

Climate security and sustainable management of natural resources in the central regions of Mali for peacebuilding

Part I: Project Information

GEF ID
10687

Project Type
FSP

Type of Trust Fund
MTF

CBIT/NGI
 CBIT
 NGI

Project Title
Climate security and sustainable management of natural resources in the central regions of Mali for peacebuilding

Countries
Mali

Agency(ies)
UNDP

Other Executing Partner(s)
Agency for Environment and Sustainable Development (AEDD)

Executing Partner Type
Government

GEF Focal Area

Multi Focal Area

Taxonomy

Focal Areas, Land Degradation, Sustainable Land Management, Ecosystem Approach, Community-Based Natural Resource Management, Sustainable Livelihoods, Improved Soil and Water Management Techniques, Restoration and Rehabilitation of Degraded Lands, Sustainable Agriculture, Sustainable Pasture Management, Income Generating Activities, Food Security, Climate Change, Climate Change Mitigation, Agriculture, Forestry, and Other Land Use, Renewable Energy, Climate Change Adaptation, Innovation, Livelihoods, Mainstreaming adaptation, Climate resilience, National Adaptation Programme of Action, Ecosystem-based Adaptation, Least Developed Countries, Disaster risk management, United Nations Framework Convention on Climate Change, Nationally Determined Contribution, Influencing models, Deploy innovative financial instruments, Strengthen institutional capacity and decision-making, Transform policy and regulatory environments, Demonstrate innovative approach, Convene multi-stakeholder alliances, Stakeholders, Civil Society, Community Based Organization, Non-Governmental Organization, Academia, Local Communities, Communications, Awareness Raising, Behavior change, Education, Private Sector, SMEs, Financial intermediaries and market facilitators, Individuals/Entrepreneurs, Capital providers, Type of Engagement, Participation, Partnership, Beneficiaries, Gender Equality, Gender Mainstreaming, Sex-disaggregated indicators, Women groups, Gender results areas, Participation and leadership, Capacity Development, Access and control over natural resources, Capacity, Knowledge and Research, Enabling Activities, Knowledge Generation, Learning, Adaptive management, Theory of change

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 1

Climate Change Adaptation

Climate Change Adaptation 1

Duration

72 In Months

Agency Fee(\$)

713,693.00

Submission Date

9/25/2020

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CCA-1	LDCF	4,872,831.00	16,667,379.00
LD-1-1	GET	1,680,000.00	6,885,075.00
LD-1-4	GET	539,726.00	2,952,000.00
LD-2-5	GET	420,000.00	2,300,000.00
	Total Project Cost (\$)	7,512,557.00	28,804,454.00

B. Indicative Project description summary

Project Objective

To ensure the long-term sustainability of vulnerable productive landscapes in Mali's central region of Mopti, through nature-based solutions that reverse land degradation, strengthen communities' climate resilience and promote conflict resolution.

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
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Component 1: Enhancing coordination and monitoring for land degradation neutrality and climate security	Technical Assistance	Capacity is improved for national coordination and monitoring, to achieve Land Degradation Neutrality targets	Output 1.1: Action plan for achieving and monitoring targets for Land Degradation Neutrality	GET	143,080.00	1,600,000.00
		<p><i>- Improvement in capacity development scores of officials involved in implementation (using UNCCD LDN capacity development tools)</i></p> <p><i>- Interministerial technical unit operationalized for monitoring and reporting</i></p> <p><i>- Annual data on area of land: newly degraded / restored, with biodiversity protected and with carbon stored</i></p> <p><i>- Annual disaggregated data available on population % highly vulnerable to climate change and conflict</i></p> <p><i>(Baseline and target values for indicators tbd/tbc in PPG)</i></p>				

Component 1: Enhancing coordination and monitoring for land degradation neutrality and climate security	Technical Assistance	Output 1.2: Regional biennial climate risk and vulnerability assessments and maps developed, with an application of security sensitivity framework	LDC F	200,000.00	900,000.00
Component 2: Enhancing resilience of degraded production landscapes with communities vulnerable to climate change	Technical Assistance	Output 2.1: Community natural resource management committees are established and adaptation actions are embedded in local development plans	GET	804,212.00	3,200,000.00
Component 2: Enhancing resilience of degraded production landscapes with communities vulnerable to climate change	Technical Assistance	Output 2.2: Training and inputs provided to farmers in 9-12 target communes in Mopti for greening of farmlands	GET	1,047,619.00	4,400,000.00
Component 2: Enhancing resilience of degraded production landscapes with communities vulnerable to climate change	Technical Assistance	Output 2.3: Capacity development programme for climate-smart agriculture delivered to farm households ^[1] in target communes ^[1] Including female-headed households	LDC F	1,141,769.00	3,000,000.00

Component 2: Enhancing resilience of degraded production landscapes with communities vulnerable to climate change	Technical Assistance	Output 2.4: Communal restoration work undertaken over 21,000 hectares of degraded grass/shrubland and wetlands	LDC F	941,769.00	5,413,379.00
Component 3: Supporting family farms, youth and women to innovate and adopt resilient and sustainable livelihoods	Technical Assistance	Output 3.1: New cooperative climate-smart businesses established involving women, youth and displaced people	LDC F	1,473,314.00	4,000,000.00
Component 3: Supporting family farms, youth and women to innovate and adopt resilient and sustainable livelihoods		Output 3.2: Entrepreneurship training and business incubation services provided to youth from target landscapes for adaptation-linked business ideas	LDC F	453,939.00	1,754,000.00
Component 4: Monitoring and evaluation and knowledge management for upscaling		Output 4.1: Knowledge platform is operational for coordination and lessons sharing among stakeholders at commune, cercle, region, national and international levels	GET	519,114.00	2,337,075.00
Component 4: Monitoring and evaluation and knowledge management for upscaling	Technical Assistance	Output 4.2: A participatory M&E and learning framework is developed and implemented for project as a whole (including sites for Component 2 and 3 activities)	LDC F	430,000.00	800,000.00

	Sub Total (\$)	7,154,816.00	27,404,454.00
Project Management Cost (PMC)			
	LDCF	232,040.00	800,000.00
	GET	125,701.00	600,000.00
	Sub Total(\$)	357,741.00	1,400,000.00
	Total Project Cost(\$)	7,512,557.00	28,804,454.00

C. Indicative sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	Ministry of Environment, Sanitation and Sustainable Development	Grant	Investment mobilized	600,000.00
Recipient Country Government	Ministry of Environment, Sanitation and Sustainable Development (AEDD)	In-kind	Recurrent expenditures	29,292.00
Recipient Country Government	Ministry of Agriculture	Grant	Investment mobilized	121,518.00
Recipient Country Government	Ministry of Livestock and Fisheries	Grant	Investment mobilized	97,650.00
Recipient Country Government	Ministry of Ministry for the Promotion of Women, Children and the Family	In-kind	Recurrent expenditures	67,272.00
Recipient Country Government	Ministry of Youth, Employment and Citizen Construction	In-kind	Recurrent expenditures	34,722.00
GEF Agency	UNDP	Grant	Investment mobilized	500,000.00
Private Sector	TETILISO – Mali Agribusiness Incubation Hub	Grant	Investment mobilized	100,000.00
Private Sector	DoniLab Incubator – Fablabs	Grant	Investment mobilized	100,000.00
Donor Agency	Green Climate Fund	Grant	Investment mobilized	2,000,000.00
Donor Agency	Government of Netherlands	Grant	Investment mobilized	6,000,000.00

Donor Agency	USAID	Grant	Investment mobilized	1,000,000.00
Donor Agency	Government of Monaco	Grant	Investment mobilized	354,000.00
Donor Agency	Government of Canada (1 + 2 + 3)	Grant	Investment mobilized	17,800,000.00
			Total Project Cost(\$)	28,804,454.00

Describe how any "Investment Mobilized" was identified

Discussions are being initiated with a number of development partners of the Government of Mali on co-finance to the project. Several planned investments have been identified which can contribute directly to the aim of the GEFTF-LDCF project's second component of enhancing resilience of degraded production landscapes vulnerable to climate impacts through rehabilitation efforts – including a major Green Climate Fund programme on climate change adaptation in the Niger Basin (including Mopti in Mali), which includes establishment of water points along transhumance corridors; and two partnerships with the Government of Canada through FAO on climate-resilient agriculture for food security. A project also funded by Canada, through IFAD, on access to finance for agricultural value chains, including in the central regions, will support the GEFTF-LDCF project's third component, which aims to support family farms, youth and women to innovate and adopt resilient and sustainable livelihoods. Collaboration with private sector partners DoniLab and TETILISO (Mali Agribusiness Incubation Hub) is proposed for Output 3.2, supporting youth on climate-smart agribusiness incubation and technology for adaptation. An investment by the Government of Monaco in Mopti on women's livelihoods will support Output 3.1 on building household adaptive capacity through supporting value chains for climate-resilient crops and products. In addition, Government of Mali public sector investments are planned on the ground in Mopti Region over the project period by the ministries responsible for environment, agriculture and livestock, and can contribute effectively to climate change adaptation and restoring productivity through alignment with the project as co-finance to it. These public investments are parallel investments, not cash co-finance to the project. The only cash co-finance that will be received into the project account is the \$500,000 contributed through the UNDP Mali Country Office.

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

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	LDCF	Mali	Climate Change	NA	4,872,831	462,919	5,335,750.00
UNDP	GET	Mali	Land Degradation	LD STAR Allocation	2,639,726	250,774	2,890,500.00
Total GEF Resources(\$)					7,512,557.00	713,693.00	8,226,250.00

E. Project Preparation Grant (PPG)

PPG Required



PPG Amount (\$)

250,000

PPG Agency Fee (\$)

23,750

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	LDCF	Mali	Climate Change	NA	150,000	14,250	164,250.00
UNDP	GET	Mali	Land Degradation	LD STAR Allocation	100,000	9,500	109,500.00
Total Project Costs(\$)					250,000.00	23,750.00	273,750.00

Please provide justification

The PPG amount includes US\$150,000 for the LDCF and US\$100,000 for the GEF TF. This remains within the limits indicated by the GEF (US\$ 150,000 for projects under US\$ 10,000,000 and US\$ 100,000 for projects under US\$ 3,000,000).

Core Indicators

Indicator 3 Area of land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
21000.00	0.00	0.00	0.00

Indicator 3.1 Area of degraded agricultural land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 3.2 Area of Forest and Forest Land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 3.3 Area of natural grass and shrublands restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
14,000.00			

Indicator 3.4 Area of wetlands (incl. estuaries, mangroves) restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
7,000.00			

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
15000.00	0.00	0.00	0.00

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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15,000.00			
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Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Documents (Please upload document(s) that justifies the HCVF)

Title	Submitted
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Indicator 5 Area of marine habitat under improved practices to benefit biodiversity (excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Indicator 5.1 Number of fisheries that meet national or international third party certification that incorporates biodiversity considerations

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
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Type/name of the third-party certification

Indicator 5.2 Number of Large Marine Ecosystems (LMEs) with reduced pollutions and hypoxia

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (achieved at MTR)	Number (achieved at TE)
0	0	0	0

LME at PIF

LME at CEO Endorsement

LME at MTR

LME at TE

Indicator 5.3 Amount of Marine Litter Avoided

Metric Tons (expected at PIF)	Metric Tons (expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	900000	0	0	0
Expected metric tons of CO ₂ e (indirect)	0	0	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	900,000			
Expected metric tons of CO ₂ e (indirect)				
Anticipated start year of accounting				
Duration of accounting	20			

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)				

Expected metric tons of CO ₂ e (indirect)
Anticipated start year of accounting
Duration of accounting

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	80,000			

Male	70,000			
Total	150000	0	0	0

Part II. Project Justification

1a. Project Description

1) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description):

The proposed project tackles Mali's interlinked challenges of land degradation and climate change that together threaten the long-term sustainability of vulnerable productive landscapes in the country's central regions. The Republic of Mali is committed to achieving Land Degradation Neutrality, defined by the UNCCD as "a state whereby the amount and quality of land resources, necessary to support ecosystem functions and services and enhance food security, remains stable or increases within specified temporal and spatial scales and ecosystems". Currently this global challenge is not being met, since the area of Mali over which productivity has been lost in the past two decades far exceeds the small pockets where productivity has been restored, and these trends continue. Evidence is already seen of how climate change and increased climate variability contribute to the desertification and the degradation of ecosystems on which societies depend for food and water security, and projections are that these impacts will worsen over the decades ahead. As anthropogenic and climate impacts shrink the productive natural resource base, so conflicts over land and water intensify, particularly between farming and herding communities, feeding into the ongoing conflict between jihadists and civilian militias[1].

The root causes of these challenges are complex and interconnected:

Demographic pressures and conflict, exacerbated by COVID-19: Mali's population has been growing at a rate of about 3% per year for the last 15 years, and the current population is estimated at over 20 million[2]. The fertility rate of 5.92 births per woman is one of the highest in the world, and the population is very young, with a median age of 16.3 years. Conflict in the North and Central regions since 2012 has caused significant internal migration, with over 800,000 Malian citizens estimated to be internally displaced, in neighbouring countries, or recently returned in March 2020.[3] Conflict also restricts movement and prevents cultivation of fields located further from the village, worsening the vulnerability of households to food insecurity. Mopti Region saw a rise in conflict in 2019, with the presence of armed groups and self-defence militias, increasing criminality and intercommunal tensions triggering a spiral of violence, reflected in a 25% decline in the area under cultivation compared with the previous year[4]. Before the recent 8 years of conflict, Mopti's poverty rate at 79% was already much higher than the national average of 43%[5]. A UN report in 2011 highlighted that 59.5% of the population was living on degraded land and only 29.2% had satisfactory water quality[6], and the conflict years have worsened this situation, as a growing population tries to eke out a living on a shrinking area of productive land, without significant technological investment. Competition over scarce resources further fuels conflict, in a vicious cycle. In this context, the spread of the COVID-19 pandemic in Mali might have a devastating impact for the population. As of late September 2020, Mali had just over 3,000 confirmed cases of COVID-19 infection, with 129 deaths recorded as being due to the virus[7]. These figures are likely an under-reflection of the real situation, given the poor spread of healthcare facilities across large parts of the country, the low level of testing capacity available, the unavailability of "excess deaths" data and

analysis, and the unreliable system for recording of deaths generally. The Government of Mali has designed a National Action Plan for the prevention and response to COVID-19. Among the measures taken so far, the Mali government has introduced restrictions on travels to and from Mali, suspended public gatherings, requested the closure of all schools, and, on 25 March, a curfew from 21:00 to 5:00 has been decreed, along with the closure of land borders[8].

Climate change: Already observed changes in increased temperatures and diminished rainfall[9] are reducing the absolute area of land suitable for food production nationally. During the most humid month of July, the maximum temperature recorded for the period 1961-1990 was 30.5°C, and this is projected to be 32, 5°C by 2050 and 34.5°C by 2100[10]. Data from Mali's meteorological services demonstrates a southward encroachment of the Sahelian and Saharan climatic and vegetation zones over the past 40 years, as rainfall has decreased.[11] This is in line with recent studies showing that the Sahara Desert has expanded by 10% over the past century[12], affecting regional food and water security, and also influencing global weather patterns and human health, as huge seasonal dust clouds are carried across the Atlantic as far as Central America. Analysis of Mali's rainfall patterns over the past 50 years shows a decrease in total rainfall of 19% in the South and 26% in the North, and communities widely report increased inter-annual variability and a more unpredictable monsoon[13]. Studies indicate that historical climate change across West Africa in the period 2000–2009, relative to a non-warming counterfactual condition (that is, pre-industrial climate), accounted for average annual yield reductions of 10–20% for millet (loss of 2.33–4.02 billion USD in value) and 5–15% for sorghum (loss of 0.73–2.17 billion USD)[14]. There is significant uncertainty in climate scientists' rainfall projections for West Africa over the coming decades, but inter-annual variability, which is already high because of the effect of the Inter-Tropical Convergence Zone, is likely to grow, and increased temperatures will enhance evapotranspiration[15]. The recently submitted Mali Climate Risk profile[16] confirms the increase in evapotranspiration (according to RCP6.0, evapotranspiration will increase by 2.4% by 2030, 3.7% by 2050 and 7% by 2070), as well as the decrease in soil moisture (-3.7% by 2080 according to RCP6.0). According to the Mali's third Communication on Climate Change in Mali (2015), the most plausible climate scenarios for 2100 predict a decrease in rainfall in all localities. The Mali Climate Risk profile report also identifies the risks climate change poses on water resources and agriculture sectors. The report projects an expected reduction in water availability per capita of 77% by 2080 (RCP2.6 and RCP6.0), taking into account the projected population growth. In addition, harvests of important crops such as Maize (-13%), Millet and Sorghum (-12%) and peanuts (-7%) are expected to decrease by 2080 (RCP6.0).

The unreliability of rainfall during the rainy season (June-September) is also projected to increase by 2080-2099, with projected changes between -51mm to +37mm in July, -38mm to +88mm in August and -25 to +88mm in August[17], significantly impacting the risks of flood. Between 1980 and 2012, Mali already experienced six major droughts and two major floods, and the country is likely to see an increase in these disaster types, as well as stronger winds, sand and dust storms, and bush fires, and larger and more frequent locust swarms. More intense rainfall events are predict to increase flash floods in the inland Niger Delta and along river floodplains. Without effective adaptation strategies, many models predict significant decreases in central and northern Mali in both water availability and yields of staple crops rice, millet and sorghum; for example, the Mali NAPA analysis predicts significant losses in staple crops as early as 2025[18]. The central / Sahelian region is most sensitive to changes in rainfall, and households derive over 70% of their income from the land, making them highly vulnerable. A vulnerability mapping study showed over 90% of the Mopti Region as high or very high vulnerability, as defined by a combination of high biophysical exposure to climate impacts, high socio-economic sensitivity and low adaptive capacity.[19]

Poor land management: Mopti Region, where the project focuses, is in the Sahel zone and contains arid and semi-arid ecosystems, as well as the fertile inland delta of the Niger River. Outside of the delta, the natural vegetation is mostly steppe grassland or tree and shrub steppe with *Acacia* species dominant and other trees like *Combretum* and *Boscia*. Mopti is characterised by widespread degradation of natural ecosystems because of unsustainable practices – including overgrazing by livestock, over-extraction of woody vegetation for fuel[20], removal of natural vegetation to expand crops, and uncontrolled bushfires (sometimes accidentally spread when using fire to clear land). Loss of vegetation allows valuable topsoil to be eroded by wind and rain, resulting in serious

sand encroachment in the northern Sahel, and siltation of waterways in the Delta zone. Extreme temperatures and overgrazing cause hardening of the top layers of soil, preventing infiltration of rainwater, furthering the loss of vegetation, and worsening unexpected floods. The area covered by woodland, estimated at 10.1% of the country in 2008, is continually declining. Recent estimates from the National Directorate of Water and Forests show the disappearance of 450,000 to 500,000 ha of woodland per year.[21] The Sahelian zone is identified in Mali's LDN Country Report as a hotspot of land degradation. Rainfed cropland productivity is also declining – with intermittent localized droughts, and declining soil fertility from shorter fallow periods combined with low use of inputs. Land degradation can also influence local and regional micro-climates, through the albedo effect and alterations in moisture transfer between land surface and the atmosphere[22].

