



PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: FULL SIZE PROJECT

TYPE OF TRUST FUND: LDCF

PART I: PROJECT INFORMATION

Project Title:	Flood hazard and climate risk management to secure lives and assets in Mali		
Country:	Mali	GEF Project ID: ¹	5855
GEF Agency:	UNDP	GEF Agency Project ID:	5236
Other Executing Partner(s):	Agence pour l'Environnement et le Développement Durable (AEDD), Agence Nationale de la Météorologie (Mali-Meteo), Directorat of Hydraulic, Directorate General of Civil Protection (DGPC), local governments	Submission Date: Resubmission Date:	May 19, 2014 June 26, 2014
GEF Focal Area (s):	Climate Change	Project Duration (Months)	60
Name of parent program (if applicable):	n/a	Agency Fee (\$):	847,875

A. Indicative focal area strategy

Focal Area Objectives	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
CCA-1: Reduce vulnerability to the adverse impacts of climate change, including variability, at local, national, regional and global level	LDCF	2,800,000	9,000,000
CCA-2: Increase adaptive capacity to respond to the impacts of climate change, including variability, at local, national, regional and global level	LDCF	4,200,000	12,500,000
CCA-3: Promote transfer and adoption of adaptation technology	LDCF	1,500,000	4,500,000
Project Management	LDCF	425,000	1,000,000
Total Project Cost		8,925,000	27,000,000

B. Indicative Project Framework

Project Objective: Preparing municipalities and local governments to manage flood hazards and climate risks and secure lives and assets in Mali						
Project Component	Grant Type²	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
1. Risk knowledge to guide preparations for climate change induced risk management	INV	Climate Risk Knowledge Management related to flood hazards and vulnerabilities improved in target municipalities and villages including in Bamako, Kayes and Mopti	1.1. Establish sound climate information systems and devices operating 24 hours a day for monitoring and forecasting flood hazards and providing reliable warnings using mobile phone platforms; 1.2. Develop early warning and quick-response systems including distributing early warning information	LDCF	3,500,000	9,500,000
	TA		1.3. Undertake climate hazard analysis combining flood hazard mapping with socio-economic indicators (e.g. population maps, land value, assets and land use information) to derive associated risks; 1.4. Develop and role out education programme among school children to build a culture of safety and resilience from floods and other climate change related hazards.			
2. Addressing flood risks management into medium and long term planning process at the local level	TA	Policy reforms and financial strategies established to promote effective risk management and investments that strengthen resilience at the local level	2.1. Develop Flood Risk Reduction plans for Municipalities and villages (FRRP) that include local strategies, and concrete steps on how to reduce the risks from floods; 2.2. Design, harmonize and enhance existing building & settlement codes to address resilience to climate change induced flooding; 2.3. Develop financial strategies to ensure adequate financial capacity and rapid release of funds, thus enabling emergency response, reconstruction of public assets and infrastructure and targeted financial assistance. 2.4. Targeted training of national and local authorities responsible for climate risk management in advanced methods of forward looking climate risk management planning and flood prevention measures;	LDCF	1,500,000	4,500,000
3. Climate resilient investments to reduce risks of highly exposed communities	INV	Direct investments and local actions undertaken in highly exposed to improve flood management in light of existing and expected climate change impacts	3.1. Climate risk reduction measures implemented such as bank terracing, vegetative buffers, etc. implemented to increase the infiltration and reduce erosion 3.2. Structural measures, such as embankments, dykes, levees and floodwalls, etc., financed to protect human health and safety, and valuable goods and property.		3,500,000	12,000,000

Project Objective: Preparing municipalities and local governments to manage flood hazards and climate risks and secure lives and assets in Mali						
Project Component	Grant Type ²	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
Subtotal					8,500,000	26,000,000
Project Management Cost (PMC) ³				LDCF	425,000	1,000,000
Total Project Cost					8,925,000	27,000,000

C. Indicative Co-financing for the project by source and by name if available, (\$)

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
National Government	Ministries of Transport and Infrastructure, Hydraulic, DGPC	Grant	12,500,000
National Government	Ministry of Environment (AEDD)	In-kind	500,000
Local government	ANICET	Grant	11,800,000
Local government	Communes	In-kind	200,000
GEF Agency	UNDP	Grant	2,000,000
Total Co-Financing			27,000,000

D. Indicative trust fund resources (\$) requested by agency, focal area and country¹

GEF Agency	Type of Trust Fund	Focal Area	Country Name	Grant Amount (\$) (a)	Agency Fee (\$) (b) ²	Total (\$) c=a+b
UNDP	LDCF	CC-A	Mali	8,925,000	847,875	9,772,875
Total Grant Resources				8,925,000	847,875	9,772,875

E. PROJECT PREPARATION GRANT (PPG)⁴

Please check on the appropriate box for PPG as needed for the project according to the GEF Project Grant:

	<u>Amount Requested (\$)</u>	<u>Agency Fee for PPG (\$)⁵</u>
• (Up to)\$150k for projects up to & including \$6 million	<u>150,000</u>	<u>14,250</u>

