

GEF-8 PROJECT IDENTIFICATION FORM (PIF)

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General Project Information

Project Title

Integrated management of the doumeraie of the Goulbi N'kaba watershed and adjacent ecosystems (Maradi Region)

Region

Niger

GEF Project ID

11409

Country(ies)

Niger

Type of Project

FSP

GEF Agency(ies):

FAO

GEF Agency ID

748197

Executing Partner

Ministry of Hydraulics, Sanitation and the Environment

Executing Partner Type

Government

GEF Focal Area (s)

Climate Change

Submission Date

10/18/2023

Project Sector (CCM Only)

AFOLU

Taxonomy

Focal Areas, Biodiversity, Biomes, Desert, Tropical Dry Forests, Land Degradation, Sustainable Land Management, Sustainable Agriculture, Drought Mitigation, Community-Based Natural Resource Management, Income Generating Activities, Restoration and Rehabilitation of Degraded Lands, Integrated and Cross-sectoral approach, Sustainable Livelihoods, Ecosystem Approach, Sustainable Forest, Improved Soil and Water Management Techniques, Sustainable Pasture Management, Land Degradation Neutrality, Land Productivity, Land Cover and Land cover change, Climate Change, Climate Change Adaptation, Climate information, Private sector, Livelihoods, Disaster risk management, Community-based adaptation, Ecosystem-based Adaptation, Mainstreaming adaptation, Climate finance, Least Developed Countries, Climate resilience, Climate Change Mitigation, Agriculture, Forestry, and Other Land Use, Influencing models, Demonstrate innovative approach, Stakeholders, Type of Engagement, Partnership, Participation, Consultation, Information Dissemination, Beneficiaries, Local Communities, Indigenous Peoples, Civil Society, Community Based Organization, Non-Governmental Organization, Academia, Private Sector, Individuals/Entrepreneurs, Communications, Public Campaigns, Behavior change, Gender Equality, Gender results areas, Knowledge Generation and Exchange, Awareness Raising, Access to benefits and services, Access and control over natural resources, Capacity Development, Gender Mainstreaming, Sex-disaggregated indicators, Gender-sensitive indicators, Capacity, Knowledge and Research, Knowledge Exchange, Field Visit, Peer-to-Peer, Learning, Theory of change, Adaptive management, Innovation, Knowledge Generation, Training

Type of Trust Fund

LDCF

Project Duration (Months)

60

GEF Project Grant: (a)

8,932,420.00

GEF Project Non-Grant: (b)

0.00

Agency Fee(s) Grant: (c)

Agency Fee(s) Non-Grant (d)

848,580.00	0.00
Total GEF Financing: (a+b+c+d)	Total Co-financing
9,781,000.00	48,880,000.00
PPG Amount: (e)	PPG Agency Fee(s): (f)
200,000.00	19,000.00
PPG total amount: (e+f)	Total GEF Resources: (a+b+c+d+e+f)
219,000.00	10,000,000.00
Project Tags	
CBIT: No NGI: No SGP: No Innovation: No	

Project Summary

Provide a brief summary description of the project, including: (i) what is the problem and issues to be addressed? (ii) what are the project objectives, and if the project is intended to be transformative, how will this be achieved? (iii), how will this be achieved (approach to deliver on objectives), and (iv) what are the GEBs and/or adaptation benefits, and other key expected results. The purpose of the summary is to provide a short, coherent summary for readers. The explanation and justification of the project should be in section B “project description”. (max. 250 words, approximately 1/2 page)

One of the world's largest semi-arid and arid zone, Niger is the third most vulnerable country to climate change in the world¹. A high proportion of the fast-growing (3.9% increase per year) population lives off natural resources and remains below the poverty line. In the country's most densely populated region of Maradi in particular, the population tend to exert heavy pressure on natural resources through low-productivity, shifting agriculture, unprofitable extensive livestock farming, and unsustainable exploitation of fuelwood. These pressures are compounded by climate change impacts that pose a direct and significant risk to agricultural production and rural livelihoods, threatening major food production systems in a country already plagued by food insecurity and significantly influencing patterns of climate-induced migration. The project will address these climate and non-climate dynamics by adopting a large-scale landscape approach across the Sudano-Sahelian Maradi region, with a view to strengthen the resilience of agro-sylvo-pastoral communities to the impacts of climate change through the restoration and integrated management of the Goulbi N'Kaba and adjacent ecosystems.

The project's approach considers the complexity of climate-affected, human-ecosystem interactions within agro-sylvo-pastoral systems, where: i) ecosystems need to be managed sustainably so that they can provide the ecosystem services that support rural livelihoods; ii) different resource uses (land, water, forest resources, etc.) are often in competition and the terms of this competition are evolving; and iii) both human and ecosystem components are directly and indirectly affected by the effects of climate change. To address current resilience challenges and avoid having to resort to emergency responses in the medium term, landscape restoration and the development of value chains (from financing to marketing) will accompany the dissemination of sustainable agro-ecological practices and the collective development of landscape management plans. Together with the strengthening of relevant governance bodies, this will help meet the challenges of land-use planning, preserve the proper functioning of ecosystems and, ultimately, empower rural populations to adapt to climate change.

By working with communes and deconcentrated extension offices, the overall project approach is to support and reinforce the decentralization efforts led by the Government of Niger. This approach, already tested through previous initiatives, has proven not only beneficial in terms of ownership of the restoration strategy

by local stakeholders, but also a key enabler to facilitate the continuity of project implementation in challenging political contexts at the national level.

Indicative Project Overview

Project Objective

Improve the climate resilience of rural populations through the restoration and integrated management of the Goulbi N'Kaba and adjacent ecosystems

Project Components

1. Governance and integrated planning for climate-resilient development of rural communities

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing (\$)	Co-financing (\$)
800,000.00	4,377,761.00

Outcome:

1. The climate resilience of agro-sylvo-pastoral community development in the pilot landscapes is strengthened through improved governance and institutional capacity

Output:

1.1: Valuation and accounting of ecosystem services and cost-benefit analysis of ecosystem restoration for increased resilience to climate change supported and presented to relevant national and local institutions to inform policy, decision-making and planning.

1.2: Restoration as investment of choice to strengthen the climate resilience of rural populations, mainstreamed into local development plans (LDPs) and annual investment programmes (AIP) at the communal level

1.3: Intercommunal charters for the climate-resilient management of shared resources. Tentatively, four charters can be envisaged: i) communes of Bermo and Azagor for the management of pastoral resources; ii) communes with land rights over the palm grove; iii) communes having adjacent forest formations in the Dan Goulbi and Madarounfa zones; and iv) communes sharing the agricultural zone from Gazaoua to Attatane in northern Mayayi

1.4: Dimitra Clubs established and supported to facilitate the self-mobilisation of communities, women's leadership, the definition and implementation of land-use management plans and to improve conflict resolution.

2. Forest and landscape restoration for increased climate resilience of rural populations

Component Type	Trust Fund
Investment	LDCF
GEF Project Financing (\$)	Co-financing (\$)
4,239,094.00	23,197,176.00

Outcome:

2. In pilot landscapes, strengthened resilience of agro-sylvo-pastoral production systems through the implementation of management plans including the restoration of degraded land, restoration and sustainable management of ecosystems of importance, and improved fertility of farmland through agroforestry and climate-smart agriculture.

Output:

2.1 Degraded land on plateaux and catchment areas restored through mechanical treatment, reforestation and seeding with forage species.

2.2 Restored fertility of farmland through agroforestry, climate-smart agriculture and assisted natural regeneration.

2.3: Protection and development of wetlands of importance to the Ramsar Convention (Madarounfa pond).

2.4: Natural ecosystems of importance for carbon sequestration (ecosystems adjacent to the doumeraie and the Gadabedji wildlife reserve) restored and protected

2.5: Classified forest of *Hyphaene thebaica* (doumeraie) of the Goulbi N'Kaba rehabilitated.

3. Strengthening climate-resilient agro-sylvo-pastoral livelihoods

Component Type	Trust Fund
Investment	LDCF
GEF Project Financing (\$)	Co-financing (\$)
2,800,000.00	15,322,164.00

Outcome:

3: Increased resilience of rural livelihoods through sustainable income-generating activities and agricultural intensification

Output:

3.1: At least 30 micro-projects for income-generating activities supported

3.2: Intensification & mechanisation of agricultural activities supported

3.3: Climate-resilient value chains and market linkages strengthened for natural resource-based livelihoods

3.4: Strategy developed to enable access to credit and financing services to agro-sylvo-pastoralists and entrepreneurs

3.5: Training on entrepreneurship and business and financial management delivered for local actors involved in climate-resilient natural resource-based livelihoods and value chains

4. Knowledge capitalisation and management

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing (\$)	Co-financing (\$)
400,000.00	2,188,881.00

Outcome:

4. The lessons learned from the project are documented and disseminated to all stakeholders and beyond

Output:

4.1 Long-term research programme implemented to assess the impact of the project

4.2 Knowledge management, learning opportunities and best practices documented and disseminated

4.3 Exit strategy developed

M&E

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing (\$)	Co-financing (\$)
267,973.00	1,466,401.00

Outcome:

Lessons learned from the project are captured, developed, reported and disseminated.

Output:

Effective and participatory monitoring, evaluation and learning implemented

Component Balances

Project Components	GEF Project Financing (\$)	Co-financing (\$)
1. Governance and integrated planning for climate-resilient development of rural communities	800,000.00	4,377,761.00
2. Forest and landscape restoration for increased climate resilience of rural populations	4,239,094.00	23,197,176.00
3. Strengthening climate-resilient agro-sylvo-pastoral livelihoods	2,800,000.00	15,322,164.00
4. Knowledge capitalisation and management	400,000.00	2,188,881.00
M&E	267,973.00	1,466,401.00
Subtotal	8,507,067.00	46,552,383.00
Project Management Cost	425,353.00	2,327,617.00
Total Project Cost (\$)	8,932,420.00	48,880,000.00

Please provide justification

N/A

PROJECT OUTLINE

A. PROJECT RATIONALE

Briefly describe the current situation: the global environmental problems and/or climate vulnerabilities that the project will address, the key elements of the system, and underlying drivers of environmental change in the project context, such as population growth, economic development, climate change, sociocultural and political factors, including conflicts, or technological changes. Describe the objective of the project, and the justification for it. (Approximately 3-5 pages) see guidance here

A less developed country heavily dependent on subsistence farming and particularly vulnerable to climate change

Niger, a climate change hotspot

Most of the country is classified as having a hot desert climate, while the areas targeted by the project have a hot semi-arid climate. Niger has a long dry season which lasts from November to May, and a short rainy season with the greatest amount of rainfall in August. Total annual rainfall is highest towards the south in the Maradi region (800 mm/year) and decreases towards the Saharo-Sahelian zone² (200-300 mm/year). Average annual temperatures are high (between 24 and 34°C), while average maximum temperatures can exceed 40°C before the start of the rainy season (cf. Annex I).

As analysed in the Climate Risk Assessment (Annex I), over the period 1971 - 2020, temperature trends have shown a clear upward direction with the greatest increase along the northern arid region (0.38°C/decade, equivalent to an increase of 1.9°C over the study period)³. The total amount of precipitation has decreased slightly, with differences between the dry areas in the north (-0.29 mm/decade) and the semi-dry areas in the south (-4.39 mm/decade). The greatest decrease in total annual rainfall was recorded in the Maradi region⁴.

Compared with the reference period (1976-2005), in a scenario with average emissions (RCP6.0), average temperatures are expected to rise by 2.1°C in 2030, 2.7°C in 2050 and 3.7°C in 2080.⁵ Under RCP6.0, the annual number of very hot days (days with a maximum daily temperature above 35°C) is expected to increase by an average of 16 more very hot days per year in 2030, 27 in 2050 and 40 in 2080.⁶ Because of the high interannual variability in precipitation, the projections are less certain. However, with reference to the year 2000, the median model projection shows an average annual increase in precipitation by 2080 of 19 mm under RCP6.0. Over the period 2021-2080, an increase in the number of consecutive dry days (≤ 1.0 mm/day) is expected during the rainy season. Extreme precipitation events are expected to increase in frequency and intensity. An upward trend in the recurrence of heavy rainfall events (≥ 20.0 mm/day) is projected.

