REQUEST FOR CEO ENDORSEMENT/APPROVAL

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: MULTI-TRUST FUNDS

PART I: PROJECT INFORMATION

Project Title: PSG – Agriculture production support project (with Sustainable Land and Water Management)			
Country(ies):	Chad	GEF Project ID:	4908
GEF Agency(ies):	World Bank	GEF Agency Project ID:	P131019
Other Executing Partner(s):	Ministry of Ministry of Agriculture and Irrigation Ministry of Environment and Fisheries	Submission Date:	6 April 2012
GEF Focal Area (s):	Multi-Trust Funds Multifocal Area for GEF	Project Duration (Months)	48
Name of Parent Program (if applicable): For SFM/REDD+ ☒	Sahel and West Africa Program in support of the Great Green Wall Initiative	Agency Fee ($):	740,741

A. FOCAL AREA STRATEGY FRAMEWORK[1]

Project Components	Expected Outcomes	Expected Outputs	Trust Fund	Grant Amount ($)	Cofinancing ($)
LD-3	Outcome 3.2: Integrated landscape management practivces adopted by local communities	Output 3.2. INRM tools and methodologies developed and tested Output 3.4. Information on INRM technologies and good practivces guidelines disseminated	GEFTF	2,184,815	19,405,000
CCA-1	Outcome 1.2: Reduced vulnerability to climate change in development sectors	Output 1.2.1: Vulnerable physical, natural and social assets strengthened in response to climate change impacts, including variability	LDCF	4,369,629	47,805,000
BD-2	Outcome 1.2: Increase in sustainably managed landscapes and seascapes that integrate biodiversity conservation	Output 1.2: National and sub-national land-use plans (5) that incorporate biodiversity and ecosystem service valuation	GEFTF	1,310,889	12,620,000
SFM/ REDD-1	Outcome 1.2: Good management practices applied in existing forests	Output 1.2: Forest area (36000 ha) under sustainable management	GEFTF	873,926	7,720,000
		Subtotal		8,739,259	87,550,000
		Project management cost		520,000	14,700,000
		Total project costs		9,259,259	102,250,000

[1] Refer to the Focal Area/LDCF/SCCF Results Framework when filling up the table in item A.

B. PROJECT FRAMEWORK

Project Objective: To support rural communities and producer organizations in increasing production of selected food crops and livestock in targeted zones while increasing the use of sustainable land and water management practices in climate vulnerable ecosystems.						
Project Components	**Grant type**	**Expected Outcomes**	**Expected Outputs**	**Trust Fund**	**Grant Amount** ($)	**Confirmed Cofinancing ($)**
Component 1. Agricultural inputs	INV	1.1 Increased access to improved seed and animal feed	1.1.1. Improved seeds and animal products procured and distributed.	0	0	1,870,000
Component 2. Support to food production	INV/ TA	2.1 Sustainable and enhanced agricultural and livestock production and productivity through climate resilient local investments	2.2.1. Climate-adapted and resilient community micro-projects financed (260) and implemented in the five target regions	LDCF	2,880,000	40,000,000
Component 3. Sustainable land and ecosystem management	INV, TA	3.1. Resilience of agro-ecosystem to climate change strengthened in targeted areas	3.1.1 Introduction of practices at community level to increase sustainable land and water management land productivity and water-use efficiency and other climate resilient practices (9,500 ha) linked to community micro-projects (40)	GEFTF	580,813	37,923,000
		3.2 Strengthened capacity and awareness on climate resilience and SLWM at community and department level	3.2.1 Capacity building and training program on climate resilient agricultural techniques and tools is developed and promoted at community and department level	LDCF	489,629	
		3.3 Strengthened infrastructure in development sectors in line with NAPA priorities	3.3.1 Local investments for better management of land and water resources in response to climate change impacts, including variability (40)	LDCF	1,000,000	
		3.4 Good management practices applied around select protected areas	3.4.1 Land-use plans (5) that incorporate biodiversity and ecosystem service valuation	GEFTF	583,631	
			3.4.2 Farmers organizations strengthened to implement sustainable land management with bushfire response, replanting and forest management (200 organizations/ community groups)	GEFTF	150,000	
		3.5 Sustainable SLWM and forest management	3.5.1 Sustainable conservation and management for investment activities in 36,000 ha in the targeted zones	GEFTF	631,259	