PART II: PROJECT JUSTIFICATION⁶

PROJECT OVERVIEW

A.1 Project Description

According to UNDP climate change Country Profile; Mali is increasingly vulnerable to adverse temperature and rainfall changes. Mali has experienced fifteen floods events in the last 27 years, affecting between 10 000 and sometimes more than 45 000 people for each event. Occurring in both rural and urban areas, flooding is usually due to rivers and waterways overflowing combined with a drainage system failure. They occurred generally following high rainfall and are usually linked to a failure of land use planning and control, leading to uncontrolled occupation of flood prone lowland, rivers beds and floodplains. The main flood prone areas are located in the Delta Intérieur of Niger (64 000 sq km), which is an important ecosystem for water resources. In addition to the capital Bamako, the regions of Timbuktu, Gao, Mopti, Ségou, Kayes, Koulikoro and Sikasso are among the most exposed. On 28 August, torrential rains provoked flash floods in the capital Bamako, killing 37 people and t least 20,000 people were displaced ([OCHA, 11 Sep 2013](#)). By October 2013, almost 458,475 people had been affected by flooding and over 32,000 hectares of agricultural land had been

³ To be calculated as percent of subtotal.

⁴ On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEF/SEC.

⁵ PPG fee percentage follows the percentage of the GEF Project Grant amount requested.

⁶ Part II should not be longer than 5 pages.

destroyed ([OCHA, 17 Oct 2013](#)). Climate change is expected to increase inter-annual variability and the occurrence of extreme climatic events, as well as increasing intra-seasonal variability, for example an increase in the number of dry spells during the rainy season.⁷ Given that the potential for severe weather, associated with convective rainfall, atmospheric heating and moisture, will likely increase in many localities resulting in increases in intense rainfall, hail and winds, all of which are damaging to crops and infrastructure, increases in hazards associated with flooding are also a likely risk.

As climate change begins to manifest itself and populations/communities become more exposed to these threats (both through increases in vulnerability and expanding into unsafe areas), the need for local governments and communities to address climate risks is becoming urgent. Unfortunately, local decision-makers in Mali are currently not well prepared to manage the increased risks posed by climate change and variability, specifically related to flooding. There are significant policies, institutional, financial, technological and informational barriers that prevent the desired situation from emerging. These barriers include:

- *Limited capacity of national institutions to effectively predict floods and future climate risks:* The material capacity of both the National Meteorology Directorate and the National Hydraulics Directorate needs to be strengthened by setting up multifunctional platforms for data collection from meteorological and hydrological observation stations in priority flood prone areas. Additionally, mechanisms for the translation of flood forecasts into early warning information for critical public response and for activating action at community levels is not well established and it is critical that Mali create a harmonized disaster risks management information database and operations room able to inform policy makers and the public in real time.
- *Limited resources and skills of planning authorities at local level (municipalities, governorate and village) to efficiently carry out responsibilities on flood risks management:* The necessary data, methodologies and technical assistance to assess the potential physical and economic impact of climate change at the regional and local levels and develop climate change strategies are not always available. The land use and urban planning, which have the ability to influence the urban-rural footprint, do not currently address the long-term goal of a reduction of flood risks. Measures to ensure the technical quality and adequacy of plans and schemes, particularly through better understanding and mapping of risk prone areas (especially in flood prone areas), should be taken. Councils indicated that their revenue levels were inadequate to meet many of their functions, including maintaining and upgrading infrastructure and funding additional services provided to their communities on behalf of other levels of government.
- *Limited transmission of information and warning to the population:* Information and alerts are not adapted to the day-to-day needs of the population (both in terms of content, format and timing). The current system does not provide warnings in local languages. This often encourages people to rely on traditional warning measures and response systems to deal efficiently with the situation. However, their effectiveness is rather limited at present as the more recent generations are less familiar with traditional codes and systems that used to be in place within their communities. Moreover, their inclusion and integration into official (state) warning systems provided at the local level is not yet taking place.
- *Limited knowledge and application of the adaptation measures related to flood management:* In reality, the practice of disaster risks preparedness and recovery is a relatively new experience for most of the authorities at municipal and rural levels. Knowledge, guidance and reference models (examples and practical experiences that are more robust to all possible flood hazard evolution scenarios) are required. One example involves schools where the available schools are used as temporary shelters during floods (thus the schools are closed during this time) Disasters pose a tremendous threat to the achievement of universal primary education in most disaster-prone areas.

There are a number of on-going projects and programmes that can be capitalized by the GEF financed project to strengthen Mali's capacity to address climate change risks associated with flooding. These include: Domestic financing from Malian Government in support to Meteorological, hydrological investment/maintenance, and DRR (expected co-financing 13 million). Mali Meteo is providing information and appropriate services to different users. The Agency is ensuring functioning of 190 synoptic stations, 4 radars, 54 climatological and agro

⁷ Ebi, K., Smith, J. (2006). Mali Pilot Study: Climate Change and Agriculture In Ziguinchor. Final Report. Washington DC: U.S. Agency for International Development.

meteorological stations, 214 rainfall observation systems, as well as 2 systems to receive Meteosat Second Generation satellite images (under the support of WMO, EUMETSAT, AGRHYMET) and cloud seeding systems (2 airplanes). The National Hydraulics Administration (DNH) also assesses and monitors the levels of rivers and major waterways (specifically, Senegal and Niger River), through observatories.