Future consequences of climate change for the environment and the population

A number of climatic hazards are expected to increase, in particular, in order of importance, droughts and the number of hot days (days with a maximum daily temperature exceeding 35°C), the frequency and intensity of episodes of heavy rainfall, violent winds and sandstorms. Multi-annual droughts are one of the most serious hazards in the country, having adverse effects on the availability of water resources and in particular on the agricultural sector (erosion of topsoil causing agricultural damage and yield losses). Between 100,000 and 120,000 ha of land are lost every year in Niger due to desertification and soil erosion⁷, threatening the livelihoods of populations dependent on agriculture. The agroforestry system suffers particularly from floods and droughts, which have drastic and long-lasting impacts exacerbated by human activities⁸. The regions most at risk are in the south of the country, particularly the provinces of Maradi, Zinder and Tahoua⁹.

The most vulnerable socio-economic groups are likely to suffer the worst consequences of climate change, particularly those dependent on subsistence agriculture and livestock. The climate resilience of Niger's agricultural and livestock production sectors has been affected by persistent poverty, a fragile local economy and considerable dependence on subsistence rain-fed agriculture. Small-scale farmers have limited access to mechanisation, irrigation technologies, vocational training in sustainable farming techniques, weather

monitoring data, early warning systems, credit finance and insurance, reducing their ability to adapt to the impacts of climate change. Livestock and crop production (mostly rainfed) in the targeted provinces are particularly vulnerable to droughts. These areas continue to be affected by increasing desertification due to poor watershed management, ecosystem degradation, overgrazing, poor land-use planning and unsustainable management of natural resources.

The impacts of climate change will exacerbate existing non-climatic threats to agro-sylvo-pastoral production systems and rural livelihoods

The degradation of natural resources is not dissociated from the country's socio-economic situation. A high proportion of the fast-growing (3.9% increase per year) population lives off natural resources and remains below the poverty line. Rural populations exert heavy pressure on natural resources through low-productivity, transhumant agriculture, and extensive, low-profit livestock farming. This pressure is also exerted through the unsustainable exploitation of fuelwood, a supplementary income source for local communities.

Heavy human pressure on these natural resources is leading to land erosion and a decline in soil fertility which, combined with the effects of climate change and lack of sustainable agro-sylvo-pastoral practices, explain the considerable drop in land productivity and its current state of degradation. The Strategic Framework for Sustainable Land Management and several technical documents state that soil degradation affects around 60% of land in the country, with 25% being severely degraded and 7% being considered unamendable and irrecoverable.

The vulnerability of forest formations to climatic factors is highly variable. The impacts associated with insufficient rainfall alternate with those of torrential rains accompanied by strong winds, causing soil degradation through erosion and the destruction of forest species. The loss of forest area is essentially linked to anthropogenic factors: wood harvesting, agricultural clearing and bush fires, particularly in vulnerable areas with lower productivity. These factors act in proportion to population growth. Against this backdrop of low land resilience, forest formations have suffered a major decline, estimated by rare inventories at around 124,000 ha/year in Niger. Vulnerable areas have very little capacity to meet the fuelwood needs of their populations, especially urban ones. The productivity of these forest formations is not sufficient to cover firewood needs, which explains why more than 80% of the natural production of standing wood in forest formations located around urban centers is exploited.

In addition, because of insecurity at the borders, pastoralism is no longer transhumant towards neighbouring coastal countries, and now remains largely domestic. Interactions between livestock and the ecosystems in the target landscapes (cropland and forest ecosystems) are thus increasingly intense and need to be managed sustainably. The degradation of the pastoral part of the project area is linked to several factors, the main ones being drought, poaching and overgrazing due to the prolonged presence of herds. Anthropogenic pressure linked to the development of land once reserved for traditional livestock farming and gradual deforestation have led to land degradation. This expansion of agriculture is shrinking pastoral rangelands, which are becoming insufficient for local domestic herds and transhumant herders, who no longer leave the project area for fear of cross-border insecurity.

The Maradi region, most affected by climate change and anthropogenic pressures, but with high agro-sylvo-pastoral potential (cf. Annex C).

The proposed project will intervene in the Maradi Region, a level-3 vulnerability zone defined by the National Adaptation Plan (NAP). This area is located in the Sudanian region of southern Niger and has a unique agricultural potential thanks to a number of natural assets, most of which are, however, threatened by a combination of climatic and non-climatic stressors:

Lake Madarounfa, the largest wetland in the Maradi region, but threatened by a number of natural and human factors that are particularly damaging to biodiversity;

the Baban Rafi classified forest, threatened by various degradation factors that jeopardise forest biodiversity and its integrity;

the Gadabédji Total Wildlife Reserve, which has the distinctive feature of being a transition and transhumance zone between the Sahelo-Saharan ecosystems in the north of the country and the Sudanian ecosystems in the south. As such, it is a pastoral reserve for the local communities, but also for the populations of the adjacent regions of Tahoua, Zinder and even Nigeria;

the Goulbi N'Kaba, a valley with temporary run-off that is in the process of fossilisation, and that functions as an agro-ecological system whose exploitation relies on an irrigable potential estimated at more than 10,500 ha (which could reach 30,000 ha with better mobilisation of surface water). The Goulbi N'Kaba includes a special feature that is key to improving food security in the area: the doumeraie (date palm grove), a dense stand of date palms (*Hyphaene thebaica* (L.) Mart.). The date palm grove is of great economic, social and ecological importance; the wood from its stipes is used for construction, the pulp from its fruits and the heart of the palm are consumed, several parts are used as fuel, the palms have a favourable influence on the crops and pastures with which they are associated, and the leaf blades of the young leaves are used to make numerous craft objects (ropes, mats, etc.) which are marketed through very active channels. The composition of this palm grove has changed as a result of the climatic and human factors mentioned above, leading to conflicts between farmers, livestock owners and transhumant herders.

Restoring the target degraded ecosystems will help Niger advance a national programme of land restoration and sustainable ecosystem management in the Sudanian regions of the country, while contributing to the country's climate change adaptation priorities. The connected target sites are located within important forest ecosystems that play an indispensable role in the livelihoods and climate resilience of local communities. The target landscapes include the date palm grove, adjacent agricultural plains, as well as the northern pastoral zone, which, together, constitute an agro-ecological zone with great agro-sylvo-pastoral potential.

Landscape management as a resilience strategy in the face of climate change

Forest and landscape restoration (FLR) is a relatively recent response to the impacts of climate change and disaster risk. In the context of FLR, adaptation is understood as 'changing management practices to reduce the vulnerability of forests to climate change as well as implementing activities to reduce the vulnerability of forest-dependent people, and the adoption of climate-resilient restoration and management approaches, for example restoration with species adapted to changing climate'¹⁰.

The proposed project will implement an ecosystem approach to adaptation through a wide range of agro-sylvo-pastoral techniques to improve ecosystem services and livelihoods, with a focus on agroforestry systems as buffer zones for forests, supporting ecosystems, microclimate regulators and instruments to reduce the vulnerability to extreme weather events.

Restored forests and landscapes will provide a range of ecosystem services that are essential to support adaptation to extreme weather events and gradual climate change. For example, catchment restoration will provide important ecosystem services such as regulating water flow, improving water quality, increasing groundwater recharge and providing riparian buffers. The development of agroforestry and silvopastoral systems, assisted natural regeneration and reforestation will enrich biodiversity, improve livelihood opportunities, support soil fertility and increase carbon in soils and biomass, offering significant mitigation and adaptation benefits.

Agroforestry systems are also important for diversifying local production systems and reducing dependence on single crops, which will reduce the risk of climate-induced economic losses. For example, the diversification of income sources through the exploitation of NTFPs by vulnerable communities will be one of the responses put in place to reduce the risks of climate change.

Establishing the reference scenario

Without the project: While climatic factors seem favourable to the preservation of forest formations over the period 2021 - 2050, human activities will accelerate their degradation in view of the expected increase in population and poverty in Niger. Poverty will limit the capacity to adopt technologies likely to improve large-scale agriculture and ensure food security. As a result, forest formations will continue to be used by the population to meet their basic needs. The situation of forest formations in 2030 will be characterised by a significant reduction in forest area, and an impoverishment of stands in terms of standing timber volume, composition and biodiversity.

With the project: Given the climatic vulnerabilities and anthropogenic pressures described above, the restoration of degraded forests and the conservation of remaining forests as well as the sustainable management of the surrounding agro-ecological landscapes in the Maradi region are essential to improve the climate resilience of local communities, combat land degradation and mitigate biodiversity loss. The achievement of this scenario will be supported by the demonstration of a gender-sensitive and youth-centered approach that includes: i) strengthening the enabling environment (policy, planning, governance and capacity); ii) improving the productivity and climate resilience of natural resource-based livelihoods, as well as creating linkages with associated markets and value chains to green them; iii) implementing an incentive-based approach to ecosystem restoration using a combination of active and passive methods (natural regeneration); and iv) developing the knowledge needed for adaptive management, scaling up and replication.

The proposed project will be centered on climate change adaptation to ensure that restored ecosystems, the natural resources base and the communities that depend on them for their lives and livelihoods become more resilient to current and anticipated climate change impacts. There are few options for achieving food and nutrition security in Niger, other than promoting sustainable agricultural production systems and managing ecosystems at a landscape level. Restoring degraded ecosystems will ensure that they continue to provide vital services under changing climatic conditions. This will therefore ensure that agricultural production and other natural resource-based livelihoods remain ecologically sustainable and climate-resilient for the Niger farmers, while at the same time helping to reduce ecosystem degradation.

B. PROJECT DESCRIPTION

Project description

This section asks for a theory of change as part of a joined-up description of the project as a whole. The project description is expected to cover the key elements of good project design in an integrated way. It is also expected to meet the GEF's policy requirements on gender, stakeholders, private sector, and knowledge management and learning (see section D). This section should be a narrative that reads like a joined-up story and not independent elements that answer the guiding questions contained in the PIF guidance document. (Approximately 3-5 pages) see guidance here

A less developed country heavily dependent on subsistence farming and particularly vulnerable to climate change

Niger, a climate change hotspot

1. Most of the country is classified as having a hot desert climate, while the areas targeted by the project have a hot semi-arid climate. Niger has a long dry season which lasts from November to May, and a short rainy season with the greatest amount of rainfall in August. Total annual rainfall is highest towards the south in the Maradi region (800 mm/year) and decreases towards the Saharo-Sahelian zone^[1] (200-300 mm/year). Average annual temperatures are high (between 24 and 34°C), while average maximum temperatures can exceed 40°C before the start of the rainy season (cf. Annex I).
2. As analysed in the Climate Risk Assessment (Annex I), over the period 1971 - 2020, temperature trends have shown a clear upward direction with the greatest increase along the northern arid region (0.38°C/decade, equivalent to an increase of 1.9°C over the study period)^[2]. The total amount of precipitation has decreased slightly, with differences

between the dry areas in the north (-0.29 mm/decade) and the semi-dry areas in the south (-4.39 mm/decade). The greatest decrease in total annual rainfall was recorded in the Maradi region^[3].

3. Compared with the reference period (1976-2005), in a scenario with average emissions (RCP6.0), average temperatures are expected to rise by 2.1°C in 2030, 2.7°C in 2050 and 3.7°C in 2080.^[4] Under RCP6.0, the annual number of very hot days (days with a maximum daily temperature above 35°C) is expected to increase by an average of 16 more very hot days per year in 2030, 27 in 2050 and 40 in 2080.^[5] Because of the high interannual variability in precipitation, the projections are less certain. However, with reference to the year 2000, the median model projection shows an average annual increase in precipitation by 2080 of 19 mm under RCP6.0. Over the period 2021-2080, an increase in the number of consecutive dry days (≤ 1.0 mm/day) is expected during the rainy season. Extreme precipitation events are expected to increase in frequency and intensity. An upward trend in the recurrence of heavy rainfall events (≥ 20.0 mm/day) is projected.