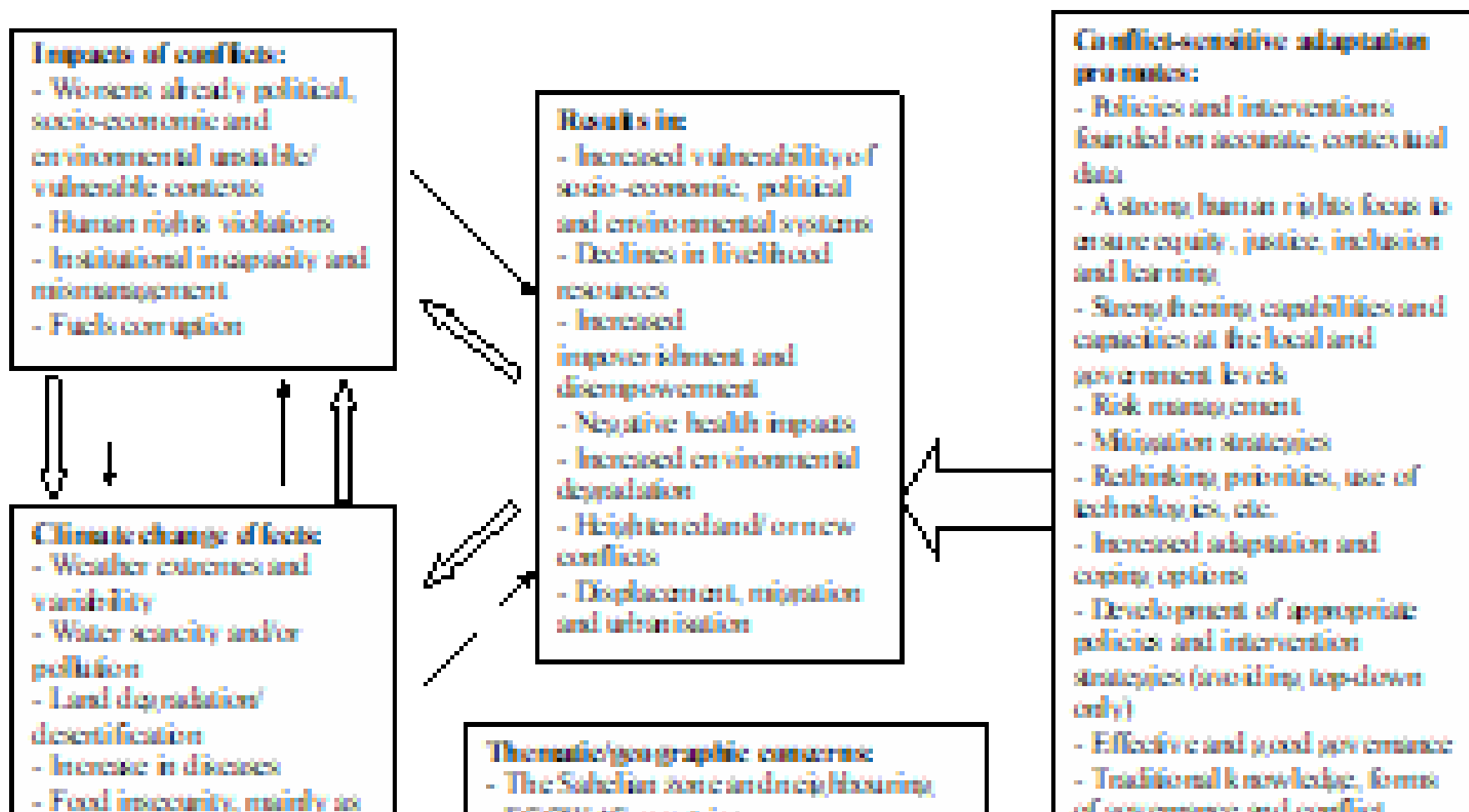
Poor water management: With increased variability in rainfall and localized droughts, villages in the north and centre of Mali need adaptation strategies to maximize water availability for drinking, sanitation, livestock and crop irrigation. At present, there are parts of Mopti in and around the inland Niger Delta where significant groundwater potential exists[23], but is not sustainably exploited. There is also inadequate capture of surface water through small dams and rainwater harvesting. In recent years with changing rainfall patterns, Mali's southern regions have experienced flooding, including flash floods in Bamako in 2013 causing loss of life and displacement of 20,000 people. In the Delta, unexpected high floods have also caused damage, but the opposite problem of insufficient expected, manageable flooding also exists. Seasonal flooding of the massive delta area (comparable only with Okavango) is the basis for irrigated rice, fishing and grazing (as well as a Ramsar Site and important global site for migratory birds), but the inundated area has shrunk from over 35,000 km² each year to sometimes as small as 10,000 km² under drought conditions. Underlying this is a decline in the Niger's average flow – which fell from 1,300 m³/second in 1978 to 895 m³/second in 2002[24]. Irrigated cropland is subject to problems of leaching and alkalization of soils, and the spread of invasive plants, as well as ineffective management to combat siltation. As vegetation is lost in upstream watersheds, erosion of banks is causing massive siltation of rivers, channels and ponds, especially in the Niger downstream from Bamako and the Delta.

Addressing these root causes of land degradation and likely impacts of climate change and variability requires a coordinated and scaled up effort across Mali. But this is difficult to undertake at a time when government is still battling to stabilize the country, to decentralize and deliver services throughout the fragile central and northern regions, made even more challenging since the political instability at national level in 2020. Since 2012, Mali has faced ongoing conflict, at times caused or worsened by competition over scarce land, water and grazing resources, particularly in the Mopti Region. The government signed a peace accord with northern separatist rebels in 2015, but armed groups continue to assert territorial control in much of the vast desert north. At the same time, Islamist insurgent groups have expanded from the north into previously stable central Mali, allegedly leveraging interethnic tensions and local resentment toward state actors to recruit supporters and foment conflict.

In 2019 Mopti faced a dramatic deterioration of its security situation, with hundreds of recorded violations of human rights and international humanitarian law. The presence of armed groups and self-defence militias, increasing criminality and intercommunal tensions triggered a spiral of violence, leading to a loss of livelihoods for displaced populations, and difficulties in cultivating fields and accessing markets for those who have remained in their villages. A perceived inability to curtail massacres of civilians is one of the issues highlighted in anti-government protests in recent months in Bamako, leading to the forced resignation of President Ibrahim Keita on 18 August 2020[25]. Conflict analysis of Mopti Region shows that rising levels of insecurity led to approximately 1,300 fatalities and tens of thousands of internally displaced people across the region in 2019 only. According to the World Food Programme analysis of the Mopti security situation up to April 2020[26], in a context already made fragile at many levels – an economy marked by mounting demographic pressures, youth unemployment, soil degradation or scarcity of natural resources, exacerbated by repeated droughts intensified by climate change, the impact of violence on food security is highly threatening: displaced communities lose their livelihoods and those remaining in their villages experience difficulties in cultivating fields and accessing markets.

The proposed project aims to ensure the long-term sustainability of vulnerable productive landscapes in Mali's central region of Mopti, through nature-based solutions that reverse land degradation, strengthen communities' resilience to climate change impacts and to conflict that is worsened by climate change. These nature-based solutions will follow the principles of conflict-sensitive adaptation – critical in areas where there is high dependence on natural resources and in already fragile (politically, socially, economically, environmentally) contexts[27]. International literature on the Sahel shows that the region is both very vulnerable to the physical effects of climate variability and to communal conflicts, the dynamics of which in turn seem to be sensitive to climate variability[28]. The diagram below illustrates this complex interrelationship between conflict and climate change, and suggests a set of approaches for conflict sensitive adaptation, which will be further applied during the PPG phase for the project.

Figure 1: Interrelationships between conflict, climate change and conflict-sensitive adaptation



a result of agricultural systems being undermined

Ocean acidification effects:

- Declines in marine biodiversity and numbers

IN.UW/AS assistance

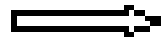
- Mobile communities – those displaced, pastoralists
- Coasts and marine life – lack of research focus, lack of data
- Women in conflict-sensitive adaptation
- Communal conflicts, communities and 'the local'
- Declines in traditional conflict management
- Types of drought responses may be contingent upon strength of state

for post-conflict state building resolution

- The role of corporations as peacebuilders
- The use of technology – the 'human as sensor' for data gathering, early warning and intervention



Negative interlinking impacts



Positive impacts to address problems and concerns as a result of conflict-sensitive adaptation

Diagram from p 46 of Bob, U. and Bronkhorst, S. (eds), 2014. *Conflict-sensitive adaptation to climate change in Africa*, BWV, Berlin, p. 46

Because of this fragile context, the project preparation phase and final site selection process will involve using consultants with in-depth local cultural as well as agro-ecological knowledge to undertake a detailed scoping of conditions on the ground and consultations with a wide range of stakeholders at local level (following COVID-19 protocols), and particular attention will be paid during the PPG to: (i) the design and resourcing of measures to mitigate security-related risks likely to be faced during project implementation (ii) measures to ensure that the root causes of conflict relating to competition over access to scarce (and declining with climate change) natural resources: and (iii) use the Environmental and Social Management Framework to ensure that conflicts are not inadvertently sparked by project interventions. The vulnerability assessment and mapping process planned for Component 1 will include the application of a security sensitivity framework. The proposed interventions are also built on an analysis of the interdependencies of these challenges that builds on the RAPTA (Resilience, Adaptation Pathways and Transformation Assessment) methodology developed through the STAP, which highlights a systems view of food security, as dependent on *availability* of adequate and nutritious food to households in the district, *access* to adequate and nutritious food, *utilization* of this food by individuals in a house-hold, and the *stability/resilience* of the availability, access and utilization of food in the face of shocks and stresses, over time[29]. The first, second and last of these factors are severely affected by the conflict situation in the Mopti Region, and are further compounded by increasingly erratic rainfall and creeping desertification. Specific barriers to achieving the project's objective are as follows:

Barrier 1: Lack of coordination and capacity for implementing and monitoring environmental agreements

Mali has a fairly comprehensive set of national policies, laws and strategies for achieving its international environmental commitments (including UNFCCC, UNCCD and CBD) – as outlined in Section 7 below, though some gaps and inconsistencies exist, including an important potential challenge for this project around the need for tree tenure reform[30]. Some interministerial cooperation has been achieved around climate change adaptation through the AEDD, but the mainstreaming of resilience principles into sectors like agriculture, water and forestry, as envisaged in the 2007 NAPA, has not been effectively achieved. This is partly because of the ongoing security situation, the uneven presence of state institutions across the country, and the challenges of decentralization – which has built capacity at regional and cercle (district) levels, but has also caused confusing overlaps between local government and traditional authorities over natural resource management[31]. In addition, Mali’s Land Degradation Neutrality country report to the UNCCD identifies a number of weaknesses that constrain effective implementation of policy, including: institutional conflicts between national directorates and specialized agencies of MEADD and other ministries; difficulty in inter-ministerial coordination around LDN and low-emission climate-resilient development, with significant overlaps in mandates; weak consultation between the focal points of the Rio Conventions,[32] and a lack of monitoring and evaluation mechanisms for consultations upstream of major national and international forums. These challenges are compounded by a high turnover of officials in AEDD and other key agencies. Mali has recently set overall targets for achieving LDN by 2030, through actions to reduce forest loss, regreen woodland and grassland areas, restore soil fertility, and protect wetlands. Still missing is the identification of key indicators (in most countries these are: (i) land cover and land cover change, (ii) land productivity and (iii) soil organic carbon[33]), agreement how these will be measured and monitored, setting of baselines and targets, and then a detailed implementation plan for the actions required. Although climate vulnerability mapping has featured in some donor-funded projects, there is no long-term system for regular assessment and mapping nationwide, or for ongoing analysis of the links between security and climate change risks. Challenges identified in the 2019-2021 budget framework for MEADD include “the establishment of a monitoring system and continuous surveillance of the environment and the dynamics of forest and wildlife resources”. Much data and monitoring capacity exists in Mali, scattered between different government departments and agencies, research institutes and universities, but there has been little coordination, and reporting on Mali’s progress to the MEAs is not done in a coherent and integrated fashion.

Barrier 2: Lack of a systemic approach to enhancing resilience of degraded production landscapes

There is a need for landscape restoration interventions to be piloted, adapted for local context and scaled up across the country, utilizing existing processes for cross-sectoral climate change adaptation planning for economic sectors, wherever possible. Mali, and particularly the Mopti Region, has complex, interlinked socio-ecological systems built around grazing, farming and fishing that are increasingly vulnerable to climate impacts[34]. A number of donor-funded projects and programmes have tackled the challenges of restoring the productivity of land and water systems, and helping communities develop their capacity to adapt to the unavoidable impacts of climate change. What is missing, however, is a systemic approach that aligns such interventions within an overall strategy (see Barrier 1 above). Sectors of government, such as agriculture, economic development, livestock, fisheries, water and forestry, have limited budgets and little presence on the ground in the central regions. Where they are engaged in development activities, this tends to be sporadic and isolated, and interventions are not based on a systemic understanding of climate and other risks across the landscape, and how these can be managed in an integrated fashion. For example, a new pond may be dug, but no effort made to stabilize the river banks upstream, leading to the pond quickly silting up. In the central regions, with limited government presence, land use decisions are taken by local actors such as village chiefs, and there is no systematic land use policy or planning. There is a need to work with the resources that do exist on the ground and strengthen local governance of natural resources in a manner which enhances climate resilience, promotes peace, and allows for social inclusion and equity. Community NRM structures need to cooperate with customary mechanisms and committees to negotiate agreements between herding, farming and fishing communities on boundaries for grazing and farmland, access to pasture and water, timing and regulated migration. They also need to feed into local government land use and development planning, through the Economic, Social and Cultural Development Plans of target cercles and communes. Technical training and support in accessing inputs is also needed for farming

households (including women-headed households) to adapt farming practices to climate change, and restore land productivity through regeneration of tree cover in farmlands, and sustainable land and water management techniques, building on traditional knowledge and local preferences. Although donor-funded projects have led to some communal rehabilitation works to restore land and water resources (e.g. desilting water infrastructure, stabilizing dunes to prevent sand encroachment) and develop new water sources in a sustainable basis, there is a need for this work to be better coordinated, and scaled up, with work opportunities created especially for youth and internally displaced people.

Barrier 3: Insufficient support for households and communities wishing to diversify their production activities

As the changing climate puts increasing pressure on the natural ecosystems on which traditional livelihoods such as fishing, livestock-keeping and cereal-crop farming depend, there is a need to (i) adapt these practices to changing conditions, (ii) diversify into other activities which are less directly dependent on these fragile ecosystems, and (iii) generate cash income so households can buy the food and materials needed for enhanced resilience. This is particularly true in the central and northern regions, and it is here that government agencies have the least presence on the ground, which makes achieving effective agricultural extension support a challenge. In this context, there is a need for projects and programmes funded by government's technical and financial partners to fill some of the gaps in the short term, and to help build government extension capacity for the longer term. At present, agricultural extension services are limited, and concentrated in the cotton-producing regions of the south, not in the mostly subsistence-oriented farmers in the central regions, whose agricultural yields are highly vulnerable to climate change, and who have little opportunity for diversification. Although there is potential for value-add activities e.g. processed products from fish grown in aquaculture ponds, or processed millet with a longer shelf, communities lack training on new opportunities, micro-finance and access to markets. There is also a lack of access to electricity for processing agri-products, and for cold storage, and while solar water heating is widespread, photovoltaic technology is more expensive and complex, and communities lack skills to install and maintain equipment. Although government has a number of programmes to support youth entrepreneurs, in practice access to opportunities has tended to be limited to young people in urban areas whose families have government connections[35]. Such initiatives have generally focused on individuals involved in trading, and have not facilitated real entrepreneurial growth and job creation. There is a need to learn from the more successful initiatives (e.g. TETILITSO and DoniLab) and create links to these for emerging entrepreneurs in rural areas, including women, young people and internally displaced people, all of whom may have limited direct access to productive assets, but can get involved in value addition and new value chains. There is a particular need to support organizations for widowed women, who sometimes receive local government support, but are often left without access to land or productive assets because of discriminatory legislation and customary practices. Access to regular commercial loan finance is near-impossible for many rural entrepreneurs, especially youth and married women, but progressive microfinance opportunities do exist (e.g. APPIM, PMR) and even loan guarantees for promising projects (FGSPSA, ANPE's FARE Fund), and need to be made accessible.

Barrier 4: Few opportunities for sharing learning across initiatives for evaluation and national scale-up

Although there is a large number of recent and current initiatives (see Section 2 below), and these initiatives do monitor their own progress, there is little systematic effort to share learning between initiatives. (These include initiatives that address stabilization and peace-building, planning for climate change adaptation, early warning systems and flood protection, resilience of rural communities, integrated water resource management, biodiversity conservation, sustainable land and water management, and entrepreneurship and economic development.) There is also a tendency for pilot or demonstration activities carried out in a particular area to remain limited to that area. Regional platforms which were established to promote climate change adaptation across sectors have been successful while project funding lasts, but have not managed to sustain themselves thereafter[36]. There is a need to harmonize and rationalize the knowledge management activities of a set of related initiatives that are important for achieving LDN and climate security. Related to Barrier 1, there is a need

for agreement on ways to measure progress, so that the efforts of disparate initiatives can all be matched up against national targets. There is also much untapped potential for sharing the lessons of Mali’s Sahel zone with those of other countries – northern Senegal, southern Mauritania, northern Burkina Faso, southern Algeria, southwestern Niger, northern Nigeria, central Chad, central Sudan and northern Eritrea. There are a number of international initiatives under the umbrellas of the African Forest Landscapes Restoration Initiative (AFR-100) and the Great Green Wall which are generating learning about best practice, and effective and cost-effective ways of combating desertification in this region. In recent years, with the difficult security situation in Mali, lessons from Mali are not being shared optimally with the rest of the region and in international fora, and there is a need to create such opportunities. There are also barriers to effective monitoring and evaluation of donor-funded projects in Mali – because of the constraints under which many project management teams operate, evaluation is often limited to measuring the outputs of a project, and not finding creative ways to assess its overall impact; what really worked and what didn’t, and why; and how the positive impacts can be sustained and scaled up. Project monitoring is also rarely linked in to long term development of monitoring capacity at regional and national levels for purposes of MEA reporting.

2) The baseline scenario and any associated baseline projects:

In the baseline scenario, Mali’s trend to lose land productivity faster than it can be restored, will continue unchecked, with vulnerable communities in the central regions experiencing increasing competition over a productive asset base that is shrinking – both in absolute terms (because of climate change and human-induced degradation) and in per capita terms (because of rapid population growth). Without the proposed project, Mali remains committed in principle to Land Degradation Neutrality and the adaptation goals set out in the Nationally Determined Contribution, but unable in practice to ensure a systemic approach to achieving these goals, or even to tracking progress and reporting on them. In the absence of the GEFTF/LDCF-funded project, limited baseline government spending will continue in the relevant sectors, but without inter-ministerial coordination to instil a landscape approach across the sectors in their planning of investments. In this scenario, it will not be possible to ensure landscape integrity for climate hazard risk reduction, long term productivity and resilience, or to track progress towards land degradation neutrality and effective climate change adaptation. In this scenario, there is also no attempt to “build back better” after the COVID-19 pandemic.

A number of important initiatives are underway, or planned during the proposed project implementation period (2022-2027), in partnership with bilateral and multilateral donors. Under the baseline scenario without the proposed project, the bulk of donor investments in re-greening of degraded farmland, agricultural commercialization and agri-processing, irrigated agriculture and small business development will take place in the more fertile regions to the south of Mopti. A few initiatives, listed in below, will tackle the complex challenges of Mali’s central regions, in particular the fragile and vulnerable Mopti Region, but these will be insufficient in scale to meet these challenges.

Baseline projects that are also co-finance: Table 1 below shows two projects to be funded by bilateral donor partners of the Government of Mali, and five public investment programmes expected to be carried out over the next six years, which together form the baseline projects to which the GEFTF/LDCF investment is incremental, and also provide indicative co-finance to the project.