The project will be also based on following actions undertaken by other ministerial departments such as: (i) The Directorate General of Civil Protection (DGPC), which currently organizing and coordinating prevention, forecasting and relief interventions; developing and implementing disaster management plans; The Agency for the Sustainable Development (AEDD), which hosting the Information System dedicated to the sustainable land and water resources sustainable management (SLWM). Furthermore, the project will be based on on-going support from the *National Local Government Investment Agency (ANICT)* that support local development on improving services to all communities, facilitating the provision of free basic level of services like water and electricity to every household; creating jobs in communities where people live; improving community health services working for social and economic development, etc. Finally, UNDP “*Local Governance Programme*” will be used as baseline to build the capacity of communes leaders on public investment programming system while LDCF resources will facilitate the integration of climate change risks into local planning and develop financial mechanisms.

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

The Government of Mali recognises the significance of flood risk and the need to integrate flood risk assessment and its management into the development process. Drawing on NAPA priorities (6,16 & 19), the LDCF resources will support municipalities and local governments in managing flood hazards and climate risks and secure lives and assets in Mali. Local deciders and the national government will be able to ensure effective management of flood risks with disaster management plans in place, appropriate resources allocated and flood management tools well practiced and tested. Communities will be provided with both skills, technical support to improve long term policy frameworks, support to implement adaptation options and information allowing them to understand their risks, respect and follow issued warnings and know how to react when flooding occurs. Investing in education and preparedness programs will play a key role in reducing risks. Expected Outcomes and outputs are presented in below.

Component 1: Risk knowledge to guide preparations for disaster prevention and responses

Baseline Situation

Technical risk assessments and monitoring are undertaken by Malian specialized agencies but are frequently limited. The National Meteorology Directorate continuously evaluates and monitors rainfall and temperatures, and makes forecasts. The Agency is ensuring functioning of 190 synoptic stations, 4 radars, 54 climatological and agro meteorological stations, 214 rainfall observation systems, as well as 2 systems to receive Meteosat Second Generation satellite images (under the support of WMO, EUMETSAT, AGRHYMET) and cloud seeding systems (2 airplanes). But the weakness of observation stations in critical flood prone areas as required, reduces the quality and accuracy of monitoring and forecasts.

The National Hydraulic Administration (DNH-Direction Nationale de l'Hydraulique) carries out the mechanisms in place for hydrological information/data collection and exchange. DNH manages the national network of hydrological stations, constituted of 90 stations on the Niger and Senegal Rivers. Water level readings are done by observers, with the transmission of data by radio or telephone to the DNH in the capital, Bamako. 24 stations are equipped with a telemetry system through the Hydro-Niger project (although not all of them operational). Recently, under a hydro-ecological project on the upper part of the Niger River (Ghenis) 8 automatic stations were installed; it constitutes an early warning system for floods and pollution in the upper Niger River basin. However, a spatial risk and vulnerability analysis of exposed elements (geo-referenced) and flooding hazards, combined with a potential socio-economic impact analysis is not undertaken and would provide a more diverse and useful flood risks assessment and mapping tool. In addition, most of localities facing to flash floods are not equipped with water gauges.

DGPC undertakes a participatory identification of risks in all Communes of Mali in view of realizing a risk mapping and establishing an organized and dynamic database. This exercise allowed to localize the various existing risks from the ground, and to engage the local level in the planning of future risk reduction actions. The results of this risk identification were collected through the Risk Identification Form/Sheet (FICAR).

It could be said that with regard to a Climate Information and Early Warning System, Mali has a good experience in terms of risk assessment, detection, monitoring and prediction of locust and drought hazards. But a number of needs have to be addressed for effective flooding risk assessment, monitoring and mapping. Previous hazard analyses and mapping should be supplemented by a vulnerability analysis and mapping of the main assets at risk, including their inventory (geo referenced) and consideration of their level of resistance to destruction. These assessments should also include the probability and degree (including economic value) of potential socio-economic damage and losses caused by floods according to different scenarios of flood risk. Spatial flooding risk analysis and assessment can be extended to other highly exposed areas including vulnerable districts of Bamako city to guide decisions and future planning. Finally, to ensure the reliability of the mapping generated from the participatory identification data (FICAR), their combination with technical and scientific risk evaluation data is needed. A geographic information system on disasters and risk management (for floods, but would be extended to other hazards later), which is dynamic, easy to use and regularly updated, with open access, should be established and capitalize on the existing experiences from Mali Meteo, MNH or DGPC. The material capacity of both the National Meteorology Directorate and the National Hydraulics Directorate is to be strengthened by setting up a multifunctional platform for data collection from observation stations in some priority areas. This will optimize the national coverage and enhance the quality of the rainfall, temperature and water level forecasts for these areas.

