**PROJECT IDENTIFICATION FORM (PIF)**[1]
**PROJECT TYPE: Full-sized project**
**TYPE OF TRUST FUND: LDCF**

## PART I: PROJECT IDENTIFICATION

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|---|---|---|---|
| **Project Title:** | Strengthening resilience to climate change through integrated agricultural and pastoral management in the Sahelian zone in the framework of the Sustainable Land Management approach | | |
| **Country(ies):** | Mali | **GEF Project ID:**[2] | 4822 |
| **GEF Agency(ies):** | FAO | **GEF Agency Project ID:** | 616182 |
| **Other Executing Partner(s):** | Agence Malienne pour l'Environnement et du Développement Durable (AEDD) | **Submission Date:** | November 19, 2012 |
| **GEF Focal Area (s):** | Climate Change | **Project Duration (months):** | 48 |
| **Name of parent program (if applicable):** ➢ For SFM ☐ | | **Agency Fee:** | 217,273 |

### A. FOCAL AREA STRATEGY FRAMEWORK[3]:

| Focal Area Objectives | Expected FA Outcomes | Expected FA Outputs | Trust Fund | Indicative Grant Amount ($) | Indicative Co-Financing ($) |
|---|---|---|---|---|---|
| CA-1 | **Outcome 1.1: Mainstreamed adaptation in broader development frameworks at country level and in target vulnerable areas** | Output 1.1.1 : Adaptation measures and necessary budget allocations included in relevant frameworks | LDCF | 402,300 | 1,249,454 |
| CA-2 | **Outcome 2.2: Strengthened adaptive capacity to reduce risks to climate-induced economic losses** | Output 2.2.1: Adaptive capacity of national and regional centers and networks strengthened to rapidly respond to extreme weather events | LDCF | 500,000 | 2,700,000 |
| CA-3 | **Outcome 3.1: Successful demonstration, deployment, and transfer of relevant adaptation technology in targeted areas** | Output 3.1.1: Relevant adaptation technology transferred to targeted groups | LDCF | 1,000,000 | 4,400,000 |
| CA-3 | **Outcome 3.2: Enhanced enabling environment to support adaptation-related technology transfer** | Output 3.2.1: Skills increased for relevant individuals in transfer of adaptation technology | LDCF | 167,027 | 1,050,000 |
| | | Sub-Total | | 2,069,327 | 9,399,454 |
| | | Project management cost[4] | | 103,400 | 270,546 |
| | | **Total project costs** | | 2,172,727 | 9,670,000 |

[1] It is very important to consult the PIF preparation guidelines when completing this template.
[2] Project ID number will be assigned by GEFSEC.
[3] Refer to the reference attached on the Focal Area Results Framework when filling up the table in item A.

[4] GEF will finance management cost that is solely linked to GEF financing of the project.

## B. PROJECT FRAMEWORK

**Project Objective:** To enhance the capacity of Mali's agropastoral sectors to cope with climate change (CC), by mainstreaming Climate Change Adaptation (CCA) strategies, practices, and technologies adoption into on-going agopastoral and agricultural development initiatives in the framework of the national Sustainable Land Management (SLM) approach and program (CSI-GDT)

| Project Component | Grant Type | Expected Outcomes | Expected Outputs | Trust Fund | Indicative Grant Amount ($) | Indicative Co-financing ($) |
|---|---|---|---|---|---|---|
| 1. Development of climate change adaptation (CCA) strategies, plans and tools for vulnerable areas characterized by both agricultural and pastoral production systems | TA | 1.1 Adaptive capacities of the AEDD, Ministry of Agriculture (MA), Ministry of Animal Productions (MPA), local goverments, herders and costomary organizations strengthened to minimize the exposure to climate variability and threats of vulnerable areas charactarized by both agropastoral and agricultural production systems | 1.1.1. Integrated strategy for increased ecosystem-wide climate change (CC) resilience targeting in particular vulnerable parts of the regions of *Koulikoro, Ségou, and Kayes* developed jointly by AEDD, MA, and MPA in consultation with local governents (including optimal use of rangelands species and dry crop genetic resources and mainstreaming CCA into the PDESC tool for local communities planning (*Plans de Développement Economique Social et Culturel)*<br>1.1.2. Climate resilience information management systems developed and implemented in targeted vulnerable regions (including monitoring of variability in rain patterns, rangelands vegetative stages and water availability, carrying capacity of dry rangelands and flooding plains, herds displacement tracking, etc.)<br>1.1.3. Integrated plans for adaptation in land management (2) ("*chartes pastorales*") and local scale agreements (2) in place for reduction of transhumance route climate variability-induced conflicts | LDCF | 500,000 | 2,800,000 |
| 2. Capacity building and up-scaling of CCA technologies and best practices for small agropastoralists | INV | 2.1. At least 3000 agropastoralists (at least 30% women) have stregthened capacities for adoption of CCA practices and technologies and at least 2100 (70%) are adopting CCA practices and technologies in their agropastoral systems | 2.1.1. At least 100 APFS Facilitators (at least 30% women) trained under collaborative agreements with herders and agropastoralists associations<br>2.1.2. 150 Agropastoral Field Schools (APFS) in place with a specific CCA/SLM curricula focusing on good practices for CCA, ecosystems resilience and integration between agricultural and pastoral production systems<br>2.1.3. Adaptation technologies and practices transferred through the APFS including:<br>a) participatory monitoring of range lands resilience indicators such as biodiversity conditions, species, vegetation cover, and development stages;<br>b) collection and multiplication of native annual and perennial drought-resistent grass species; | LDCF | 1,114,727 | 4,500,000 |

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| | | | c) adaptation of the management of bourgou pasture to the variability of temporary flooding cycles<br>d) establishment of "mise en défens" areas for strategic feeding and enhanced ecosystem resilience;<br>e) improved herd management adapted to water scarcity and climate variability | | | |
| | | 2.2. Herds mortality decreased and agro pastoralists income / benefits increased by 2 % among APFS participants | 2.2.1. Participation of at least 2,500 herders and farmers (at least 30% women) in the implementation of integrated adaptation agreements including beef value chains improvements, and better coordination on ecosystem-wide integration of livestock with crop production (transhumance dates, grazing residues, use of animal manure) along key transhumance routes | | | |
| | | 2.3. 3% increase in agricultural /agropastoral productivity in pilot CCA invetment areas | 2.3.1. 4 adaptation investment pilots to improve ecosystem resilience enabling agro-pastoralists to cope with CC by adopting diversified agricultural activities and community-based adaptation (including CCA/SLM investments in: a) pasture management; b) wells implementation in transhumant livestock routes; c) grassland seedlings production and distribution to improve use of native drought resistant species in rangeland rehabilitation; and d) integration of trees in the agro-pastoral systems) | | | |
| 3. Mainstreaming CCA strategies in agricultural and animal production development policies and programme frameworks | TA | 3.1 APFS-based CCA mainstreamed into integrated rural development policies in a coordinated manner under the inter-institutional colaborative framework of the CSI-GDT<br>3.2. Increased investments through specific budgetary provisions identified by AEDD, MA, MPA, and decentralized administrations for up-scaling CCA strategies and practices into agropatoral production systems | 3.1.1. Existing mechanisms for cross-sectoral coordination (AEDD, MA, MPA, and local/regional governments) for addressing CC-induced threats integrating the pastoral sector in the adoption of CCA/SLM approaches<br>3.1.2. Key tools such as "Climate proofing" applied in at least one region designed within an inter-sectoral task force in the framework of "*Cadre Stratégique d'Investissement de la Gestion Durable des Terres*" (CSI-GDT)<br>3.2.1. Draft investment plan available in support to CCA mainstreaming and up-scaling in the agropastoral sector in complement to existing investment plans | LDCF | 350,000 | 1,850,000 |
| 4. Project monitoring and dissemination of | TA | 4.1 Project implementation based on results based | 4.1.1 System for systematic collection of field based data to monitor project | LDCF | 104,600 | 249,454 |

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| results | | management and application of project lessons learned in future operations facilitated | outcome indicators operational<br>4.1.2 Midterm and final evaluation conducted<br>4.1.3 Project-related "best-practices" and "lessons-learned" disseminated via publications, project website and others | | | |
| | | | | Sub-Total | 2,069,327 | 9,339,454 |
| | | | | Project management Cost | 103,400 | 270,546 |
| | | | | **Total project costs**[4] | 2,172,727 | 9,670,000 |

### 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 | AEDD | In kind | 180,000 |
| National Government | MPA | In kind | 120,000 |
| National Government | MA | In kind | 400,000 |
| National Government | AEDD through GIZ fund | Grant | 7,370,000 |
| National Government | Genié rural through PADIN (CARE - Netherlands grant) | Grant | 1,050,000 |
| GEF Agency | Spain through FAO (GCP /RAF/453/SPA) | Grants | 300,000 |
| GEF Agency | FAO TCP (TCP/MLI/3304) | Grants | 150,000 |
| GEF Agency | FAO | In kind | 100,000 |
| **Total Co-financing** | | | 9,670,000 |