Table 1: Baseline projects contributing co-finance to the GEFTF/LDCF project

Lead Donor and Partners	Project Name Location	Objectives	Funding Amount	Indicative Co-finance Am
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Lead Donor and Partners	Project Name, Location & Duration	Objectives	Funding Amount	Indicative Co-finance Amount
<p>United States Agency for International Development (USAID)</p> <p>Ministry of Social Cohesion, Peace and National Reconciliation</p>	<p>Peacebuilding Stabilization and Reconciliation Project</p> <p><i>Ségou, Mopti, Tombouctou, Gao, Kidal, Menaka and Taoudeni</i></p> <p>2018-2023</p>	<p>This project aims to improve prospects for long-term peace, security and reconciliation by building trust between conflict affected communities and their government, strengthening the ability of communities to mitigate and manage conflict, prioritise and implement their communities' most pressing development needs, and empowering marginalised youth as change agents. This approach starts with small projects to strengthen governance, civic engagement and conflict resolution, and also includes early warning systems for conflict incidents, support to re-integration processes and victims of violence, and combating extremism through a holistic community development approach, building social cohesion and trust from the bottom up.</p>	<p>\$19,118,547</p>	<p>This project is a baseline project as it does NOT address CC adaptation. Through providing co-finance to the GEFTF/LDCF project for local conflict resolution mechanisms, the project will be influenced to take CC and natural resources into account. An estimated \$3m of project funds to be spent in Mopti, of which \$1 million on conflict resolution.</p> <p>\$1 million co-finance</p>
<p>Government of the Netherlands, ICCO Cooperation</p> <p>Mali Ministry of Agriculture</p>	<p>Phase II: Agricultural Value Chains for the Food Security Reinforcement Programme (PRCA-SA) "Jege ni Jaba"</p> <p><i>Mopti and Ségou Region</i></p>	<p>Aims to improve food security in Mali, without increasing the pressure on the environment, especially water resources, while contributing to the promotion of sensitive sectors - wo</p>	<p>\$12,9 million</p>	<p>This project is a baseline project as it does NOT address CC adaptation. Through providing co-finance to the GEFTF/LDCF project for strengthening agricultural value chains</p>

	Mopti and Segou regions 2020-2024	men and young people. Phase II will strengthen agricultural value chains of onions, fish and potatoes, supporting small enterprises and family farms in improving water use efficiency, access to inputs (seeds, fertilizers, fry, fish feed) improving storage, food processing and access to finance		for food security, the project will be influenced to take CC scenarios and adaptation needs into account. An estimated \$6m of project funds to be spent in Mopti \$6 million co-finance
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Public sector investments forming part of the baseline and co-finance

These investments form part of the baseline project as they do NOT address CC adaptation. Through providing co-finance to the GEFTF/LDCF project for development interventions in Mopti Region, they will be influenced to take CC scenarios and adaptation needs into account.

Ministry	Programme	CFAF million ^[37]	USD 1 year	Indicative Co-finance (in USD over 6 years)
Ministry of Agriculture	Support to development, rehabilitation and equipment of agricultural land including dryland and irrigated crops	58.0	104,882	629,292
Ministry of Environment, Sanitation and Sustainable Development	Protection of nature and forests, and combating desertification and land degradation, including through restoration efforts	11.2	20,253	121,518
Ministry of Livestock and Fisheries	Support to the livestock sector, including pasture management, promoting appropriate stocking capacity and veterinary support to ensure herd health	9.0	16,275	97,650
Ministry of Promotion of Women, Children and the Family	Women's empowerment	6.2	11,210	67,270

Ministry of Promotion of women, Children and the Family	women's empowerment – conducting education programmes against gender-based violence, and programmes to involve women in peace-building structures, as well as providing opportunities for women in rural entrepreneurship through access to micro-finance	0.2	11,212	07,272
Ministry of Youth, Employment and Citizen Construction	Programmes for youth training and job creation, including in agri-processing, as well as promotion of youth access to micro-finance for small, medium and micro-enterprise development	3.2	5,787	34,722
Total public sector co-finance				950,454

Below is a list of four projects to be funded by bilateral or multilateral donor partners of the Government of Mali, which are not considered as part of the baseline in which climate change adaptation is not tackled, since they DO address climate change directly. As such, these projects are part of the alternative scenario, and contribute some co-finance to the alternative scenario with the GEFTF/LDCF investment, as shown below.

Table 2: Additional concurrent projects forming co-finance to the project

Lead Donor and Partners	Project Name, Location & Duration	Objectives	Funding Amount	Indicative Co-finance Amount
Green Climate Fund, African Development	Programme for Integrated Development and Adaptation to Climate Change	Aims to contribute to improving the resilience of populations and ecosystems in the Basin through sustainable management of natural resources by: reducing the silting process of the Niger River; enhancing the adaptability of populations to climate change; and improving natural resource management and integrated ecosystem	\$67,8 million	This project is not a baseline project as it addresses CC adaptation. As such, the GCF project contributes

<p>opment Bank</p> <p>In partnership with European Union, Global Environment Facility</p> <p>Mali Ministry of Water and Energy (MEH)</p>	<p>change in the Niger Basin (PIDACC/NB)</p> <p><i>Covers 9 countries in West and Central Africa including Mali</i></p> <p><i>Regions in Mali: Koulikoro, Sikasso, Ségou, Mopti, Timbuktu and Gao</i></p> <p>2019-2024</p>	<p>stem management, the protection of biodiversity and the restoration of soil fertility.</p> <p>Includes: sustainable forest management and development of water points for cattle along transhumance routes</p>		<p>tributes to the alternative scenario, and work in Mali on reducing the silting of the Niger River will form co-finance to the GEFTF/LDCF project – an estimated \$11m of project funds to be spent in Mali, of which \$2m in Mopti.</p> <p>\$2 million co-finance</p>
<p>Government of Canada (1), FAO</p> <p>AEDD and the Ministry of Rural Development, Mali</p>	<p>Support for resilience, food and nutrition security</p> <p><i>All regions</i></p> <p>2020-2024</p>	<p>Aims to enhance the capacity of Mali's agro-pastoral sector to cope with climate change and ensure food security through building the capacity of farmers, adopting drought-tolerant seeds and other technologies, and mainstreaming climate change adaptation considerations into agricultural and livestock sector planning at the national and subnational level</p>	<p>\$4,8m</p>	<p>This project is not a baseline project as it addresses CC adaptation.</p> <p>As such, the GCF project contributes to the alternative scenario, and work on drought-resistant technologies will form co-finance to the GEFTF/LDCF project.</p> <p>\$4,8 million co-finance</p>
<p>Government of Canada (2), FAO</p> <p>In partne</p>	<p>Nutritional Resilience and Food Security of the Most Vulnerable in Mali</p>	<p>Aims to strengthen the resilience of 250,000 people (including 140,000 women) in by improving the food, nutritional and health security and increasing agricultural productivity and incomes, while addressing the effects of climate change on food security as a result of changing patterns of rainfall and temperature</p>	<p>\$20 million</p>	<p>This project is not a baseline project as it addresses CC adaptation.</p> <p>As such, the GCF project contributes to the alternative scenario. and work on village level-foo</p>

<p>Partnership with UNICEF, UN World Food Programme</p> <p>Mali Ministry of Agriculture</p>	<p><i>Mopti and Ségou Regions</i></p> <p>2021-2024</p>			<p>... and work on village-level food security in Mopti will form co-finance to the GEFTF/LDCF project – an estimated \$10 million of project funds to be spent in Mopti.</p> <p>\$10 m co-finance</p>
<p>Government of Canada (3), International Fund for Agriculture Development (IFAD)</p> <p>Mali Ministry of Agriculture</p>	<p>Inclusive financing of agricultural commodity chains (INCLUSIF)</p> <p><i>Regions of Ségou, Koulikoro, Sikasso, Kayes and Mopti</i></p> <p>2021-2024</p>	<p>Aims to improve the financial inclusion of Malian rural populations, organizations and enterprises (particularly women) excluded from the traditional financial system in order to improve their resilience to climatic, social and economic shocks. The project will reach 400,000 direct beneficiaries (50% of whom are women) and 360 agricultural professional organizations with savings, credit and micro-insurance, income-generating activities and rural microenterprises</p>	\$16 m	<p>This project is not a baseline project as it addresses CC adaptation.</p> <p>As such, the GCF project contributes to the alternative scenario, and work on village-level micro-finance in Mopti will form co-finance to the GEFTF/LDCF project – an estimated \$3 million of project funds to be spent in Mopti.</p> <p>\$3 m co-finance</p>
<p>Government of Monaco, FAO</p> <p>Mali Ministry of Agriculture</p>	<p>Strengthening resilience in the face of climate change in the Mopti Region through support for women's initiatives</p> <p><i>Mopti Region only</i></p> <p>2020-2022</p>	<p>Aims to contribute to improving the living conditions of 350 rural women to strengthen the resilience and food and nutritional security of their households by promoting market gardening, fattening of small livestock, processing of agricultural products, access to credit and nutritional education for women's empowerment</p>	\$354,000	<p>This project is not a baseline project as it addresses CC adaptation.</p> <p>As such, the GCF project contributes to the alternative scenario, and work on women's livelihood activities in Mopti will form co-finance to the GEFTF/LDCF project.</p> <p>\$354,000 co-finance</p>

	2020-2023			400,000 US dollars
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Below are two further projects to be funded by multilateral donors, which are not considered as part of the baseline or the co-finance, but with which coordination during implementation of the GEFTF/LDCF project will be important.

A number of environmental and climate change projects are currently under implementation through AEDD, and UNDP Mali Country Office participates in monthly meetings with the project teams of seven related projects, chaired by the Director-General of AEDD, in which the new GEFTF/LDCF will join to ensure coordination.

Table 3: Other related initiatives concurrent with the GEFTF/LDCF project

Global Environment Facility, UNDP In partnership with Mali Elephant Project, Wild Foundation National Directorate of Water and Forests (DNEF) in MEADD	Community-based Natural Resource Management that Resolves Conflict, Improves Livelihoods and Restores Ecosystems throughout the Elephant Range <i>Gourma elephant habitat of Mopti and Tombouctou Regions</i>	Aims to protect Mali's elephants in key sites and enhance the livelihoods of the local communities that live along the migration route to reduce human-elephant conflict. Includes: promoting community-based natural resource management as a peace-building strategy	\$4,1m	2018-2024
Green Climate Fund, IBRD and IDA (World Bank) Mali Météo	Africa Hydromet Program – Strengthening Climate Resilience in Sub-Saharan Africa: Mali Country Project 2019-2024	Aims to strengthen the adaptive capacity and climate resilience of vulnerable communities in Mali by developing hydro-meteorological weather warning and emergency response services to support adaptation planning	\$22,7 million	2019-2024

Below is a list of other related initiatives that have recently been completed or are currently underway. During the project preparation phase, consultations will take place with the project managers of these initiatives to ensure that their lessons can be incorporated into the GEFTF/LDCF detailed project design,

It is noted that Mali has undertaken a number of projects with support of its development cooperation partners that are contributing towards wider regional initiatives, in particular: (i) the **AFR100** (the African Forest Landscape Restoration Initiative), a country-led multi-partner effort to bring 100 million hectares of land in Africa into restoration by 2030, contributing to the Bonn Challenge, the African Resilient Landscapes Initiative (ARLI), the African Union Agenda 2063, the Sustainable Development Goals and other targets; and (ii) the Great Green Wall, which is an African-led movement with an epic ambition to grow an 8,000km "natural wonder of the world" across the entire width of Africa, with the objective of tackling the detrimental social, economic and environmental impacts of land degradation and desertification in the region. From the initial idea of a line of trees from east to west through the African desert, the vision for a Great Green Wall has evolved into that of a mosaic of interventions supporting the efforts of local communities in the Sahel and the Sahara on the sustainable management and use of forests, rangelands and other dryland natural resources, contributing to climate change mitigation and adaptation, as

well improving food security and livelihoods. Mali has a focal point for the Great Green Wall, and participates in a Pan-African Agency for the Great Green Wall (APGMV). Until now, the country's experiences of the past decade and across many initiatives contributing to the GGW have not, however, been systematically captured and fed into international forums.

Table 4: Other related initiatives already concluded or soon to conclude

1.	A European Union-funded project involving World Agroforestry Centre (ICRAF), World Vision Australia, Catholic Relief Services, Oxfam Great Britain, CARE Netherlands, SAHEL Eco – Phase II of <i>Reversing Land Degradation in Africa by Scaling-up Evergreen Agriculture</i> – in 8 countries including Mali, in Sikasso and Ségou Regions, 2017-2022 (\$24,6 million)
2.	World Vision Mali & Groundswell International, <i>Eco-Agriculture in the African Sahel (Farmer Managed Natural Resources)</i> in Koulikoro and Kayes Regions, 2015-2020 (\$4,1 million)
3.	PRO-ACT <i>Program to strengthen the resilience of vulnerable populations in the North</i> (Gao, Mopti, Timbuktu) jointly implemented by FAO and WFP, 2015-2018
4.	Adaptation Fund project supported by UNDP on <i>Programme Support for Climate Change Adaptation in the vulnerable regions of Mopti and Timbuktu</i> , 2015-2019 (\$7,9 million)
5.	GCF-funded multi-country programme supported by International Bank for Reconstruction and Development and International Development Association (World Bank), <i>Africa Hydromet Program – Strengthening Climate Resilience in Sub-Saharan Africa: Mali Country Project</i> , 2017-2020 (\$22,8 million)
6.	A GEF-funded UNDP-supported project on <i>Generating Global Environment Benefits through Improved Environmental Information, Planning and Decision Making Systems</i> , 2016-2019 (\$1 million)
7.	A GEF-funded UNDP-supported project on <i>Fostering Agricultural Productivity in Mali</i> (PAPAM) focusing on the promotion of Sustainable Land and Water Management as part of a joint WB/UNDP/GEF Program, 2015-2020 (\$2,2 million)
8.	A project funded through the Least Developed Countries Fund (LDCF) and supported by UNDP on <i>Increased Economic Resilience Enhancing Adaptive Capacity and Resilience to Climate Change in Mali's Agriculture Sector</i> , 2014-2018 (\$2,4 million)
9.	An LDCF-funded UNDP-supported project on <i>Flood hazard and climate risk management to secure lives and assets in Mali</i> , supporting disaster prevention and preparedness in 7 municipalities (Bamako, Mopti and Kayes), 2016-2021 (\$9 million)
10.	An LDCF-funded UNDP-supported project on <i>Strengthening the resilience of Women producer groups and vulnerable communities</i> – in Kayes, Koulikoro and Sikasso Regions, 2015-2018 (\$5,6 million)
11.	The UN Secretary-General's Peacebuilding Fund (PBF), involving UNESCO, IOM, UNICEF, UN Women, OHCHR, UNDP, UNHCR, WFP, FAO, Mercy Corps in close collaboration with MINUSMA, has invested close to USD \$16.5 million in t

DF, UNHCR, WFP, FAO, Mercy Corps in close collaboration with MINUSMA has invested close to USD \$10.5 million in the country, with projects focused on dialogue and reconciliation; support to the justice and security sectors; restoration of state authority; and community reintegration of refugees and displaced people, with a new USD 8 million phase of support from 2018 with a focus on local governance and community-based conflict resolution in Mopti and Ségou.

12. A project funded by the European Union Emergency Trust Fund for Africa through the Sahel Alliance on *Agro-pastoral Mediation in the Sahel*, in border regions of Burkina Faso, Mali, Mauritania, Niger and Chad, as part of the G5 Sahel Emergency Development Programme, 2019-2022 (\$5,9 million)

13. The PACEPEP programme funded by Denmark – *Programme Supporting Economic Growth and the Promotion of Private-Sector Employment Creation in Mali*, focused mostly on youth-run enterprises in value chains like poultry, maize, herbal tea, livestock, dairy products, greens, and handicrafts, regions of Mopti, Sikasso, Segou, and Bamako district, 2014-2019 (\$47,7 million)

14. An LDCF-funded World Bank-supported *Natural Resources Management and Climate Change Project*, to support the Great Green Wall and SLWM for adaptation, 2014-2019 (\$21,4 million)

15. An LDCF-funded FAO-supported project on *Integrating Climate Resilience into Agricultural Production for Food Security in Rural Areas*, in Mopti, Kayes and Sikasso, 2012-2017 (\$2,1 million)

16. USAID Mali's *Global Climate Change Initiative* addressing pressing climate adaptation issues through the extension of small irrigation infrastructure (rice), improved natural resources management, and improved agronomic practices in millet/sorghum production throughout Feed the Future intervention areas

17. German Government's BMUB-funded programme implemented through GIZ and UNDP, *Programme for the support of the National Adaptation Strategy to Climate Change in Mali*, national with focus in Kayes, Sikasso, Koulikoro and Ségou, 2014-2019 (\$5,5 million)

18. A programme funded by the European Union's Emergency Trust Fund for Africa and implemented by GIZ and Swiss Contact with APEJ – *Youth and Stabilisation Programme in the Central Mali Regions (PROJES)* – Mopti and Ségou, including training, socio-occupational integration and the creation of economic opportunities for young people, 2018-2021 (\$35,5 million)

19. Danish Government-funded, Swiss Contact-implemented *Vocational Training Support Program (PAFP)*, with youth in Bamako and in 4 regions of Mali – Ségou, Sikasso, Mopti and Tombouctou, Phase IV 2014-2017 (\$19,8 million)

20. International fund for agricultural development (IFAD)-funded *Agricultural Development: Rural Youth Vocational Training, Employment and Entrepreneurship Support Project (FIER)* supporting youth in all regions to develop their businesses in their village of origin (\$43,6 million).

21. GEF-AfDB: *Scaling up a Multiple Benefits Approach to Enhance Resilience in Agro- and Forest Landscapes of Mali's Sahel Regions* (Kayes, Koulikoro and Ségou)

22. GEF-UNEP: *Scaling up and replicating successful sustainable land management (SLM) and agroforestry practices in the Koulikoro region of Mali*

23. GEF-FAO: *Resilient, productive and sustainable landscapes in Mali's Kayes Region*

24. LDCF-FAO: *Strengthening Resilience to Climate Change through Integrated Agricultural and Pastoral Management in the Sahelian zone in the Framework of the Sustainable Land Management Approach* (Kayes, Segou and Koulikoro)

25. GEF-AfDB: *Moringa Agroforestry Fund for Africa* (Non-grant)

3) The proposed alternative scenario with a brief description of expected outcomes and components of the project:

The proposed project involves strategies that will simultaneously combat land degradation / restore land productivity, help vulnerable communities adapt to climate change, and promote peace-building, with the overarching goal of developing resilient rural communities in Mopti region. The main emphasis of the project, and the bulk of the proposed resources, are focused on activities on the ground involving communities and their structures, local government, and private sector actors – through Components 2 and 3. The project interventions in Component 1 support the on-the-ground efforts of Components 2 and 3, through creating an enabling environment that supports strategies for restoration of land productivity and climate change adaptation, and sets a baseline for and tracks changes in communities' climate change vulnerability and adaptive capacity. The project is very timely because the country has recently developed its programme for defining national targets for Land Degradation Neutrality, and is ready to enhance coordination for implementation of adaptation and re-greening strategies, and for tracking progress towards achievement of land degradation neutrality and climate security. In this alternative scenario, an LDN action plan is developed across all economic sectors for achieving the targets, and a monitoring system is set up – building on existing data to review and agree on baselines, targets, indicators and means of measurement. The project activities in Component 4 enable knowledge platforms for replication and scale-up, facilitating learning within and beyond Mopti Region, and sharing of lessons learnt with other countries of the Sahel zone. They also equip youths in Mopti to support on agroecological monitoring of project results and impacts, which can be fed back through the IER into the national action plan as a pilot for monitoring.

