of greenhouse gas emissions, etc.)
- Adaptation of production techniques and practices to the effects of climate change (cultivation, pastoral, processing, marketing, etc.)

2. The difficulty of access for young people and women to economic opportunities in professions related to agricultural sectors following shocks related to climate change

3. The lack of an investment framework (facilities) on promising agricultural sectors for the benefit of young people and women

4. The inadequacy of the offer of supervision to the council, as well as to the training administered to young people and women according to the needs of their projects

This to ensure the sustainability of the financing of the investment and working capital needs of young Agricultural Enterprises established in the regions of Tahoua and Agadez on the one hand and the economic environment (ecosystem) that frames them on the other hand. In order to reach the overall objective of the program, which is aligned with that of the "Nigeriens feed Nigeriens" (I3N) initiative, which is in line with the orientations of the Investment Fund for Food and Nutritional Security (FISAN), i.e. "to sustainably protect Nigerien populations from hunger and malnutrition and guarantee them the conditions for full participation in national production and the improvement of their incomes".

- **Description of the practice/technique used/experience.**

In order to achieve the above-mentioned results and objectives, BAGRI has developed and is implementing an innovative financing mechanism at shared cost whose scheme is based on an approach facilitating access to agricultural financing. This financing is composed of 3 sources, the first of which is constituted by the young promoter, the second by bank credit of the bank and the^{3rd} by a subsidy contribution from the State of Niger through the lessors.

- **How does the experiment work?**

It empowers the promoter and further secures the credit. This mechanism consists of: A personal contribution from the producer up to 10% of the cost of the project a credit at a preferential rate of 10% whose duration will not exceed 48 months and constituting 50% of the cost of the project and a subsidy (matching grant) from the State up to 40% of the cost of the project in General. However, in order to integrate the gender dimension, a reduction in personal contribution of 5% is applied to women and young people. Also, in order to take into account aspects related to climate change and the environment, a 2% subsidy is granted to young

promoters who have decided to apply at least two environmental actions out of the 10 identified over the entire duration of its implementation. Once these actions have been respected, verified and validated by the Regional Directorate for the Environment, the environmental subsidy is administered as a reduction in credit.

II. WHAT RULES HAVE BEEN PUT IN PLACE? WHO DOES WHAT?

As part of the implementation, the promoters are supported by the regional chamber of agriculture and the local authorities at first. Following this, a list of young learners is drawn up and sent to the Dosso Regional Council, or it is taken care of by the technical assistants made available to it by the Luxembourg programme. Once the list has been validated, a breakdown by training center for young people is made, in order to register them in the professions of the identified promising sectors. It should be noted that the training is provided by vocational training centers of the State and NGOs providers; which at the end issue them certificates of training materializing their experience in the profession, and which guide them in the establishment of a conceptual note of the project that corresponds with their training, as well as for the establishment of civil status documents.

The concept notes are then sent to the technical assistants in charge of Crédit Agricole and the monitoring and evaluation assistants of bagri's project management unit (PMU). Once the notes have been validated by these institutes, they are sent for validation to the bank's internal credit committee.

III. WHAT METHOD OF INTERVENTION

- **Intervention strategy**

At the end of the meter in implementation, BAGRI has developed a process based on 7 steps in order to make the activity of credit accrue more:

- 1. Credit eligibility criteria.*
- 2. Maintenance and receipt of the file*
- 3. Opening the customer file and entering the credit application*
- 4. Visit of the holding and additional information*
- 5. Analysis of the file*
- 6. Presentation of the file to the Credit Committee and implementation of decisions*
- 7. Follow-up of PS promoters: Processing times for files must not exceed 30 working days*