### D. GEF/LDCF/SCCF RESOURCES REQUESTED BY AGENCY (IES), FOCAL AREA(S) AND COUNTRY[1]

| GEF Agency | Type of Trust Funds | Focal Area | Country Name/ Global | (in $) | | |
|---|---|---|---|---|---|---|
| | | | | Project amount (a) | Agency Fee (b) | Total c=a+b |
| FAO | LDCF | Climate Change | Mali | 2,172,727 | 217,273 | 2,390,000 |
| **Total Grant Resources** | | | | 2,172,727 | 217,273 | 2,390,000 |

## PART II: PROJECT JUSTIFICATION

### A. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

### A.1.1. THE GEF FOCAL AREA STRATEGIES:

### A.1.2. FOR PROJECTS FUNDED FROM LDCF/SCCF: THE LDCF/SCCF ELIGIBILITY CRITERIA AND PRIORITIES:

Mali became a signatory to the United Nation Framework Convention on Climate Change (UNFCCC) in 1992, ratified in 1994, and to the Kyoto Protocol in 1999. Mali is also included among the Least Developed Countries (LDCs) making it eligible for funding from the Least Developed Countries Fund (LDCF) and for FAO technical assistance. Mali developed its National Adaptation Programme for Action (NAPA) using a national participatory process and submitted it to the Secretariat of the Convention during the 13th Conference of the Parties held in Bali in 2007.

The project will contribute to the implementation of the LDCF adaptation strategy through the integration of climate resilience into agricultural and pastoral production for food security in key vulnerable agropastoral production systems in Mali under the framework of its national *"Cadre Stratégique d'Investissement de la Gestion Durable des Terres"*(CSI-GDT). The CSI-GDT seeks to address the joint challenges of adaptation to CC, rehabilitation of degrated lands and reversion of the loss of biodiversity in an integrated manner. The proposed project will support the objectives CCA-1, CCA-2 and CCA-3 with particular emphasis on CCA-3 outcome 2.2 and 2.1. Building on and applying FAO´s experience in facilitating transfer and adoption of knowledge demanding integrated practices and technologies in agro-pastoral systems, through Farmers Field Schools (FFS) and Agropastoral Field School approach (APFS), the proposed project will support the transfer and adoption of CCA practices and technologies among herders and agriculturalists in vulnerable areas characterized by pastoral and crop production systems. Likewise the project will support the participation of

herders and agriculturalists in the implementation of adaptation plans and agreements including community actions and pilot adaptation investments (component 2 and 4). The project will contribute to CCA-2 outcome 2.2 by strengthening the adaptive capacities of the Agency for Environment and Sustainable Development (AEDD), Ministry of Agriculture (MA), Ministry of Animal Productions (MPA), local goverments, herders and costomary organizations in terms of their abilities to: i) develop and implement a strategy for increased ecosystem-wide CC resilience targeting in particular vulnerable parts of the regions of Koulikoro, Ségou, and Kayes charactarized by both agropastoral and agricultural production systems; ii) implementing a climate resilience information systems; and iii) developing local adaptation plans and agreements between herders, agriculturalists and local authorities (component 1). Finaly, the project will contribute to CCA-1 outcome 1.1 by: i) improving mechanisms for cross-sector coordination in the implementation of integrated management and outreach strategies for CCA (AEDD, MA, MPA, and local/regional governments) (Component 3, outcome 3.1); ii) strengthening the CCA/SLM approach and ongoing program's capacity to more effectively coordinate actions with line ministries of the rural development sector and more fully incorporate CCA considerations into SLM's strategies and best practices (Component 3, outcome 3.1 and component 4); and iii) identifying specific budgetary provisions by AEDD, MA, MPA and decentralized administrations for up-scaling CCA strategies and practices into agropatoral production systems (component 3, outcome 3.2).

**A.2 NATIONAL STRATEGIES AND PLANS OR REPORTS AND ASSESSMENTS UNDER RELEVANT CONVENTIONS, IF APPLICABLE, I.E. NAPAS, NAPS, NBSAPS, NATIONAL COMMUNICATIONS, TNAS, NIPS, PRSPS, NPFE, ETC.:**

Mali has produced an Initial National Communication (INC - *"Communication Nationale Initiale"*) in the context of its commitment under the UNFCCC in 2000 and completed its NAPA in 2007. The sector being targeted by this project is one of the priority sectors identified in the NAPA. The most significant climate risks identified during NAPA preparation were: increased length of the dry seasons, flooding, strong winds and strong temperature variation. Sectors were ranked according to their vulnerability to these climate risks, and agriculture/rural development was considered as the most important sector. NAPA's priorities for the sector include:

- strengthening the resilience of local grain production systems to CC through the dissemination of seeds adapted to changing climatic conditions;
- diversification of revenue sources in rural communities as a means to enhance food security of vulnerable households;
- extending hydro-agro-meteorological services to crop and livestock farmers;
- implementation of multi-use water management plans (watering, irrigation, mobilization of non-conventional waters, etc.);
- restoring soil fertility through climate-resilient techniques;
- improving water retention capacities through improved runoff water catchments; and,
- development of an adaptation training package for rural populations.

The proposed project will support the implementation of NAPA priorities by developing adaptation training packages and delivery technologies to herders and agriculturalists in vulnerable rural areas through the APFS approach, restoring soil fertility in agro-pastoralist systems and improving climate resilience by increasing vegetation cover with native drought resistant species and adapting SLM to prolonged dry seasons, increased flooding variability, and improving water management (among others by establishing wells in transhumant livestock routes). The NAPA also prioritizes food security and sustainable livelihoods being consistent with Mali's Growth and Poverty Reduction Strategy Framework (GPRSF), with the Agricultural Orientation Law (LOA), with the National Food Security Strategy (SNSA) and the National Programme on Food Security (PNSA). The proposed project will also directly contribute to mainstreaming concrete and operational extension strategies into specific recent investment frameworks and programs such as the *"Programme National d'Investissement du Secteur Agricoles"* (PNISA) and the *"Cadre Stratégique d'Investissement de la Gestion Durable des Terres"* (CSI-GDT), thus establishing a direct linkage with the TerrAfrica platform.

The Strategic Investment Framework for Sustainable Land Management (CSI-GDT) in Mali is an original intersectoral initiative involving key governmental sectors involved in land management with activities having an impact on the environment and rural populations. These include the Ministry of Environment and Sanitation, Ministry of Environment (MEA), MA, MPA, Ministry of Territorial Administration, and Local

Government and the Ministry Energy and Water. The CSI-GDT is the pillar for the climate adaptation measures to be integrated into the agriculture, fishery, forest and pastoral sector in Mali by executing structural investments through several sector programs. Very recently the MEA launched the *Politique Nationale sur les Changements Climatiques, PNCC,* (National Policy for CC), the *Strategie Nationale sur le Changements Climatiques, SNCC,* (National Strategy for CC), the *Plan d'Action sur le Changement Climatique, PANCC* (National Climate Change Action Plan). Those recently approved policies and plans will be under implementation before the end of 2012, and will need to be supported by and coordinated with existing activities, especially on the inclusion of adaptation in rural areas. The proposed project is in line with the priorities of these policies and plans and close coordination will be established during full project preparation. In the next few months a *Strategie sur l'Economie Verte dans le Cadre du Changement Climatique* (Strategy on Green Economy in the Framework of CC) will be prepared with UNDP support with which the preparation of the proposed project will also be coordinated to maximize synergies.

The project will strengthen the CSI-GDT and its SLM framework by integrating adaptation needs and measures in development initiatives under this framework in particular in the following areas:

- **Koulikoro region**, agroecological zone of Nara;
- **Ségou region**, area of Niono;
- **Kayes region**, agroecological zone of Kita.

Part of the area is characterized by temporary flooded areas (such as the Inner Niger Delta near Segou) with non permanent floods regulated by seasonal rainfall which, modifying river's discharge, create a seasonal recurrent period of water persistence over soil surface. Those areas are experiencing unpredictability in seasonal flooding occurrence as a result of increased climate variability.

## B. PROJECT OVERVIEW:

### B.1. DESCRIBE THE BASELINE PROJECT AND THE PROBLEM THAT IT SEEKS TO ADDRESS:

Landlocked in West Africa, Mali is ranked among the world's poorest countries with a gross domestic product (GDP) amounting to USD 679 per capita (among the lowest in West Africa). According to the World Bank, the economic growth rate is estimated at 5.1% per year for the 2003 to 2007 period, against a population growth rate of approximately 3% per year. The country ranks 168 out of 175 countries according to the 2011 UNDP Human Development Index. With 83.4% of the population working in the primary sector, dependence on agriculture or other land-based activities is extremely high and vulnerability to changing climate patterns is severe, and poverty conditions are severe. This rural population is facing strong mobility pressures connected to the rural exodus. Additionally, the literacy rate is low.