Existing efforts undertaken towards building a functioning climate information early warning system, linked to national and sub-national planning and management of short as well as long-term climate risks would need to be strengthened, particularly for rapid onset hazards such as flooding. This will involve coordination of the various existing early warning systems, including the timely reception of observation data from measuring stations, the content and format of messages/warnings. Additional monitoring of the coverage and effective use of warnings/messages by recipients needs to be permanently maintained (monitoring system). The system and mechanism for transmission, reception and use of warnings at the community level will need to be strengthened, through a well-defined organization and adequate equipment.

Additional cost reasoning

Under this component of the project, Climate Risk Knowledge Management related to flood hazards and vulnerabilities would be improved in target municipalities and villages in Bamako, Kayes and Mopti regions. The Government of Mali will use LDCF resources to improve risk knowledge processes for local climate risk management, in conjunction with on-going disaster management and response measures in target municipality and villages () with a continuous, systematic, standardized process to collect, assess and share data, maps and trends on hazards and vulnerabilities. Indicative outputs include:

Output 1.1: Sound scientific information systems and devices operating 24 hours a day will be established for predicting and forecasting flood hazards and a reliable forecasting and warning system. LDCF resources will be used to procure and install essential monitoring equipment such as automatic rainfall stations and water gauges. These are essential to improve the density and adequate coverage that is currently missing in the target flood prone areas for improved observation and forecasting capacity. While this project will establish and rehabilitate existing monitoring stations, their long-term maintenance will be assured by the government of Mali and specifically by Mali Meteo and DNH that have the dedicated staff and associated budget allocations for continued maintenance and operation of monitoring and early warning systems. The financial sustainability of the institutions will be assessing to accommodate the need for managing additional stations.

The actual equipment that will be procured will be based on an assessment of the current situation, noting the manufacturer/type/model, whether it is still working and whether the NHMS has an interest in continuing with particular makes/models. This will need to be weighed against the costs of potentially cheaper solutions

and the added costs of training personnel to service different products. These and other details will be investigated during the preparatory phase and outlined in the documents submitted for CEO endorsement.

Output 1.2. For each target municipality and villages, a climate hazard analysis combining the hazard mapping results (particularly floods) with population maps, land value, assets (rural and urban), infrastructure (roads, bridges, irrigation etc), and land cover information will be undertaken in order to derive the exposure of these items to the hazards. This should include indigenous knowledge about hazards and how to cope with them traditionally. In this framework, climate hazard maps are necessary input data layers for a spatial representation of the natural hazards in targets Districts and villages. The systematic/structured historical hydro meteorological observations, measurements and other data will be digitized, saved and linked to the AEDD-Information System dedicated to the sustainable land and water resources sustainable management (SLWM) that are essential for prospective planning and are currently missing in the Early Warning System. This will be combined with an evaluation of economic impacts of hazards taking into account direct and indirect damages. Additional analysis of more detailed geographic information systems (GIS) data, cadastres, and ground-truthing, are also planned to ascertain detailed risks faced by specific populations and built areas. Activities will be developed in close cooperation with Mali Meteo, DNH, the existing science community in Mali, and relevant scientific platforms existing in other countries or organisations (WMO-Helpdesk for Integrated Flood Management, World Bank- Global Facility for Disaster Risk Reduction, etc.). Training of technical experts from Mali Meteo and DNH Services and from water resources management and land planning authority will be organised to familiarize them with different methodologies, tools, and networks for flood hazard data collection, analysis and management and flood risk mapping policy to support flood risk assessment, in the broader context of Integrated Flood Management, multi-hazard risk assessment and disaster risk management.

Output 1.3. Climate information early warning information and education tools developed to build a culture of safety and resilience from natural hazards and climate change impacts. Local knowledge and information dissemination activities will be implemented, targeting local public agencies and local communities, on the seriousness of the natural hazards and climate change impacts on their own lives. Experiences from the UNDP Africa Climate information and Early Warning Project will be used. Following activities are planned:

- A Climate information and Early warning communication network will be established using different communication links such as telephone trees, SMS and e-mail networks, rural radios, etc. The warning dissemination system has to secure efficient communication of warnings and other relevant information, including reaching remote households with limited access to information. Short and easily understood messages need to be developing to allow communities at risk to understand and recognise warning messages.
- Early warning awareness and training workshops will be provided for community, NGOs, government and media representatives on natural hazards, risks and options to prevent or mitigate the effects of severe natural events. It will also develop awareness of the public and media on the gender sensitive vulnerabilities and capacities in disasters and gender specific needs and concerns in disaster risk reduction and management.
- For broader information dissemination and awareness, mass media, such as local, regional and national radio and TV stations can be targeted and trainings can be provided to the broadcasters on the warning levels and standards so the information provided are coherent at all level. The Climate information and Early warning communication network will help to dissemination of hazard maps and associated information to central and local government stakeholders. In addition a public-facing website will also be developed to provide key layers of information to ministerial departments, with the potential to disseminate early warning information.
- Finally, the curriculum of schools will integrate teaching on local risk and hazards with (i) inspectors and pedagogical advisors and the directors of primary schools sensitized to better understand the risks and opportunities related to flood risk, climate change and adaptation; (iii) educational booklets on flood risk and climate changes, including modules and manuals for teachers and children developed and disseminated to facilitate the process of integrating CC issues into curricula.