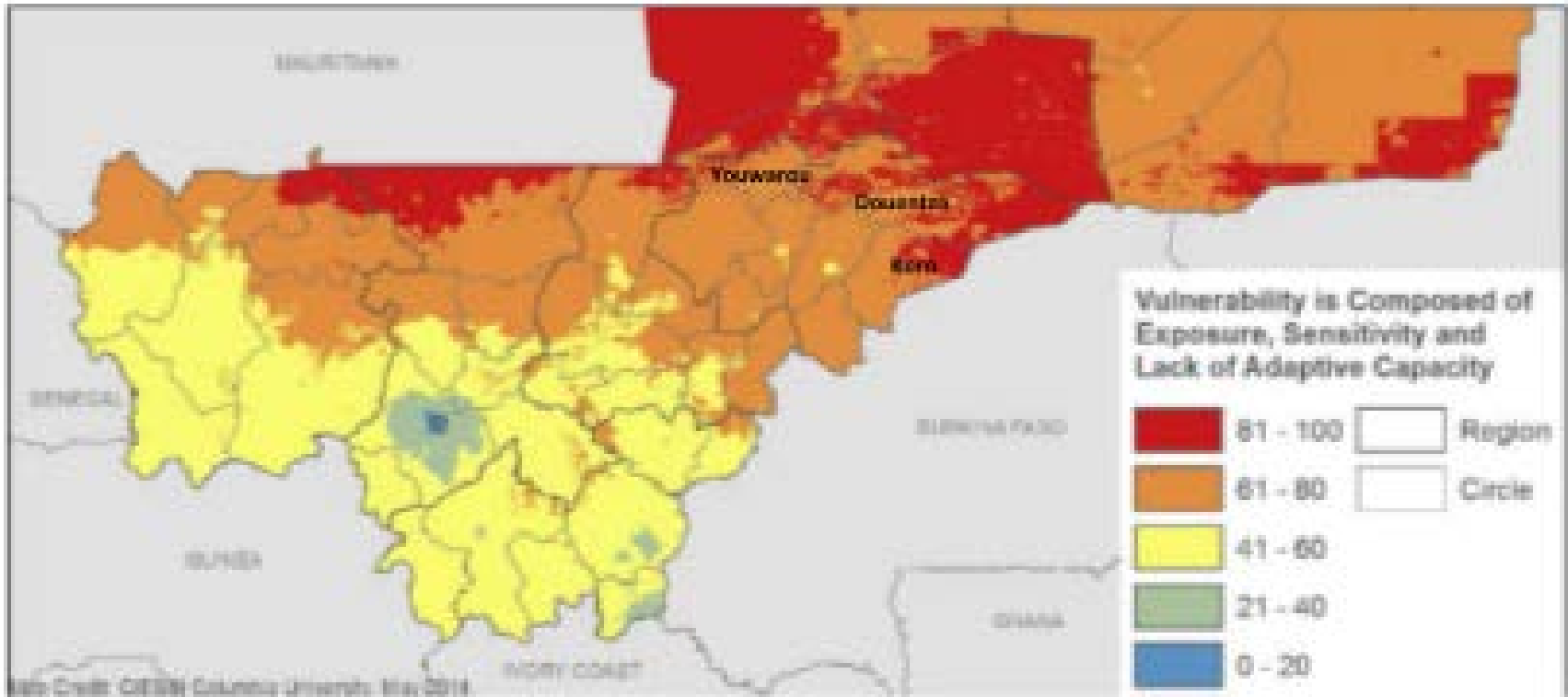
In this alternative scenario, significant resources are invested through the project in building resilience of highly vulnerable communities of Mopti to the impacts of climate change, in particular drought – expected to become more frequent and serious as a result of climate change, on top of human-induced degradation of agro-ecosystems. Since the net result of these climate and anthropogenic effects is a shrinking of productive capacity, the focus in the alternative scenario is on project interventions that restore and enhance productive capacity – in the process also reducing competition over natural resources and enabling adaptation to climate change. In Component 2, there is an improvement in local governance through developing capacity of community natural resource management committees. This improved governance enables better decision-making on land use, including access to pastures and water – so that conflicts are avoided and natural regeneration of productive capacity is enabled. The component also involves intervening on the ground to: (i) restore crop / agroforestry productive capacity through equipping small-scale farmers to regreen their farmlands; (ii) maximize crop / agroforestry land productive capacity through supporting farmers on climate-smart agriculture and aquaculture; and (iii) restore pastureland productive capacity and water resources through communal restoration by the village-level committees.

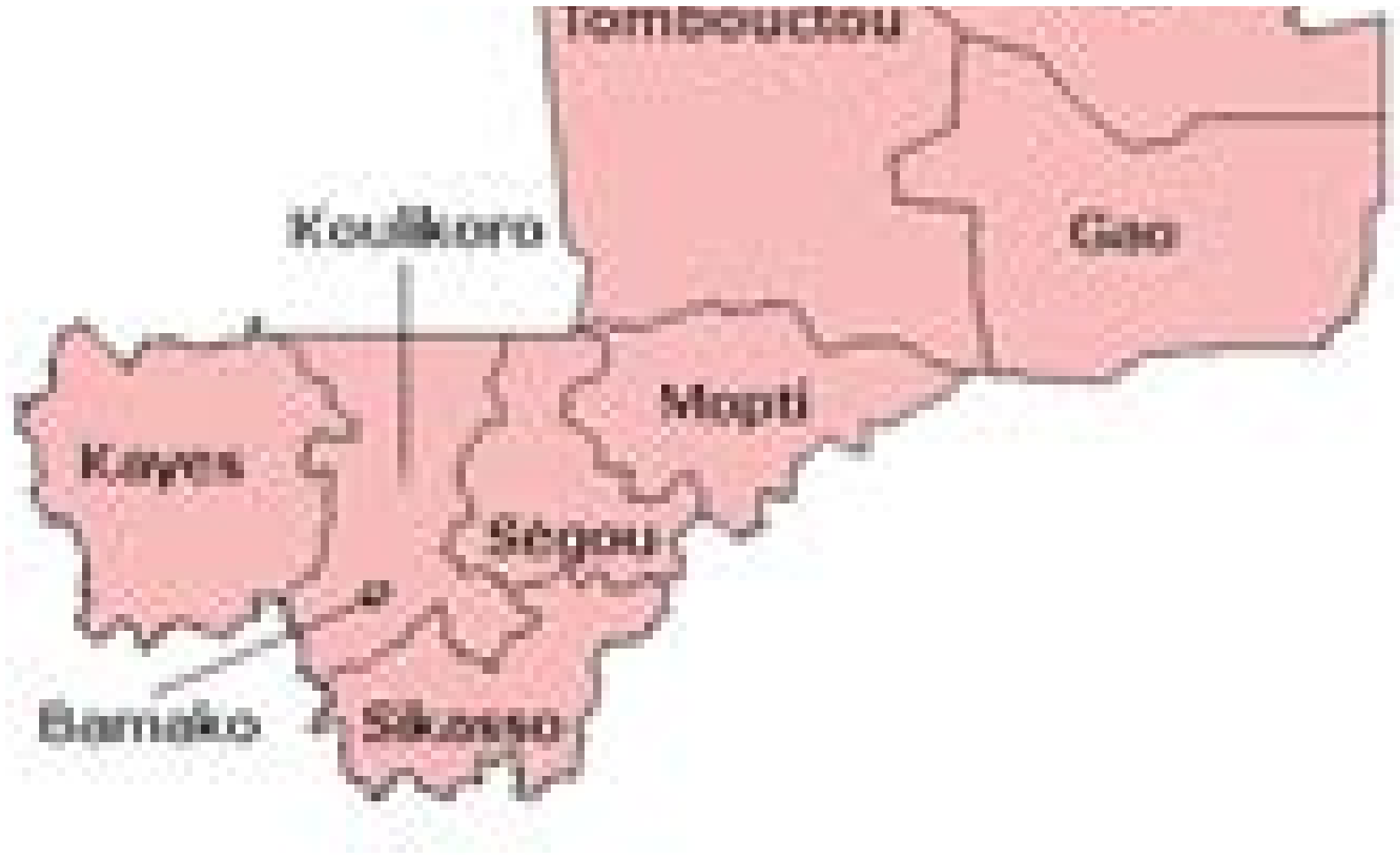
As part of the alternative scenario there is a need to provide inputs on a sustainable basis to climate-smart agriculture, and to enable market access for its products. Selling climate-smart agricultural produce and value-added products will bring new income streams into households, and provide cash that can be used to improve nutritional status and strengthen homes against disaster. Such enhanced and diversified household incomes are important for building resilience against external shocks and stresses of all kinds – including civil conflict and climate hazards. In Component 3, technical assistance is provided for establishing cooperatives businesses involving youth and women. Some businesses may develop inputs for climate-smart agriculture, such as liquid fertilizer

or agroforestry seedlings. Other businesses may enhance the economic sustainability of the climate-smart agri- and aquaculture by adding value to its products, e.g. primary processing of drought-resistant millet, or fish drying and smoking, and selling these products on local markets. Component 3 will also facilitate the incubation of sustainable youth-led businesses that can enable the productivity-enhancing adaptation strategies of Component 2, for example, businesses that enhance the supply of water for dry season vegetable irrigation[38], or energy for primary agri-processing activities at village level. Some youth might develop business concepts for more sophisticated levels of processing, for example, turning millet into snack foods, porridge, wine, nutrition powder[39] or poultry feed[40]. Scholarships will also be provided for local youth to obtain the skills for manufacture and maintenance of these technologies, where appropriate.

As part of the alternative scenario, climate change adaptation co-finance from financial and technical partners of the Government of Mali will contribute to enhancing resilience of degraded production landscapes through rehabilitation efforts, including a GCF program on climate change adaptation in the Niger basin (including Mopti) and two partnerships with the government of Canada through FAO on climate-resilient agriculture for food security. A project also funded by Canada, through IFAD, on access to finance for agricultural value chains, including in the central regions, will support the GEFTF/LDCF project's Component 3, which aims to develop capacity of farm households to innovate and adopt resilient and sustainable livelihoods. Pression with private sector partners agreed business incubation hub is proposed for Output 3.2, supporting youth on climate-smart agri business incubation and technology for adaptation. An investment by the government of Monaco on women's livelihoods will support Output 3.1 on building household adaptive capacity through supporting value chains for climate-resilient crops and products.

Activities in Components 2 and 3 of the project will be focused in three target landscapes in Mopti Region. These landscapes, to be made up of clusters of Communes (rural municipalities), for example across a micro-watershed, may be focused in any of the 8 Cercles (districts) of Mopti Region, and the exact target landscapes will be selected during the PPG phase. At that time, a security analysis will be conducted to understand the extent to which the security situation in specific Cercles enables or prevents the carrying out of project activities. Depending on the security situation, a case could be made for focusing on the three Cercles of Youwarou, Douentza and Koro. These three cercles are the districts of Mopti where studies show that communities are most vulnerable to the impacts of climate change. This includes studies by GIZ undertaken in 2019, confirming the findings as indicated on the map below – from a detailed climate vulnerability analysis conducted through USAID in 2014 (northern part of country not included due to low population density). This map shows cumulative results for vulnerability, using various indicators for (i) biophysical exposure to climate hazards, (ii) socio-economic sensitivity, and (iii) adaptive capacity. The three cercles also include two of the five natural regions of the Sahel identified as hotspots of land degradation in Mali's 2020 Land Degradation Neutrality Report – the Gourma hotspot, and the Gondo-Mondoro hotspot. The Youwarou Cercle also includes a portion of the inland Niger Delta which is flooded annually and provides critical seasonal resources for hundreds of fishing, farming and pastoralist communities. The delta zone is highly vulnerable to climate change and human-induced degradation, and simultaneously forms the poses an enormous asset for the Mopti Region in building resilience. The precise clusters of communes (target landscapes) to be involved will be decided during the project preparation phase, since travel has not been possible during the COVID-19 pandemic.



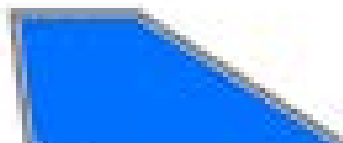
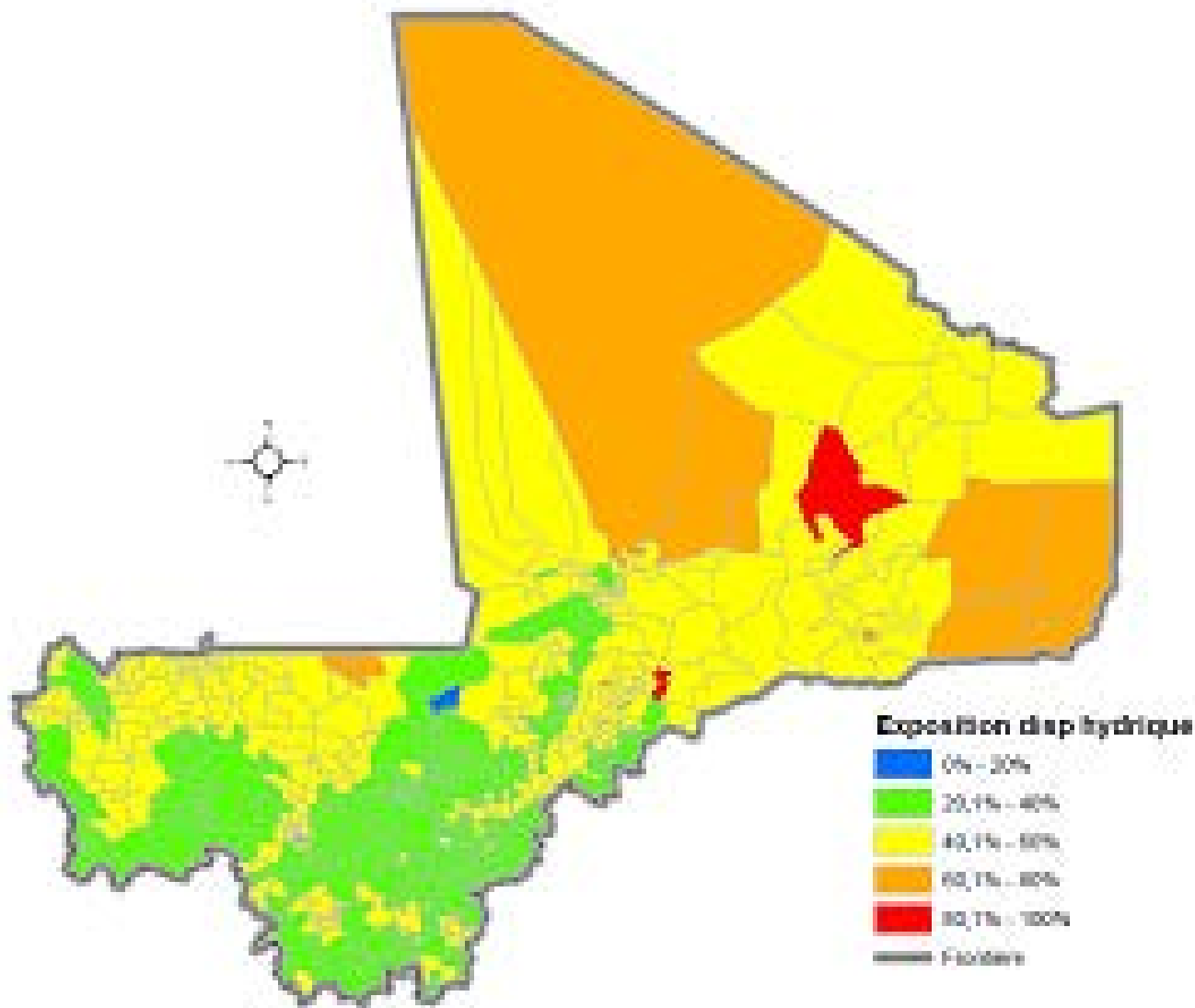


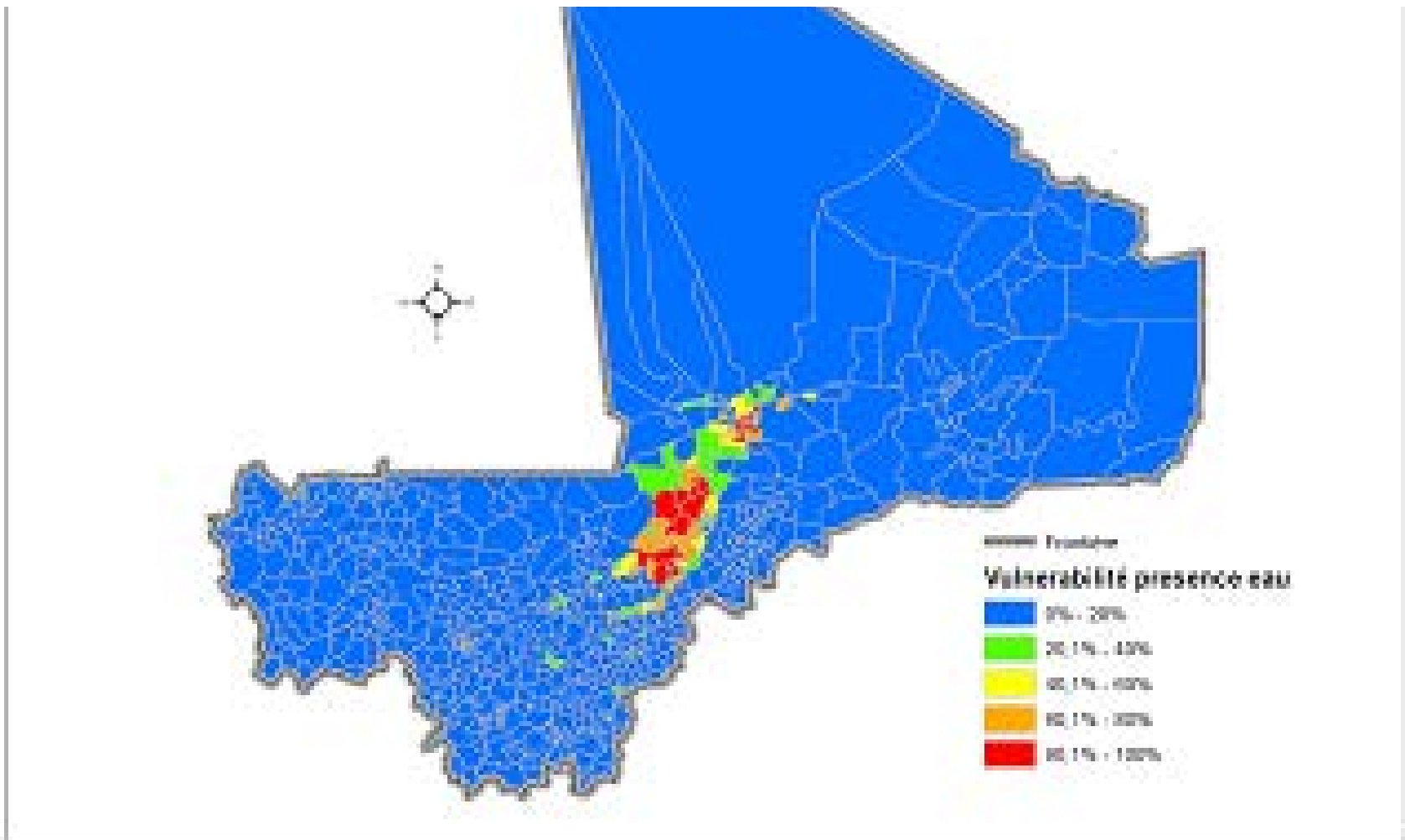
Map showing overall vulnerability to climate change[41]

Map of Mali showing Mopti Region

A more recent vulnerability study conducted in 2017 by MEADD with the support of the German Government[42] used a different set of criteria for exposure, sensitivity and adaptive capacity, including providing a significant weighting to malaria risk, more prevalent in the higher-rainfall southern regions. This study mapped current vulnerability to the key climate hazards of drought and flood, showing significant vulnerability in Mopti Region. An exercise to identify the

most vulnerable communes, included the following in Mopti: Mopti commune in Mopti cercle[43], Mondoro, Djaptodji and Hombori communes in Douentza cercle, Koro commune in Koro cercle, Pignari Bana and Sangha in Bandiagara Cercle, and Nema Badenyakafo in Djenne cercle.[44]





Maps of vulnerability to drought and flood, pp LXXVII and LV from MEADD and GIZ (2017)

Strategy and action framework for response to the COVID-19 pandemic: In the alternative scenario, the project contributes to the Government's response to the pandemic, supported by the United Nations (UN) and other financial and technical partners. According to a rapid analysis by the UN Country Team of the socio-economic impacts of COVID-19 in Mali,[45] the indirect socio-economic impacts are likely to be even more devastating than the direct health effects. The study, conducted in May 2020, observed a sharp loss of jobs in the secondary and tertiary sectors of the economy, and reported that 4 million children

were estimated to be out of school. The study's projections for the country as a result of global economic slowdown include: a decline of 0.9% in GDP for 2020 (as against 5% growth in 2019), an increase of the number of people living in extreme poverty by 800,000, an increase in the need for food assistance by 70%, and loss of state revenue causing the debt burden to increase from 39% to 45% of GDP.