Mali's climate is characterized by strong inter-annual rainfall variability which has increased over the last 40 years. The recurrence of dry years and prolonged droughts has increased, causing severe negative effects on livelihood, increasing vulnerability of rural small farmers and pastoralists, and causing the deterioration of the fragile ecosystems upon which they depend. CC projections for 2025 indicate that Mali may face a hotter and drier future. Average temperature is predicted to increase by 2.71°C to 4.51°C while rainfall is predicted to decrease by 8 to 10% by 2025 (studies conducted in the framework of the NAPA preparation). These changes in temperature and rainfall patterns represent a threat to food security in Mali's agriculture-based economy. Mali's NAPA reports that the agro-pastoral sector, involving 75% of the population, will be affected by CC. Under the CC scenario, crop yields in Mali may decrease by 5.5% and forage yields may fall by 20%[5]. This affects livestock productivity – the second most exported commodity. Small farmers and pastoralists are especially vulnerable because of their limited knowledge and capacity to adapt to climate variability and change, and there is a need to build their capacity in adopting drought-resilient agro-pastoral practices to counter the adverse climatic impacts.

To date, most of Mali´s efforts to intensify its agriculture and be less dependent of climate variability have focused on the development of irrigated perimeters, mainly for rice production. Most recently, specific LCDF post-NAPA project (UNDP and FAO-led) have specifically addressed the challenge of incorporating CCA practices in non-irrigated crop-production systems. FAO´s approach has focused on creating conditions for mainstreaming CCA strategies and practices through a growing MA operated network of FFS on specific

[5] Butt *et al.*, 2005

crop-production. However, the livestock sector has yet to be addressed in adaptation strategies. The sustainability of Sahelian production systems – and their capacity to cope with climate variability – requires that integration between agriculture crop production and livestock management (management of organic matter; interdependence between agricultural cycles and transhumance movements in temporary flooded areas, development of access roads, water points, lowlands and *"bourgoutières"*) is better taken into account in the adaptation strategies. Similarly, the integration of trees in the agro-pastoral systems needs to be taken into consideration in view of the new CC challenges. More integrated CCA strategies and practices need to be articulated and coordinated by various Ministries such as the MEA, the MA and the MPA and cannot only be mainstreamed into independent sector-specific programming. This integrated approach to CCA is best operated within the framework of regional development processes in which various stakeholders (agriculturalists, agro-pastoralists, fishermen, and transhumant herders) are involved, benefit from the deployment of specific adaptation packages, and collaborate in fine-tuning collaborative arrangements for ensuring regulation of access to shared land and water resources.

CC has direct and indirect impacts on traditional pasture management in arid areas such as the eco-regions of the northern part of the Kayes and Koulikuro regions, as well as the seasonally flooded areas near Segou where: a) the overall decreased in rainfall and the increase in rainfall variability have directly affected the productivity of rangelands in terms of droughts and unpredictability in seasonal flooding occurrence (in certain areas preventing the growing cycle from completing its term), posing a threat to the continued use of pastures; b) the productivity of Bourgou pastures (*Echinochla stagnina*), (a principal source of forage forming the base for the integrated sylvo-pastoral development of the Niger River flood plains used after floods recede when livestock return from transhumance) have been reduced as a result of climate variability impacts; and c) the migration of farmers to the south, combined with the natural increase of population and lack of effective planning and management tools, leads to the encroachment of farmland on the traditional transhumance slopes, resulting in the disorganization of seasonal transhumance grazing from dry pastures to flood plains and redundant herds presence in more accessible areas. Poor range management in flooded areas (as well as a lack of investment planning for water supplies) results in animals reaching the Niger Delta and other flood plains earlier in the season (before crop harvesting) or leaving later in the season (when farmers begin to cultivate), causing increasing conflicts between farmers and herders.

Various external factors or cultural factors contribute to increasing tensions within the system: a) the return of herds from Niger and Burkina Faso (some of which had left Mali over 100 years ago); b) disruption of market niches and channels of traditional export relating to livestock (political instability in Côte d'Ivoire) and the lack of structures and mechanisms to slaughter, refrigerate and package meat for export that allow a selective destocking of livestock in an efficient and financially satisfying manner; c) the traditional mindset of breeders who value more the wealth and prestige brought by large herds rather than the productivity of smaller and better managed herds. Moreover, the rapid spread of extensive cultivation of controlled or uncontrolled flooded rice in floodplains (0.5 to 1.5 tonnes/ha) results in a competition with pastoral activities since the herds move from previously flooded pasture areas to the traditional route of the Niger Delta and other flood plains during the dry season.

This causes an increase of conflicts between farmers and herders – and among the farmers themselves – and is a serious limiting factor for the maintenance or improvement of traditional pastoral systems. It also results in a higher cost of protection and increased surveillance by the rice farmers. It may also eventually impose severe limitations on the expansion of rice cultivation. Changes in the traditional mechanisms of land allocation and conflict resolution on the one hand (and particularly in the part of the Niger Delta targeted by the proposed project), and the lack of adequate and appropriate agreements on the use or access to land supported by an effective set of monitoring tools in support of collaborative decision-making on the other hand, are major barriers to good management and sustainable agro-pastoral development in the region. Finally, the current political situation also affects agro-pastoral systems. FAO Sahel crisis situation update of 31$^{st}$ of October 2012 reports that many refugees are bringing their livestock with them, which causes additional pressure on scarce natural resources (grazing land and water), as well as an increased risk of conflict between pastoralist refugees and native farmers. Furthermore, despite a good start to the regeneration of pasture, a long dry spell has led to delays in some areas and pastoralists remain at risk of food insecurity.

**Baseline scenario and projects and programmes providing co-financing to the proposed project:**

The baseline scenario for this proposed project is characterized by the emergence of increasingly coherent program frameworks in Mali's rural development and natural resources management sectors strategies in the specific recent investment frameworks and programs such as the PNISA and the CSI-GDT both of which mention CCA as a key transversal issue to be addressed as well as the PANCC.

Earlier post-NAPA assistance has been centered on the generation of local-level pilot experiences (such as the LDCF/UNDP "*Enhancing Adaptive Capacity and Resilience to Climate Change in the Agriculture Sector in Mali*"). More recently, the LDCF/FAO project "GCP /MLI/033/GFF - *Integrating climate resilience into agricultural production for food security in rural areas of Mali*", has taken a different approach, based on up-scaling CCA strategies and practices in crop production using an existing and growing FFS network. However, since this project concentrates on a targeted number of key cropping systems, further support is needed to address CCA needs in agropastoral systems and the interactions between agricultural and pastoral systems impacted by climate variability and change.

The baseline **co-financing** for the proposed project will be coming from three main sources: (i) two FAO-led technical cooperation initiatives being funded by the Government of Spain (USD 300,000) and FAO TCP resources (USD 150,000) and FAO in-kind contribution (USD 100,000); (ii) government-led initiatives such as GIZ (*Projet d'appui à la mise en ouvre de la strategie nationale d'adaptation au changement climatique ou Mali*, USD 7 370 000), and a grant from the Government of the Netherlands (PADIN USD 1,050,000); and (iii) in-kind contribution from MA, MPA and the AEDD (total USD 700,000).

**FAO baseline co-financing.** FAO has been supporting the Government of Mali through several projects that aim at reinforcing farmer's capacities and at providing the required capacity building. These projects are based on participative education developed with the FFS approach. At the core of the FFS approach lies a participatory process involving groups of farmers, actively engaged in testing and experimenting adapted solutions to changing environmental- and marketing – conditions, allowing for sustainable intensification of production and land restoration. The FFS are "grass-roots labs" in which farmers build and expand their knowledge basis, evaluate technical options and are better equipped to adapt to changing conditions. The proposed LDCF project will benefit from FAO's broader experience in mainstreaming the FFS approach in agricultural / rural development frameworks in Mali and other Western and Eastern African countries where a strong FFS institutionalization process is underway. Moreover, the project will benefit from the East African experiences with establishing APFS with herders target groups and including CCA practices in the curricula. To date, more than 4,000 FFS are operating in Mali, benefiting up to 100,000 farmers. The project area already has vast FFS experience in improving practices in rice, millet, sorgum, and horticulture production systems.

However, the integration of CCA technologies and practices in FFS curricula in Mali has only recently started and successful experiences with APFS such as the ones existing in other countries (ex. Uganda and Kenya) have not yet been adapted to the Malian context due to lack of specific livestock investment and financial means, insufficient experience within government institutions, and difficulties with access to remote areas. This makes the following two actually ongoing FAO supported baseline project highly vulnerable to CC. The intervention areas of these projects are experiencing serious climate change and variability impacts due to their location in the western northern part of the country and due to the fact that project activities are dependent on vagaries of seasonal flooding of recessional agriculture areas:

- The regional project GCP /RAF/453/SPA "*Amélioration de la Production de riz en Afrique de l'Ouest en Réponse à la Flambée des Prix des denrées Alimentaires*" is funded by Spain and implemented by FAO in Cote d'Ivoire, Mauritania, Niger, Senegal, and Mali with a total budget envelope of USD 4.2 million in the period 2010 to 2012. The main objective of the project is to promote rice production in West Africa. This activity is realised through: the implementation of national seed policies and legislations; the reinforcement of capacities of small farmers and local groups; the promotion of sustainable crop intensification; the support to the introduction of small farmers into the rice market. The project approach is successfully using FFS to promote farmer's adoption of Integrated Pest Management (IPM) practices but it does not include CCA concepts or specific modules in the SSF curricula. The project will provide co-financing of USD 300,000 to the component 2 of the proposed LDCF project.