Future consequences of climate change for the environment and the population

4. A number of climatic hazards are expected to increase, in particular, in order of importance, droughts and the number of hot days (days with a maximum daily temperature exceeding 35°C), the frequency and intensity of episodes of heavy rainfall, violent winds and sandstorms. Multi-annual droughts are one of the most serious hazards in the country, having adverse effects on the availability of water resources and in particular on the agricultural sector (erosion of topsoil causing agricultural damage and yield losses). Between 100,000 and 120,000 ha of land are lost every year in Niger due to desertification and soil erosion^[6], threatening the livelihoods of populations dependent on agriculture. The agroforestry system suffers particularly from floods and droughts, which have drastic and long-lasting impacts exacerbated by human activities^[7]. The regions most at risk are in the south of the country, particularly the provinces of Maradi, Zinder and Tahoua^[8].
5. The most vulnerable socio-economic groups are likely to suffer the worst consequences of climate change, particularly those dependent on subsistence agriculture and livestock. The climate resilience of Niger's agricultural and livestock production sectors has been affected by persistent poverty, a fragile local economy and considerable dependence on subsistence rain-fed agriculture. Small-scale farmers have limited access to mechanisation, irrigation technologies, vocational training in sustainable farming techniques, weather monitoring data, early warning systems, credit finance and insurance, reducing their ability to adapt to the impacts of climate change. Livestock and crop production (mostly rainfed) in the targeted provinces are particularly vulnerable to droughts. These areas continue to be affected by increasing desertification due to poor watershed management, ecosystem degradation, overgrazing, poor land-use planning and unsustainable management of natural resources.

The impacts of climate change will exacerbate existing non-climatic threats to agro-sylvo-pastoral production systems and rural livelihoods

6. The degradation of natural resources is not dissociated from the country's socio-economic situation. A high proportion of the fast-growing (3.9% increase per year) population lives off natural resources and remains below the poverty line. Rural populations exert heavy pressure on natural resources through low-productivity, transhumant agriculture, and extensive, low-profit livestock farming. This pressure is also exerted through the unsustainable exploitation of fuelwood, a supplementary income source for local communities.
7. Heavy human pressure on these natural resources is leading to land erosion and a decline in soil fertility which, combined with the effects of climate change and lack of sustainable agro-sylvo-pastoral practices, explain the considerable drop in land productivity and its current state of degradation. The Strategic Framework for Sustainable Land Management and several technical documents state that soil degradation affects around 60% of land in the country, with 25% being severely degraded and 7% being considered unamendable and irrecoverable.
8. The vulnerability of forest formations to climatic factors is highly variable. The impacts associated with insufficient rainfall alternate with those of torrential rains accompanied by strong winds, causing soil degradation through erosion and the destruction of forest species. The loss of forest area is essentially linked to anthropogenic factors: wood harvesting, agricultural clearing and bush fires, particularly in vulnerable areas with lower productivity. These factors act in proportion to population growth. Against this backdrop of low land resilience, forest formations have suffered a major decline, estimated by rare inventories at around 124,000 ha/year in Niger. Vulnerable areas have very little capacity to meet the fuelwood needs of their populations, especially urban ones. The productivity of these

forest formations is not sufficient to cover firewood needs, which explains why more than 80% of the natural production of standing wood in forest formations located around urban centers is exploited.

9. In addition, because of insecurity at the borders, pastoralism is no longer transhumant towards neighbouring coastal countries, and now remains largely domestic. Interactions between livestock and the ecosystems in the target landscapes (cropland and forest ecosystems) are thus increasingly intense and need to be managed sustainably. The degradation of the pastoral part of the project area is linked to several factors, the main ones being drought, poaching and overgrazing due to the prolonged presence of herds. Anthropogenic pressure linked to the development of land once reserved for traditional livestock farming and gradual deforestation have led to land degradation. This expansion of agriculture is shrinking pastoral rangelands, which are becoming insufficient for local domestic herds and transhumant herders, who no longer leave the project area for fear of cross-border insecurity.

The Maradi region, most affected by climate change and anthropogenic pressures, but with high agro-sylvo-pastoral potential (cf. Annex C).

10. The proposed project will intervene in the Maradi Region, a level-3 vulnerability zone defined by the National Adaptation Plan (NAP). This area is located in the Sudanian region of southern Niger and has a unique agricultural potential thanks to a number of natural assets, most of which are, however, threatened by a combination of climatic and non-climatic stressors:
- Lake Madarounfa, the largest wetland in the Maradi region, but threatened by a number of natural and human factors that are particularly damaging to biodiversity;
 - the Baban Rafi classified forest, threatened by various degradation factors that jeopardise forest biodiversity and its integrity;
 - the Gadabédji Total Wildlife Reserve, which has the distinctive feature of being a transition and transhumance zone between the Sahelo-Saharan ecosystems in the north of the country and the Sudanian ecosystems in the south. As such, it is a pastoral reserve for the local communities, but also for the populations of the adjacent regions of Tahoua, Zinder and even Nigeria;
 - the Goulbi N'Kaba, a valley with temporary run-off that is in the process of fossilisation, and that functions as an agro-ecological system whose exploitation relies on an irrigable potential estimated at more than 10,500 ha (which could reach 30,000 ha with better mobilisation of surface water). The Goulbi N'Kaba includes a special feature that is key to improving food security in the area: the doumeraie (date palm grove), a dense stand of date palms (*Hyphaene thebaica* (L.) Mart.). The date palm grove is of great economic, social and ecological importance; the wood from its stipes is used for construction, the pulp from its fruits and the heart of the palm are consumed, several parts are used as fuel, the palms have a favourable influence on the crops and pastures with which they are associated, and the leaf blades of the young leaves are used to make numerous craft objects (ropes, mats, etc.) which are marketed through very active channels. The composition of this palm grove has changed as a result of the climatic and human factors mentioned above, leading to conflicts between farmers, livestock owners and transhumant herders.
11. Restoring the target degraded ecosystems will help Niger advance a national programme of land restoration and sustainable ecosystem management in the Sudanian regions of the country, while contributing to the country's climate change adaptation priorities. The connected target sites are located within important forest ecosystems that play an indispensable role in the livelihoods and climate resilience of local communities. The target landscapes include the date palm grove, adjacent agricultural plains, as well as the northern pastoral zone, which, together, constitute an agro-ecological zone with great agro-sylvo-pastoral potential.

Landscape management as a resilience strategy in the face of climate change

12. Forest and landscape restoration (FLR) is a relatively recent response to the impacts of climate change and disaster risk. In the context of FLR, adaptation is understood as 'changing management practices to reduce the vulnerability of forests to climate change as well as implementing activities to reduce the vulnerability of forest-dependent people, and the adoption of climate-resilient restoration and management approaches, for example restoration with species adapted to changing climate'^[9].
13. The proposed project will implement an ecosystem approach to adaptation through a wide range of agro-sylvo-pastoral techniques to improve ecosystem services and livelihoods, with a focus on agroforestry systems as buffer

zones for forests, supporting ecosystems, microclimate regulators and instruments to reduce the vulnerability to extreme weather events.

14. Restored forests and landscapes will provide a range of ecosystem services that are essential to support adaptation to extreme weather events and gradual climate change. For example, catchment restoration will provide important ecosystem services such as regulating water flow, improving water quality, increasing groundwater recharge and providing riparian buffers. The development of agroforestry and silvopastoral systems, assisted natural regeneration and reforestation will enrich biodiversity, improve livelihood opportunities, support soil fertility and increase carbon in soils and biomass, offering significant mitigation and adaptation benefits.
15. Agroforestry systems are also important for diversifying local production systems and reducing dependence on single crops, which will reduce the risk of climate-induced economic losses. For example, the diversification of income sources through the exploitation of NTFPs by vulnerable communities will be one of the responses put in place to reduce the risks of climate change.

Establishing the reference scenario

16. *Without the project:* While climatic factors seem favourable to the preservation of forest formations over the period 2021 - 2050, human activities will accelerate their degradation in view of the expected increase in population and poverty in Niger. Poverty will limit the capacity to adopt technologies likely to improve large-scale agriculture and ensure food security. As a result, forest formations will continue to be used by the population to meet their basic needs. The situation of forest formations in 2030 will be characterised by a significant reduction in forest area, and an impoverishment of stands in terms of standing timber volume, composition and biodiversity.
17. *With the project:* Given the climatic vulnerabilities and anthropogenic pressures described above, the restoration of degraded forests and the conservation of remaining forests as well as the sustainable management of the surrounding agro-ecological landscapes in the Maradi region are essential to improve the climate resilience of local communities, combat land degradation and mitigate biodiversity loss. The achievement of this scenario will be supported by the demonstration of a gender-sensitive and youth-centered approach that includes: i) strengthening the enabling environment (policy, planning, governance and capacity); ii) improving the productivity and climate resilience of natural resource-based livelihoods, as well as creating linkages with associated markets and value chains to green them; iii) implementing an incentive-based approach to ecosystem restoration using a combination of active and passive methods (natural regeneration); and iv) developing the knowledge needed for adaptive management, scaling up and replication.
18. The proposed project will be centered on climate change adaptation to ensure that restored ecosystems, the natural resources base and the communities that depend on them for their lives and livelihoods become more resilient to current and anticipated climate change impacts. There are few options for achieving food and nutrition security in Niger, other than promoting sustainable agricultural production systems and managing ecosystems at a landscape level. Restoring degraded ecosystems will ensure that they continue to provide vital services under changing climatic conditions. This will therefore ensure that agricultural production and other natural resource-based livelihoods remain ecologically sustainable and climate-resilient for the Niger farmers, while at the same time helping to reduce ecosystem degradation.

A. PROJECT DESCRIPTION

1. Project Description

Barrier analysis & Theory of Change

19. The proposed project aims to improve the resilience of rural populations through the restoration and integrated management of fragile forest ecosystems and landscapes in the Goulbi N'Kaba of the Maradi region.

20. Political will to support integrated land management and more sustainable land management exists, but this is not translated into concrete measures that can be applied on the ground. The decentralization processes, and in particular at the commune level supported by technical agencies offer a great opportunity to empower communes to manage their resources sustainably. A strong focus will thus be placed on local planning and implementation of the field activities. The project will support the communes, through agriculture and forest extension officers to be able to plan for integrated natural resources management and restoration activities, integrating these activities into their Local Development Plans (LDP) and their Annual Investment Plans (AIP). The project will support these activities through budget given to each commune in order to implement its AIP. While green investments are usually seldom prioritized in communal budgets, this project will initiate a new dynamic of green activities planned, implemented and monitored at communal level. Once the model is proven successful, its replication in other communes will be facilitated.
21. A number of barriers are hampering the achievement of this objective.
- The analysis of landscapes and forests is hampered by the **lack of monitoring of seasonal climatic fluctuations** in relation to indices of sensitivity to drought, floristic compositions, phenologies and forest regression. There is no exhaustive inventory of the national forest estate, and only a few regions have benefited from unrepeatable inventories. The Integrated Landscape Management Project (PGIP), which is currently being launched, plans to carry out a national forest inventory under the aegis of the National Centre for Ecological and Environmental Monitoring (CNSEE). The Sahara and Sahel Observatory has always demonstrated the need to monitor ecosystems and ground observations using observatories. In the case of Niger, it is the CNSEE that is responsible for setting up this system, which consists of around ten observatories dedicated to various themes.
 - A **lack of awareness and technical capacity** among government staff at all levels regarding sustainable and resilient agroforestry, community forest management, landscape rehabilitation and land-use planning.
 - A **lack of relevant, cross-sectoral policies on landscape use and forest management, and weak application of legal instruments**, particularly in relation to PBR. A major remaining constraint to adaptive forest management is weak horizontal and vertical cross-sectoral coordination at local and provincial levels between the main actors involved in forest-related activities. Different sectors (e.g. forestry, agriculture, grazing and water) compete or have conflicting objectives, leading to uncoordinated planning and actions. As a result, government actions and investments that aim to strengthen the resilience of forest ecosystems occur with limited consideration of their impact at landscape level.
 - **Insufficient government resources for large-scale investment in ecosystem restoration.** Limited financial capacity of smallholders to invest in the infrastructure, equipment and inputs needed for PBR and the adaptation of their agro-ecosystems.
 - **Limited knowledge of the ecosystem services provided by forests and the impacts of climate change on livelihoods and the environment**, and a lack of technical capacity regarding the availability and application of agroecosystem management options to adapt to climate change, and alternative approaches to restoration.
 - **Difficulties for agro-sylvo-pastoralists and entrepreneurs in the agricultural sector to access credit and financial services** at reasonable terms, hampering their ability to make the investments they need to adapt and become more resilient to climate change impacts. Financial institutions, such as Bagri, other banks and Decentralized Financial Systems, find it difficult to engage in agricultural credit due to the high costs of services and the distance from service points, the absence of adapted banking methodologies, the insufficiency of guarantees offered by farmers (problem of land tenure), production and market risks (climatic hazards, price volatility, uncertain repayment capacity) and the lack of mechanisms to mitigate risks and reduce costs.
22. To overcome these barriers and achieve the project objective through the implementation of the inter-related components described below, the proposed project will rely on a number of assumptions: i) capacity-building and governance activities improve institutional, technical and coordination capabilities; ii) communities actively support the project and its work; iii) improved livelihood options are adopted by the beneficiaries; iv) young people want to be actively involved in the project's activities, stimulating a change in behaviour towards the sustainable and climate-resilient use of natural resources; and v) political support for the project remains constant throughout its implementation.