Project Objective: To support rural communities and producer organizations in increasing production of selected food crops and livestock in targeted zones while increasing the use of sustainable land and water management practices in climate vulnerable ecosystems.						
Project Components	**Grant type**	**Expected Outcomes**	**Expected Outputs**	**Trust Fund**	**Grant Amount** ($)	**Confirmed Cofinancing ($)**
		practices introduced in targeted areas	3.5.2.Participatory management plans developed and implemented in targeted communities shared forests in the 5 regions	GEFTF	473,927	
Component 4. Capacity building and institutional support to public services	TA	4.1. Strengthened capacity of relevant government entities in climate resilient SLWM and NRM	4.1.1. Preparation of legislative texts to promote SLM and climate change activities in Chad, with capacity building for the relevant staff	GEFTF	500,000	7,757,000
			4.1.2. Framework developed and implemented for capacity building strategy for enabling environment, awareness, and education, at local, regional level and national level	GEFTF	500,000	
		4.2. Knowledge generated and disseminated	4.2.1. Development of a knowledge base on climate–resilient SLWM with information concerning technologies and approaches; and necessary related studies including on land and forest cover for information on carbon sequestration	GEFTF	500,000	
			4.2.2. Development and dissemination of guides and toolkits on innovative climate–resilient SLWM and NRM practices and environmental screening and mitigation measures for investments	GEFTF	450,000	
			Subtotal		8,739,259	87,550,000
Component 5. Project management.	TA	For the project to be effectively implemented, project management functions including fiduciary management, monitoring and evaluation (M&E), technical supervision, reporting and audits, will be covered under this component		GEF: 260.000 LDCF: 260,000	520,000	14,700,000
			Total project costs		9,259,259	102,250,000

A. SOURCE OF CONFIRMED CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF ($)

Sources of Co-financing	*Name of Co-financier (source)*	*Type of Cofinancing*	*Cofinancing Amount ($)*
GEF Agency	World Bank – IDA – PAPA	Soft Loan	25,000,000
GEF Agency	World Bank – IDA – LDPSP II	Soft Loan	25,000,000
National Government	Government – LDPSP II	Cash	50,000,000
Other	Beneficiaries – LDPSP II	In kind	2,250,000
Total Co-financing			102,250,000

B. GEF/LDCF/SCCF RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY

GEF Agency	**Type of Trust Fund**	**Focal Area**	**Country Name / Global**	**(in $)**		
				Grant Amount (a)	**Agency Fee** (b)[2]	**Total** c=a+b
WB	GEF TF	Land degradation	Chad	$2,314,815	$185,185	2,500,000
WB	GEF TF	Biodiversity	Chad	$1,388,889	$111,111	1,500,000
WB	LDCF	Adaptation	Chad	4,629,629	370,371	5,000,000
WB	GEF TF	Multifocal area	Chad	925,926	74,074	1,000,000
9,209,925				**9,259,259**	**740,741**	**10,000,000**

C. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

Component	**Estimated Person Weeks**	**Grant Amount ($)**	**Cofinancing ($)**	**Project Total ($)**
Local consultants*	999	225,000	2,773,400	2,998,400
International consultants*	5	14,000	130,800	144,800
Total	**1004**	**239,000**	**2,904,200**	**3,143,200**

* Details to be provided in Annex C.

D. PROJECT MANAGEMENT COST

Cost Items	**Total Estimated Person Weeks (GEF)**	**Grant Amount** ($)	**Co-financing ($)**	**Project Total ($)**
Local consultants*	197	295,500	2,279,600	2575100
International consultants*	0	0	127400	127400
Office facilities, equipment and vehicles		107,700	2,517,500	2625200
Travel*		116,800	775500	892300
Other **				
Total	197	**520,000**	**5,700,000**	**6,220,000**

* Details to be provided in Annex C. **For others, to be clearly specified by overwriting field * (1) and *(2).

E. DOES THE PROJECT INCLUDE A "NON-GRANT" INSTRUMENT? NO

(If non-grant instruments are used, provide in Annex E an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF Trust Fund).