- The project TCP/MLI/3304 *"Validation et Dissémination de Systèmes d'élevage de Poisson Intégrés à la Riziculture à travers des champs-écoles des producteurs au Mali"* is funded and implemented by FAO. The project is running until 2013 with a total budget of USD 473,000 and has various components: management of ponds production; building of aquacultures ponds; integration of irrigation and aquaculture in agricultural management; building of floating cage (*cages flottantes*) to increase dam's retention capacity; dissemination and awareness development; and capacity building. The project includes the use of FFS for promoting integrated aquaculture/agricultural activities but it does not include CCA concepts in the SSF curricula. The project will co-finance the component 2 of the proposed LDCF project with USD 150,000.

**Government let initiatives providing baseline co-financing.** Recent programs and projects focusing on the development of the Niger Inner Delta and other project areas will work on a wide array of issues (infrastructure, agriculture, pastoral production, etc). These include the *"Programme de Développement Durable du Delta Interieur du Niger(PDD-DIN)"* which will support the implementation of the 2011–2020 strategy for the Niger Inner Delta formulated with MEA and supported by Dutch cooperation with an agronomical component recently launched by the NGO CARE. The PDD-DIN addresses Inner delta SLM, but also recognizes the need to integrate inner delta surrounding areas *("zones exondées").* The PDD-DIN is complemented by the recently launched *"Programme d'aménagement du delta intérieur du Niger (PADIN)"* financed by the Government of the Netherlands (USD 18 million). The programme defines a coherent intervention strategy which includes infrastructure, land-use planning, agriculture, animal husbandry, fishing, energy, and environment, including an investment framework (86,000 million CFA). The PADIN is *sous toutelle* managed by the National Directorate of Agricultural Engineering (*Direction nationale du Génie rural*) and implemented by CARE, aiming at promoting the development and reduce the poverty of 12,000 families (84,000 people) including both farmers and agropastoralists. The PADIN invests in agricultural and agropastoralism development and infrastructure mainly in the flood plains of the Niger delta.

Neither PDD-DIN nor PADIN, however, are specifically addressing the challenge of CCA even though the PADIN interventions are particularly vulnerable to climate variability in the case of its actions undertaken in inner delta surrounding areas ("*zones exondées*"). The water cycle in this area is extremely exposed to changes in rainfall patterns which may decrease production or impede cropping systems which depend on natural flooding. The USD 1 050 000 grant co-financing from PADIN to the proposed LDCF project has been agreed upon with the Ministry of Agriculture and will increase collaboration regarding the management of pastures in the Inner Niger delta area. The co-financing will support the following outputs in the proposed project: rangeland adaptation management plans (output 1.1.3); the 4 adaptation investment pilots to improve ecosystem resilience in CCA/SLM at community level (output 2.3.1); the insertion into FFS curricula of existing good practices for climate-resilient sustainable animal production, reduction of the pressure on natural grazing lands and increased revenue generation (output 2.1.2); and climate-resilient management of bourgou pasture to improve livestock productivity (output 2.1.3).

The GIZ-funded UNDP-implemented "Project for the implementation of the National Strategy for the adaptation to the CC" (*Projet d'appui à la mise en ouvre de la SNCC au Mali, SNCC*) aims at implementing the SNCC through adaptation investments to: improve ecosystem resilience; enabling rural stakeholders to cope with CC by adopting diversified agricultural activities; and promote community-based adaptation (including CCA/SLM investments in pasture management and water points). Although the project area includes the northwestern part of the country, which is exposed to droughts and rapid desertification processes, the project does not include specific strategies to integrate CCA approaches in agro-pastoral areas, nor does it address the specific critical climate change vulnerability issues in the interaction between livestock herders and crop farmers in transhumance routes. To ensure the national strategy (SNCC) will address these vulnerabilities and better integrate an ecological and agro-pastoral ecosystem approach in this key vulnerable rural sector the GIZ-funded project and the proposed LDCF project will closely collaborate (coordinated by the MAE and MA) and the GIZ-funded project will co-finance the proposed LDCF project with a total of 5 500 000 EURO (USD 7 370 000).

**Government in-kind co-financing.** Further co-financing will be provided by AEDD and MPA for a total of USD 300 000 in in-kind cofinancing. Even though these institutions have started to work on CCA and many activities are already in place, they still need to develop capacities and build institutional knowledge regarding climate vulnerabilities and CCA approaches in rural areas. The AEDD will co-finance activities related to the

SLM of pastoral lands integrating CCA. In particular the AEDD co-financing will be focused at incrementing capacities and strengthening institutions at central and local levels, focusing on capacities of high-level officers and decision-makers to include climate resilient activities in the development of agriculture/livestock sector. The MPA will co-finance activities related to animal health and securing of transhumance routes. The precise activities for collaboration and use of co-financing will be defined during full project preparation. The MA will provide an in-kind co-financing of USD 400 000 that will be used for the expansion of the management of the activities in new areas of interventions and for the capacity building of technical and decision-making staff in central and decentralized offices. This will allow for training of the staff of MA both in CCA and in the resilience of pastoralist systems in collaboration with the capacity building activities of MPA. This will include training related to regeneration of bourgou, management of livestock water points, conflict and transhumance route management.In summary, the proposed project would benefit from a strong baseline and a financial commitment of approximately USD 9.7 million, including agricultural and husbandry projects included in PNISA and from various initiatives led by Ministries and AEDD.

**Project approach**

The proposed LDCF will address the need for a more integrated approach to CCA, which take into account the complex interactions between agricultural and pastoral production in the Sahelian band. Particular emphasis will be on key productive landscapes highly vulnerable to climate change not addressed by baseline initiatives such as the sections of the flood plains shared by agriculturalists, agropastoralists and transhumant herders in a context of increasing disruptions induced by conflict related migration and increased climate variability in the traditional herd migrations patterns, routes, dates and arrangements. The LDCF project will generate experiences on adoption of sound CCA technologies and practices in key areas of the Inner Niger Delta in selected northwestern parts of the country such as Nara and Kita (Koulikoro and Kayes regions) and temporary flooded areas in Segou. The project will in these areas expand the scope of the FFS/APFS approach, to increase capacity building in ecosystem resilience to increased climate variability and prolonged dry periods. The project will also support coordinated policies and programs to shift from a reactive response towards a pro-active preparedness approach to climate events. Finally, the project will support capacity building and awareness campaigns related to land management plans and agreements, CCA/SLM investments, and the AEDD "climate proofing" tool.

The **adaptation objective** of the LDCF project is to enhance the capacity of Mali's agropastoral sectors to cope with CC by mainstreaming CCA strategies and practices and technologies adoption into on-going agopastoral and agricultural development initiatives in the framework of the national Sustainable Land Management approach and program (CSI-GDT). Specifically, the project interventions will take place in one area of the Sahelian band where better integration between agricultural and pastoral activities is a key challenge for SLM adapted to CC and increased climate variability. The project will also play an important role in catalyzing and assisting Mali in transferring operational methodologies and lessons learned from other FAO-sponsored initiatives supporting agropastoral field schools and ecosystem-wide approaches to adaptation and land rehabilitation from Eastern African countries and other places.

**B. 2. INCREMENTAL / ADDITIONAL COST REASONING: DESCRIBE THE INCREMENTAL (GEF TRUST FUND) OR ADDITIONAL (LDCF/SCCF) ACTIVITIES REQUESTED FOR GEF/LDCF/SCCF FINANCING AND THE ASSOCIATED GLOBAL ENVIRONMENTAL BENEFITS (GEF TRUST FUND) OR ASSOCIATED ADAPTATION BENEFITS (LDCF/SCCF) TO BE DELIVERED BY THE PROJECT:**

By funding **the additional costs** of interventions, necessary to meet the urgent and immediate adaptation needs of the agricultural and pastoral sectors identified in the Mali NAPA, the project will expand on existing baseline programmes and projects described in Section B.1 and aims at increasing the resilience to CC of key agricultural and agro-pastoral systems in selected sites by enhancing the ability of small farmers and pastoralists to cope with increasing climate variability. The project will further generate adaptation benefits by ensuring that farmers and agro-pastoralists are involved in the consultative process at community, district and national levels. The project will focus on integrated and sustainable crop and animal production, climate variability adaptive use of local available resources, and building resilience of ecosystems in one vulnerable / strategic Sahelian region of Mali. Further, the project will incorporate the decisive elements needed for both effectiveness and up-scaling potentials.