Characteristics of the target area

23. The Goulbi N'kaba covers an area defined by the boundaries of the valley, estimated at nearly 31,500 ha with land used as follows, shared between arable land (21,000 ha) and sylvopastoral area (10,500 ha). The choice of the 15 target communes is motivated by the continuum of ecosystems ranging from the pastoral zone to the wetlands, including the central ecosystem of the Goulbi N'Kaba valley, taking into account the complementarity with the communes involved in other projects (cf. Annex C).

Table 2. Target communes

Target communes	Department	Ecological zones	Areas	Remarks
Zones of influence of the project (270,000 ha)				
Bermo	Bermo	Pastoral	192,500 ha	This pastoral zone is located around the wildlife reserve and in the valley of the middle Tarka river.
Azagor	Dakoro			
Dan Goulbi,	Dakoro	Forest	11,500 ha	Palm grove area and adjacent ecosystems
Sabon MachiMayayi,	Dakoro			
Mayara	Dakoro			
Mayayi	Mayahi			
Gabi	Madarounfa			
Madarounfa	Madarounfa			
Gazaoua	Gazaoua	Arable land	36,000 ha	Agricultural land includes the Goulbi valley, plains and rain-fed catchment areas.
Attantane	Mayahi			
Issawane	Mayahi			
Kanan bakaché	Mayahi			
Serkin Haoussa	Mayahi			
Baoudétta	Tassaoua			
Tassaoua	Tassaoua			
Total				
Area of land to be restored by the project (30,000 ha)				
Pastoral area				
Bermo	Bermo	Pastoral reserve	7,500 ha	Improving the pastoral zone reduces herd pressure on the Gadabédji wildlife reserve
Azagor	Dakoro	Middle Tarka Valley		The Middle Tarka Valley is a long corridor through which animals from the Agadez and Tahoua regions pass on their way to southern Maradi and Nigeria.
<i>Total pastoral area:</i>			<i>7,500 ha</i>	
Forest area				

Mayayi	Mayahi	Palm grove	5,000 ha	The palm grove is the core ecosystem which the project is centred
Dan Goulbi	Dakoro	Adjacent ecosystems	3,500 ha	Adjacent ecosystems include forest formations other than the palm grove, as well as wetlands.
Sabon Machi	Dakoro			
Mayara	Dakoro			
Madarounfa	Madarounfa			
Gabi	Madarounfa			
<i>Total forest area:</i>			<i>8,500 ha</i>	
Arable land				
Gazaoua	Gazaoua	Cropland	10,500 ha	
Attantane	Mayahi	Hillsides	3,500 ha	
Issawane	Mayahi			
Kanan bakaché	Mayahi			
Serkin Haoussa	Mayahi			
Baoudétta	Tassaoua			
Tassaoua	Tassaoua			
<i>Total arable land</i>				<i>14,000 ha</i>
Total			30,000 ha	

Project components

24. The project's strategy is based on an integrated approach that organises activities into four complementary components carried out simultaneously.

Effects / impacts / long-term benefits	Sustainable land management to build community resilience to climate change and other crises is supported		Biodiversity, soil, water and ecosystem functions are protected and restored		Strengthening ecosystem services and livelihoods through restoration improves the incomes of vulnerable communities, enabling them to be more resilient to climate change		International targets for climate, biodiversity and land degradation are met	
Effects / impacts / mid-term benefits	Participatory integrated land management plans implemented at landscape level	Active participation of public authorities in the development of integrated land management	Climate resilience of rural population improved	Productivity and agricultural production are improved and food security is increased	Increased financial flows supporting green businesses and restoration	Virtuous circle of communication in the service of sustainable landscapes		
Direct impacts	The restoration and protection of livelihoods is supported where environmental degradation and acute food insecurity are closely linked, generated and exacerbated by environmental degradation and climate change. Strong local structures capable of supporting long-term restoration activities are put in place. Target landscapes are sustainably managed increasing their resilience and the resilience of the local population, land degradation is slowed or reversed.							
Outcome / Outputs	The climate resilience of agro-sylvo-pastoral community development in the pilot landscapes is strengthened through improved governance and institutional capacity		In pilot landscapes, strengthened resilience of agro-sylvo-pastoral production systems through the implementation of management plans including the restoration of degraded land, restoration and sustainable management of ecosystems of importance, and improved fertility of farmland through agroforestry and climate-smart agriculture.		Increased resilience of rural livelihoods through sustainable income-generating activities and agricultural intensification		The lessons learned from the project are documented and disseminated to all stakeholders and beyond	
	1.1. At the local level, socio-economic and biophysical valuation of ecosystem services as well as cost-benefit analysis of ecosystem restoration for increased resilience / 1.2. Restoration as investment of choice to strengthen the climate resilience of rural populations, mainstreamed into LDP and AIP at the communal level / 1.3. Intercommunal charters for the climate-resilient management of shared resources developed		2.1. Degraded land on plateaux and catchment areas restored / 2.2. Restored fertility of farmland through agroforestry, climate-smart agriculture and assisted natural regeneration / 2.3. Protection and management of wetlands of importance to the Ramsar Convention / 2.4. Natural ecosystems of importance for carbon sequestration restored and protected / 2.5. Classified forest of Hyphaene thebaica (doumeria) of the Goulbi N'Kaba rehabilitated.		3.1. At least 150 micro-projects for income-generating activities supported / 3.2. Intensification & mechanisation of agricultural activities supported / 3.3 Climate-resilient value chains and market linkages strengthened for natural resource-based livelihoods / 3.4. Training on entrepreneurship and business and financial management delivered for local actors involved in climate-resilient natural resource-based livelihoods and value chains		4.1. Long-term research programme implemented to assess the impact of the project / 4.2. Knowledge management, learning opportunities and best practices documented and disseminated / 4.3. Exit strategy developed	
	1: Governance and integrated planning for climate-resilient development of rural communities		2: Forest and landscape restoration for increased climate resilience of rural populations		3: Strengthening climate-resilient agro-sylvo-pastoral livelihoods		4: Knowledge capitalization and management	

To overcome these barriers and achieve its goal, the project will work on 4 components

Goal	Improve the climate resilience of rural populations through the restoration and integrated management of the Goulbi N'Kaba and adjacent ecosystem						
Hypothesis	Partners ready to collaborate and implement new practices	The opportunity to develop a shared vision of the landscape exists	Governments want to support climate change adaptation strategies and landscape restoration	Young people want to be actively involved in the project's activities, stimulating a change in behaviour	Financing options for integrated land management exist	Strong experts are available to build capacity	Stakeholders are ready to gather, share and receive knowledge
Barriers	Lack of monitoring of seasonal climatic fluctuations hampering analysis of landscapes and forests	Lack of awareness and technical capacity among government staff regarding sustainable and resilient agroforestry, community forest management, landscape rehabilitation and land-use planning	Lack of relevant, cross-sectoral policies on landscape use and forest management, and weak application of legal instruments	Insufficient government resources and lack of market incentives for large-scale investment in ecosystem restoration	Limited knowledge of the ecosystem services provided by forests and the impacts of climate change on livelihoods and the environment	High socio-economic vulnerability of rural populations and, consequently, lack of interest in the sustainable management of natural resources	
Problems	Niger is the third most vulnerable country to climate change in the world. A high proportion of the fast-growing population lives off natural resources and remains below the poverty line. Unequal access to natural resources is at the root of inter-community conflicts that fuel the vicious circle of poverty, lack of resilience and environmental degradation. Maradi is the most densely populated region, where the population tend to exert heavy pressure on natural resources through low-productivity, shifting agriculture, unprofitable extensive livestock farming, and unsustainable exploitation of fuelwood, leading to land degradation. These pressures are compounded by climate change impacts that pose a direct and significant risk to agricultural production and rural livelihoods, threatening major food production systems in a country already plagued by food insecurity and significantly influencing patterns of climate-induced migration.						

Effects / impacts / long-term benefits	Sustainable land management to build community resilience to climate change and other crises is supported		Biodiversity, soil, water and ecosystem functions are protected and restored		Strengthening ecosystem services and livelihoods through restoration improves the incomes of vulnerable communities, enabling them to be more resilient to climate change		International targets for climate, biodiversity and land degradation are met	
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Outcomes / Outputs	The climate resilience of agro-sylvo-pastoral community development in the pilot landscapes is strengthened through improved governance and institutional capacity		In pilot landscapes, strengthened resilience of agro-sylvo-pastoral production systems through the implementation of management plans including the restoration of degraded land, restoration and sustainable management of ecosystems of importance, and improved fertility of farmland through agroforestry and climate-smart agriculture.		Increased resilience of rural livelihoods through sustainable income-generating activities and agricultural intensification		The lessons learned from the project are documented and disseminated to all stakeholders and beyond	
	1.1. At the local level, socio-economic and biophysical valuation of ecosystem services as well as cost-benefit analysis of ecosystem restoration for increased resilience / 1.2. Restoration as investment of choice to strengthen the climate resilience of rural populations, mainstreamed into LDP and AIP at the communal level / 1.3. Intercommunal charters for the climate-resilient management of shared resources developed / 1.4. Dimitra Clubs established and supported to facilitate the self-mobilisation of communities		2.1. Degraded land on plateaux and catchment areas restored / 2.2. Restored fertility of farmland through agroforestry, climate-smart agriculture and assisted natural regeneration / 2.3. Protection and development of wetlands of importance to the Ramsar Convention / 2.4. Natural ecosystems of importance for carbon sequestration restored and protected / 2.5. Classified forest of Hyphaene thebaica (doumeria) of the Goulbi N'Kaba rehabilitated.		3.1. At least 30 micro-projects for income-generating activities supported / 3.2. Intensification & mechanisation of agricultural activities supported / 3.3 Climate-resilient value chains and market linkages strengthened for natural resource-based livelihoods / 3.4. Strategy developed to enable access to credit and financing services to agro-sylvo-pastoralists and entrepreneurs / 3.5. Training on entrepreneurship and business and financial management delivered for local actors involved in climate-resilient natural resource-based livelihoods and value chains		4.1. Long-term research programme implemented to assess the impact of the project / 4.2. Knowledge management, learning opportunities and best practices documented and disseminated / 4.3. Exit strategy developed	
	1: Governance and integrated planning for climate-resilient development of rural communities		2: Forest and landscape restoration for increased climate resilience of rural populations		3: Strengthening climate-resilient agro-sylvo-pastoral livelihoods		4: Knowledge capitalization and management	

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Hypothesis	Partners ready to collaborate and implement new practices	The opportunity to develop a shared vision of the landscape exists	Governments want to support climate change adaptation strategies and landscape restoration	Young people want to be actively involved in the project's activities, stimulating a change in behaviour	Financing options for integrated land management exist	Strong experts are available to build capacity	Stakeholders are ready to gather, share and receive knowledge
Barriers	Lack of monitoring of seasonal climatic fluctuations hampering analysis of landscapes and forests	Lack of awareness and technical capacity among government staff regarding sustainable and resilient agroforestry, community forest management, landscape rehabilitation and land-use planning	Lack of relevant, cross-sectoral policies on landscape use and forest management, and weak application of legal instruments	Insufficient government resources and lack of market incentives for large-scale investment in ecosystem restoration	Limited knowledge of the ecosystem services provided by forests and the impacts of climate change on livelihoods and the environment	High socio-economic vulnerability of rural populations and, consequently, lack of interest in the sustainable management of natural resources	
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Component 1: Governance and integrated planning for climate-resilient development of rural communities

Outcome 1.1: The climate resilience of agro-sylvo-pastoral community development in the pilot landscapes is strengthened through improved governance and institutional capacity