Component 2: Addressing flood risks management into medium and long term planning process at the local level

Baseline Situation

The proposed LDCF funded project is based on efforts at national and local level to improve capacity of decentralised structures and DGPC on disaster risks management and local governance.

The DGPC and its decentralized structures are particularly active in implementing decentralized disaster risk management interventions. In this framework DGPC is promoting authorities' responsibility for implementation by involving Governors, of Circles Commanders and Mayors, within the disaster risk management and reduction system. However, resources and adequate skills to efficiently carry out those decentralized authorities' responsibilities and optimising partnerships with the community would be critical priorities to successfully ensure this desired effective decentralization of DRM.

At the local level, the planning of local development for a greater understanding of the needs of the population and for programming of investments in the annual budgets of local authorities can be considered as an important emerging culture. More than just to solve problems, all these development plans are oriented towards making the most of local potential, and preparing essential conditions for creating wealth in order to combat poverty. In this framework, UNDP is supporting authorities and local government officials to identify the need for reform in the area of decentralization and local development and to define in this context strategic plans for the post-transition period. Training are organised on (i) how authorities and local government officials can improve their core competencies in order to consolidate the foundations of a harmonious local development, (ii) process to undertake for strengthening social cohesion and promoting national dialogue, and (iii) the implementation of measures to ensure community safety. However, there is still a lack decision support tools at local level that help a better preparedness to current and increasing flood risks. The authorities and local government officials lack technical capacity, especially in relation to dealing with complex issues like climate variability, change and associated risks. Better support is needed to ensure the technical quality and adequacy of developed local plans and schemes, particularly through better understanding and mapping of risk prone areas (especially in flood prone areas in case of flooding).

The climate risk management financing mechanism is not yet sufficiently developed and adapted. A National Solidarity Fund exists but it is exclusively dedicated to the implementation of specific social protection interventions. A Food Security Fund also exists. To carry out responses to potential disasters such as floods, the mechanism currently in place is the use of funds from the state budget, by reallocation or creation of relevant budget lines. Each ministry also has budget lines that could be mobilized for response as well as municipalities that have funds for relief needs. To optimize the disaster response, appropriate financial arrangements, flexible and easy to mobilize, providing funds for multi sectoral needs of various disasters is necessary.

Additional cost reasoning

Building on these baseline initiatives, LDCF resources will be used to establish policy reforms and financial strategies to promote better risk management and investments that strengthen resilience at the local level.

This component will be a key step for the advancing NAP process in Mali, specifically by promoting long term planning at local level. Key outputs are following:

Output 2.1: Flood Risk Reduction Municipality/Village Plan (FRRP) developed based on the results from the spatial analysis (output 1.2). These plans are aimed at characterizing hazards and vulnerabilities as well as capacities and develop strategies, early warning and quick-response system, and concrete steps on how to reduce the risks from hazards. They will also cover the crisis management before, during and after the flood event: organisational schemes with a clear allocation of responsibility, preparation and sources of and access to real time information etc. The Plan will be developed in consultation with village dwellers, local government and regional branches of state technical services (hydrology, meteorology, rural development, forestry, civil protection, etc.). The participatory approach will facilitate the finding of acceptable solutions, increase the knowledge and awareness about flood risk and encourage the acceptance of the proposed solutions by the local populations. It will ensure also an equal and gender-sensitive participation of women and men in risk analysis, leading to better policy-making design.

Output 2.2. Existing building codes/design harmonized and enhanced to address resilience to climate change induced flooding. The Ministry of housing/local governments will support the establishment of regulatory incentives to avoid inappropriate land use practices in the flood prone areas given concerns about the implications of climate change. Training and support will be provided to national and local authorities to integrate new building codes and standards into national and regional development planning, including the development of management tools that will be needed for implementing and enforcing the new building codes.

Output 2.3. Financial strategies developed to ensure adequate financial capacity and rapid release of funds, thus enabling emergency response, reconstruction of public assets and infrastructure and targeted financial assistance. In coordination with the ministry of Finances and local financing institutions, it will be possible to (i) better quantify the scale of expected disaster costs and identified financial vulnerabilities within the local economy by assessing the distribution of risks and financial capacities to absorb them; (ii) evaluate the availability, adequacy and efficiency of risk financing and risk transfer tools to address financial vulnerabilities facing households, businesses and local governments and clarify the allocation of disaster costs so that there are incentives to reduce or financially manage risks ; and (iii) assess the need for government intervention to take corrective action in risk financing and risk transfer markets and/or address financial vulnerabilities and, if a role is identified, determine the appropriate schemes or instruments.