The project marks a shift from earlier NAPA follow-up initiatives (focused on very localized pilot projects in the most vulnerable communities and/or on specific staple and commercial crops) by promoting an integrated approach reflecting the interdependence between agricultural and pastoral production systems at an ecosystem-wide level in one or two specific regions. It will build on FAO's basic strategy of promoting and up-scaling/mainstreaming CCA processes based on APFS as a recognized, cost-efficient technology transfer approach. Capitalizing on the results of the earlier NAPA implementation initiatives, the proposed LDCF project will work through the establishment of partnerships with on-going initiatives for incorporating the innovative CCA approaches into existing program frameworks such as PNISA and CSI-GDT, thus contributing to filling the gap in terms of required increased adaptive capacity of the agricultural and pastoral sectors.

**With the additional financing from the LDCF,** the proposed intervention will expand the scope of present activities related to increase resilience to CC of the agricultural and pastoral sectors and contribute to decreasing small-farmers and pastoralists vulnerability. It will in particular represent an innovative step towards an ecosystem-wide approach to increased climate resilience and contribute to increased collaboration and linkages between the PNISA and the CSI-GDT program approaches. The interventions that this project will provide include: (i) Strengthening adaptive capacity to respond to extreme weather events and climate variability at national level and in selected regions, through a growing and coordinated network of Farmers / Agropastoral Field Schools (FFS/APFS) in the framework of Environmental, Agricultural and Animal Production development programmes and investment schemes; (ii) Expanding the range of relevant adaptation strategies, tecnologies and practices piloted in production systems through the FFS/APFS approach to include new target groups such as herders, agropastorialists and other users of shared natural resources; (iii) Coordinated development of development policies, frameworks and operational strategies by the three Ministries to facilitate the adoption of ecosystem-wide CC adaptation strategies through the FFS/APFS approach; (iv) Inclusion of adaptation measures and necessary budget allocations in policies, plans, and/or programs (CSI-GDT, PNISA). The additional financing from LDCF will allow for the implementation of the following activities in each project components creating adaptation benefits:

Component 1. Development of climate change adaptation (CCA) strategies, plans, and tools for improved integration between agricultural and pastoral production systems.

Component 1 will support the development of local strategies for increased ecosystem-wide climate change resilience targeting particular vulnerable areas. The strategies will include mainstreaming of CCA into PDESC (*Plans de Développement Economique Social et Culturel)* which will sustain communities management of rehabilitated ecosystems. The mainstreaming into the PDESC will also provide planning capacity and a management scheme for the community level implementation of the APFS (output 2.1.2) linking component 1 and component 2 interventions. The PDESC tool is being sustained by the Gouvernment of Mali (GoM) to institutionalize any sort of development activities. The PDESC provide community-driven funds and has proved to be an efficient approach both for infrastructure building and for community-based management. No attempt has been made yet to mainstream adaptation management into PDESCs but by doing so, the project will, at an early implementation stage, use the PDESCs as a tool to sustain APFS as well as all other outputs of Component 2. The PDESC tool will also allow the communities to propose interventions to scale up promising activities and to include new/adapted technologies in local planning and development processes. Climate resilience PDESC will be tested in other areas by collaborating projects managed by the AEDD.

Component 1 will also increase the strategic capacity and information tools for CC-related threads in agro-pastoral areas using the information tools for climate resilience information management systems developed and implemented in targeted vulnerable regions (in collaboration with the Direction National de la Meteorologie). This will be additional to the baseline activities carried out by the AEDD-MPA-MA for production diversification/intensification as well as for SLM promotion usually based on a sector approach without a comprehensive strategy for CCA at the ecosystem level. The information tools will include systematic sharing of information on optimal use of rangelands species and dry crop genetic resources able to resist prologed dry periods, increased climate variability, and modification in sesonal floodings pattern.

In addition, the component will support the development of adaptation agreements for integrated rangeland management between famers and herders and local adaptation plans for rangeland management taking into

consideration threats posed by droughts and variability. The local level management will allow for: i) the preparation and implementation of local adaptation plans for rangeland management ("*chartes pastorales*") and livestock feeding strategies involving herders' associations and customary organizations; ii) the preparation and implementation of integrated adaptation agreements between herders, agriculturalists and local authorities for management of climate-affected rangeland resources securing key transhumance routes, reducing tensions and coordinating the access to critical shared resources. The local adaptation plans and agreements will be based on participatory diagnosis of: (i) the status and use of natural resources; (ii) pastoral transhumance route locations; (iii) timing of pastoral transhumant activities; and (iv) detailed relationship between the farmers and herders. This will be additional to the national sector devided baseline activities by allowing the joining of agricultural and agropastoral sectors in a common adaptation planning process that will improve shared access to important resources, reduce conflicts, and secure pastoral resources access. The integrated plans will include management schemes involving local civil society organizations in a coordinated manner at the territorial level of the transhumance route. The strong local involvement and ownership of the integrated plans will sustain their continued implementation after the end of the project.

The integrated strategies in the management of transhumance routes will be additional to the GIZ funded project supporting the implementation of the SNCC, which does not look at the particular adaptation challenges related to the transhumant pastoral activities and their interaction with the crop production sector. The integrated strategies will be inserted into the GIZ project. The rangeland adaptation management plans will also bring additional value to the PADIN by supporting agro-pastoral adaptation plans and agreements, based on local customary institutions, and by ensuring more sustainable pastoral production in drylands under climate variability conditions. This will be an important addition to the PADIN investments in agricultural and agropastoralism development and infrastructure currently vulnerable to climate change because of lack of adequate adaptation strategies. On the other hand the PADIN co-financing will support the development of land-use plans which will be complementary to and integrated with the rangeland adaptation management plans (output 1.1.3).

Component 2. Capacity building and up-scaling of CCA technologies and best practices for small agropastoralists.

This component will use the APFS approach as a tool for: transfer of adaptation technologies and farmers/herders' adoption of adaptation practices and technologies; increasing farmers knowledge and capacities in rising ecosystem resilience through SLM and improved herd management adapted to climate variability impacts; and better coordination on ecosystem-wide integration of livestock with crop production (transhumance dates, grazing residues, use of animal manure). The community led facilitation in testing adaptation of practices and technologies will strengthen the adoption processes and will be additional to baseline approaches which do not include cross sector collaboration among local resource users and do not deploy effective methodologies to make farmers and pastoralist adopt adaptation practices and technologies in an integrated manner as part of a set of SLM technologies and approaches based on existing climate threats. FFS and APFS are based on experimental learning and adjustments of technologies and practices (in this case CCA technologies and practices) to local conditions, which has proven to be a very effective and sustainable approach to introduction and adoption by farmers/herders of new technologies and practices. FAO experiences in West Africa demonstrate that APFS are sustainable after the end of the project intervention because they are driven by farmers and herders themselves. Further, the APFS approach to CCA technology adoption and dissemination is strongly supported by the executing national agencies and its partners. Particularly, the MA is strongly interested in the expansion of the FFS scope towards climate resilience of pastoral activities. The strong involvement of MA will also support the long-term sustainability of project intervention.

In addition to the existing FFS in Mali, the project will establish 150 APFS to support adoption of CCA practices in the livestock sector in drylands highly vulnerable to CC impacts and not currently covered by FFS. Thus the component will add adaptation benefits to the FAO supported projects GCP /RAF/453/SPA and TCP/MLI/3304. The new APFS will be based on and be additional to the existing FFS structure through:

- improvement of existing FFS curricula by including CCA practices in the livestock raising activities (feeding strategies, grassland management, introduction of improved and local grassland varieties, management of wells for livestock use, livestock health principles, introduction of management plans and local agreements, market strategies, and conflict management);

- the use of the existing FFS network and FFS expert facilitators trained in the CCA curricula;
- the use of the existing FFS structure within the MA;
- the strong support by the GoM, which strongly sustains and follows up the FFS network, including use of FFS in the activities of the AEDD.

The APFS approach to adaptation technology and practices' adoption by herders and agropastoralists will also be additional to the GIZ funded implementation of the SNCC which does not have a participatory approach for effective introduction of improved adaptation technologies and practices. The APFS and FFS approach to CCA in agropastoral systems will be inserted in the framework of the component 3 of the GIZ project aiming at the improved resilience of ecological systems and rural production systems.

The component will also improve the beef production value chain to ensure local socioeconomic co-benefits that will guarantee economical sustainability for the stakeholders. These activities will be additional to the ongoing MA activities by enhancing the climate preparedness of extension services; reducing pressure on natural grazing lands as a result of drought risk of existing management schemes; implementing water infrastructures; and contributing to investments (such as grassland native seedlings production resilient to CC and variability). These investments will also be additional to the PADIN activities developing four adaptation investment pilots to improve ecosystem resilience in SLM enabling farmers to cope with CC through infrastructure development and seedling production. The project will also provide additional adaptation benefits to the PADIN by: expanding its area and the scope of intervention; improving the climate resilient management of bourgou pasture including its nutritional composition; and improving monitoring of CC related impacts as part of the APFS/FFS curricula.