25. Through this component, sustainable land management to strengthen the resilience of communities to climate change will be supported through the establishment of strong local structures capable of supporting long-term restoration and sustainable land management activities, the active involvement of public authorities in the development of integrated land management, and the implementation of participatory integrated land management plans at landscape level.
26. This component aims to facilitate the integration of climate change adaptation into local development frameworks, i.e. communal development plans. The capacities of municipal and regional councils, local, regional and national land use management platforms and relevant coordination organisations will be strengthened to improve the governance of natural resources in a climate change context. The project will strengthen local, regional and national capacities to plan, implement and monitor sustainable landscape management incorporating key priorities of climate change adaptation, land tenure and conservation. Such institutional capacity building will improve the success of climate change adaptation and land conservation responses and stimulate further investment in the target regions.
27. This component will strengthen the ongoing decentralisation process and support the development of integrated and participatory land-use plans that will inform the integration of climate change adaptation and green activities into local development plans (LDPs) and annual investment programmes (AIP) at the communal level. Building on the decentralisation of institutions and the strengthening of local authorities at commune level, the project will support the development of climate-resilient green LDPs and ensure the financing of green activities in the AIPs. The project will use existing structures at commune level, strengthen them and give communes the financial means to achieve their resilience objectives.
28. In addition, the project will support the communes sharing the Goulbi N'Kaba valley in drawing up an intercommunal management plan (schéma d'aménagement intercommunal). The Land Commissions (COFOs) at various levels will be called upon for this purpose.
29. Component 1 comprises three outputs:
 - Output 1.1: Valuation and accounting of ecosystem services and cost-benefit analysis of ecosystem restoration for increased resilience to climate change supported and presented to relevant national and local institutions to inform policy, decision-making and planning.
 - Output 1.2: Restoration as investment of choice to strengthen the climate resilience of rural populations, mainstreamed into local development plans (LDPs) and annual investment programmes (AIP) at the communal level
 - Output 1.3: Intercommunal charters for the climate-resilient management of shared resources. Tentatively, four charters can be envisaged: i) communes of Bermo and Azagor for the management of pastoral resources; ii) communes with land rights over the palm grove; iii) communes having adjacent forest formations in the Dan Goulbi and Madarounfa zones; and iv) communes sharing the agricultural zone from Gazaoua to Attatane in northern Mayayi¹⁰¹.
 - Output 1.4: Dimitra Clubs established and supported to facilitate the self-mobilisation of communities, women's leadership, the definition and implementation of land-use management plans and to improve conflict resolution¹².

Land tenure securitisation, for women and men alike, is a fundamental indicator of success of Outcome 1 and the project will ensure that women's access is addressed throughout the different outputs to achieve this. For instance, capacity development carried out under Output 1.2 will address the existing inequalities, highlight the role and participation of women in natural resources use and management to raise awareness on the need for gender equality. LDP and intercommunal charters must reflect the differentiated roles and responsibilities of these groups, particularly recognition of land ownership.

30. At the landscape level, the project will use proven methods for involving and engaging local stakeholders, such as the Restoration Opportunity Assessment Methodology (ROAM) to develop integrated landscape management plans.

Component 2: Forest and landscape restoration for increased climate resilience of rural populations

Outcome 2.1: In pilot landscapes, strengthened resilience of agro-sylvo-pastoral production systems through the implementation of management plans including the restoration of degraded land, restoration and sustainable management of ecosystems of importance, and improved fertility of farmland through agroforestry and climate-smart agriculture.

31. Through this outcome, the climate resilience of rural livelihoods will be enhanced by restoring key productive ecosystems. This will increase soil fertility through reduced soil erosion, improve the infiltration of run-off water, and help diversify on- and off-farm agro-sylvo-pastoral productive resources. Project interventions will have a favourable influence on crops and pastures productivity, thereby increasing the climate resilience of the local population.
32. The provision of natural resources and ecosystem services will also improve. Water resources in wetlands will become available longer in the year, availability of animal (esp. fish) and plant resources will be enhanced, the production of non-wood forest products (e.g. the pulp from date fruit and the heart of the palm) will increase. In addition, this outcome will allow the integrity of classified forests to be restored, tree density and vegetation cover in forest ecosystems will rise, biological diversity and wildlife in particular to return and carbon sequestration to increase.
33. Overall, the activities under this outcome will increase the resilience of agricultural production in the face of climatic hazards, and improve food security and climate resilience for local populations through the introduction of sustainable agriculture, intensification techniques, and restoration of priority ecosystems.

Climate-resilient approaches and practices adopted under this outcome are selected in a participatory fashion, and the project will ensure that no practices or approaches are being selected that women are culturally, socially or economically unlikely to adopt. The implementation of restoration activities itself can provide a crucial opportunity for the economic empowerment of women and youth.

34. This outcome is made up of five outputs:
 - Output 2.1 Degraded land on plateaux and catchment areas restored through mechanical treatment, reforestation and seeding with forage species.
 - Output 2.2 Restored fertility of farmland through agroforestry, climate-smart agriculture and assisted natural regeneration.
 - Output 2.3: Protection and management of wetlands of importance to the Ramsar Convention (Madarounfa pond).
 - Output 2.4: Natural ecosystems of importance for carbon sequestration (ecosystems adjacent to the doumeraie and the Gadabedji wildlife reserve) restored and protected
 - Output 2.5: Classified forest at *Hyphaene the bai ca* (doumeraie) of the Goulbi N'Kaba rehabilitated.
35. This outcome will also enable the training of deconcentrated agents from national institutions responsible for supporting communes and local authorities on agricultural and forestry issues in the targeted communes and sites, and will give them the means to work with communities to implement sustainable agricultural intensification and restoration activities with the aim of improving the resilience of populations and ecosystems. Local ministry staff will also be supported to monitor private sector commitments to restoration and sustainable livelihoods.
36. At the landscape level, the project will use participatory and people-centred learning methods, e.g. field school approach (CEAP) and to disseminate information, e.g. Club Dimitra. More traditional approaches, such as exchange visits, will be used to strengthen links with ongoing efforts (particularly reference projects) and to highlight past successes.

Component 3: Strengthening climate-resilient agro-sylvo-pastoral livelihoods

Outcome 3.1: Increased resilience of rural livelihoods through sustainable income-generating activities and agricultural intensification

37. Through this component, the resilience of local livelihoods will be enhanced through the improvement of agricultural productivity and production, increase in cash income of households, and enhancement of food security.
38. With climate change impacts, local livelihoods reliant on single commodities are being increasingly threatened. Generating new economic opportunities will allow to diversify income sources, while strengthening existing commodity-based value chains will help increase the value added and resilience of traditional income streams (e.g. basketry, gum arabic, moringa). Training, demonstrations and dissemination of climate-smart practices in these areas will promote autonomous adoption and replication of interventions.

To overcome the barrier of constrained access to financing, the project will build on the existing baseline¹³; in particular, the feasibility of support the implementation of the Caisses de Résilience approach¹⁴ will be analysed during the PPG phase. This integrated, participatory and community-centered approach combines mutually reinforcing technical, financial and social dimensions. It is built around small groups of 20 to 30 people living in the same village/neighbourhood and sharing the same concerns. Given their central social and economic role, the participation of women is a priority. “Association Villageoise d’Épargne et de Crédit (AVEC)” are established, through which the group develops knowledge and practical skills to manage a “savings and loan fund”, thus allowing each member to save money and to have access to short-term loans to invest in lucrative practices or activities identified in the technical component. Where possible, AVECs are put in contact with larger microfinance institutions.

39. Component 3 comprises four outputs:

- Output 3.1: At least 150 micro-projects for income-generating activities supported
- Output 3.2: Intensification & mechanisation of agricultural activities supported
- Output 3.3: Climate-resilient value chains and market linkages strengthened for natural resource-based livelihoods
- Output 3.4: Strategy developed to enable access to credit and financing services to agro-sylvo-pastoralists and entrepreneurs
- Output 3.5: Training on entrepreneurship and business and financial management delivered for local actors involved in climate-resilient natural resource-based livelihoods and value chains

40. In this outcome the project will use proven people-centred learning methods such as the field school approach (CEAP). Exchange visits will also be organized to share and disseminate knowledge.

The results to be achieved under this outcome are rooted in a number of gender-sensitive approaches, including agro-pastoral field schools and gender-sensitive value chain development, which will allow the project to achieve the targets. Women's participation in income-generating activities may be limited by a lack of resource mobilization as well as cultural and religious norms. The project will implement interventions primarily focused on income-generating agricultural activities and rural employment creation for women, youth and other vulnerable and marginalized groups, enabling them to increase their economic independence and strengthen their involvement in decision-making within their community.

Component 4: Capitalisation and knowledge management

Outcome 4.1: The lessons learned from the project are documented and disseminated to all stakeholders and beyond

41. The expected effect of this component is a virtuous circle in which lessons learned from the importance of restoring forests and landscapes as a sustainable strategy for improving the adaptation and resilience of rural populations are generated, shared and taken up to support new restoration-based resilience initiatives.
42. Knowledge sharing, learning and synthesis of experiences are built into this component, with the key aim of enabling the scaling up of successes and learning from failures throughout the implementation of the project and beyond. Through this component, the project will catalyse the sharing of knowledge bottom-up (from landscape to national, regional and global levels), top-down (from global to landscape) and horizontally (between peers in neighbouring landscapes and countries) to maximise cross-fertilisation of ideas and innovation.

43. A communication strategy will be drawn up at the very start of the project and will be based on five key pillars:
 1. Clear identification of the different target groups and the type of information that the project must/wants to communicate to them.
 2. A review of existing knowledge and knowledge created by the project. Knowledge from the project will be generated by practitioners as an exercise to assess practice and how it can be improved.
 3. Communication tools will be peer-reviewed (fact sheets, radio conferences, etc.).
 4. Communication channels specially adapted to the target audience (radio, written media, social networks, etc.)
 5. Implementation and operation of the project monitoring and evaluation system
44. The project will engage with relevant global, regional and national networks, platforms and initiatives to share experiences and enable peer-to-peer cooperation and networking, awareness raising and ultimately scaling up. Networks and initiatives focusing in particular on sustainable agriculture e.g. West Africa CSA Alliance (WACSAA) and Global Alliance for Climate Smart Agriculture (GACSA) and on forest and landscape restoration e.g. Global Partnership on Forest and Landscape Restoration (GPFLR), Global Landscape Forum (GLF), African Forest Landscape Restoration Initiative (AFR100), UN Decade for Ecosystem Restoration will be targeted.
45. The lessons learned from local implementation will be institutionalised in departmental planning processes and will feed into the national cross-sectoral platform for FLR and the aforementioned regional and global online communities of practice, which will further adopt and disseminate the fruits of these exchanges in their own countries.
46. Component 4 comprises three outputs:
 - Output 4.1: Long-term research programme implemented to assess the impact of the project
 - Output 4.2: Knowledge management, learning opportunities and best practices documented and disseminated
 - Output 4.3: Exit strategy developed
47. While good practices will be collected in all components, Component 4 is particularly focused on capitalisation and communication. Indeed, the proposed project relies heavily on awareness-raising and capacity-building, which are forms of knowledge management. Across the different components, a number of tools and approaches will be used to promote learning, knowledge exchange and cooperation between practitioners. At the landscape level, the project will use proven methods for involving and engaging local stakeholders, such as the Restoration Opportunity Assessment Methodology (ROAM) to develop integrated landscape management plans. The project will also use participatory and people-centred learning methods, e.g. field schools approach (CEAP) and to disseminate information, e.g. Club Dimitra. More traditional approaches, such as exchange visits, will be used to strengthen links with ongoing efforts (particularly reference projects) and to highlight past successes.

In addition to the above, a monitoring and evaluation outcome will be implemented, namely 'Lessons and learning from the project are captured, developed, reported and disseminated'. This will be achieved through the implementation of an effective and participatory M&E system. A monitoring and evaluation plan will be developed during project preparation through a participatory process, involving all relevant stakeholders. Monitoring data and information will be used to inform the adaptive management of the project and generate knowledge and lessons to be shared as part of Component 4. An independent mid-term review and final evaluation will be undertaken to assess the progress and performance of the project.