Component 3: Investing in climate resilient practices to reduce vulnerability of highly exposed communities

Baseline situation

At the national level, the Malian Government established the ORSEC Plan (Relief Organization Plan) as the main disaster response tool and it exists at national, regional, local (circle) and communal levels. However, significant needs can be identified, particularly related to the implementation of post-floods recovery. In reality, the practice of post-disaster recovery is a relatively new experience for most of the authorities at municipal level as well as at central and regional levels. Local government authorities need knowledge, guidance and reference models (examples and practical experiences) on the implementation of recovery. . While risks associated with drought are widely addressed, the long-term reduction of flood risks is only partially addressed.

Since its creation 10 years ago, the Board of Directors of ANICT has granted 128 billion CFA in investments for a total of 11,792 projects in all 9 regions (all sectors combined). Each year, “drawing rights” are awarded to local governments on the basis of their “primitive budget,” submitted before September 30 of each year to local governments and a second “additional budget” submitted before June 30. In 2012, funding from ANICET allowed municipalities to improve access to drinking water by making water points such as large-diameter wells, modern wells, intakes, boreholes) and to achieve: (i) the construction / rehabilitation of administrative buildings or annexes, (ii) the establishment of shops (craft shops, market sheds, wildlife parks), (iii) the construction /rehabilitation of classrooms and maternity clinic and their equipment. However, there are limited resources prioritized for disaster risk reduction and minimal fiscal space to fund relief and recovery efforts after a major disaster. As many people are already living in flood plains formed by rivers beds and basins, especially in Bamako and in the Delta of Niger, it is crucial to invest in strengthening the resilience of infrastructure and houses in these areas. The establishment of appropriate drainage and sanitation systems is also needed particularly in urban areas, such as Bamako, where rains, often short but intense, may cause rapid flooding of low level located areas.

Additional cost reasoning

Direct investments and local actions will be undertaken in highly exposed and vulnerable communities to improve flood prevention and risk mitigation in light of expected climate change impacts. The priority areas will be defined during the PPG. The process for determining the most appropriate structural interventions requires stringent research, assessment and analysis, involving a multidisciplinary team, and a participatory stakeholder approach. The primary beneficiaries would be the municipalities and communities. Indicative outputs include:

Output 3.1: Bioengineering measures such as bank terracing, vegetative buffers, etc. implemented to increase the infiltration and reduce erosion. Upstream watershed integrated flood risk mitigation measures will be undertaken by communities involving sustainable land and water management techniques and riverbank protection using plants and mechanical flood protection measures. Community land within upstream watersheds will be restored or protected, to increase the infiltration and reduce erosion. Trees will be planted together with other biological barriers to arrest and conserve the surface flow of silt and sand in situ in the upper catchment of the watersheds.

Output 3.2: Structural measures, such as embankments, dykes, levees and floodwalls, etc., financed to protect human health and safety, and valuable goods and property. Embankments, dykes, levees and floodwalls will be well designed to protect areas from flooding by confining the water to a channel, thus protecting the areas immediately behind them. The method of protecting an entire area by building a dyke is a traditional method applied by communities of flood-prone. In urban areas, LDCF resources will support the maintenance or rehabilitation, where necessary, of flood ways, bypassing channels, dykes, storm water drainage etc. in key areas identified through output 1.2. During the project preparatory phase, environmental and Social assessments will be undertaken to analyze the cost-effectiveness and due-diligence with respect to socio-environmental and other standards. Identification of measures will be based on current and future vulnerability using different climate scenarios through the downscaling of available climate data and coupling with matching socio-economic information.

Adaptation benefits

The project is expected to develop adaptation benefits that minimise the exposure of vulnerable population to floods and flash floods risks and thereby minimise losses of assets that will accelerate with the expected impacts of climate change on the hydrological regime. The project is seeking to develop long-term sustainable approaches by mainstreaming climate risk management into local development plan. The sustainable land and water management techniques and riverbank protection will help to maintain/restore biodiversity by strengthening the functionality of the ecosystems. Local government will recognise the significance of flood risk and the need to integrate flood risk assessment and its management into the planning process in order to deliver a policy of avoidance or minimisation of potential future flood risk, and as part of a range of responses to flooding including risk evaluation, flood forecasting and warning, emergency response system and capital projects of an engineering nature.

The project will promote the understanding of gender concerns and needs in climate change risk reduction. The project will take into account gender concerns considering resource degradation and natural disasters (flooding) affects differently men and women and vulnerable groups (children, young and old). The dissemination and sharing of information will be developed and disseminated in order to ensure that women and girls - especially those who are poor or who were denied the right to education - can easily have access to the necessary information. Gender issues will be appropriately highlighted throughout the entire risks assessment and training material. In term of policy planning, Gender specific information elements ought to be integrated into such materials, as gender sensitive analysis and planning is an important aspect of effective climate risk planning and response.