During the PPG, the UNDP Mali Country Office will support the consultant team to conduct regular assessments of both the security situation and COVID-19 pandemic impacts in the country, and specifically in Mopti Region, and to put in place appropriate measures to ensure the safety of all stakeholders involved in project design and implementation. This will take into account (i) what impact the pandemic (or measures to contain it) has had on government capacity/resources to implement the work proposed in the project (or other baseline initiatives), either at the enabling level or practically; (ii) how targeted project beneficiaries have been affected (e.g. disruption of supply chains, price increases etc); and (iii) how will implementation be affected if there is recurrent outbreaks of this or other diseases during implementation.

The proposed project strategy is to contribute in two ways to assisting the Government of Mali with a "green recovery" from the pandemic, building on UNDP's support to Government, and on the Government's commitment of new resources for social protection, corresponding to 1.3% of GDP[46]. This strategy responds to the guidance document "GEF's Response to COVID-19"[47], and has a dual action framework including for alignment of the project goals with the response and recovery strategies:

1. Actions to support COVID-19 response in the short-term: The proposed project has been designed to maximize opportunities for job creation and training, local economic development, and productivity improvements, as follows:

Job creation through small business development: In Output 3.2 of the project, youth-led climate-smart agribusinesses, technologies and services are developed. This includes work to: (i) provide opportunities for local youth from target communities to receive entrepreneurship training in existing incubator programmes in Mopti city; (ii) promote access to loan finance and loan guarantees for youth with solid business plans and family/community backing – in agri-processing and climate-smart technologies. In Output 2.2, training is provided in 9-12 target communes in Mopti to develop farmers'[48] capacity for Assisted Natural Regeneration[49] and other Sustainable Land and Water Management (SLWM)[50] techniques, building on traditional knowledge and local preferences.

Productivity improvements: In Output 2.2 of the project, technical and financial support are provided to farming households (including women headed households) to adapt farming practices to climate change, and restore farm productivity. This includes work to: (i) form agro-ecological farmer's groups / Farmer Field Schools, including women farmers, and establish demonstration plots for train-the-trainer activities; (ii) provide heads of households (male and female) with regeneration incentive package (e.g. shears, pickaxe, wheelbarrow, boots and gloves); and (iii) promote climate-smart agriculture – including new drought-resistant local crops/varieties, improved pest management, fodder and fruit trees, and dry season gardening schemes, providing training and equipment, (e.g. seeds, seedlings, polyethylene bags, watering cans and spades).

2. Actions to support COVID-19 response in the long-term: The proposed project has been designed to maximize opportunities for strengthening supply chains, consistent with long-term decarbonization targets, and increasing natural and economic resilience and adaptive capacity, as follows:

Strengthening supply chains: In Output 3.1 of the project, new value chains for climate-resilient crops and processed products are identified and catalyzed. This includes work to: (i) empower organizations of widowed women with climate-smart business and leadership training; (ii) support / establish women producer associations and cooperatives of youth and displaced people e.g. for processing of cereal crops, fish drying and smoking, liquid fertilizer, seedling nurseries etc., conducting value chain analysis and market studies with them; and (iii) support set-up and first two years of operation of cooperative climate-smart businesses – including partnerships for land and infrastructure, technical training and business planning, market access and savings groups/micro-credit[51].

Supporting long-term decarbonization targets: Output 3.2 of the project involves creating scholarships for local youth to be trained in supply and maintenance of solar PV technology for adaptation activities (water pumps and agri-processing for adaptation)[52]. Solar power also support low-emissions development strategies and decarbonization targets as part of the post-COVID green recovery.

Increasing natural and economic resilience and adaptive capacity: In Output 2.4 of the project, land and water resources (outside of family farms) are restored through communal restoration works for ecosystem-based adaptation. This includes work to: (i) train community resource management committees and community members, including youth and displaced persons, to analyze adaptation needs, and to plan, carry out and monitor rehabilitation efforts; (ii) equip commune / village-level committees and carry out plantings for rehabilitation of pastureland and protection of villages from sand encroachment; (iii) equip committees to develop and sustainably restore watercourses (channels, rivers, ponds, pools) and carry out rehabilitation works; and (iv) equip committees to construct/rehabilitate communal earth dams, and wells with solar PV-powered pumps, to increase household water supply and irrigation (for Output 2.1).

Component 1: Enhancing coordination and monitoring for land degradation neutrality and climate security. The planned outcome of this component is that capacity is improved for national coordination and monitoring, to achieve implementation of Land Degradation Neutrality targets. Given the current high level of uncertainty around the political transition in Mali, the AEDD will be supported on this component by the Mali Geographic Institute (IGM)[53] and the Institute of Rural Economy (IER)[54]. These institutes will be responsible respectively for undertaking capacity needs and gap analyses, and designing capacity development interventions on two fronts: for preparing climate risk and vulnerability assessments and maps (LDCF) and for achieving and monitoring targets for Land Degradation Neutrality (GEFTF). This will involve work at national level around LDN targets, building on existing data to review and agree on baselines, targets, indicators and means of measurement / monitoring, and enable long-term monitoring plots through unlocking research partnerships. Following global trends, indicators may focus on the three core areas of land cover and land cover change, land productivity and soil organic carbon[55]. Over the six-year project period, training will be conducted at regional levels in all of Mali's 8 regions for climate vulnerability assessment and mapping. This component will link to Component 4, where youth monitors will be trained in the target landscapes of Mopti to pilot “bottom-up” monitoring that can feed into the “top-down” national monitoring through satellite data.

Output 1.1: Action plan for achieving and monitoring targets for Land Degradation Neutrality (GEFTF)

- Conduct survey to assess government and partner capacity for implementing strategies and actions for LDN, and enforcing relevant legislation

- Undertake review of natural resource legislation to harmonize and address gaps for effective management and restoration, including potential tree tenure reform as the basis for effective Assisted Natural Regeneration (ANR)[56]
- Hold a series of workshops led by Mali's Institute of Rural Economy (IER) with government (national, regional, cercle[57] levels represented), research and civil society partners to develop an action plan for achieving and monitoring targets for Land Degradation Neutrality

Output 1.2: Regional biennial climate risk and vulnerability assessments and maps developed, with an application of security sensitivity framework (LDCF)

- The Mali Geographic Institute (IGM) to work with Météo Mali to develop a common methodology for measuring the vulnerability and adaptive capacity of communities to climate change, building on existing initiatives[58]
- Conduct training for youth from all 8 regions to carry out assessment, with household surveys and ground-truthing of maps
- Carry out a biennial climate change vulnerability assessment and mapping across all 8 regions of Mali
- Report results to the public, analyzing links between security and climate change risks, and providing a spatial risk analysis with recommended mitigation and governance actions

Component 2: Enhancing resilience of degraded production landscapes with communities vulnerable to climate change. The planned outcome of this component is that productivity is restored and yields increased in vulnerable grazing, farming and fishing landscapes through effective community management in three target landscapes of Mopti Region, potentially in the highly vulnerable cercles of Youwarou, Douentza and Koro (to be finalized and specific sites to be determined in PPG). The component involves the clusters of work outlined below – strengthening natural resource management through capacitated community committees structures and agreements between herders and farmers; supporting farmers to undertake climate-smart agriculture and greening efforts on their land; and undertaking communal restoration works for grazing land and water resources. The agriculture and agroforestry activities here will also be linked to small business development in Component 3, prioritizing opportunities for women and youth. There will be further discussions with stakeholders in local government and communities level during the project preparation phase, to achieve an understanding of communities' adaptive capacity and needs, any underlying sources of competition or conflict, and what would work in a particular socio-ecological system, ensuring that specific project interventions are carefully designed to promote peace and reconciliation between communities in target landscapes in Mopti, and to avoid unintentionally feeding into underlying tensions or conflicts – applying a conflict-sensitive adaptation approach.

Output 2.1: Community natural resource management committees are established and adaptation actions are embedded in local development plans (GEFTF)

- Undertake baseline survey and annual update with communities in 9-12 target communes in Mopti[59] on climate vulnerability, adaptive capacity, production practices and livelihood activities, and household income, using this as a pilot for national system
- Integrate community land management for adaptation and rehabilitation into the Economic, Social and Cultural Development Plans and budgeting frameworks of Cercle Councils and Commune Councils[60]
- Build new or redynamize existing community resource management committees at village level[61], involving women and youth

- Use customary mechanisms and committees to negotiate, formalize and uphold agreements between herding, farming and fishing communities on boundaries for grazing and farmland, access to pasture and water, timing and regulated migration, and NRM[62] agreements (including pastoral corridors)

Output 2.2: Training and inputs provided to farmers in 9-12 target communes in Mopti for greening of farmlands (GEFTF)

- Provide training to develop farmers'[63] capacity for Assisted Natural Regeneration[64] and other Sustainable Land and Water Management (SLWM)[65] techniques, building on traditional knowledge and local preferences
- Form agro-ecological farmer's groups / Farmer Field Schools, including women farmers, and establish demonstration plots for train-the-trainer activities
- Provide heads of households (male and female) with regeneration incentive package (e.g. shears, pickaxe, wheelbarrow, boots and gloves)

Output 2.3: Capacity development programme for climate-smart agriculture delivered to farm households in target communes (LDCF)

- Provide training and inputs[66] – including new drought-resistant local crops/varieties, improved pest management, fodder and fruit trees, and dry season gardening schemes
- Advocate for climate-smart agriculture and SLWM through developing and piloting in local languages: a radio programme, a short message service for farmers, a capacitated network of traditional communicators, and materials for schools

Output 2.4: Communal restoration work undertaken over 21,000 hectares of degraded grass/shrubland and wetlands (LDCF)

- Train community resource management committees and community members, including youth and displaced persons, to analyze adaptation needs, and to plan, carry out and monitor rehabilitation efforts
- Equip commune / village-level committees and carry out plantings for rehabilitation of pastureland and protection of villages from sand encroachment
- Equip committees to develop and sustainably restore watercourses (channels, rivers, ponds, pools) and carry out rehabilitation works
- Equip committees to construct/rehabilitate communal earth dams, and wells with solar PV-powered pumps, to increase household water supply and irrigation (for Output 2.1)

Component 3: Supporting family farms, youth and women to innovate and adopt resilient and sustainable livelihoods. The planned outcome of this component is that rural households and community-based organizations enhance their resilience to conflict and climate change by restarting and diversifying productive activities and businesses that spread household risk, whilst simultaneously provide inputs to climate-smart agriculture, or adding value to climate-smart agricultural products. The component involves two clusters of work outlined below – (i) supporting the strengthening / establishment of small agri-businesses and cooperatives at village level, (based on the enhanced and diversified production stimulated in Component 2); and (ii) linking these to value

chains beyond the village through targeted support to youth entrepreneurs. Further discussion will be held with stakeholders in the private sector, government and civil society during the project preparation phase, including scoping of potential in particular target landscapes, and what partnerships can be forged with agribusiness innovation hubs, and providers of micro-finance and technical training in Mopti city.

Output 3.1: New cooperative climate-smart businesses established involving women, youth and displaced people (LDCF)

- Empower organizations of widowed women with climate-smart business and leadership training
- Support / establish women producer associations and cooperatives of youth and displaced people e.g. for processing of cereal crops, fish drying and smoking, liquid fertilizer, seedling nurseries etc., conducting value chain analysis and market studies with them
- Support set-up and first two years of operation of cooperative climate-smart businesses – including partnerships for land and infrastructure, technical training and business planning, market access and savings groups/micro-credit[67]

Output 3.2: Entrepreneurship training and business incubation services provided to youth from target landscapes for adaptation-linked business ideas (LDCF)

- Provide opportunities for local youth from target communities to receive entrepreneurship training in existing incubator programmes in Mopti city
- Promote access to loan finance and loan guarantees for youth with solid business plans and family/community backing – in agri-processing and climate-smart technologies
- Create scholarships for local youth to be trained e.g. in maintenance of solar PV systems (supporting adaptation activities)[68].

Component 4: Monitoring and evaluation and knowledge management for upscaling. The planned outcome is that project impacts are monitored and learning shared for scale-up of results across Sahel regions of Mali, and beyond. This involves two proposed outputs, with indicative activities for further discussion with stakeholders in national and regional government agencies, research institutions, development partners and civil society. The two clusters of work are outlined below – (i) creating platforms for scaling up the project learning across Mali and the Sahel; and (ii) facilitating learning exchanges and training of youth to feed into a monitoring system, both for the project, and also feeding into the implementation and monitoring of the LDN action plan in Component 1.

Output 4.1: Knowledge platform operational for coordination and lessons sharing among stakeholders at commune, cercle, region, national and international levels (GEFTF)

- Establish a knowledge platform with online and face-to-face elements, including project stakeholders and all related initiatives (peace-building, adaptation, mitigation, sustainable agriculture etc)
- Hold annual multi-stakeholder dialogues through the platform in target Cercles and Mopti Region to address interrelated challenges of SLWM, peace and climate security

- Host a national learning event[69] on Climate Security and Sustainable NRM to share learning from project, inviting participation by other conflict-affected Sahelian countries[70] to promote South-South engagement
- Produce a lessons learnt publication and series of short videos and use these as basis for participation by Mali in international forums to disseminate lessons learnt

Output 4.2: A participatory M&E and learning framework is developed and implemented for project as a whole (including sites for Component 2 and 3 activities) (LDCF)

- Develop, implement and monitor youth and gender action plans for project
- Arrange learning exchange visits to share experiences in climate change adaptation and agro-ecological restoration between target villages, communes and cercles
- Operationalize the mechanism for monitoring changes in agro-ecological ecosystem condition, adaptive capacity and resilience in the Mopti region, including training and equipping youth monitors who feed data back via the Institute for Rural Economy to the national LDN action plan

4) Alignment with GEF focal area and/or Impact Program strategies: The project is a multi-fund project, as envisaged in the GEF-7 Programming Strategy, under the objective of “*Mainstreaming Adaptation across GEF Themes*”, in which the Government of Mali is jointly programming an LDCF grant synergistically with part of the country’s GEF Trust Fund STAR allocation under the Land Degradation focal area. The proposed project seeks to generate GEBs as well as adaptation benefits, capitalizing on the GEF’s unique mandate to serve multiple MEAs, and responding to recent COP guidance to promote synergies across focal areas. The proposed multi-trust fund project is also aligned with the Sahel-wide Great Green Wall initiative, promoting regional synergies and impacts.

The project directly addresses the objective of GEF Trust Fund Land Degradation of the LD focal area strategy: (i) *Objective 1.1 Maintain or improve flow of agro-ecosystem services to sustain food production and livelihoods through Sustainable Land Management (SLM)*. As part of the activities under component 2, the project will directly support agroecosystem services through improved SLM, such as the greening of farmlands (output 2.2) as well as communal restoration work in grass/shrubland and wetlands (output 2.4), participating to the achievement of LD-1-1; (ii) *Objective 1.4 Reduce pressures on natural resources from competing land uses and increase resilience in the wider landscape*. With the improvement of natural resources management through the set up of community committees (output 2.1), as well as capacity building activities to disseminate the adoption of improved agricultural practices that are less resources-intensive or harmful to the ecosystem (components 2, 3 and 4), the project will be supporting the achievement of LD-1-4. And (iii) *Objective 2.5 Create enabling environments to support scaling up and mainstreaming of SLM and LDN* of the LD focal area strategy. As shown in the STAP LDN guidelines, put simply, the goal of LDN is to maintain or increase the amount of healthy and productive land[71]. The project aims to create an enabling environment for this to happen – focusing on intragovernmental coordination for MEA implementation and spatial monitoring, natural resource governance at local level, and systemic interventions to reduce degradation and desertification, and restore ecosystem productivity (land, water, grazing) (LD-2-5).

In this semi-arid Sahel region, systemic strategies to achieve Land Degradation Neutrality (GEFTF), are effectively complemented by specific adaptation strategies to enhance the resilience of farming, herding and fishing communities in the face of increased climatic variability and long-term change in climatic means (LDCF). The project is aligned with LDCF-1 *Reduce vulnerability and increase resilience through innovation and technology transfer for climate change*

adaptation, and includes a focus on climate vulnerability assessment, adapting farming through innovation and best practice, and diversifying climate-adaptive livelihoods. The split of resources by fund is indicated at output level in Table B.

5) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing: The project has been designed to transform the current situation, in which public sectoral investments are not directly mapped to and aligned with overall stated goals in terms of Mali's MEA commitments, and in which donor investments fail to make a significant dent in the massive needs of the Mopti Region in the Sahel Zone, vulnerable to desertification and disaster, and fragile in the context of ongoing conflict, and competition over a shrinking resource base. The proposed project will build on this baseline to transform the course of action of key role-players like AEDD, and key sectoral ministries – facilitating agreement on an integrated system for defining progress towards overall LDN and NDC targets, and means of measuring this progress and reporting on it. Activities on the ground in Mopti Region will form a “living laboratory” for participative community monitoring of agreed indicators towards these targets, which can be fed back into the national system. The GEFTF and LDCF funds will thus transform a scenario with national benefits into a course of action that generates global benefits, where GEF funding will cover the incremental cost.

Table 5: Incremental cost reasoning

Baseline without project	Alternative with GEFTF and LDCF funding	Global environmental benefits generated
<p>Poor coordination across government sectors and lack of integrated cross-sectoral planning and monitoring continues. This means that Mali struggles to meet its LDN, NDC and other MEA targets in a coordinated manner, or to demonstrate convincingly that this is being achieved.</p>	<p>Capacity is built at national level by developing an action plan and monitoring system for progress towards LDN targets, and for mapping vulnerability to climate change, supporting UN CCD and UNFCCC implementation in alignment with national development policies.</p>	<p>As part of the LDN action plan, Mali achieves the identification of key indicators,[72] agreement on how these will be measured and monitored, setting of baselines and targets, and a detailed implementation plan for the actions required, and a reliable system is established for measuring climate change vulnerability at regional scale. These tools facilitate meaningful monitoring of GEBs and global reporting.</p>
<p>Farmers and herders in target landscapes in Mopti Region continue to practise unsustainable grazing and farming techniques, losing vegetative cover, worsening soil erosion and depleting soil fertility. Food and water security are threatened by increasing frequency and intensity of drought and flood events, without significant improvements in adaptive capacity. Environmental degradation continues across Mali's Sahel zone and communities in Mopti Region become increasingly vulnerable to impacts of climate variability, whilst experiencing increasing competition over a declining natural resource base, without viable alternative income streams that are resilient to climate change.</p>	<p>Rehabilitation of ecosystems on communal land is carried out over 10,000 ha of pastureland and waterways, and 5,000 ha of woodlands, guided by new / strengthened community resource management committees and agreements between pastoralist and farming communities.</p>	<p>A total area of 15,000 ha in communal lands has ecosystem functioning restored and is brought under effective community management, delivering ecosystem services that enhance vulnerable communities' resilience to increased temperatures and erratic rainfall, building their capacity to adapt to climate change.</p>
	<p>Farm households are supported on climate-resilient livelihoods, agri-processing and new technologies for effective adaptation and risk spreading, with opportunities for women, youth and internally displaced people. Support is provided to climate-smart agriculture, Assisted Natural Regeneration and Sustainable Land and Water Management, building on traditional knowledge.</p>	<p>A total of 21,000 ha in family farms is brought under improved practices through use of agro-ecological techniques that restore land productivity, reverse desertification and enhance resilience to disaster: increasing crop yields, improving groundwater recharge, retaining soil moisture, and increasing soil organic carbon, nutrient recycling, shade, wind and dust barriers, fodder and compost production and availability of fruit and medicine.</p>
<p>Carbon stocks are depleted as the trends of deforestation and desertification continue, threatening Mali's current status as a net carbon sink – with continued southward encroachment of the Sahara desert into the Sahel, and unchecked loss of tree cover and soil carbon from over-grazing, over-extraction of fuelwood and expansion of agriculture.</p>	<p>Pressure on fuelwood is relieved in landscapes where ANR (FMNR) generates new sources of wood from restoring tree cover in farmlands, and takes pressure off woodland resources. Extension support enables intensification of crops without expansion of footprint. Progress is made towards emissions reductions in the AFOLU sector, with enhanced capacity for accurate measurement.</p>	<p>An estimated 1,090,000 metric tons of CO₂-equivalent greenhouse gas (GHG) emissions are avoided – as a result of retaining standing forest, restoring tree cover in farmlands, and improving soil organic carbon, helping to deliver on Mali's NDC ambition for GHG reduction by 29% for agriculture, and 21% for land use change and forestry (from a base scenario of 2015-2030 to a mitigation scenario of 2020-2030).</p>

6) Global environmental benefits (GEFTF) and adaptation benefits (LDCF/SCCF): Through the proposed project, Mali develops an action plan and monitoring system for progress towards LDN targets, and a system for assessing and mapping vulnerability to climate change. These tools facilitate meaningful monitoring of global environmental benefits (GEBs) and global reporting on UNCCD and UNFCCC implementation. Specific GEBs can be seen in relation to: (i) *Core benefits in terms of the UNFCCC on Adaptation*: A total area of 15,000 ha in communal lands has ecosystem functioning restored and is brought under effective community management, delivering ecosystem services that enhance vulnerable communities' resilience to increased temperatures and erratic rainfall, building their capacity to adapt to climate change; (ii) *Core benefits in terms of the UNCCD*: A total of 21,000 ha in family farms is brought under improved practices through use of agro-ecological techniques that restore land productivity, reverse desertification and enhance resilience to disaster: increasing crop yields, improving groundwater recharge, retaining soil moisture, and increasing soil organic carbon, nutrient recycling, shade, wind and dust barriers, fodder and compost production and availability of fruit and medicine; (iii) *Additional co-benefits in terms of the UNFCCC on Mitigation*: An estimated 1,090,000 metric tons of CO₂-equivalent greenhouse gas emissions are avoided as a result of retaining standing forest, restoring tree cover in farmlands, and improving soil organic carbon, helping to deliver on the Mali's NDC ambition for GHG reduction by 29% for agriculture, and 21% for land use change and forestry (from a base scenario of 2015-2030 to a mitigation scenario of 2020-2030).