Component 3. Mainstreaming CCA strategies into agricultural and animal production development policies and programme frameworks

This component will support the integration of the pastoral sector in the current mechanism for coordination of the adoption of CCA/SLM approaches. The CCA cross-sectoral interventions are at present coordinated through an inter-institutional collaborative mechanism created by the ongoing LDCF project implemented by FAO. The coordination mechanism is reinforcing and integrating the ongoing adaptation interventions implemented by AEDD-MPA-MA. The enancement is already permitting strategic coordination, integrated management, and partner's involvement in projects and/or national/provincial programs regarding climate-resilient SLMs. Capitalization of the research already ongoing will be realized including collaboration with other projects, programmes, and research actors. This capitalization will support the change of behaviour in the conservation of natural resources adapted to CC and in the support towards appropriate responses to local needs. CC-related rangeland/transhumance policy approaches will be mainstreamed into the rural development sector practices generating national level adaptation benefits, which will be additional to current situation where SLM in many cases is dealt with as a separate issue and does not include CCA or CCA is only related to crop production systems.

The "climate proofing" tool developed by AEDD and GIZ will be used to plan intervention at different scales in the framework of the CSI-GDT. The "climate proofing" mainstreaming tool will thus include APFS and FFS lessons learned and will expand its scope from general environmental - agricultural interventions to a broader and more integrated ecosystem scale approach that will include transhumance areas. This mainstreaming process will be based on the findings from the application on the ground of CC-resilient SLM and herd management practices developed in component 2 through the APFS approach.

The component will also support the drafting of an investment plan at the national level in support of CCA mainstreaming and up-scaling in the agropastoral sector adding national government budget allocations for adaptation measures to existing investment plans. The aim of the plan is to increase and diversify financial resources for adaptation measures in SLM-related intervention in climate variability affected pastoral areas of the involved regions. The financial budgetary provision will be designed to remain in place after the end of the project. This, coupled with incorporation of APFS-based CCA priorities into sector policies and plans, will ensure financial sustainability of activities at a local/regional level.

To increase the sustainability of the approach, the present project proposal will also provide a link between the project "*Increasing Mali Agricultural Productivity* (*Projet d'acroissemenet de la productivite agricole au Mali* (PAPAM), the CSI-GDT strategy, and the climate-related activities to include resilient practices

developed for pastoral areas into the PANCC. PAPAM and PADIN will serve as main vehicles for scaling up the adaptation technologies introduced. In both projects the extension is provided by technicians that have been training on the FFS and other activities. In 2012 the PAPAM will introduce 2000 new FFS in Mali including in the project area. The FFS introduced in the project area will include CCA curricula under development supported by the ongoing LDCF project implemented by FAO. In addition the PAPAM will serve as a base for the scaling up of APFS facilitating the adoption of CCA practices and related capacity building and extension service in the selected areas of intervention that are not currently involved in the FFS process.

**Adaptation benefits:** The LDCF project is expected to contribute to increasing the CC resilience of the intervention areas through an integrated ecosystem-wide approach and by focusing on the interactions between agricultural and pastoral production systems under conditions of scarcity of water resources and variability in seasonal cycles impacting flood-recession agriculture and pastoral areas.

The project will generate the following adaptation benefits: (i) Integrated strategy for increased ecosystem-wide CC resilience by mainstreaming CCA into the PDESC tool for local communities planning, which will provide sustainability of intervention; (ii) Adaptation agreements, coordination mechanisms and management tools will be put in place leading to a reduction in tensions caused by CC between sedentary and transhumant and to increased coordination of the access to critical shared resources under conditions of increased climate variability stresses; (iii) At least 3000 agropastoralists (at least 30% women) have strengthened capacities for adoption of CCA practices and technologies and at least 2100 (70%) are adopting CCA practices and technologies in their agropastoral systems such as: a) participatory monitoring of range lands resilience indicators such as biodiversity conditions and species and vegetation cover and development stages; b) collection and multiplication of native annual and perennial drought resistant grass species; c) adaptation of the management of bourgou pasture to the changes in flooding cycles due to rainfall variability; and d) improved herd management adapted to water scarcity and climate variability; (iv) Participation of at least 2,500 herders and farmers (at least 30% women) in the implementation of integrated adaptation agreements including beef value chains improvements, and better coordination on ecosystem-wide integration of livestock with crop production (transhumance dates, grazing residues, use of animal manure) along key transhumance routes; (v) 3% increase in agricultural/agropastoral productivity in four targeted communities applying community-based adaptation practices including improved pasture management, wells implementation in transhumant livestock routes, and grassland seedlings production and distribution incorporating the use of native drought resistant species in rangeland rehabilitation; (vi) Mechanisms improved for cross-sector coordination in the implementation of integrated management and outreach strategies for CCA (AEDD, MA, MPA, and local governments); and (vii) specific required budgetary provisions will be identified by AEDD, MA, MPA and decentralized administrations for up-scaling CCA strategies and practices into agropastoral production systems.

**B.3. DESCRIBE THE SOCIOECONOMIC BENEFITS TO BE DELIVERED BY THE PROJECT AT THE NATIONAL AND LOCAL LEVELS, INCLUDING CONSIDERATION OF GENDER DIMENSIONS, AND HOW THESE WILL SUPPORT THE ACHIEVEMENT OF GLOBAL ENVIRONMENT BENEFITS(GEF TRUST FUND) OR ADAPTATION BENEFITS (LDCF/SCCF). AS A BACKGROUND INFORMATION, READ "MAINSTREAMING GENDER AT THE GEF.":**

The proposed project will improve socio-economic conditions of small-scale farmers and agropastoralists, rural families and subsistence economies in vulnerable and key productive areas of the Mali´s Sahelian band by: (i) ensuring climate resilient agricultural and pastoral production and food security, and allowing rural populations to adapt and expand their traditional knowledge base and practices to better cope with CC impacts; (ii) reducing social tensions between agriculturalists, agro-pastoralists, herders and other NR users through a better integration of the crops-livestock elements of key productions systems under conditions of increased climate variability stress; (iii) reducing disruptions in the agricultural cycles due to increasingly variable transhumance periods by herders; and (iv) reducing the impacts of CC on the most vulnerable groups, including rural women. Since poor rural women have both production and reproduction roles - by collecting water and wood, raising small animals, laboring land for family subsistence, growing small-scale cash crops, and bearing children - they are the most affected by CC.

FFS/APFS participants will also benefit from their active involvement in participatory educational processes which will make them better equipped for adapting to changing conditions beyond environmental variables (market and trade, growing population and pressure on available resources, etc). It is expected that the participatory design of adaptation strategy, plans, and agreements for CCA/SLM including strengthening of the animal production value chain will result in increased agropastoralists income and socioeconomic benefits based on: improved feeding strategies; the reduction in herds mortality resulting from better feeding and watering strategies (management and restoration of *"bourgoutierres"*, support to conservation of forages and crops residues, strategic watering points in *"zones exondées");* and the introduction of beef value chains improvements.

The project will reduce the vulnerability of rural population and enhance their adaptive capacity to prevent climate-induced economic losses (direct adaptation benefit). A further socioeconomic analysis will be conducted during project preparation to explore linkages and identify win-win solutions for local socio-economic benefits and adaptation benefits.

Compared with the areas in which FFS are already developed, the pastoral areas within which the proposed LDCF will be developed have a low population. For this reason the numbers of direct beneficiaries may appear to be low, however reflects realistic figures considering the area's environmental and socio-economic conditions. As well, the numbers of beneficiaries will be reduced by the complexity of applying selected CCA technologies and practices in an area with very long distances and a very marginal transport network. It must be considered that beneficiaries will cover very extensive areas due to the wide spatial distribution of the land uses addressed. The number of direct beneficiaries is estimated to be:

- 3,000 agropastoralists (at least 30% women) will have strengthened capacities for adoption of CCA practices and technologies and at least 2,100 (70%) will adopt CCA practices and technologies in their agropastoral systems (please see outcome 2.1);
- 2,500 herders and farmers (at least 30% women) will be involved in the implementation of integrated adaptation agreements including beef value chain improvements, and better coordination on ecosystem-wide integration of livestock with crop production (transhumance dates, grazing residues, use of animal manure) along key transhumance routes (please see output 2.2.1) as well as adaptation investment pilots to improve ecosystem resilience enabling agropastoralists to cope with CC (output 2.3.1).