^[1] Zakari, Seydou, Germaine Ibro, Bokar Moussa, and Tahirou Abdoulaye. "Adaptation Strategies to Climate Change and Impacts on Household Income and Food Security: Evidence from Sahelian Region of Niger." *Sustainability* 14, no. 5 (March 1, 2022): 2847. Available at: [link](#)

^[2] World Bank Climate Knowledge Portal, Niger. Available at: [link](#)

^[3] Ibid.

^[4] PIK (2022), Potsdam Institute for Climate Impact Research, Climate risk profile Niger. Available at: [link](#)

^[5] Ibid.

^[6] Zakari, Seydou, Germaine Ibro, Bokar Moussa, and Tahirou Abdoulaye. "Adaptation Strategies to Climate Change and Impacts on Household Income and Food Security: Evidence from Sahelian Region of Niger." *Sustainability* 14, no. 5 (March 1, 2022): 2847. Available at: [link](#)

[7] Cf. Climate Risk Screening

[8] WB, 2019. Disaster Risk Profile Niger. Available at: [link](#)

[9] Rizvi, A. R., Baig, S., & Verdone, M. (2015). Ecosystems based adaptation: knowledge gaps in making an economic case for investing in nature based solutions for climate change. *Gland, Switzerland: IUCN*, 48.

[10] This agricultural zone is made up of agricultural plains and degraded watersheds. The presence of pastoral enclaves, fallow land and animal corridors means that these areas are common to several communes, requiring joint management rules.

Coordination and Cooperation with Ongoing Initiatives and Project.

Does the GEF Agency expect to play an execution role on this project?

If so, please describe that role here. Also, please add a short explanation to describe cooperation with ongoing initiatives and projects, including potential for co-location and/or sharing of expertise/staffing

FAO does not expect to play an execution role in this project.

By its very nature, the project covers a wide range of activities, with the aim of contributing to the implementation of policies, strategies and programmes in several sectors, including the environment, agriculture, livestock and water resources. At the operational level, the ministry in charge of the environment will oversee the project and will work closely with the other ministries involved in rural areas, in particular the ministries of agriculture, livestock and water resources.

The institutional set-up of the project can tentatively be organized into two levels of responsibility:

At national scale :

A level of strategic coordination will be ensured by a steering committee comprising ministries and specialized institutions and civil society;

A level of operational coordination responsible for planning interventions and managing the project will be created under the supervision of the anchor ministry (Project Management Unit). A project monitoring-evaluation system will be put in place and will be added to the existing system of the supervisory ministry.

At regional and local scales: these actors constitute the level of implementation of actions and activities on the ground, based on partnerships between the project, technical operators, NGOs and the municipalities concerned. The execution of the project on the ground will be carried out under the supervision of the regional, departmental and municipal directorates of the different sectors.

The key to this project success is the communal approach where municipalities are both the project owners of the actions and investments planned by the project and responsible for the execution of the activities which will be carried out by their organized and supervised populations¹⁵. Institutional arrangements will be further discussed and confirmed during the PPG phase.

During the development of the PIF, many potential synergies with past, ongoing and future projects and initiatives were identified. Many of these were informed by consultations with project representatives during the project development team's mission. Details of the potential for cooperation and lessons learned are provided in the table below - this is not an exhaustive list and contains the most relevant projects and initiatives. Lessons and best practice from many of these projects and initiatives have been used to strengthen the indicative design of this project. Further consultations will be undertaken during the preparatory phase to further detail areas of cooperation and strengthen partnerships.

Past, current and future projects complementing the project

	Project title	Reference in Annex H	Period	Themes shared with / complementary to this project
Past projects	Gum tree programme	Project N°3	2000 - 2016	Reclaiming degraded land, developing gum plantations and food security (NTFPs and IGAs)
	Great Green Wall Project (GGWP)	Project N° 10	2010 - 2021	Local planning and development with a strong SLM component
	Community Support Project for Climate Resilience (PACRC)	Project N°12	2012 - 2021	Build the capacity of local stakeholders in planning and mobilising funding to integrate SLM into local development plans (LDPs)
	Third Community Support Programme (PACIII)	Project N°13	2013 - 2017	Strengthen local development planning and implementation capabilities
	Front Local Environnemental pour une Union Verte (FLEUVE)	Project N°14	2015 - 2016	Integrating ANR and SLM into local development plans through innovative partnerships
	Support project for climate-sensitive agriculture (PASEC)	Project N°16	2017 - 2022	Contribute to adaptation to climate risks and improve agricultural productivity through AIC
	Family Farming Development Programme (ProDAF)	Project N°11	2013 - 2018 2019 - 2024	Contribute to sustainable food security by strengthening the resilience of rural households
	Action Against Desertification (AAD) project	Project N°15	2014- 2020	Implementing the Great Green Wall initiative and helping to combat land degradation
Ongoing or future projects	Integrated Landscape Management Project (PGIP)	N/A	2023- 2027	Improving landscape management and access to economic opportunities for targeted communities
	Strengthening and scaling up good practice in adapting to climate change and sustainable management of natural resources in the Great Green Wall in the Maradi and Agadez regions of Niger (EU funded)	N/A	2023- 2027	Restoring forests and landscapes and improving resilience to climate change in the Maradi region

	<p>Project to Strengthen Rural Community Resilience to Food and Nutritional Insecurity (PRECIS)</p> <p>Dosso - Maradi - Tahoua - Zinder</p> <p>(IFAD / GCF)</p>	N/A	2020-2025	<p>Preparing smallholders for agricultural risks</p> <p>Strengthening and intensifying resilience and the ability to adapt to climate change</p>
	<p>Green Cities for the Restoration of the Ecosystems of the Great Green Wall (FFEM)</p>	N/A	2024-2028	<p>Improve the climate and food resilience of secondary cities of the GGW, one of which is Maradi</p> <p>Involving municipalities for restoring peri-urban areas</p> <p>Mobilization of a green entrepreneurship in favor of land restoration</p>
	<p>Great Green Wall for restoration and peace flagship (Multi-partner fund for the United Nations Decade for Ecosystem Restoration)</p>	N/A	2024-2027	<p>Mobilising local authorities and communities as the most sustainable way to restore land, build resilience and social cohesion</p>

Core Indicators

Explain the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators (max. 250 words, approximately 1/2 page)

META INFORMATION – LDCF

LDCF true	SCCF-B (Window B) on technology transfer false	SCCF-A (Window-A) on climate Change adaptation false
Is this project LDCF SCCF challenge program? false		
This Project involves at least one small island developing State(SIDS). false		
This Project involves at least one fragile and conflict affected state. true		

This Project will provide direct adaptation benefits to the private sector.

true

This Project is explicitly related to the formulation and/or implementation of national adaptation plans (NAPs).

false

This project will collaborate with activities begin supported by other adaptation funds. If yes, please select below

Green Climate Fund	Adaptation Fund	Pilot Program for Climate Resilience (PPCR)
true	false	false

This Project has an urban focus.

false

This project will directly engage local communities in project design and implementation

true

This project will support South-South knowledge exchange

true

This Project covers the following sector(s)[the total should be 100%]: *

Agriculture	50.00%
Nature-based management	40.00%
Climate information services	0.00%
Coastal zone management	0.00%
Water resources management	10.00%
Disaster risk management	0.00%
Other infrastructure	0.00%
Tourism	0.00%
Health	0.00%
Other (Please specify comments)	0.00%
Total	100.00%

This Project targets the following Climate change Exacerbated/introduced challenges:*

Sea level rise	Change in mean temperature	Increased climatic variability	Natural hazards
false	true	true	true
Land degradation	Coastal and/or Coral reef degradation	Groundwater quality/quantity	
true	false	true	

CORE INDICATORS – LDCF

	Total	Male	Female	% for Women
CORE INDICATOR 1				
Total number of direct beneficiaries	301,320	150,660.00	150,660.00	50.00%
CORE INDICATOR 2				
(a) Area of land managed for climate resilience (ha)	270,000.00			
(b) Coastal and marine area managed for climate resilience (ha)	0.00			
CORE INDICATOR 3				
Number of policies/plans/ frameworks/institutions for to strengthen climate adaptation	19.00			

CORE INDICATOR 4 Number of people trained or with awareness raised	150,000	75,000.00	75,000.00	50.00%
CORE INDICATOR 5 Number of private sector enterprises engaged in climate change adaptation and resilience action	150.00			

Risks to Project Preparation and Implementation

Summarize risks that might affect the project preparation and implementation phases and what are the mitigation strategies the project preparation process will undertake to address these (e.g. what alternatives may be considered during project preparation—such as in terms of consultations, role and choice of counterparts, delivery mechanisms, locations in country, flexible design elements, etc.). Identify any of the risks listed below that would call in question the viability of the project during its implementation. Please describe any possible mitigation measures needed. (The risks associated with project design and Theory of Change should be described in the “Project description” section above). The risk rating should reflect the overall risk to project outcomes considering the country setting and ambition of the project. The rating scale is: High, Substantial, Moderate, Low.

Risk Categories	Rating	Comments
Climate	High	Climatic disturbances have led to a drop in agro-sylvo-pastoral production in the area and created food and nutritional insecurity for the population. Climatic analyses carried out as part of the National Plan for Adaptation to Climate Change (PNA) have predicted the return of rainy periods, particularly in the Maradi Region, for the period 2021-2050. The aim of the project is to cope with the effects of climate change and improve agro-sylvo-pastoral productivity. This climate scenario is an asset for the reconstitution of forest ecosystems and landscapes. The project will take advantage of the future climate to strengthen the adaptation and resilience of populations and their production systems, and increase plant cover and biodiversity. Despite the positive climate impacts expected from the project, climate risks to the project have been assessed as high at PIF stage. Cf. preliminary Climate Risk Screening (Annex I).
Environment and Social	Moderate	The risk of conflict between farmers and livestock breeders : Land

		<p>pressure and the gradual human colonisation of ecosystems are sources of conflict. These conflicts are linked to competition for the exploitation of natural resources and constitute constraints on the implementation of the project. The proposed development and management of ecosystems and landscapes and the integration of agriculture and livestock farming will help to mitigate these community conflicts.</p>
Political and Governance	High	<p>The political and administrative context may constitute a major constraint likely to limit the achievement of the project's results. However, this challenge can be overcome by adopting an approach that guarantees transparency, the participation of all stakeholders, accountability and the recruitment of PMU experts solely on the basis of their competence. In addition, at local level, the project will rely on communal leaders who are now elected and committed to the development of their communes. The project is based on supporting and reinforcing the decentralization efforts already started in the country. There will be minimum work at national level, while the majority of efforts will be placed at communal level, to ensure the communes have the technical and logistical capacity to implement the law and support communities and communities themselves have the skills to implement the plans and greener value chains. This will ensure minimization of the policy and governance risk.</p>
Macro-economic	Low	<p>No specific macro-economic risks to the project are identified at PIF stage.</p>

Strategies and Policies	Low	<p>Limited integration of climate change adaptation into planning frameworks The proposed project aims to facilitate the integration of CCA into local development frameworks, i.e. communal development plans. In addition, the capacities of municipal and regional councils, local, regional and national land use management platforms and relevant coordinating organisations will be strengthened to improve the governance of natural resources in a context of climate change.</p>
Technical design of project or program	Low	<p>The project has and will continue to benefit from adequate technical expertise, both through FAO and national specialists.</p>
Institutional capacity for implementation and sustainability	Moderate	<p>Limited national and local capacity to implement the project effectively and limited opportunities to involve international consultants due to insecurity. The risk is only partially controlled by the project. However, in all components, the proposed project will invest considerable resources in building the capacity of regional and local authorities and communities to plan, implement and monitor sustainable landscape management. The implementation of the project will involve a wide range of partners who have significant capacity to ensure the achievement and sustainability of the project outcomes.</p>
Fiduciary: Financial Management and Procurement	Moderate	<p>Before engaging partners as operational partners in project implementation, FAO carries out micro-assessments of the partner's operational capacity. This is done at either the PIF or PPG stage. FAO will only engage with the partner if the risks are low or moderate. A detailed risk mitigation plan is</p>

		developed and forms part of the Operational Partnership Agreement (OPA) with the national implementing partner. It is intended to work with national implementing partners, as the project partnership can help develop the operational capacity of the partners. However, if no suitable national implementing partner can be identified during the PPG (meaning that the micro-assessment indicates high risk and OPA is not an option), an international partner will be engaged to implement the project.
Stakeholder Engagement	Low	This project will be highly participatory in nature, and therefore will engage with all relevant stakeholders – in continuation with the PIF development phase.
Other	Moderate	There is a risk of conflict zones spreading to the Sahel. The insecurity situation in the Sahel and Niger in particular is a cause for concern. The Maradi region, where the proposed LDCF project is located, is not one of the government-declared insecure areas. Political and institutional dialogues organised at national, regional and international level are likely to reduce the risks of this insecurity spreading in the medium and long term.
Financial Risks for NGI projects		
Overall Risk Rating	Moderate	

C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES

Describe how the proposed interventions are aligned with GEF- 8 programming strategies and country and regional priorities, including how these country strategies and plans relate to the multilateral environmental agreements.