7) Innovation, sustainability and potential for scaling up: The proposed project is innovative in positioning two key research institutes, the Mali Geographic Institute (IGM)[73] and the Institute of Rural Economy (IER)[74] to play a role in supporting multi-stakeholder and intragovernmental coordination. The IGM will bring together a number of different streams of government, supported by development partners, to develop an action plan for achieving LDN targets. The workshops planned for Output 1.1 will involve influencing co-financed activities to maximize value for climate change adaptation and land restoration in a number of areas of work – development, rehabilitation and equipment of agricultural land; protection of nature and forests, and combating desertification; support to the livestock and fisheries sectors; disaster prevention and risk reduction; technical support for local government, and peace-building and reconciliation; investment in women's empowerment through combating gender based violence, involvement in peace-building structures, and rural entrepreneurship; and youth training and job creation. In Output 1.2 the IER will lead a process of refining a methodology for conflict-sensitive climate vulnerability assessment and mapping, and take an innovative approach to conducting the assessment by training youth across all of Mali's regions.

The project also takes an innovative approach to the challenge of building climate-resilient livelihoods – promoting opportunities in Component 3 for local youth from target communities to receive entrepreneurship training in existing incubator programmes in Mopti city – for businesses in agri-processing and climate-smart technologies; and supporting them and women's cooperatives to access micro-finance and loan guarantees. An innovative approach is also taken to development of human capital for enhanced adaptive capacity – creating scholarships for local youth to be trained e.g. in maintenance of solar PV systems (supporting adaptation activities)[75]– see Output 3.2. Such training, in addressing long-term operation and maintenance, also promotes sustainability and mitigates the risk of high-tech equipment becoming defunct after the project ends.

The timing of the project is good, as Mali has just completed its report to the UNCCD on Land Degradation Neutrality Targets, and now needs a cross-sectoral approach to achieving these targets, similar to the cross-sectoral mainstreaming and planning processes already envisaged for climate change adaptation, and inextricably linked also with those processes. Such synergies, combined with on-the-ground work in Mopti Region and consciously developed linkages to similar projects in other regions, will enable scaling up of best practices, and development of methodologies for monitoring of their results, in order to track progress towards the UNCCD.

Sustainability of project results at local government level will be promoted through developing the capacity of the commune councils to integrate adaptation to climate change (through SLWM practices and restoration) into their Economic, Social and Cultural Development Plans (see Output 2.1). Embedding adaptation actions into future planning and budgeting of local government will help ensure their sustainability post-project. Similarly, a long-term impact on regional government will be sustained through using the project to develop capacity in all 8 regions of Mali to conduct climate vulnerability assessment and mapping, incorporating this into the key performance areas of existing regional government officials (see Output 1.2). Scaling up within Mopti will be achieved by establishing multi-stakeholder dialogue platforms in target Cercles and also in Mopti Region to address interrelated challenges of SLWM, peace and climate security (see Output 4.1). National scale-up will be achieved through work in Component 1 to replicate the climate vulnerability assessment and mapping process across all the of Mali's Regions. For scale-up beyond Mali, work will be done through the project management unit to share lessons both across the country, and beyond its borders in the wider Sahel zone.

[1] See the Social and Environmental Procedure pre-screening for a more detailed analysis of the conflict, including the role of foreign-backed government forces since 2012 and the recent developments since the coup of August 2020.

[2] Mali 2020 population is estimated at 20,250,833 people at mid-year according to UN data, www.worldometers.info

[3]https://reliefweb.int/sites/reliefweb.int/files/resources/mali_situation_of_refugees_internally_displaced_persons_and_returnees_march_2020_english.pdf

[4] <https://docs.wfp.org/api/documents/WFP-0000115730/download/>

[5] Baseline Study I166. Republic of Mali. Final Report 2009

[6] UNDP 2011, *Human Development Report 2011, Sustainability and Equity: A Better Future for All*

[7] <https://www.worldometers.info/coronavirus/country/mali/>

] UNDP Mali (2020), *Support to the National Response to Contain the Impact of COVID-19*

[9] Historical records show a rise in average temperatures in Mali of about 0.7 degrees since 1960

[10] Mali's Third National Communication to the UNFCCC, 2015.

[11] Mali's National Adaptation Programme of Action, 2007

[12] Thomas, N. and Nigam, S. "Twentieth-Century Climate Change over Africa: Seasonal Hydroclimate Trends and Sahara Desert Expansion;," *Journal of Climate*. Vol. 31, 2018

[13] Sahel rainfall is highly variable across years and even decades - seen in the prolonged droughts of the 1980s, Rainfall in Mali appears to have recovered to some extent but daily observations indicate a decreasing trend especially in the wet season and a tendency for less predictability at the start and end of the rainy season, with delayed onset and later retreat – CARIANA Working Paper #11.

[14] Sultan, B., Defrance, D. & Iizumi, T. Evidence of crop production losses in West Africa due to historical global warming in two crop models. *Sci Rep* 9, 12834 (2019). <https://doi.org/10.1038/s41598-019-49167-0>

[15] Christensen et al. (2007) Regional Climate Projections. IPCC WG II Chapter 11

[16] BMZ, GIZ, KfW, PIK "Climate risk Profile: Mali" (2020)

[17] <https://climateknowledgeportal.worldbank.org/country/mali>

[18] MET (2007) National Adaptation Programme of Action

[19] USAID (2014) *Mali Climate Vulnerability Mapping*

0] Firewood and charcoal account for about 78% of energy use in Mali's households, according to a 2015 study by the African Development Bank.

[21] SIFOR / DNEF – p. 31 of MEADD (2020) Mali Country Report: Land Degradation Neutrality. According to a MEADD press release, of the 32 million hectares of forest the government recorded in the country in 2002, almost half had disappeared by 2020 as a result of logging, drought and desert creep.

[22] Paeth, H. and Thamm. H. (2007) "Regional modelling of future African climate north of 15 degrees South including greenhouse warming and land degradation", in *Climatic Change* 83(3)

[23] See, for example, a recent suitability mapping study, supported by Feed the Future Innovation Lab for Small-Scale Irrigation (ILSSI), the CGIAR Research Program on Water, Land and Ecosystems (WLE), and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), comes in. The study identifies potential areas in Mali that could most benefit from using sustainably managed solar powered irrigation.

[24] Netherlands Ministry of Foreign Affairs (2018), *Climate Change Profile Mali*, p. 4

[25] In early October 2020, the Economic Community of West African States (ECOWAS) and the African Union announced that they would lift sanctions—including trade and travel blockades—on Mali as the country announced its plans for a transitional government led by civilians. Interim President Bah Ndaw, a former army colonel and foreign minister, announced the West African country's 25-person cabinet, of which four major posts—defence, security, territorial administration, and national reconciliation—will be held by military officials. Former Foreign Minister and Ambassador to the United Nations Moctar Ouane will join the government as transitional prime minister, satisfying a key condition posed by ECOWAS that the transitional government be led by a civilian. Shortly after these announcements, former Prime Minister Boubou Cisse and other officials and military personnel detained during the coup in August were released. The transitional government is expected to hold elections within 18 months.

[26] WFP, April 2020, https://docs.wfp.org/api/documents/WFP-0000115729/download/?_ga=2.40742690.1066946240.1589756894-757245637.1578047770

[27] Yanda, P. & Bronkhorst, S. 2011). *Climate Change and Conflict: Conflict-Sensitive Climate Change Adaptation in Africa. Policy & Practice Brief Issue No.014*. Durban: The African Centre for the Constructive Resolution of Disputes (ACCORD).

[28] Yanda and Brokhorst (2011) p 167

[29] See p. 34 in O'Connell, D., Abel, N., Grigg, N., Maru, Y., Butler, J., Cowie, A., Stone-Jovicich, S., Walker, B., Wise, R., Ruhweza, A., Pearson, L., Ryan, P., Stafford Smith, M. (2016). "Designing projects in a rapidly changing world: Guidelines for embedding resilience, adaptation and transformation into sustainable development projects. (Version 1.0)". Global Environment Facility, Washington, D.C.

[30] Tree tenure is the bundle of rights over individual trees and their products. Niger, as the country where ANR/FMNR has been most successful, has ascribed its success as significantly enabled by the fact that farmers have been given new ownership rights over the trees on their land, including established and newly regenerated trees. The Government of Ghana is also investigating tree tenure reform. See this analysis of the way in which theoretical state control of trees in West African parklands currently inhibits restoration - <http://www.fao.org/3/x3940e/X3940E08.htm>

[31] For an excellent overview analysis of the complex socio-cultural relations governing NRM in Mali, see Bagayoko, N. et al. "Masters of the Land", *The Broker*

[32] MEADD (2020) Mali Country Report: Land Degradation Neutrality p. 18

[33] UNCCD (2016) *Scaling up Land Degradation Neutrality Target Setting - from Lessons to Actions: 14 Pilot Countries' Experiences*

[34] See Figure 7 in USAID (2014) *Mali Climate Vulnerability Mapping*

[35] For an excellent analysis of strengths and weaknesses of government support, see Catalystas (2019) for Netherlands Enterprise Agency, *Report on Entrepreneurship in the Sahel: Mali*

[36] According to 2019 mid-term report of IKI/BMUB-UNDP "Programme for the support of the National Strategy to Climate Change in Mali"

- [37] *Exchange rate 1 USD = 553 CFAF
- [38] Hydrological studies indicate significant underutilization of groundwater potential in parts of Mopti, though this needs to be undertaken with great caution.
- [39] <https://onlinelibrary.wiley.com/doi/full/10.1111/1541-4337.12012>
- [40] https://www.researchgate.net/publication/307089652_Using_locally_produced_millet_as_a_feed_ingredient_for_poultry_production_in_Sub-Saharan_Africa
- [41] USAID (2014) *Mali Climate Vulnerability Mapping*
- [42] MEADD and GIZ (2017) Synthèse du rapport final de l'Etude du risques climatiques au Mali, BMUB/GIZ/MEADD/AEDD, Bamako, July 2017
- [43] A commune is a rural municipality; a cercle is a rural district
- [44] MERADD and GIZ (2017) p 38
- 5] United Nations Country Team, (2020) Analyse rapide des impacts socio-économiques du COVID-19 au Mali, Bamako, Mali
- [46] <https://www.undp.org/content/dam/rba/docs/COVID-19-CO-Response/undp-rba-covid-mali-apr2020.pdf>
- [47] Global Environment Facility, GEF's Response to COVID-19 (May 2020)
- [48] Including farming households headed by women (including widows and divorced women)
- [49] Assisted Natural Regeneration is the name given in Mali to the concept elsewhere known as Farmer Managed Natural Regeneration
- 0] For example, soil and water conservation strategies such as digging half-moon pits, contour bunds with stone, banquetts etc.
- 1] Potentially in partnership with the National Agency for Youth Employment, and with entrepreneurship support providers such as TETELISO and Doni-Labs
- [52] Potentially in partnership with the Renewable Energy Agency
- [53] The Mali Geographic Institute (IGM) is in charge of the production, maintenance and diffusion of geographic reference information in Mali, including on land cover, land use and land degradation.
- [54] The Institute of Rural Economy (IER) is the main research institution in Mali for the implementation of the national agricultural research policy, covering all of Mali's agro-ecological zones, and addressing climate change vulnerability and adaptation strategies.
- [55] UNCCD (2016) *Scaling up Land Degradation Neutrality Target Setting - from Lessons to Actions: 14 Pilot Countries' Experiences*
- 6] Assisted Natural Regeneration (ANR) or la Régénération Naturelle Assistée (RNA) is the term used in Mali for Farmer Managed Natural Regeneration (FMNR), as the most successful proven technique for sustainable greening in the Sahel - see https://fmnrhub.com.au/wp-content/uploads/2019/03/FMNR-Field-anual_DIGITAL_FA.pdf or <http://fmnrhub.com.au/regeneration-assistee/> or https://regreeningafrica.org/wp-content/uploads/2020/06/FMNR-Booklet-French_High-es_web.pdf
- [57] A cercle is a rural district
- [58] Potential exists for co-financing from the German Government, building on the 2017 Climate Change Risk Assessment in Mali by MERADD and AEDD in Partnership with GIZ, funded by BMZ.
- [59] Component 1 and 4 of the project will be carried out at national scale, as well as with the regional government of Mopti Region. Components 2 and 3 of the project are proposed to take place in three target landscapes, to be selected during the project preparation phase, according to criteria agreed by the Technical Committee under AEDD, in consultation with stakeholders. A target landscape could, for example: (i) involve 3-4 contiguous communes, in a

particular cercle (or crossing cercle boundaries if this makes sense ecologically; (ii) be in an area shown on the map below as vulnerable or highly vulnerable to climate change; and (iii) have visible evidence of ecosystem degradation, for example, thinned woodland, bare soils, silted waterways, or sand-encroached dwellings.

[60] A commune is a rural municipality

[61] Potentially in all the villages of the 9-12 target communes

[62] Natural Resource Management

[63] Including farming households headed by women (including widows and divorced women)

[64] Assisted Natural Regeneration (ANR) or la Régénération Naturelle Assistée (RNA) is the name given in Mali to the concept sometimes known as Farmer Managed Natural Regeneration. This approach has proven highly effective in the Sahel context and has multiple benefits – it can restore land productivity, reverse desertification and enhance resilience to disaster: increasing crop yields, improving groundwater recharge, retaining soil moisture, and increasing soil organic carbon, nutrient recycling, shade, wind and dust barriers, fodder and compost production and availability of fruit and medicine.

5] For example, soil and water conservation strategies such as digging half-moon pits, contour bunds with stone, banquetts etc.

[66] e.g. seeds, seedlings, polyethylene bags, watering cans and spades

7] Potentially in partnership with the National Agency for Youth Employment, and with entrepreneurship support providers such as TETELISO and Doni-Labs

[68] Potentially in partnership with the Renewable Energy Agency

[69] Potentially through a partnership with the UN Peacebuilding Forum

[70] Particularly through existing GEF projects in these countries with related goals, which may have resources to enable such participation

[71] Cowie, A. 2020. Guidelines for Land Degradation Neutrality: A report prepared for the Scientific and Technical Advisory Panel of the Global Environment Facility, Washington D.C.

[72] Indicatively (i) land cover and land cover change, (ii) land productivity and (iii) soil organic carbon - UNCCD (2016) *Scaling up Land Degradation Neutrality Target Setting - from Lessons to Actions: 14 Pilot Countries' Experiences*

[73] The Mali Geographic Institute (IGM) is in charge of the production, maintenance and diffusion of geographic reference information in Mali, including on land cover, land use and land degradation.

[74] The Institute of Rural Economy (IER) is the main research institution in Mali for the implementation of the national agricultural research policy, covering all of Mali's agro-ecological zones, and addressing climate change vulnerability and adaptation strategies.

[75] Potentially in partnership with the Renewable Energy Agency

1b. Project Map and Coordinates

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

ANNEX A: Project Target Landscapes (PIMS 6317)

Geographical scope of project activities:

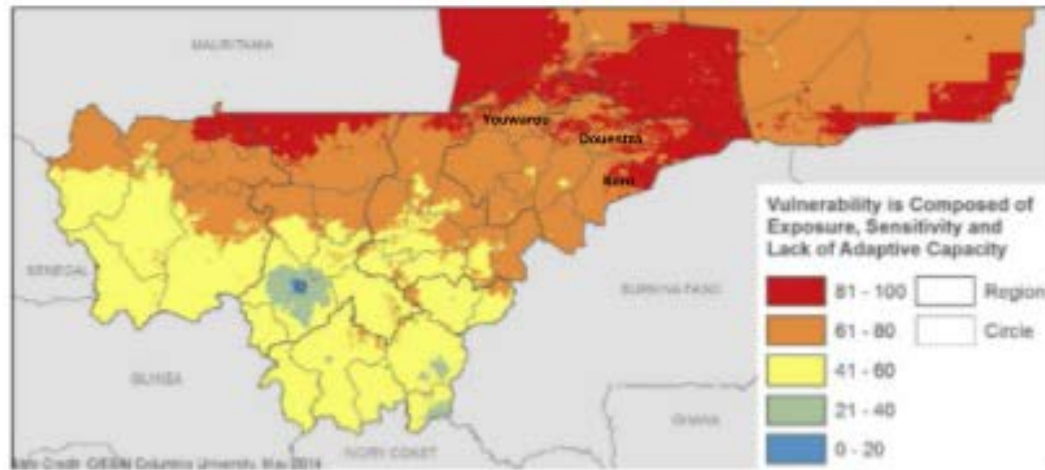
Components 1 and 4 of the project will be carried out at national scale, as well as with the regional government of Mopti Region.

Components 2 and 3 of the project are proposed to take place in three target landscapes in Mopti Region. These landscapes, to be made up of clusters of Communes (rural municipalities), may be focused in any of the 8 Cercles (districts) of Mopti Region, and the exact target landscapes will be selected during the PPG phase. At that time, a security analysis will be conducted to understand the extent to which the security situation in specific Cercles enables or prevents the carrying out of project activities. Depending on the security situation, a case could be made for focusing on the three Cercles of Youwarou, Douentza and Koro. These three cercles are the districts of Mopti where studies show that communities are most vulnerable to the impacts of climate change. This includes studies by GIZ undertaken in 2019, confirming the findings as indicated on the map below. The three cercles also include two of the five natural regions of the Sahel identified as hotspots of land degradation in Mali's 2020 *Land Degradation Neutrality Report* – the Gourma hotspot, and the Gondo-Mondoro hotspot. The Youwarou Cercle includes a portion of the inland Niger Delta which is flooded annually – and is both highly vulnerable to climate change and degradation, and a critical regional resource for building resilience.

The map below is from a detailed climate vulnerability analysis conducted in 2014 through USAID (northern part of country not included due to very low population density). This map shows cumulative results for vulnerability, composed of various indicators for (i) biophysical exposure to climate hazards, (ii) socio-economic sensitivity, and (iii) adaptive capacity.

The precise cluster of communes (rural municipalities) in the three cercles marked on the map that will form each target landscape will be decided during the project preparation phase (since travel to the field has not been possible during the COVID-19 pandemic), according to criteria to be agreed by the Technical Committee under AEDD, in consultation with stakeholders.