**B.4 INDICATE RISKS, INCLUDING CLIMATE CHANGE 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:**

The strong interest of key government stakeholders in the project approach has been verified during project identification through two broad institutional consultations *"tour de table institutionnel"* in 2010, 2011 and March 2012. Due to the security situation, the localization of activities has been modified as suggested by AEDD. The situation will be reassessed during PPG. Partnership building capacities of AEDD to ensure mainstreaming SLM-based ecosystem-wide strategies to CCA into the on-going agricultural and pastoral programs may constitute a challenge. However, FAO's long standing relations with both the MA and the MPA will be a key asset for mitigating this specific risk. Exchanges with on-going and successful initiatives at regional level will contribute to manager's adoption of the proposed approaches. Main risk and related mitigation measures are listed in the table below.

| ***Risk*** | ***Risk rate*** | ***Mitigation*** |
|---|---|---|
| *High-probability of increased occurrence of extreme weather events which may affect crop and livestock cycles and increase food/nutritional insecurity* | *H* | *Mitigated by supporting the implementation of CCA policies and measures to strengthen pro-active and coordinated responses and developing adaptation plans for rangeland management and by linking with on-going emergency/post-emergency initiatives and regular animal health support Governmental programs. Finally, community-level field observation capacities will be fostered to anticipate CC related disruptions.* |
| *Insecurity and potential* | *H* | *Social stability has decreased greatly during last months. linked to the post-* |

| | | |
|---|---|---|
| *lack of adequate social stability in project area* | | *conflict returning population after the Libyan crisis. The situation is delicate after the coup d'etat of March 2012, after which, in conjunction and consultation with AEDD, the activities have been moved to the regions of Kayes, Koulokoro, and Segou. Northern part of those provinces have ecological conditions very similar to the previously proposed areas of intervention, and the technologies and approaches for the SLM package would not be substantially modified.*<br>*Those areas are not affected by actual conflicts and judged to be safe and would allow project development to continue smoothly.*<br>*In those areas local level conflict resolution between stakeholders can continue to be encouraged through traditional channels. Community based participation and land-use planning involving communities and raising awareness of the long-term benefits of development activities would be used to promote sustainable land management activities.* |
| *Farmers / herders conflict* | *M* | *Clear charters and management arrangements are developed, ensuring that the rights of each stakeholder are preserved, and defining their duties as well; the application of such protocols is duly monitored.* |
| *Reluctance to endorse and participate in the project activities by conflicting stakeholders (agriculturalist/herders) and reluctance/ slowness of local institutions to agree on project activities* | *L* | *The risk of reluctance of stakeholders is low. Nevertheless it will be addressed through local participation in project implementation. In particular, existing areas where income has been generated or losses reduced from adaptation activities will be demonstrated to other farmers and replicated where possible. In addition, achievements on the ground that bring benefits to local producers will be demonstrated during the project to overcome skepticism. Regarding local institutions, common objectives will be established by giving emphasis on local ownership of the process as well as capacity.* |
| *Risk of management change in local institution* | *M* | *A medium risk of ongoing modification within the framework of the local institutional settings is present. The risk will be addressed by strongly involving local institution at all level, and building appropriate programmes for the involvement of relevant officers and institutional sectors.* |
| *Seed shortages due to climate variability shock, prolonged droughts, and/or pests and diseases outbreaks with risk of crop/ grassland failure* | *M* | *Pest and disease outbreak due to climate variability may cause risk of crop/grassland failure during the project. The project will address this risk by systematically linking the adoption of CCA measures and fostering of community-level field observation capacities to reduce seed multiplication failures, particularly with specialized seed multiplying farmers.* |
| *Limited capacity of local and national institution* | *L* | *Government capacity is not likely to represent a risk for the project because the capacity for climate resilient development exists in the country (but is not systematically geared towards explicit and specific CCA goals). But the risk of non compliance will be mitigated by mobilizing and articulating the capacity of different actors, projects, programs and bilateral agencies to work intensively with government and gradually transfer skills to government counterparts.* |

**B.5 IDENTIFY KEY STAKEHOLDERS INVOLVED IN THE PROJECT INCLUDING THE PRIVATE SECTOR, NGOS, CIVIL SOCIETY ORGANIZATIONS, LOCAL AND INDIGENOUS COMMUNITIES, AND THEIR RESPECTIVE ROLES, AS APPLICABLE:**

FAO and the AEDD of the MEA will be the main co-partners for project execution, in the framework of the CSI-CDT. In addition, strong linkages, permanent coordination mechanisms and operational arrangements with the MA and the MPA will be established, based on FAO's long standing working experience with both ministries. The LDCF project will be inscribed in the general frameworks of the CSI-GDT and the PNISA, which will allow for effective mainstreaming of CCA strategies for the agropastoral sector, and up-scaling

through MA and MPA "*projets sous tutelle*". Special emphasis will be put on developing partnerships with related public/private regional development agencies such as the Office du Niger, the proposed management structure for the implementation of the PDD-DIN, NGOs such as CARE in charge of the PADIN, as well as herders, agropastoralists and farmers organizations and women groups.

Particularly, the area is characterized by a series of local stakeholder and indigenous groups that both use and maintain the land by managing it for production and livelihood building a complex social and economical system with many levels of interaction. The proposed project will address vulnerabilities and conflicts between the various indigenous groups including Soninke sedentary farmers, Mauri, arabo-berber traditionally raising nomadic livestock, Fula (Peulh) both relaying in sedentary and transhumance livestock including the subgroup of Toucouleur, and Bambara groups such as Bozo and Somono fishers localized along the river Niger and related humid and lakes system.
Local administration will be included into project implementation as well as decision-makers, including decentralized offices such as the Municipal Councils (*Conseils municipaux*) and the Regional Assemblies (*Assemblées Régionales*) of Koulikoro, Ségou, and Kayes. All those actors will be involved in the proposed project. A more detailed stakeholder analysis will be undertaken during project preparation in complement to the initial FAO rapid appraisal carried out in the field in April 2010. Investments related to the component 2 of the proposed project will be entirely realised in collaboration with civil society organization including local NGOs and other actors.

**B.6. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:**

The inscription of the LDCF project within the broader frameworks of PNISA and CSI-GTD of the MEA will facilitate the build-up of synergies and partnerships between the LDCF project and a broad range of *"projets sous tutelle"* of the three ministries in charge of agriculture, agro-pastoral development and land management/restoration, as well as FAO-led projects. Capitalization of the research and activities already ongoing will be established, including collaborations with other projects, programmes, and research actors.

The CSI-GDT is the culmination of a series of diagnostic studies and a thorough analysis of national and local priorities to draw upon the efforts of everyone in the fight against desertification and poverty while promoting adaptation to CC and changing trade opportunities through CCA/SLM. The CSI-GDT has been framed as a truly integrated program in response to the three-fold challenge addressed by SLM: (i) maintaining long-term productivity and ecosystem function (soil, water, vegetation, biodiversity); (ii) increasing productivity (quality, quantity and diversity) of goods and services provided by agro-ecosystems (including a healthy secure food supply); and (iii) helping to reduce rural poverty by strengthening the profitability and sustainability of economic activities related to the use of goods and services provided by agro-ecosystems. The global objective of the CSI-GDT is to reverse the long-term trend towards land degradation with the participation of all key stakeholders. Its specific objectives are: (i) to mainstream the SLM good practices in order to reverse land degradation and the loss of biodiversity and to adapt to CC; and (ii) to reinforce the institutional, technical and financial capacities of concerned stakeholders in view of the integration of SLM in the national development policies. Nonetheless the CSI-GDT as such is a development activity focusing on land rehabilitation, and adaptation investments that will be undertaken for the resilience of transhumance routes, agriculture, and the fishery sector need to be reinforced and supported in a coordinated and integrated manner through the collaboration with the present LDCF proposal.

In terms of CCA and food security, Mali has for decades been investing heavily in irrigation-based perimeters (mostly for rice production, including the major "Office du Niger" programs), but has only more recently focused on the issue of climate resilience of traditional dry crops (including flood-recession agriculture in flood plains) and agropastoral systems, on which most of the rural population rely. The need to consider the interactions between key agricultural production systems and pastoral system which share common resources in formulating and implementing sound CCA strategies, has more recently been recognized by National authorities seeking FAO technical support.

GIZ is providing a 3 million EURO fund to the AEDD for a project named "*Projet d'intégration du changement climatique dans la planification local et national*" (Project for the integration of CC into national and local planning). The project focuses on introduction and mainstreaming of new PDESC tools to support communities in the inclusion of gender issues as well as the introduction of climate resilience into actual

planning. The project will guarantee the interchange of new tools and approaches that will be integrated within the proposed LDCF intervention.

The recently started PAPAM project is a country wide programme based on WB loans (approximately USD 70 million in total), and other donations including USD 22 million from the EU running from 2011 to 2015. The PAPAM project marks an important step ahead in Mali's technical assistance to local stakeholders, and includes the support to the rainfed cereals and cereals/legumes systems, and the enhancement of fodder production (particularly cowpea), and the reinforcement of the milk cattle raising without taking into consideration issues derived by CC and seasonal variability. Collaboration will guarantee the mainstreaming of CCA concepts into PAPAM activities.