Confirm if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this.

For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e., BD, CC or LD), please identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and explain how. (max. 500 words, approximately 1 page)

The proposed project adopts a landscape and agro-ecological approach to address climate change adaptation and vulnerability, with a focus on improving agricultural practices and strengthening selected value chains. It is fully aligned with the GEF Programming Strategy on Adaptation to Climate Change for the LDCF2022-2026, which places an emphasis on adaptation approaches and spatial scales where “targeted interventions will strengthen climate resilience of human, natural, and economic systems, thereby contributing to transformational adaptation. For the LDCF, these intervention scales include focus on: (a) ecosystem and nature-based adaptation approaches; (b) landscape and value-chain based approaches (...).”

The proposed project will contribute to several targets of the Kunming-Montreal Global Biodiversity Framework, the key ones being targets 2, 3, 8, 10 and 11.

GBF Targets	Project contribution
<p>Target 2. 30 per cent of areas of degraded ecosystems are under effective restoration</p>	<p>This is the core of Outcome 2 with the forest and landscape restoration activities for increased climate resilience of rural populations, in particular Outputs 2.1 and 2.2 with the restoration of plateaux, catchment areas and farmlands.</p>
<p>Target 3. 30 per cent of areas are effectively conserved</p>	<p>Under Outcome 2, areas of particular importance for biodiversity and ecosystem functions and services, are planned to be effectively protected and managed, in particular some ecosystems of importance such as the Madarounfa pond (Output 2.3), the Gadabedji wildlife reserve (Output 2.4) and the classified forest of <i>Hyphaene thebaica</i> (Output 2.5).</p>
<p>Target 8. Minimize impacts of climate change and ocean acidification including through nature-based solutions and/or ecosystem-based approaches</p>	<p>The projet follows an ecosystem-based approach, to allow rural population to adapt to climate change and minimize negative impacts of climate action.</p>
<p>Target 10. Areas under agriculture, aquaculture, fisheries and forestry are managed sustainably</p>	<p>Outcome 1 of the project will strengthen the climate resilience of rural populations, by mainstreaming restoration into local development plans and intercommunal charters. This will allow for areas under agriculture and forestry to be managed sustainably. In the choice of practices to be made under Outcome 2, options will include the application of biodiversity friendly practices, such as sustainable intensification and agroecology, contributing to the resilience and long-term efficiency and productivity of these production systems, and to food security, conserving and restoring biodiversity and maintaining nature’s contributions to people, including ecosystem functions and services.</p>
<p>Target 11. Nature’s contributions to people are restored, maintained and enhanced</p>	<p>Mainly through Outcomes 2 and 3, the projet will restore, maintain and enhance nature’s contributions to people, including ecosystem functions and services, through nature-based solutions and/or ecosystem-based approaches such as forest and landscape restoration for the benefit of all people and nature.</p>

The fight against climate change impacts has become a priority in the Niger's sectoral strategy documents, as evidenced by the Nationally Determined Contribution (NDC), the National Strategy and Plan for Adaptation of Agriculture to Climate Change (SPN2A)¹³, the Strategic Framework for Sustainable Land Management (SF/SLM) and the Great Green Wall Initiative (GGWI) strategy. These strategic documents express the importance that the State of Niger attaches to Sustainable Land Management as an instrumental approach to climate adaptation and resilience.

The National Climate Change Adaptation Plan (NAP), published in October 2022, presents 25 adaptation options and gives priority to five sectors (agriculture/livestock, transport, forestry, public health and wetlands) that are intrinsically linked to food security, the economy, development and the well-being of populations. Of the proposed adaptation options, those below are most closely related to the objectives of this project:

Table 2. Alignment between NAP priorities and project outputs.

Sector	NAP priority actions	Proposed project outputs
Agriculture/Livestock	Development of pastoral areas	2.1, 2.2, 2.4
	Promotion of IGAs and access to microfinance	3.1, 3.4
Forestry	Sustainable Land Management	1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5
	Sustainable development and management of ecosystems and development of productive resources	1.2, 2.2
	Improving knowledge, promoting research and development, producing and disseminating information on the forestry sector and climate change	All components in particular, 4.1, 4.2
	Safeguarding and securing classified forests, parks and reserves	2.3, 2.4, 2.5
Wetlands	Development of Water and soil conservation / Protecting and restoring soil for agricultural, forestry, wildlife, fish farming and pastoral purposes	2.3

The project is also fully aligned with Niger's objectives under the Bonn Challenge and AFR100, under which Niger committed to restore 5.1 million hectares by 2030.

D. POLICY REQUIREMENTS

Gender Equality and Women's Empowerment:

We confirm that gender dimensions relevant to the project have been addressed as per GEF Policy and are clearly articulated in the Project Description (Section B).

Yes

Stakeholder Engagement

We confirm that key stakeholders were consulted during PIF development as required per GEF policy, their relevant roles to project outcomes and plan to develop a Stakeholder Engagement Plan before CEO endorsement has been clearly articulated in the Project Description (Section B).

Yes

Were the following stakeholders consulted during project identification phase:

Indigenous Peoples and Local Communities: Yes

Civil Society Organizations: Yes

Private Sector: Yes

Provide a brief summary and list of names and dates of consultations

The table below provides a summary of the extensive consultation process implemented for the identification of the proposed project. Additional consultations, especially at the local level, will be planned during the PPG phase.

Structure	Stakeholders met	Role	Meeting Dates	Meeting topics
Cabinet of the Prime Minister				
Executive Secretariat CNEDD	Gousmane Moussa	Executive Secretary	January 2023	Topic and priority areas for the project Support from the national entities
Executive Secretariat	Aboulaye Maizama	General Secretary of the Initiative 3N	January 2023	Topic and priority areas for the project Support from the national entities
Ministère de l'Environnement et du Développement Durable				
General Secretariat	Aboubacar Souley	General Secretary	January 2023	Current implemented projects in the area and on FLR Priority activities to be implemented by the LDCF project
Direction Générale des Eaux et Forêts	Yacouba Seybou	Directeur Générale des Eaux et Forêts	January 2023	Priority activities to be implemented by the LDCF project And priority areas

	Assoumane Garba	Directeur Gestion durable des terres	January 2023	Priority activities to be implemented by the LDCF project And priority areas
National Great Green Wall Agency	Abdou Maicharou	Director General	January 2023	Priority activities to be implemented by the LDCF project And priority areas
Direction des Etudes et Programme	Kader Mohamed	Director	January 2023	Priority activities to be implemented by the LDCF project And priority areas
Direction Générale de l'Environnement	Mme RamataHarouna Sani Maazou	Director for Climate Change Facilitator CDN	January 2023	Priority activities to be implemented by the LDCF project And priority areas
Centre National de Surveillance Ecologique et Environnementale	Rachidi	Facilitator CDN	January 2023	Priority activities to be implemented by the LDCF project And priority areas
Ministère de l'Elevage				
Direction Générale du Développement pastoral, de la production et des industries animales	Adam Kadé Malam Gadjimi	Director General	January 2023	Current implemented projects in the area and on FLR Link with activities in the ministry
Ministère de l'hydraulique et de l'Assainissement				
Direction Générale des Ressources en Eau	Abdou Sani	PAN/GIRE	January 2023	Current implemented projects in the area and on FLR Link with activities in the ministry
Ministère du Plan				
	Chaibou Dan Bakoye	GEF Operational Focal Point	January 2023	Topic and priority areas for the project Support from the national entities
Partner projects				

PASEC/RECA	Patrick Delmas	Project coordinator	February 2023	Potential complementarities and cooperation with the project
ProDAF	Assadeck Mohamed	Project coordinator	February 2023	Potential complementarities and cooperation with the project
Green Cities (VIVRE)	Hervé Levitte	Project formulator	February 2023	Methods and approaches to involve the private sector and develop green enterprises
GGW UN Decade on Ecosystem Restoration Flagship	Christophe Besacier	Project formulator	February 2023	Development of the communal approach and involvement of communities for FLR and IGAs
National and Regional Chambers of Agriculture				
RECA (National network of Agriculture Chambers)	Seyni Yankori Patrik Delmas	Executive Secretary Technical adviser	January 2023	Their training roles on good SLM practices and monitoring-evaluation of degraded land recovery sites
The Regional Chamber of Agriculture in Maradi	Guéro Magagi	Permanent Secretary	January 2023	Training roles on good SLM practices and monitoring-evaluation of degraded land in Maradi region
Federations of rural producer organizations				
FUGPN Mooriben (Federation of Unions of Producer Groups of Niger)	Mahamadou Sanoussi Hassane	Executive Secretary	January 2023	Professionalization of the rural world: Supervision of agricultural producers and supply of inputs
AREN (Association pour, la Redynamisation de l'Élevage au Niger/ Association for the Revitalization of Livestock in Niger)	Harouna Abarchi	Responsible for Pastoralism and the environment	January 2023	Professionalization of the rural world: Supervision of agricultural producers and supply of inputs
NGOs				
Swiss Contact	Sophie Rosman	Country Director	January 2023	Support for women's groups in rural communities with equipment and training in the

				transformation of NTFPs
Regional and Municipal Councils				
Regional Council of Maradi	Laoualy Malam Moussa	Council President	January 2023	Involvement in the preparation of intercommunal charters so that the Regional Council ensures coordination between municipalities
Communal Council of Mayayi	Abdou Maiguero	Mayor	January 2023	Discussion on potential management plans for rural areas and the application of intercommunal charters
Communal Council of Dan Goulbi	Younoussa Dano	Mayor	January 2023	Discussion on potential management plans for rural areas and the application of intercommunal charters
Communal Council of Tessaoua	Laouli Inoussa	Mayor	January 2023	Discussion on potential management plans for rural areas and the application of intercommunal charters
Others				
Workshop with the Regional Directorates (Environment, Agriculture and Livestock), the University, INRAN, women's groups and Municipal Producers' Associations.		Workshop led by Colonel Laoualy Soumeila Regional Director of the Environment with the support of the Agriculture Regional Chamber of Niamey	January 2023	Exchanges and discussion on the key results from the field mission, and discussions on the role of each partner and priority activities to be implemented

(Please upload to the portal documents tab any stakeholder engagement plan or assessments that have been done during the PIF development phase.)

Private Sector

Will there be private sector engagement in the project?

Yes

And if so, has its role been described and justified in the section B project description?

Yes

Environmental and Social Safeguard (ESS) Risks

We confirm that we have provided indicative information regarding Environmental and Social risks associated with the proposed project or program and any measures to address such risks and impacts (this information should be presented in Annex D).