Map showing overall vulnerability to climate change¹



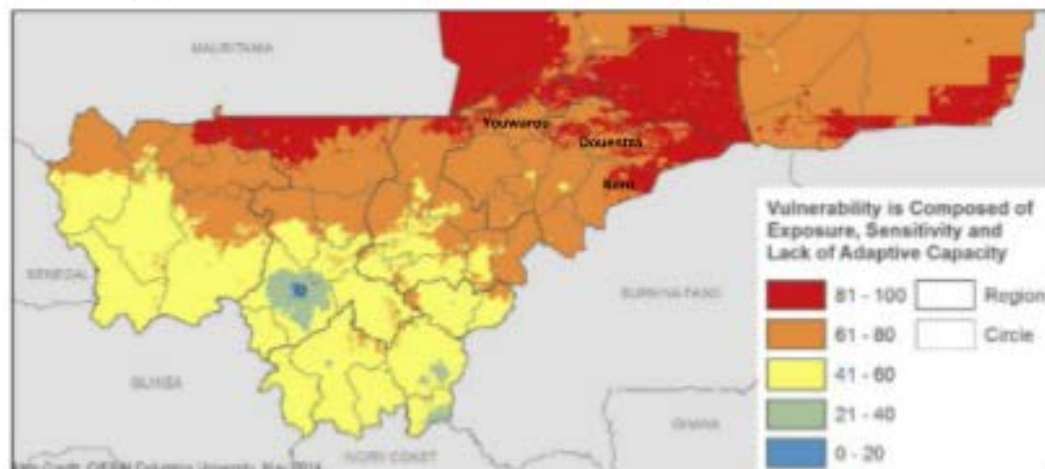
Map of Mali showing Mopti Region

Source: De Sherbinin, A.; Chai-Onn, T.; Giannini, A.; Jaiteh, M.; Levy, M.; Mara, V.; Pistoiesi, L.; Trzaska, S. (2014):

Mali Climate Vulnerability Mapping. USAID http://community.eldis.org/_sb9bfce3/Mali-CV-Mapping-Revised-CLEARED.pdf

¹ USAID (2014) *Mali Climate Vulnerability Mapping*

Map showing overall vulnerability to climate change¹



Map of Mali showing Mopti Region

Source: De Sherbinin, A.; Chai-Onn, T.; Giannini, A.; Jaiteh, M.; Levy, M.; Mara, V.; Pistolesi, L.; Trzaska, S. (2014):

Mali Climate Vulnerability Mapping. USAID <http://community.eldis.org/.5b9bfce3/Mali-CV-Mapping-Revised-CLEARED.pdf>

¹ USAID (2014) *Mali Climate Vulnerability Mapping*

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Indigenous Peoples and Local Communities Yes

Civil Society Organizations Yes

Private Sector Entities Yes

If none of the above, please explain why:

A Technical Committee has been established by the Government of Mali to oversee the development of this PIF. The committee will meet virtually for the present (because of the COVID-19 pandemic), and include representatives of: the Environment and Sustainable Development Agency (AEDD), the National Directorate of Water and Forests (DNEF, in the Ministry of Environment, Sanitation and Sustainable Development), the National Directorate of Agriculture (in the Ministry of Agriculture); the National Directorate of Animal Production and Industries (in the Ministry of Livestock and Fisheries); the Institute of Rural Economy; the General Directorate of Civil Protection (in the Ministry of Security and Civil Protection); the National Meteorological Agency (MALI-MÉTÉO), National Directorate for Peacebuilding (in the Ministry of Social Cohesion, Peace and National Reconciliation), the General Directorate of Territorial Communities (in the Ministry of Territorial Administration and Decentralization), the United Nations Development Programme – Mali, the Association of Municipalities of Mali, and the Operational Focal Point of the Global Environment Facility (GEF) for the Republic of Mali.

Because of travel and meeting restrictions associated with the COVID-19 situation, on-the-ground consultations in Mopti Region have of necessity been limited during PIF preparation and will be extended during the project preparation phase. At that time, stakeholder engagement will be supported by UNDP and will involve Malian national consultants. For the duration of the COVID-19 pandemic, protocols for social distancing will be observed wherever face-to-face meetings are held. The PPG team lead international consultant will participate in meetings by video call, if travel to Mali is not possible. Consultative workshops will be held in Bamako and Mopti City or Sévaré, and travel allowances will be provided with PPG funds to make it possible for district and commune-level stakeholders representing local government and civil society to attend the workshops. Consultations should cover those stakeholders identified in the table below, who are proposed to play specific roles in the project, and records of all consultations will be made available. This includes national and regional government agencies, traditional authorities and local government, community-based organizations in the target landscapes, universities and research institutes, as well as small-scale domestic private sector actors. The PPG phase will involve the development of a full Stakeholder Analysis and comprehensive Stakeholder Engagement Plan, as well as Gender Analysis and Gender Action Plan, Initial FPIC consultations, Security Plan, and Project-level Grievance Redress Mechanism (draft/outline).

The project's on-the-ground activities will take place in Mopti Region. This area does not have a significant presence of Touareg people, but is populated by three main ethnic groups which all depend to a significant extent on ecosystems that are inextricably linked to their identity and culture: the Fulani pastoralist system, the Dogon agricultural system, and the Bozo fisheries system. The project interventions aim to enhance productivity of land and water resources in order to lessen competition and promote resilience, but need to be carefully planned. During the early phase of implementation, a Social Inclusion Plan and a Livelihoods Action Plan will also be developed, as part of the ESIA/ESMP. As yet, there have been no FPIC consultations, as a result of the restrictions on travel posed by the COVID-19 pandemic. Since FPIC is a requirement, consultations will be carried out, the objective being to secure initial consent from the targeted rights-holders, as appropriate and in line with Standard 6 requirements. FPIC would then be continued during project implementation, following the measures

summarized in the ESMF and in the Social Inclusion Plan that is prepared as part of the subsequent ESMP. This Plan will ensure that appropriate measures are taken to minimize any risk of negotiations supported through the project unnecessarily negatively affecting access by specific communities to natural resources, including land and water.

Stakeholder	Potential role in the project
National government agencies	
Cabinet of MEADD	Supervision of the project, responsible for implementation and ensuring linkages with other ministries and sectoral agencies. Will chair the meetings of the national project steering committee (dependent on COVID -19 pandemic protocols)
Ministries of Agriculture, Decentralization, Civil Protection, Fisheries, Animal Production and Industries, Civil Protection and Youth	Will be involved in Project Steering Committee, assuming the functions of sectoral policy coherence within the project, and carrying out national joint supervision once per quarter
Environment and Sustainable Development Agency (AEDD)	As the National Project Director, will take the lead in the development and implementation of the project at the project sites, as well as the monitoring and evaluation of all activities in accordance with the project document. The assessment of AEDD's institutional, technical and managerial capacities demonstrates its ability to coordinate such a large and complex project. The designation and involvement of AEDD Focal Points in this formulation phase demonstrates a high level of national ownership.
National Directorate of Water and Forests (DNEF)	Assume the development and monitoring of sectoral dimensions within its remit, implementation of forest and wildlife policy
National Directorates for Animal Production and Industries, Fisheries, Civil Protection, and Social Cohesion General Directorate of Territorial Collectivities	Responsible for monitoring the application and integration of sector policies in the components of the project. Integrates the dimensions of climate security, SLM and conflicts in the Economic, Social and Cultural Development Plans (PDESCs) of the selected communities, circles and communes
GEF Operational Focal Point	Coordination and implementation of GEF projects in Mali. Key participant in the formulation, approval and monitoring of project implementation. Member of the technical committee and the national project steering committee
Planning and Statistics Unit (Planning and Statistics Unit of the Rural Development Sector, CPS / SDR)	Holds primary responsibility for the planning, use and management of natural resources. It performs strategic policy analyses and coordinates the identification and formulation of sectoral projects and programs. Responsible for capacity building and coordination of producer training
Focal point for combating desertification, UNCCD	Will contribute to the development and implementation of the project, as well as monitoring the implementation of land degradation management and LDN standards. Produce a report for the Project Committee / Secretariat on integrating SLM into project activities
Focal point on climate change	Contribute to information and advocacy campaigns on key project issues and NDC
REDD+ and GDC focal point	Implementation of GDC data and related indicators and reporting mechanism

REDD+ and SDG focal point	Implementation of SDG data and related indicators and reporting mechanism
Mali Météo	Work on annual climate vulnerability assessment and mapping through the project, collaborating with new interministerial technical unit for MEA monitoring and reporting; as relevant, provide information on hydrometeorological data and forecasts and monitoring of early warning system (EWS)
Biodiversity Focal Point	Implementation / monitoring of the agreements and the mechanism by MEADD
Steering cell: Planning and Statistics Unit of the Sectors: Water, Environment, Urban Planning and State Domain (SPC / S EUDE) MEADD	Will be responsible for monitoring and evaluating the project. Will also provide advice on the collection and application of knowledge and lessons learned, and set up a database presenting the implementation of the project
UNDP-managed GEF Small Grants Programme focal point	Provide small funding to NGO partners working on environmental and climate conservation (e.g. projects implemented by UNDP). The Fund is accredited to the Adaptation Fund and the GCF and will facilitate the application of SLM and SFM mechanisms at project sites.
National Geographic Institute (IGM) Montreal University	Map of project sites, soils and vegetation Will be responsible for the implementation of the Geographic Information System for Monitoring Agro-ecological Impacts software, responsible for training Ministry officials in the collection, processing and analysis of data
Permanent Assembly of Chambers of Agriculture of Mali (APCAM) Local Delegation of Chambers of Agriculture (DLCA)	All provide technical advice for the adoption of SLM measures by agricultural producers and monitoring of inputs provided by CSOs. Supervision and structuring of the rural development work
National Directorate of Civil Protection,	Monitoring of measures relating to the prevention of risks linked to climate change and undertaking mitigation measures
National Directorate for the Consolidation of Peace	Monitoring of measures relating to conflict prevention and peacebuilding related to climate change and the taking of mitigation measures
National Directorate of Regional Planning (DNAT)	Provide advice on the implementation of capacity building and training of beneficiary communities and technical services on mainstreaming climate security, SLM and conflict into community policies, programs and PDESCs
District and local government structures	
Mayors and presidents of the Councils of the Cercles (Districts) of Douentza, Koro and Youvarou (or other Cercles involved in the project)	Responsible for local planning and the integration of project dimensions into development programmes
Traditional Chiefs in Charge of Bourgoutières (Pastures) (DIOROS), Land Commission (COFO) Traditional Association for the Management of Natural resources (OGOKANA), traditional leaders in areas Seno and inside Delta	Contribute to strengthening the capacities of producers and users of natural resources on the application of conflict resolution tools and NRM agreements. Royalties are collected by the dioros on the animals grazing in the bourgoutières. For the project, the aim will be to strengthen their management capacity, and the funds will be reallocated for regeneration of bourgou including palatable species favoured by livestock.
Technical services of agriculture, livestock, water and forest and fishing of the selected cercles	Involved in capacity-building activities, tracking activity of producers; the extension and dissemination of good practices on climate security, SLM and peace. Revitalization of profes-

s and financing of the selected cercles	elimination of good practices on climate security, SLM and peace. Revitalization of professional actors and conflict management committees; monitoring of the implementation of SLM and NRM measures in their localities
Prefects in the target sites (potentially in cercles Douentza, Koro and Youvarou) (one site in the delta area, and two sites in the semi-arid steppe areas) - as well as Commune (Municipal)-level and Village-level Councils in target sites	Associated with the choice of commune-level interventions and will play a key role in conflict resolution and local development programmes on behalf of the central state, ensuring results of the project in cercle through meetings and Local Development Action Steering, Coordination, and Monitoring Committee (CLOCSAD), and Communal Development Action Steering, Coordination and Monitoring Committee (CCOCSAD)
Regional associations and local network of providers of SLWM	
Fishermen's cooperatives Market gardeners' cooperatives Dairy cooperatives Agricultural cooperatives Cattle meat sector Association of Understanding and Mutual Aid of the Villages of Youvarou in (KAWRAL)	Provide the interface between producers and the different stages and actors involved in the processing and marketing of local products, structuring of cooperative members in ridge, dissemination on the promotion of good SLM, peace and climate security practices, publication of newspapers in local languages
Free radio stations from the cercles of Bankass, Koro, Douentza Youvarou and the regional Office de la Radiodiffusion et Télévision du Mali (ORTM) station of Mopti	Provide messages on climate security, SLM and conflict in local languages / Broadcast of radio campaigns. Organize debates on the key themes of the project in national languages / media organizations and local radio stations as part of media campaigns and event activities accompanied by a collaboration protocol. These bodies will be the spearhead of the project's communication strategy.
Network of SLM providers in the cercles of Douentza and Koro	Provide proximity and quality services in SLWM to producers in the municipalities of intervention and training of producers
Coordination networks of young people and women, displaced persons associations	Women's associations and organizations must promote good practices and adaptation activities, due to their level of mobilization, involvement and membership in projects and their level of knowledge of nature. In terms of strategy, they must be one of the development levers of this project (lessons learned in terms of promoting good practice by women will be documented and made available by the PAPAM project)
Universities and research institutes	
University of Bamako Mopti Regional Agricultural Research Centre (CRRA)	Analysis of the situation, search for innovative solutions and measures to restore the land to water and forest; monitoring of indicators and standards for SLM and SFM
Institute of Rural Economy (IER)	Provide support to the project and produce climate-resilient seeds for distribution to producer farmers. Will also conduct situation analyses, seek innovative solutions and measures to restore land, water and forests, and monitor SLM, SFM indicators and standards
Private sector and agencies of producers / marketing / banking structures	
Agency National Promotion of Employment (ANPE) Mopti	Will be key partners for the development of markets for agricultural and forest-friendly products in Bamako. Benin and the wider region

	... in Burkina, Benin and the West region.
Regional Investment Promotion Agency	Will help facilitate any export of agricultural products, as well as facilitate market access
TETELISO - Mali Agribusiness Incubation Hub (MAIH) DoniLab Incubator – Fablab	Support youth entrepreneurs from the target landscape villages on entrepreneurial training
National Bank for Agricultural Development (BNDA) Savings and credit bank in Mopti Program for Rural Micro-finance Guarantee Funds for the Private Sector SA	Support innovative projects / Support microfinance sector in order to benefit from loans in the form of Grameen Bank (loan of fishing gear, agricultural inputs, cattle and sheep fattening and income-generating activities (IGA)
National Centre for the Promotion of Volunteering (CNPV)	Mobilize the body of national volunteers at the site level on mediation issues around peace, climate security and sustainable land management
Civil society organizations (CSOs) present in the target cercles	
Near East Foundation (NEF), Sahel Eco Malian Association for Awakening to Sustainable Development (AMEDD) Association for Rural Training and Self-Promotion (AFAR)	Will support government's conventions protocols for the implementation of project activities / training actors / framework of consultations / advocacy / sensibilisation. These should ideally be NGOs present for more than two decades in the area and with expertise in Assisted Natural Regeneration, land tenure, NRM and conflict resolution

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.

Please see in above table the roles of civil society organizations.

3. Gender Equality and Women's Empowerment

Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

The project preparation phase will involve a gender and social inclusion expert, who will conduct a detailed analysis of gender inequalities in the professional fields involved in Components 1 and 4, and in the rural economies of the target landscapes for Components 2 and 3. This will enable an understanding of the advances made by women in Mali and how these can be taken further, as well as the complex legal, cultural and religious constraints on women's participation in decision-making and economic activity. The PPG phase will include the development of a Stakeholder Analysis and comprehensive Stakeholder Engagement Plan, as well as a Gender Analysis and Gender Action Plan to inform the detailed project design. During the early phase of implementation, a Social Inclusion Plan (covering communities) and a Livelihoods Action Plan will also be developed, as part of the ESIA/ESMP. These analyses will also address the challenges faced by youth and internally displaced people, who experience difficulties accessing land and other productive assets. The project results framework will incorporate measurable indicators related to women's engagement in project activities, and the resultant enhancement of their adaptive capacity, with gender (and age)-disaggregated data and statistics.

As in other parts of the Sahel, low-income women, female-headed households, the elderly and children face significant vulnerabilities that predispose them to climate impacts and limit their abilities to adapt to increasing environmental stresses, such as land degradation and climate change. Specific areas of inequality in Mali include women's limited access to and control of land, lack of inheritance rights for women, lack of a minimum age for marriage, women's high household burdens that include responsibility for water and fuelwood collection, high levels of responsibility for agricultural production (specially with migration and conflict), greater economic insecurity and rates of poverty relative to men, and lack of access to formal education, extension and financial services. Gender-based violence is prevalent, as in many conflict-affected countries, with government estimating that 85% of Malian women have experienced forms of violence by men^[1]. Many positive social movements are addressing these challenges, including the "model men" movement for positive masculinity, the engagement of progressive imams, and involvement of women in peace and reconciliation committees.

The project includes gender-responsive measures to address gender gaps, and promote gender equality and women's empowerment. Output 2.2 will ensure that women farmers are involved in field training for climate-smart agriculture, and that female heads of household can access incentive packages for assisted natural regeneration. The project acknowledges the conflict-affected context in Mopti Region and the presence of many women who have been widowed and their organizations, by including a special focus in Output 3.1 on leadership and business skills training for these groupings. New livelihood activities will be sensitively designed to resonate with traditional roles, whilst opening up opportunities wherever possible. The project will involve women in the new/strengthened community resource management committees at village level (in Output 2.1), reflecting the importance placed by national government on gender equality at all levels of political decision-making and peace-building, as envisaged in the 2015 gender quota law. The project will include advocacy and lobbying campaigns with communal and customary authorities, including religious leaders and village chiefs, in order to ensure that women's organizations have access to plots of land to implement and promote good SLWM and climate-smart agriculture practices. Awareness and education campaigns through radio programmes (in Output 2.2) will include messages targeted for women, young people and displaced persons, in the national languages of Fulfulde, Bozo, Songhoy and Dogosso.

[1] <https://reliefweb.int/report/mali/ending-gender-based-violence-mali>

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? Yes

closing gender gaps in access to and control over natural resources; Yes

improving women's participation and decision-making; and/or Yes

generating socio-economic benefits or services for women. Yes

Will the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

Large private sector actors involved in global value chains are mostly located in the South of the country, for example, in the mining sector and cotton exports. Since the 2012 clashes in the North shook the Malian economy, the country has been attempting to rebuild its private sector to be competitive and attract international investment to boost the economy, with ongoing efforts to rebuild the damaged road network. The majority of private sector actors in Mopti Region are middlemen and traders who distribute meat, fish and agricultural produce and sell it in urban markets. Private sector actors relevant for the project include Mopti-based for-profit companies and social enterprises engaged in supporting youth entrepreneurship and access to microfinance. All private sector partners engaged in project activities will be subject to due diligence assessments, as per the UNDP Private Sector Due Diligence Policy, which will be undertaken during the PPG phase.