Innovativeness, sustainability and potential for scaling up

Innovativeness	The project will support the introduction of climate resilient technologies at communities' level to help to cope with increased frequency and intensity of hazards such as flood. New flood risk assessments and monitoring will be made available in Mali.
Sustainability	The project builds mainly upon existing political and institutional structures of the government; with capacity development efforts focused on institutional strengthening within local authorities and coordination between them.
Potential for scaling up	Climate risk information will be integrated into land-use guidelines, management regulations and development plans at national, provincial and community levels Capacity building of technical experts can be replicated comparatively easy through

	the government's own work plan, if funds are made available through the national budget.
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A.2. Stakeholders. Identify key stakeholders (including civil society organizations, indigenous people, gender groups, and others as relevant) and describe how they will be engaged in project preparation:

Stakeholder	Relevant roles in Project Preparation
Agency for the Sustainable development (AEDD), GEF Agency	Ensure coordination of the PPG; Facilitate involvement of stakeholders participation in identification of project activities and institutional arrangement; Secure Co-financing Letters; Facilitate organisation of PPG inception and validation meeting Provide technical input in the Prodoc.
Mali Meteo and DNH	Participate in meeting and fora for the identification of Project key actions; Contribute technically in the project document during PPG – provide list and locations of existing equipment, data transfer facilities, archiving and quality control
Directorate General of Civil Protection (DGPC)	Participate in meeting and fora for the identification of Project key actions; Contribute technically in the project document during PPG
Municipalities and local authorities	Participate in meeting and fora for the identification of Project key actions; Contribute technically in the project document during PPG
Community organizations and civil society groups (including media)	Participate in meeting and fora for the identification of Project key actions;
Development Partners	Contribute technically in the project document during PPG

A.3 Risk. Indicate risks, including climate change

Risk	Level	Mitigation
Unavailability of requisite human resources and data	High	Training activities of local personnel will also be part of all aspects of the work and the relevant institutions will be encouraged to expand the staff base if it is weak in particular areas.
Insufficient institutional support and political commitments	Medium	The proposed project is strongly supported by Government and other key stakeholders and development partners. The project, in conjunction with UNDP, will therefore take advantage of this opportunity to seek substantial support from the Government and forge strong partnership with other development partners. Direct linkages to existing and planned baseline development activities implemented by government, securing of the necessary co-financing, as well as local buy-in will also minimize this risk.
Insecurity leading to the destruction of Met Infrastructure	Low to medium	Malian army is now trained and supported by international bodies to secure infrastructure. Placement of new infrastructure will include security fences and engaging local populations to ensure buy in and understanding of the local benefits the infrastructure provides
Climate shock occurring during the design and implementation phase of the project	Low to medium	There may be some delays as more urgent priorities may need to be addressed by some of the stakeholders (e.g. NHMS or disaster management) but it is unlikely that this will derail the project. Care will be taken to protect equipment from damage from climate shocks etc.

A.4. Coordination. Outline the coordination with other relevant GEF financed and other initiatives:

GEF ID	Agency	Project	The coordination is ensured under the
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3979	FAO	Integrating Climate Resilience into Agricultural Production for Food Security in Rural Areas ((Mopti, Kayes and Sikasso)	national climate changes committee where projects exchange information and experiences. The projects will establish a connection with the current and future initiatives on adaptation under the Mali Climate Funds by providing the necessary knowledge and tools for adaptation and disaster risks management. During the Project Preparation Grant (PPG), in-depth consultations will be carried out in order to establish partnerships, practical modalities for cooperation with the listed on-going initiatives so as to avoid duplication and allow the resources to draw from the progresses and achievements made thanks to such initiatives.
4822	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 (
3776	UNDP	Enhancing Adaptive Capacity and Resilience to Climate Change in the Agriculture Sector in Mali (Kayes, Sikasso, Mopti, Gao, Koulikoro & Segou)	
5192	UNDP	Strengthening the Resilience of Women Producer Groups and Vulnerable Communities in Mali (Sikasso, Kayes, Koulikoro)	
5133	WB	Senegal River Basin Climate Change Resilience Development Project	
5270	WB	Mali Natural Resources Management in a Changing Climate Project' (Kayes, Koulikoro)	
UNDP		Programme for the Support of the National Strategy for Adaptation to Climate Change in Mali (Kayes, Koulikoro, Ségou, and Sikasso)	

A.5. Description of the consistency of the project with:

B.1: National strategies and plans or reports and assessments under relevant conventions, if applicable. (i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NCSAs, NIPs, PRSPs, NPFE, Biennial Update Reports, etc.):

Mali's priorities in terms of development and global strategies are outlined in the Strategic Framework for Growth and Poverty Reduction (SFGPR 2012-2017) which focuses on 4 strategic axis: (i) Promoting sustainable growth and job creation; (ii) Equitable access to social services; and (iii) the consolidation of governance and structural reforms. The project outcomes are closely aligned and coordinated with efforts already underway within Mali to promote development, which is resilient to climate change at the national and local levels. The project is focused on strengthening the capacity of national and sub-national entities to improve evidence-based decision-making for early warning and adaptation responses as well as planning.