Yes

Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate			

E. OTHER REQUIREMENTS

Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described in the Project Description (Section B)

Yes

ANNEX A: FINANCING TABLES

GEF Financing Table

Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non-Grant	GEF Project Grant(\$)	Agency Fee(\$)	Total GEF Financing (\$)
FAO	LDCF	Niger	Climate Change	LDCF Country allocation	Grant	8,932,420.00	848,580.00	9,781,000.00
Total GEF Resources (\$)						8,932,420.00	848,580.00	9,781,000.00

Project Preparation Grant (PPG)

Is Project Preparation Grant requested?

true

PPG Amount (\$)

200000

PPG Agency Fee (\$)

19000

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non- Grant	PPG(\$)	Agency Fee(\$)	Total PPG Funding(\$)
FAO	LDCF	Niger	Climate Change	LDCF Country allocation	Grant	200,000.00	19,000.00	219,000.00
Total PPG Amount (\$)						200,000.00	19,000.00	219,000.00

Please provide justification

Sources of Funds for Country Star Allocation

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Sources of Funds	Total(\$)
Total GEF Resources					0.00

Indicative Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing(\$)	Co-financing(\$)
CCA-1-1	LDCF	6,932,420.00	37935597
CCA-1-3	LDCF	2,000,000.00	10944403
Total Project Cost		8,932,420.00	48,880,000.00

Indicative Co-financing

Sources of Co- financing	Name of Co-financier	Type of Co- financing	Investment Mobilized	Amount(\$)
Recipient Country Government	Ministère de l'Environnement et de la Lutte contre la Désertification (MELCD)	In-kind	Recurrent expenditures	1600000

Recipient Country Government	Ministère de l'Environnement et de la Lutte contre la Désertification (MELCD)	Grant	Investment mobilized	280000
Donor Agency	Fonds Français pour l'Environnement Mondial	Grant	Investment mobilized	500000
Donor Agency	World Bank	Grant	Investment mobilized	10000000
Donor Agency	IFAD	Grant	Investment mobilized	9000000
GEF Agency	FAO	Grant	Investment mobilized	2500000
GEF Agency	FAO	Grant	Investment mobilized	25000000
Total Co-financing				48,880,000.00

Describe how any "Investment Mobilized" was identified

MELCD investment on forest & landscape restoration in the Maradi region, estimated at USD 56,000 per year over 5 years

FFEM: Project Villes vertes au service de la Grande Muraille Verte (VIVRE), funded by the Fonds Français pour l'Environnement Mondial. The project will invest USD 3,000,000 in three countries. Relevant cofinancing for the proposed LDCF project is USD 500,000, in particular under Component 3: Investments in land restoration, forest ecosystems and the transformation of local food systems for the climate resilience of secondary cities.

World Bank: PISEN (Plateforme Intégrée pour la Sécurité de l'Eau, 2021-2028): the World Bank is investing in Goulbi Maradi & Goulbi N'Kaba (Maradi region) as 2 of the 10 target basins under the programme, contributing USD 10 million in cofinancing to the proposed project.

IFAD: Projet de Renforcement de la Résilience Communautaire rurale à l'insécurité Alimentaire et nutritionnelle (PRECIS, 2020-2025): with PRECIS, IFAD is investing in the Maradi as one of the four target regions. Relevant cofinancing in 2025 is estimated at USD 9,000,000

FAO: Great Green Wall Flagship project under the UN Decade for Ecosystem Restoration (Multi Partner Trust Fund): the Niger part of this project, to be implemented by FAO, will provide cofinancing to the LDCF investment for approx. USD 2,500,000.

FAO: Project Scaling-Up Resilience in Africa's Great Green Wall (SURAGGWA): this GCF project aims to address land restoration, climate change and sustainable livelihoods, by strengthening ecological resilience and food security in eight Sahelian countries recognized as the most vulnerable to climate change, including Niger. Cofinancing to the proposed LDCF investment is estimated at USD 25,000,000.

ANNEX B: ENDORSEMENTS

GEF Agency(ies) Certification

GEF Agency Type	Name	Date	Project Contact Person	Phone	Email
GEF Agency Coordinator	Jeffrey Griffin	10/17/2023	Pierre Bégat	0033695072285	pierre.begat@fao.org

Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

Name	Position	Ministry	Date (MM/DD/YYYY)
Yakoubou Mahaman Sani	Directeur Général de la Programmation du Développement	Ministère du Plan	2/16/2023

ANNEX C: PROJECT LOCATION

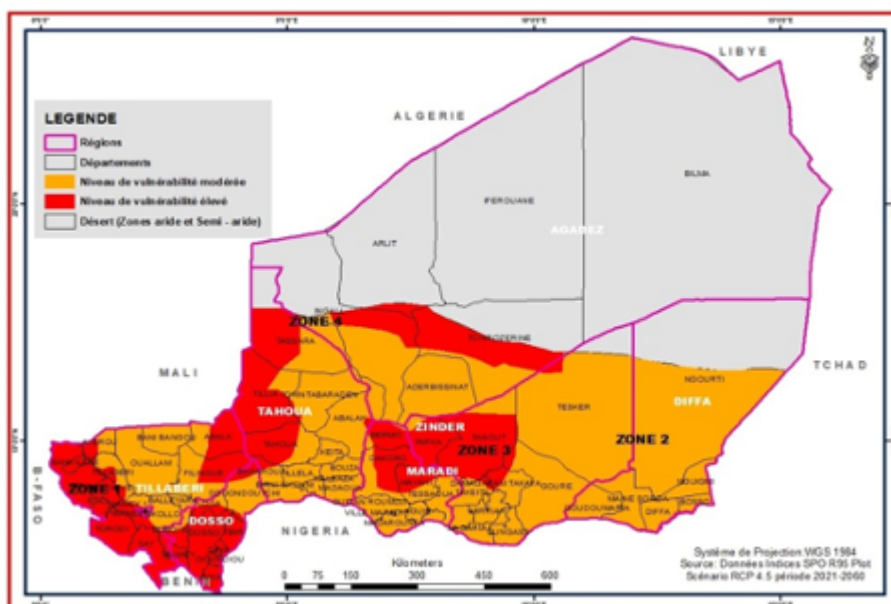
Please provide geo-referenced information and map where the project interventions will take place

Selection of target area

The main criteria used to select the project target area are:

Vulnerability to the impacts of climate change (Figure 2 & Climate change risk screening). The target area is prioritized in the National Adaptation Plan (PNA).

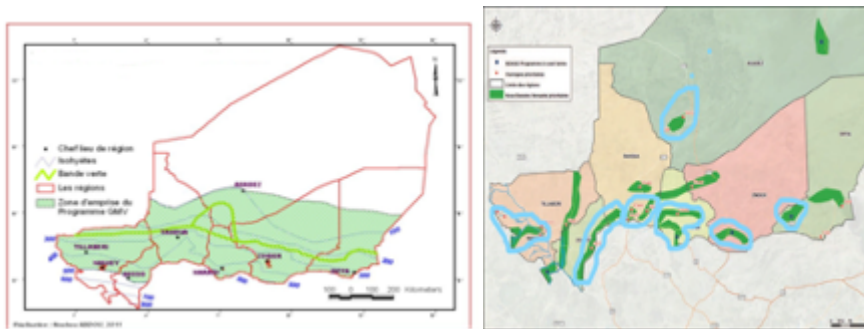
Figure 1. Map of vulnerable areas in Niger. Scenario 2021-2050 (source: PNA, 2022)



Synergy potential with other initiatives: in an area that has already seen several interventions, the project aims to complement and build on the achievements of past and current projects (incl. Great Green Wall

Initiative – cf. Figure 3 – and National Action Plan for Integrated Water Resource Management – PANGIRE, cf. Figure 4).

Figure 2. Intervention zones of the Great Green Wall in Niger (left. Source: GMV/Niger Strategy and Action Plan) and the PANGIRE (right. Source: IWRM and PIP National Action Plan, 2017)



The project area covers the northern two-thirds of the Maradi Region and includes the departments of Mayayi, Dakoro and Bermo, which includes the Gadabédji Total Faunal Reserve (RTF/G).

It is made up of the fragile ecosystems of the Goulbi N'Kaba valley, in particular the date palm grove (*Hyphaene tabeica* forest) and takes into account the adjacent ecosystems and agricultural plains as well as the northern pastoral zone which functions in relation to the Goulbi. The Goulbi N'Kaba valley is a hydrological unit in the process of fossilization with great agro-sylvo-pastoral potential (Ali Mahamane, 2021). It crosses the Maradi region over 270km, with a width varying from 200m to 5km. It rises in Nigeria and flows through the departments of Gazaoua, Tessaoua, Mayayi, Dakoro and Guidan Roungi before emptying into Nigeria in the extreme south of Tahoua Region.

Figure 3. Location of target communes.



Target area description

Specific agroecological zones in the target area include:

The Goulbi system: the Goulbis are temporary drainage valleys in the process of fossilisation, made up of two systems, one of which is the agro-pastoral Goulbi Maradi and the other the agro-sylvo-pastoral Goulbi N'Kaba. Together they form an agro-ecological system based on an estimated irrigable potential of more than 10,500 ha (which could rise to 30,000 ha with better use of surface water) in the valleys of the Goulbis and their tributaries and around ponds and lakes.

Date palm grove: the valley was characterised by the existence of a large stand of date palm first studied by ORSTOM in 1964; several studies were carried out later (Seidou 2011 and Dan Lamso et al 2015). The main constraint on the integrity of this forest is the influence of agriculture. The Maradi region is known to be densely populated, with significant land pressure that has already caused fallow land to disappear and agricultural soil to be washed away. With the progression of agricultural occupation, only the bed of the Goulbi has remained a sylvo-pastoral zone (Illo Souley et al 2018 reported by Ali Mahamane). Since the end of the 1980s, two-thirds of the date palm grove area have already been cultivated (Peltier et al). Two other constraints threaten the date palm stand, which is having difficulty regenerating. Everywhere in the Sahel, forest stands are undergoing changes linked to the increasing scarcity of water resources. In the Goulbi, the drop in run-off is a crucial problem, as is the drop in the static level of the water tables, which are 30 m deep on the Goulbi terraces. In such a context linked to climate change, the second constraint is the influx of

herds in search of water and pasture. A third driving force behind the pressure on the valley's ecosystem resources is handicrafts. The section of the Goulbi N'Kaba that crosses the Mayayi department has the greatest potential for development, but it has to be said that Mayayi is the country's most important centre for the exploitation and marketing of doumier palms. The craft industry for baskets, mats and ropes is highly developed in the area, based on the exploitation of date palms.

Lake Madarounfa: it is the largest wetland in the Maradi region. Its surface area fluctuates according to the season, and can reach 800 hectares at high water. The lake's plant life is dominated by Sudan-type forest species such as *Adansonia digitata* (baobab), *Prosopis africana* and *Lannea microcarpa*. Although classified as a Ramsar wetland, Lake Madarounfa is threatened by a number of natural and human factors, which are a particular threat to the maintenance of biodiversity:

the human settlements associated with the city's growth now occupy the shores of the lake;

degradation of the ecological environment: the erosion of catchment areas, silting up, the proliferation of invasive aquatic species and the degradation of spawning grounds are all factors in the degradation of ecological systems;

pollution of water bodies by chemical fertilisers and pesticides is linked to farming on the shores of the lake;

poor management of fishing: the use of unsuitable and even prohibited fishing methods and the lack of organisation among fishermen are at the root of the decline in the lake's potential.

Baban Rafi classified forest: covers an area of 35,540 ha. Its climatic characteristics place it in the Sahelo-Sudanian zone, with annual rainfall of around 800 mm. The Baban Rafi forest is threatened by various degradation factors, including:

the effects of climate change that are amplifying human pressure, leading to the degradation and disappearance of certain forest stands;

the expansion of the agricultural front through uncontrolled clearing, leading to an increase in agricultural land to the detriment of natural formations);

over-exploitation of natural resources through over-grazing and excessive logging; and

the degradation of natural areas is also marked by urbanisation and its corollaries, such as the smoking of fish, the extraction of natron and pollution.

Gadabédji Total Wildlife Reserve (RTFG) in the pastoral zone: unique in that it is an area of transition and transhumance between the Sahelo-Saharan ecosystems in the north of the country and the Sudanian ecosystems in the south. It has been classified as a Total Wildlife Reserve for the conservation of certain wildlife species. In particular, around twenty (20) mammal species had been inventoried, including the oryx (*Oryx dammah*), the dama gazelle (*Nanger dama*), the giraffe (*Giraffa camelopardalis peralta*) and the ostrich (*Struthio camelus*). The reserve was classified in the 1950s. Since July 2017, the RTFG has been classified by the International Coordinating Council (ICC) of UNESCO's MAB Programme, as the Gadabédji Biosphere Reserve (GBR) now covering a total area of 1,413,625 ha. Today, several species that justified the reserve's classification have disappeared from the area.

ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

(PIF level) Attach agency safeguard screen form including rating of risk types and overall risk rating.

Title

Niger LDCF PIF_Climate risk screening

FAO_ESS_Screening_Checklist_LDCF GEF-8_Niger PIF

ANNEX E: RIO MARKERS

Climate Change Mitigation	Climate Change Adaptation	Biodiversity	Land Degradation
Significant Objective 1	Principal Objective 2	Significant Objective 1	Significant Objective 1

ANNEX F: TAXONOMY WORKSHEET

Cf. Portal entry.