F. DESCRIBE THE BUDGETED M &E PLAN:

Because of the nature and country context, monitoring, supervision and evaluation will be particularly rigorous. The Project Coordination Unit (PCU) will be responsible for overall monitoring and evaluation (M&E) and for meeting the agreed reporting requirements. The project M&E system with a Management Information System (MIS) will link technical and financial data on project progress and impact. The Monitoring and Evaluation Specialist in the PCU will supervise all M&E activities under the Project, be responsible for ensuring quality control of data from the various sectoral ministries with specific responsibilities, including Ministry of Agriculture and Irrigation (MINAGRI), Ministry of Pastoral Development and Animal Production (MINPDAP), Ministry of Infrastructure and Equipment (MINIE), Ministry of Environment and Fisheries (MEF) and Regional Coordination Units (RCUs). At the local level, the RCUs will work with Producer Organizations (POs) responsible for the implementation of subprojects and will be responsible for providing periodic monitoring data. Capacity-building activities are envisaged where needed. A set of inter-ministerial coordination mechanisms will review progress and the annual progress report.

The M&E will include environmental monitoring indicators to determine (i) the use of the environmental screening for subprojects and investments; (ii) the effectiveness of environmental mitigation measures implemented; (iii) the extent to which subprojects are maintained in an environmentally and socially sustainable manner, and (iv) environmental results. At inception, midterm review and closing, GEF Tracking Tools will be prepared. The MEF will be responsible for the collection on GEF-related data, the project envisages baseline data for the purpose of impact evaluation, counterfactual comparison, monitoring by an independent third party and satisfaction surveys.

Regarding evaluation, annual independent impact evaluations will be conducted, with a final independent evaluation to assess overall achievement of expected project results. The project has been selected for inclusion in the Sustainable Development Impact Evaluation Program in line with IDA 16 requirements and will therefore benefit from expertise and additional IDA resources for strengthening its M&E and impact assessment activities.

Due to the emergency element of the project, and as required under Operational Policy/Bank Procedures 8.00, supervision is based on additional risk mitigation and control measures, which requires more frequent missions and close monitoring of implementation progress. At least two full supervision missions (covering all aspects of the project) will be carried out yearly during the whole implementation period. In addition, monitoring of financial management, procurement, and safeguards will also be more thorough than usual. Most of the monitoring and evaluation will be covered by the IDA financing. The budget for M&E from the GEF is estimated to US$ 0.46 million.

The Monitoring and Evaluation plan is based on World Bank and GEF standards. It is described in detail in the Project Document (Annex 7 - Implementation and Monitoring Arrangements) including the GEF indicators, the Key Performance Indicators (KPI) of the Sahel and West Africa Program in support of the Great Green Wall Initiative (SAWAP) and the set of indicators of the Result Framework of the proposed project.

PART II: PROJECT JUSTIFICATION

A. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

A.1.1. The GEF focal area/LDCF/SCCF strategies:

The proposed project has been developed as a multi-focal area operation combining several of the GEF strategic goals, namely:

- To contribute to arresting and reversing current global trends in land degradation, specifically desertification and deforestation.
- Support Chad to become climate resilient by promoting both immediate and longer-term adaptation measures in development policies, plans, programs, projects and actions
- Contribute to conservation and sustainable use of biodiversity and the maintenance of ecosystem goods and services.
- Achieve multiple environmental benefits from improved management of all types of forests.

Chad is a STAR flexible country, and resources were moved from the climate change focal area to the Biodiversity and Land Degradation focal areas. The proposed project will directly address land degradation challenges in the targeted area by promoting community-based sustainable land and water management practices to reduce pressure on natural resources from competing land uses (LD-3 - Outcomes 3.2. and 3.3. – Outputs 3.2. and 3.4) while promoting climate change resilience.

Resources from biodiversity and SFM focal areas are being combined into the introduction of sustainable forest management practices in targeted zones. The proposed project will address mainstreaming of biodiversity conservation and sustainable use of landscapes (BD-2 - Outcomes 2.1. and Output 2.2.) as well as SFM-1 to reduce pressure on forest resources (SFM-1 - Outcomes 1.2. and Output 1.2). Table A of this CEO Endorsement Memorandum details the GEF focal area linkages of this project.

A.1.2. For projects funded from LDCF/SCCF: the LDCF/SCCF eligibility criteria and priorities

The LDCF resources will catalyze adaptation to climate change in agricultural development and livestock management which are the two top priorities of the National Action Plan for Adaptation to Climate Change (NAPA) for Chad, described in more detail below. Focusing primarily on community investments and capacities, the proposed project will incorporate activities to reduce vulnerability to climate change in development sectors, especially agriculture and livestock management (LDCF – CCA-1 – Outcome 1.2 & 2.3. – Output 1.2.1). In strengthening vulnerable physical, natural and social assets in response to climate variability, adaptive capacity will be increased.