The project will be strictly coordinated with other GEF and LDCF-funded projects focusing specifically on climate resilience in the rural development sector implemented by UNDP and FAO through activities in component 3 including the strengthening of an inter-sectoral task force in the framework of the CSI-GDT and by having at least 2 partner projects and/or national/regional governmental programs actively involved. Relevant stakeholders will also be included in the Project Steering Committee. Particular attention will be given during PPG to ensure complementarities and avoid duplication with other LDCF proposals being developed by UNDP and the WB with national partnership including MEA, MA, and MPA; as well as with other proposals being developed in the framework of the Great Green Wall Initiative (GGWI) programme. For example, the proposed LDCF/FAO project puts a strong emphasis on CCA-3, which is coherent with FAO's comparative advantage and complementary to the preliminary proposal of the GGWI which focuses at CCA-1 and CCA-2 as well as other focal areas objectives related to land degradation, CC mitigation, and biodiversity. The Steering Committee will be responsible for overseeing and coordinating project planning and implementation as well as project progress monitoring and midterm and final evaluations.

Of particular relevance will be other regional and national initiatives for agricultural and husbandry development such as: PASAM – *"Programme d'appui au secteur Agricole au Mali"*; PQAP – *"Programme Quinquennal d'Amenagements Pastoraux"*; the project *"Renforcement De La Capacite Regionale Pour La Mise En Valeur Des Bas-Fonds Communautaires Et Parcelles Irriguees Villageoises"*; the "Mali-North" investment project.

| Project/Programme | Ongoing activity | Proposed collaborations |
|---|---|---|
| CSI-GDT | The CSI-GDT as such is a development activity focusing on natural resources, and has been elaborated with a focus on land degradation, although it is considered as a pillar for the application of CCA intervention as a transversal issue for the poverty reduction intervention in rural sectors. | The CCA activities will be mainstreamed into CSI-GDT to support the CC issues and related adaptation activities within the framework of coordinated intervention in farmers-herders ecosystems and in livestock productive systems Adaptation investments that will be undertaken under CSI-GDT towards the resilience of transhumance routes, agriculture, and the fishery sector need to be reinforced and supported in a coordinated and integrated manner. |
| Projects focusing on the development of the Inner Niger Delta | The issue of climate resilience of traditional dry crops (including flood-recession agriculture in flood plains) and agropastoral systems have recently been focused in a non-coordinated manner. | The need to consider the interactions between key agricultural production systems and pastoral systems that share common resources in formulating and implementing sound CCA strategies has more recently been recognized by national authorities seeking FAO technical support. |
| Projet d'intégration du changement climatique dans la planification local et national | Through this project the AEDD will further develop the PDESC tools to support communities in the inclusion of gender issues as well as the introduction of climate resilience into actual planning, but the intervention will not include specific ecosystem approaches to increase climate variability resilience in the livestock sector at national and local scales. | Improved PDESC will be used within LDCF intervention and will be further developed to include tools for its use within pastoral communities and herders-farmers ecosystems. This will provide a further adaptation benefit to the planning capacities of LDCF project stakeholders and will expand the scope of AEDD intervention in other areas affected by climate change. |
| PAPAM | PAPAM, a follow up of PDD-DIN, will include the support to the rainfed cereals and cereals/legumes systems, and the enhancement of fodder production (particularly cowpea), and | The present activity will build on the PAPAM activities to introduce CCA-related activities and particularly will introduce into PAPAM areas the mainstreaming of CCA-adapted FFS/APF |

| | | |
|---|---|---|
| | the reinforcement of milk cattle raising without taking into consideration issues derived by CC and seasonal variability.<br>PAPAM does not include mainstreaming of CCA into agricultural policies and does not foresee investments in climate risks. | interventions. |

**C. DESCRIBE YOUR AGENCY'S COMPARATIVE ADVANTAGE TO IMPLEMENT THIS PROJECT:**

The project draws on lessons learned, tools, and predictions from a number of FAO-led projects and initiatives in Mali and in other African countries: (i) First, it builds on the technical capacities and consolidated experience of FAO in the FFS Approach, the FAO-GEF regional Integrated Pest Management project, and the regional project GCP /RAF/453/SPA *"Amélioration de la Production de riz en Afrique de l'Ouest en Réponse à la Flambée des Prix des denrées Alimentaires"*; (ii) Second, it will integrate and adapt East African experiences which have applied the concept of APFS with herders target groups. The project will also benefit from FAO´s broader experience in the application and mainstreaming of the FFS approach in rural development frameworks in Mali and other Western and Eastern African countries where a strong FFS institutionalization process is underway.

The proposed project is aligned with FAO's comparative advantage in the area of capacity building, providing technical analysis and assessments in relevant areas such as adaptation of agropastoral farming systems to CC, sustainable crops and animal production and rangeland management, policy support, use of biodiversity. FAO has considerable technical experience and field activities in a number of areas covered under this project (agriculture production and food security, CC impacts on production systems and community-led testing and adoption of adaptation measures, agro-biodiversity, capacity building of policy makers, technical staff and small holders in crop production and agropastoral sectors, development of community based capabilities and rural development, forage production and grassland management). The proposed project is also supporting the up-scaling of the FFS/APFS approach that has been endorsed at national level by various governments in the region and that will be used for all technology transfer, adoption and related capacity building activities. FAO has been supporting Mali's efforts both to develop a National Food Security Strategy and to react to drought-driven and soaring food prices episodes. FAO's Department of Agriculture and Consumer Protection is launching a review of 20 years of FFS experience, which will lead to the elaboration of a FFS-efficiency Monitoring System and facilitate the access to additional funding for FFS/APFS-based activities under a result-based framework. FAO currently has a significant project portfolio in Mali with a major focus on food security and sustainable production systems including 18 national projects totalling more than USD 16 million, and further 22 regional/global projects implemented in Mali totalling approximately USD 13 million.

**C.1 INDICATE THE CO-FINANCING AMOUNT THE AGENCY IS BRINGING TO THE PROJECT:**

FAO might provide USD 50,000 in grant/in-kind resources for project preparation and will provide USD 100,000 in-kind contribution for project implementation. In addition FAO will provide an estimated USD 450,000 in grant resources (see Part 1, Table C and Part II, section B.1).

**C.2 HOW DOES THE PROJECT FIT INTO THE GEF AGENCY'S PROGRAM (REFLECTED IN DOCUMENTS SUCH AS UNDAF, CAS, ETC.) AND STAFF CAPACITY IN THE COUNTRY TO FOLLOW UP PROJECT IMPLEMENTATION:**

The project addresses FAO's strategic objective (SO) A (Sustainable Crop production Intensification) and B (Sustainable Livestock production intensification) and F (Natural Resource management and CC). In particular, Components 1 and 2 fit into SOA Organizational Result (OR) 1, 3, 4 related to intensification of crop production through an ecosystem approach; and sustainable use of genetic resources; and into SOB OR 1, 4 related to sustainable use of environmental resources for sustainable livestock production. Component 3 also addresses SOF E 05 related to adaptation in agriculture.

The proposal is aligned with Result 4 of the *United Nation Assistance Framework* 2008–2012 *(UNDAF) for Mali:* reinforcement of food security, sustainable development, alternative energy sources and employment generation creation for the vulnerable rural areas. FAO, WFP and IFAD base their plan of action on this Framework. It is also fully compatible with the UNDP Country Programme (2006–2012) and with the GGWI

framework promoted by the GEF and will bring a specific added value to this Framework by fostering concrete extension mechanisms for delivery of CCA technology transfer and adoption based on a recognized and cost-effective FFS/APFS approach, specifically targeted at a population with low literacy.

The Mali FAO Representation is staffed with six technical/operational staff and two administrative /accounting personnel and can mobilize complementary national and international technical expertise and provide in-country support for the execution/supervision of the proposed project.

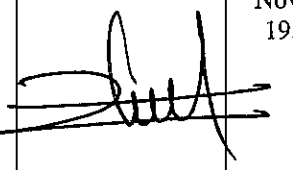
## PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

**A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):** (Please attach the country endorsement letter(s) or regional endorsement letter(s) with this template).

| NAME | POSITION | MINISTRY | DATE *(Month, day, year)* |
|---|---|---|---|
| Alamir Sinna TOURE | Chef, Departement Etudes et Planification / Head, Department of Studies and Planning | AGENCE DE L'ENVIRONNEMENT ET DU DEVELOPPEMENT DURABLE | 11/24/2011 |

**B. GEF AGENCY(IES) CERTIFICATION**

**This request has been prepared in accordance with GEF/LDCF/SCCF policies and procedures and meets the GEF/LDCF/SCCF criteria for project identification and preparation.**

| Agency Coordinator, Agency name | Signature | Date *(Month, day, year)* | Project Contact Person | Telephone | Email Address |
|---|---|---|---|---|---|
| Laurent Thomas<br>Officer-in-Charge,<br>Investment Centre Division<br>Technical Cooperation Department<br>FAO<br>Viale delle Terme di Caracalla<br>00153, Rome, Italy<br>TCI-Director@fao.org |  | November 19, 2012 | Caterina Batello,<br>Team leader<br>AGPME,<br>FAO Department of Agriculture and Consumer Protection<br>Rome, ITALY | +3906 5705 3643 | Caterina.Batello@fao.org |
| Barbara Cooney<br>FAO<br>GEF Coordinator<br>Email: Barbara.Cooney@fao.org<br>Tel: +3906 5705 5478 | | | | | |