Mali developed a national policy on climate change (PNCC) to help the country cope with the challenges of climate change and sustainable development. The proposed LDCF project will support implementation of PNCC objectives 1 that aims to facilitate a better consideration of climate challenges in the sectoral policies and strategies & 5 that strengthen national capacity on climate change.

The project will also focus on key adaptation interventions that were identified in the NAPA process as being of high priority by stakeholders at national, departmental, communal and village levels. The proposed LDCF project is supporting the realization NAPA priorities 12 & 16.

- **NAPA Priority Project #12:** Awareness and organization of populations to preserve local natural resources (development of local conventions), regulation. The proposed LDCF financed project will engage local communities in preserving watershed. Community land within upstream watersheds will be restored or protected, to increase the infiltration and reduce erosion. Trees will be planted together with other biological barriers to arrest and conserve the surface flow of silt and sand in situ in the upper catchment of the watersheds.
- **NAPA Priority Project #16:** Communication with the people on the effects of climate change through the adoption of positive behaviors for adaptation. Climate information early warning information and education tools developed to build a culture of safety and resilience from natural hazards and climate change impacts

The Government of Mali recognizes the significance of flood risk and the need to integrate flood risk assessment and its management into the development process. Mali has experienced fifteen floods events in the last 27 years, affecting between 10 000 and sometimes more than 45 000 people for each event. Climate

change begins to manifest itself—in the form of increased frequency and intensity of hazards such as floods— and the Malian populations/communities become more exposed to these threats (both through increases in vulnerability and expanding into unsafe areas. Awar that this phenomenon would become more important and this question not well addressed in the NAPA 2007, the Government of Mali is requesting LDCF to address urgently flood risks management. As per LDCF guidelines, the project proposal has been determined through deep consultation with the Malian Government, which led to a consensus for using the LDCF resources to support municipalities and local governments in managing flood hazards and climate risks and secure lives and assets in Mali. As such, the proposal is in compliance with the NAPA rules and procedures and represents the response of Government of Mali to urgent and immediate adaptation needs.

Finally, the project supports UNDP Strategic Plan Outcome 3: Resilience-building by facilitating the integration of disaster risk reduction with adaptation to climate change and address differentiated social and economic impacts; and preparedness for disaster management and recovery at the sub-national and national levels. The proposal is aligned with the objective 3 of the Common Framework in support to the Transition (CCAT) - framework for the UN operational activities in Mali, to be implemented during this exceptional period of transition.

B.2. GEF focal area and/or fund(s) strategies, eligibility criteria and priorities:

This project is fully in line with LDCF/SCCF focal area objective 2 “Increase adaptive capacity to respond to the impacts of climate change, including variability, at local, national, regional and global level” and objective 3: Promote transfer and adoption of adaptation technology. It is specifically aligned with outcomes linked to these objectives including increased knowledge and understanding of climate variability and change-induced risks, strengthened adaptive capacity to reduce risks to climate-induced economic losses, successful demonstration, deployment, and transfer of relevant adaptation technology in targeted areas and enhanced enabling environment to support adaptation related technology transfer.

B.3 The GEF Agency’s comparative advantage for implementing this project:

UNDP is supporting the country on climate change and disaster risks management since 2009. Under the PRECARICA Project (2009 -2012), UNDP has supported the identification of main risks in terms of drought and other natural hazards. A new follow up Programme is under implementation to strengthen Disaster Risk Reduction capacities at central and local level with the view to further strengthen the resilience of institutions and communities. UNDP initiatives are supported by the Mali Office has the necessary expertise to technical and human support under its unit in charge of Environment. The staff under the Environment Unit is providing technical and policy support to following key areas: 1) assistance to the international climate negotiations; 2) capacity building to access and implement climate finance; and 3) effectively integrating climate change into a country’s national plans, policies and strategies to ensure development is both low-emission and climate resilient. Additionally UNDP has close links with governments, as well as a high level of experience managing other LDCF projects in the region, in particular those with an early warning component. The country offices are supported by Regional Technical Advisors at UNDP offices in Addis Ababa, as well as by policy, adaptation, economics and climate modelling experts in New York, Cape Town and Bangkok.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):

NAME	POSITION	MINISTRY	DATE <i>(MM/dd/yyyy)</i>
Mr. Sekou KONE	Director, Multilateral Environmental Agreements Department (AEDD)	MINISTRY OF ENVIRONMENT, WATER & SANITATION	01/15/2014

B. GEF AGENCY CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for project identification and preparation.					
Agency Coordinator, Agency name	Signature	DATE <i>(MM/dd/yyyy)</i>	Contact Person	Telephone	Email Address
Adriana Dinu, Executive Coordinator and Director a.i., UNDP/GEF		June 26, 2014	Mame Diop RTS, GLECRDS	+251 919 39 6499	mame.diop@undp.org