In Component 3, the project will work to facilitate youth entrepreneurship, by providing opportunities for local youth from target communities to receive entrepreneurship training in existing incubator programmes in Mopti city. Discussions are being initiated on the potential to partner with private sector organizations like: (i) TETELISO, also referred to as the Mali Agribusiness Incubation Hub (MAIH), presently l'Incubateur TETELISO de l'IER and (ii) DoniLab, also referred to as DoniLab Incubator – Fablab. In Output 3.1 (village cooperatives) and Output 3.2 (youth businesses), provision will be made to matchmake rural entrepreneurs with microfinance institutions in Mopti – including the Agency for the Promotion of Investments in Mali and the Program for Rural Micro-finance[1]. Access to loan finance and also loan guarantees will be provided for youth with solid business plans and family/community backing – for new businesses in agri-processing and climate-smart technologies, with a potential partnership with Guarantee Funds for the Private Sector SA[2] for loan guarantees. The project will also support capacity development of youth to become entrepreneurs in supplying photovoltaic electricity, essential for groundwater pumping (in areas where this can be practised sustainably) and for agri-processing operations, and partnerships will be explored in the PPG phase with relevant training service providers

[1] Agence Pour La Promotion de Investissements au Mali and Programs de MicroFinance Rurale

[2] Le Fonds de Garantie pour le Secteur Privé SA

5. Risks to Achieving Project Objectives

Indicate risks, including climate change, potential social and environmental risks that might prevent the Project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the Project design (table format acceptable)

Pre-screening has been carried out, in accordance with UNDP’s Social and Environmental Safeguards Policy, to identify social and environmental safeguard risks that the project might trigger. A total of 14 specific risks has been identified and is outlined in detail in the attached SESP Pre-Screening Report, together with the assessments that will be conducted during the project preparation phase to further analyze these risks and how they can be mitigated in the detailed project design. The overall risk rating for the proposed project is High. The project is considered High Risk because of the positive response to Principle 1 and Standards 5 and 6 of Principle 3, especially Standard 6, question 6.3, in combination with the current fragile and conflict-affected nature of the Mopti Region and Mali as a whole, which means that all project interventions may be affected by the security situation, and must be very carefully planned, implemented and monitored. The following will be prepared during the PPG to meet SES requirements revealed in the pre-screening: ESMF, Stakeholder Analysis and comprehensive Stakeholder Engagement Plan, Gender Analysis and Gender Action Plan, Initial FPIC consultations, Security Plan, and Project-level Grievance Redress Mechanism (draft/outline). During the early phase of implementation, a Social Inclusion Plan (equivalent of an Indigenous People’s Plan) and a Livelihoods Action Plan will also be developed, as part of the ESIA/ESMP. The table below highlights some of these risks, as well as others relating to external factors beyond the project’s control, with planned mitigation measures.

Table 7: Risk analysis and mitigation measures

Risks	Risk Rating	Risk Mitigation Measures
<p>Risk 1: The project fails to meet its outcomes as a result of too many serious risks materializing</p>	<p>Moderate</p>	<p>In order to give this project – deemed high risk in terms of the pre-screening – a good chance of success in meeting its outcomes, a number of mitigation measures will be put in place, starting with in-depth work in the PPG phase on assessments and management measures – through an ESMF, Stakeholder Analysis and comprehensive Stakeholder Engagement Plan, Gender Analysis and Gender Action Plan, Initial FPIC consultations, Security Plan, and Project-level Grievance Redress Mechanism (draft/outline). During the early phase of implementation, a Social Inclusion Plan, and a Livelihoods Action Plan will also be developed, as part of the ESIA/ESMP.</p>
<p>Risk 2: Project activities are hampered by restrictions as a result of COVID-19 pandemic</p>	<p>Low</p>	<p>Although it is unlikely that a vaccine will have become available and widely administered in Mali by early 2021, measures can be put in place to enable project preparation and later implementation to proceed. Social distancing protocol will be followed</p>

		<p>ination to proceed. Social distancing protocol will be followed, with outdoor meetings where possible, face masks and hand sanitizing, wherever the risk profile warrants such measures.</p>
<p>Risk 3: The central regions of Mali face increasing risks of climate change-induced disasters – including more intense and frequent flash floods in the inland Niger Delta region, and worse and more frequent droughts as a result of erratic rainfall combined with increased temperatures</p>	High	<p>These risks are to some extent mitigated by the availability of significant global environmental and climate finance to support Mali in reducing disaster risk. A separate LDCF-funded project is tackling increased flood risk – including work in Mopti, Keyes and Bamako. The proposed GEFTF/LDCF project tackles drought risk in vulnerable districts of Mopti through a suite of proposed interventions designed to restore and enhance productive capacity that is being undermined by climate change and desertification.</p>
<p>Risk 4: The project outcomes are compromised by the impacts of climate change</p>	Moderate	<p>Measures will be put in place to minimize the risks to project activities, for example, reducing potential impacts of drought by developing additional water sources to complement market gardening schemes, and relying on resilient indigenous tree species for greening rather than water-intensive species like eucalyptus.</p>
<p>Risk 5: Conflict with jihadists in the Northern regions of Mali and neighbouring Burkina Faso results in significant additional numbers of people migrating into Mopti Region, placing additional strain on resources</p>	Medium	<p>The project has been designed around the reality of large numbers of internally displaced people across Mopti Region, and activities explicitly include them - for example, communal restoration work in Output 2.4 and cooperative business in Output 3.1, to help promote social inclusion and peace-building. In-migration into project cercles and communes will be closely monitored, and plans adjusted as needed.</p>
<p>Risk 6: The political upheaval and transition at national level results in a lack of government support for the proposed project</p>	Low	<p>This risk is being mitigated by ongoing discussions between the Country Office of UNDP in Mali and the Government, through the GEF Operational Focal Point and the Implementing Partner for the project, AEDD, and Government remains firmly committed to the project, as indicated by the signing of the LOE by the new OFP.</p>
<p>Risk 7: Project activities and results are constrained by ongoing conflict in the Mopti Region</p>	Moderate	<p>The ESMF (to be prepared during PPG) will involve a detailed analysis of the security situation at the time of project inception, with recommendations for mitigation measures to minimize risk to project staff, and to support the security of vulnerable communities in target landscapes.</p>
<p>Risk 8: Women's participation in c</p>	Moderate	<p>A detailed analysis will be undertaken in the PPG phase in relat</p>

<p>community natural resource management structures is limited by traditional perceptions on gender roles</p>		<p>ion to perceptions on gender roles, barriers to participation, and capacity gaps and needs, resulting in recommendations on how best to involve both men and women in new / strengthened structures, and on the content of the business and leadership training to be provided for widows' organizations.</p>
<p>Risk 9: Project beneficiaries find it very difficult to access micro-finance for loans to scale up business activities, especially youth and married women</p>	<p>Low</p>	<p>The project will be designed to matchmake rural entrepreneurs with microfinance institutions in Mopti including the Regional Investment Promotion Agency and the Program for Rural Micro-finance, and with providers of loan guarantees for those without collateral – e.g. Guarantee Funds for the Private Sector SA.</p>
<p>Risk 10: Security threats prevent staff from travelling to project sites from Mopti or Bamako, including risk of improvised explosive devices on the roads</p>	<p>Low</p>	<p>As far as possible, project staff will be recruited from within the communes of the target landscapes – training local youth as United Nations Volunteers, and rooting project activities firmly within the Mayor's Office at commune level, to ensure continuity regardless of the security situation.</p>
<p>Risk 11: New/strengthened community natural resource management committees are unable to resolve conflicts between herders and pastoralists</p>	<p>Moderate</p>	<p>Committees at village level will be supported through the project to facilitate effective negotiations on grazing, access to water, and seasonal migration routes for livestock, resulting in clear verbal and written agreements, based on accessible maps, that build on customary arrangements and involve local government, traditional authorities and religious leaders, with mechanisms in place for resolution of conflicts.</p>

6. Coordination

Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

The Implementing Partner for the project is *L'Agence de l'Environnement et du Développement Durable* (AEDD) or the Agency for Environment and Sustainable Development (AESD). Established in 2010, AEDD is a public administrative institution under the Ministry of Environment, Sanitation and Sustainable Development (MEADD), based in Bamako. Its mission is to “achieve sustainable development through effective environmental management that focuses on the preservation of biodiversity, the fight against desertification and climate change.” As is deemed necessary for overseeing specific aspects of project implementation, other government agencies and non-governmental organizations may be identified during the PPG phase and become Responsible Parties in terms of Letters of Agreement between themselves and AEDD (awarded Low Risk rating by the HACT micro-assessment). The multi-agency Technical Committee overseeing the PIF development (see Section 2 above for its composition) will be broadened during the project implementation phase and will form the nucleus of the Project Steering Committee to guide implementation, also including civil society and private sector representation. For the duration of the COVID-19 pandemic, protocols for social distancing will be observed wherever face-to-face meetings are held. Monitoring and evaluation of project implementation will be carried out in line with standard procedures for GEF-and LDCF-finance projects managed by UNDP as the GEF Implementing Agency. Close coordination will be carried out through AEDD and UNDP's coordination structures with related initiatives listed in the table in Section 1a above, with whom the project shares common objectives.

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assessments under relevant conventions

Yes

If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc

The project is well aligned with Mali's national policies, laws and strategies, in particular with the following: the Constitution, Strategic Framework for the Economic Recovery and Sustainable Development of Mali (CREDD 2019-2023), Strategic Framework for Growth and Poverty Reduction (CSCR), and National Strategy for Sustainable Development (SNDD); National Policy on Climate Change (PNCC); National Adaptation Program of Action (NAPA, 2007); National Strategy for Climate Change (SNCC) and National Climate Action Plan, all formulated in 2011; Mali Climate Fund set up in 2012; National Country Report to the UNCCD on Land Degradation Neutrality (2020); National Forest Policy and its Action Plan 2018-2022, as well as the five-year reforestation plans; the National Environmental Protection Policy and its Action Plan 2018-2022; Agricultural Development Policy, Industrial Development Policy, Agricultural Land Policy of Mali, National Land Use Planning Policy, National Sanitation Policy, National Strategy for the Management of Protected Areas and National Wetlands Policy; and Strategic Investment Framework for Sustainable Land Management (CSI-GDT).

The project is aligned with and enhances reporting to the Rio Conventions – the 2016 Nationally Determined Contribution in terms of the Paris Agreement (UNFCCC), as well as UNFCCC National Communications (NC), Biennial Update Report (BUR), UNCCD Reporting, and also the National Biodiversity Strategies and Action Plan (NBSAP) and CBD National Report. In particular, the project is closely aligned with: (a) the LDN Targets set out in the National LDN Report for Mali (2020) as part of the National Land Degradation Neutrality Target Definition Programme, specifically targets and related actions to reduce forest loss, regreen woodland and grassland areas, restore soil fertility, and protect wetlands and (b) the Climate Change Adaptation priorities set out in the 2007 NAPA, highlighted at the 2013 Climate Summit and updated in the 2016 NDC, including: (i) restoration of degraded ecosystems aimed at reforesting 325,000 hectares, promoting assisted natural regeneration and combating erosion and sand encroachment; (ii) the development of smart agriculture improved seeds, livestock and fish varieties resilient to climate change, with sustainable hydro-agricultural development of 92,000 ha; (iii) creation of 3,300 km of transhumance corridors to reduce conflicts between farmers and herders, with 21 fenced pastoral areas covering 400,000 ha; (iv) rainwater harvesting and storage with creation of 20 drinking water supply systems and 200 surface water bodies and intake structures for 75,000 rural households; (v) development of 100 MW of renewable energy including photovoltaic energy, wind turbines, small hydroelectricity and biomass energy; (vi) use of meteorological information for disaster early warning systems and weather forecasting; (vii) management of the silting up of rivers and channels, and rehabilitating and constructing dugout wells and ponds for drinking water, livestock, crop irrigation and dry season gardening; (viii) capacity building in the face of climate change of all public and private sector actors, including women and young people, including (ix) resilient alternative income generating activities, cereal banks, access to micro finance, and new technologies that lighten women's working burden (improved cook stoves, solar equipment).

8. Knowledge Management

Outline the Knowledge management approach for the Project, including, if any, plans for the Project to learn from other relevant Projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

The project prioritizes knowledge management and thorough monitoring and evaluation, by including a whole component focused on these activities for lesson learning and upscaling. A Knowledge Management Plan will be developed during the project preparation phase. Dedicated resources will be made available for KM and M&E activities at commune, cercle, region, national and international levels, to ensure that project impacts are monitored and learning shared for scale-up of results across Mali, especially the Sahel regions, and sharing Mali's experiences with other African countries of the Sahel zone. In Output 4.1 a platform will be created to track and share information, resources and learning across related initiatives, in the project area and beyond – holding multi-stakeholder dialogues in Mopti on the interrelated challenges of SLWM, restoration, peace and climate security, and a national learning event in Bamako. Publications and videos will capture lessons learnt and serve as the basis for participation by Mali in international forums. In Output 4.2 a participatory M&E and learning framework will be developed and implemented for project as a whole, including learning exchange visits to share experiences in agro-ecological fields and ANR sites between target villages and communes, and training and equipping youth monitors to feed into the national monitoring system. During the project preparation phase, a baseline survey will be undertaken with communities in the three target landscapes – on climate vulnerability, adaptive capacity, production practices and livelihood activities, and incomes. The survey will be repeated at mid-point and end of project to monitor impacts of project activities, and will also be used as a pilot for forming part of a national system for vulnerability assessment and mapping, building on experience from other projects.

	M&E activities and costs	
	M&E activities (project budget)	M&E support (UNDP)
<i>Inception workshop</i>	M&E plan consultations: US\$2,000	Participation, review and oversight
<i>Inception report</i>	M&E Plan (including gender, ESS, stakeholder consultations): US\$10,000	Review and oversight
<i>Monitoring of core GEB indicators and project indicators</i>	Field monitoring; data collection; data collation; data presentation US\$30,000	Review, oversight and reporting through GEFSEC
<i>Project Implementation Report (PIR)</i>	Annual reporting: US\$5,000	Oversight, review and reporting through GEFSEC
<i>Supervision missions</i>	Host supervision missions of technical experts: US\$5,000	Oversight, review and reporting through GEFSEC
<i>Learning missions/site visits</i>	Hosting learning missions/ site visits:US\$10,000	Planning and organising learning missions/site visits
<i>Monitoring of ESS plans and gender action plans</i>	Monitoring and reporting on the implementation of plans: US\$25,000	Oversight, review and reporting through GEFSEC
<i>GEF tracking tool (MTR and TE)</i>	Updating GEF tracking tools: US\$10,000	Oversight, review and reporting through GEFSEC
<i>Mid-term review</i>	Outsource MTR; technical and logistical support: US\$40,000	Oversight, review and reporting through GEFSEC
<i>Independent Terminal Evaluation</i>	Outsource TE; technical and logistical support: US\$45,000	Oversight, review and submission to GEFSEC

9. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification*

PIF

CEO Endorsement/Approval MTR

TE

High or Substantial

Measures to address identified risks and impacts

Provide preliminary information on the types and levels of risk classifications/ratings of any identified environmental and social risks and potential impacts associated with the project (considering the GEF ESS Minimum Standards) and describe measures to address these risks during the project design.

Please see SESP Document attached

Supporting Documents

Upload available ESS supporting documents.

Title

Submitted

Mali PIF 6317 SESP Final 25 Sept

Part III: Approval/Endorsement By GEF Operational Focal Point(S) And Gef Agency(ies)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

Name	Position	Ministry	Date
Mr. Amidou Goita	Operational Focal Point Mali – GEF/FEM	Ministry of Environment, Sanitation and Sustainable Development	10/15/2020

ANNEX A: Project Map and Geographic Coordinates

Please provide geo-referenced information and map where the project intervention takes place

ANNEX A: Project Target Landscapes (PIMS 6317)

Geographical scope of project activities:

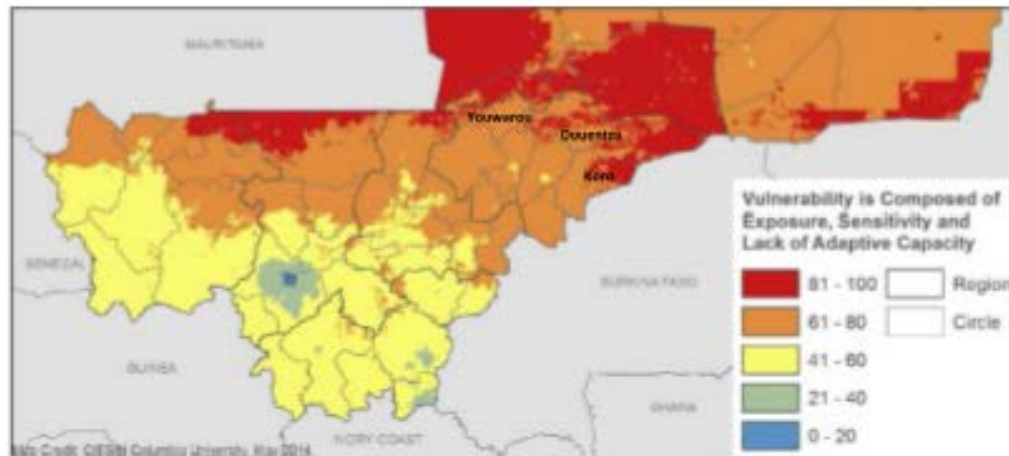
Components 1 and 4 of the project will be carried out at national scale, as well as with the regional government of Mopti Region.

Components 2 and 3 of the project are proposed to take place in three target landscapes in Mopti Region. These landscapes, to be made up of clusters of Communes (rural municipalities), may be focused in any of the 8 Cercles (districts) of Mopti Region, and the exact target landscapes will be selected during the PPG phase. At that time, a security analysis will be conducted to understand the extent to which the security situation in specific Cercles enables or prevents the carrying out of project activities. Depending on the security situation, a case could be made for focusing on the three Cercles of Youwarou, Douentza and Koro. These three cercles are the districts of Mopti where studies show that communities are most vulnerable to the impacts of climate change. This includes studies by GIZ undertaken in 2019, confirming the findings as indicated on the map below. The three cercles also include two of the five natural regions of the Sahel identified as hotspots of land degradation in Mali's 2020 *Land Degradation Neutrality Report* – the Gourma hotspot, and the Gondo-Mondoro hotspot. The Youwarou Cercle includes a portion of the inland Niger Delta which is flooded annually – and is both highly vulnerable to climate change and degradation, and a critical regional resource for building resilience.

The map below is from a detailed climate vulnerability analysis conducted in 2014 through USAID (northern part of country not included due to very low population density). This map shows cumulative results for vulnerability, composed of various indicators for (i) biophysical exposure to climate hazards, (ii) socio-economic sensitivity, and (iii) adaptive capacity.

The precise cluster of communes (rural municipalities) in the three cercles marked on the map that will form each target landscape will be decided during the project preparation phase (since travel to the field has not been possible during the COVID-19 pandemic), according to criteria to be agreed by the Technical Committee under AEDD, in consultation with stakeholders.

Map showing overall vulnerability to climate change¹



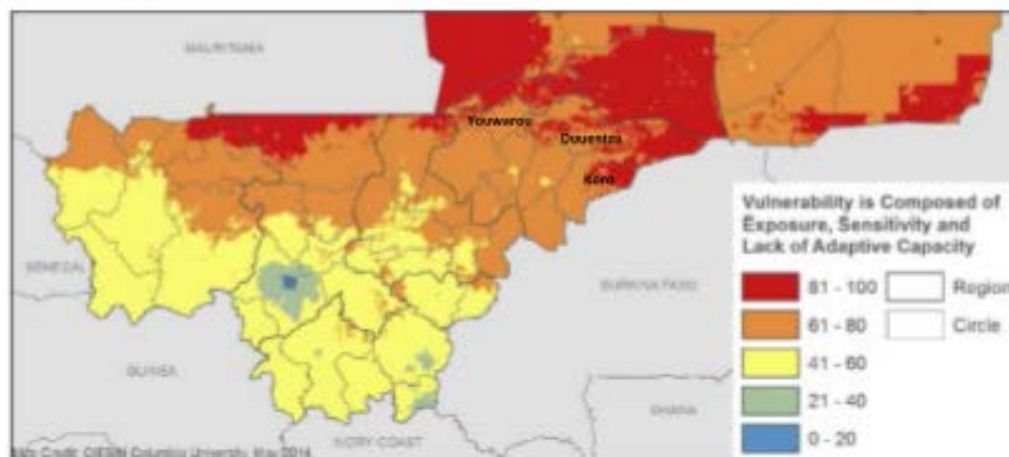
Map of Mali showing Mopti Region

Source: De Sherbinin, A.; Chai-Onn, T.; Giannini, A.; Jaiteh, M.; Levy, M.; Mara, V.; Pistolessi, L.; Trzaska, S. (2014):

Mali Climate Vulnerability Mapping. USAID <http://community.eldis.org/.5b9bfc3/Mali-CV-Mapping-Revised-CLEARED.pdf>

¹ USAID (2014) *Mali Climate Vulnerability Mapping*

Map showing overall vulnerability to climate change¹



Map of Mali showing Mopti Region

Source: De Sherbinin, A.; Chai-Onn, T.; Giannini, A.; Jaiteh, M.; Levy, M.; Mara, V.; Pistolessi, L.; Trzaska, S. (2014):

¹ USAID (2014) *Mali Climate Vulnerability Mapping*