The GEF/LDCF funds will help cushion activities against agro-climatic factors, as needed given Chad's "Extreme Risk" rating under the Climate Change Vulnerability Index. LDCF resources will be deployed to cover some of the additional costs to improve the climate resilience of Government and community livelihood investments, infrastructure and civil works, as well as mainstreaming of climate resilient agricultural practices in activities carried out by the baseline projects. LDCF resources will directly contribute to the NAPA priority #1 project i.e. "*Retention of surface water for agriculture and feeding of livestock*" and #2: "*Diversification and intensification of crops in Sudanese and Sahelian areas*".

However, the project would address 7 of the 10 priority NAPA areas including 5 priorities related to food security, depending on community and government demand for the micro-projects. These priorities include improvement and promotion of farming calendars; construction of infrastructure for the restoration and conservation of lands as a means to develop, agricultural activities, as well as enhancement of intercommunity pastoral areas, and food banks for livestock.

A.1.3. Linkage to SAWAP and the Great Green Wall Initiative

The proposed project is part of the Sahel and West Africa Program (SAWAP) in Support of the Great Green Wall Initiative approved by the GEF and LDCF/ SCCF Councils in May, 2011. The SAWAP Program addresses major issues related to land degradation, including food security, climate change mitigation and adaptation, to support sustainable development in 12 countries: Burkina Faso, Chad, Ethiopia, Mali, Mauritania, Niger, Nigeria, Senegal, Sudan, Benin, Chad, and Ghana. The proposed

project in Chad and the Program share the same objective *to expand sustainable land management (SLM) in targeted landscapes and in climate vulnerable areas*.

A.2. National Strategies / Plans or Reports / Assessments under relevant conventions if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NIPs, PRSPs, NPFE, etc:

National strategies and plans: (NAPAS, NAPs, NBSAPs, National Communications, TNAs, NIPs, PRSPs, NPFE)

Agricultural development is a leading priority in the Government's poverty reduction strategy, as well as the NAPA. The Government's main framework for promoting growth, poverty reduction, and food security is the National Food Security Program (*Programme National de Sécurité Alimentaire*) Second Phase, 2011-15 (NFSP-II), which is supported by several bilateral and multilateral organizations. The project fits in this framework and responds directly to the emergency appeal on food security issued by the Government in December 2011, through the US$ 25 million Agricultural Productivity Support Project (PAPA).

The National Food Security Program (FNSP) is underpinned by the National Action Plan for Adaptation to Climate Change (NAPA) of February 2010, which reemphasizes the needs and priorities related to adaptation for food security, agriculture and livestock. The relevant Chad NAPA priorities are Retention of surface water for agriculture and feeding of livestock (#1); Diversification and intensification of crops in Sudanese and Sahelian areas (#2); Improvement and promotion of farming calendars (#3); Improvement of information, education and communication on adaptation to climate change (#4); Construction of infrastructure for the restoration and conservation of lands as a means to develop, agricultural activities (#5); Enhancement of intercommunity pastoral areas (#6); Food bank for livestock (#9).

The Government of Chad (GoC) has developed strategies and plans for several international conventions. The Government of Chad ratified the UNCBD in 1994, and under the direction of the High National Committee on the Environment subsequently developed a National Biodiversity Protection Strategy and associated Action Plan (NBSAP) in 1995. The **National Biodiversity Strategy** (1995) aims to promote conservation and sustainable use of biodiversity, with integration into national plans and or cross-sectoral policies, and the fair and equitable use of biodiversity resources. The Plan has five axis; (a) improving knowledge and monitoring of biodiversity; (b) conservation and restoration of ecosystems and threatened species; (c) use of alternative resources including consumption of wood energy; (d) sustainable practices and a more sustainable exploitation of agriculture, fisheries, and forests in order to conserve biodiversity; and (e) fair and equitable use of biodiversity resources and community-based actions to promote biodiversity conservation.

The Government of Chad signed the UNCCD in September 1997 and adopted its National Action Plan (NAP) to combat desertification (Plan d'Action National de Lutte Contre la Desertification) in September 2002. The NAP aims to safeguard Chad's most important and threatened ecosystems, while improving national policies and capacity to preserve the production potential of land and water and to mitigate the effects of drought. The NAP has four overarching objectives: (i) to protect, restore and develop Chad's productive potential to achieve sustainable agriculture and livestock production, protected and enhanced fisheries, and to promote human habitat planning in a manner respectful of the environment; (ii) to protect and safeguard important and threatened ecosystems, in particular, Lake Chad, Lake Fitri, the Ouadis, the oasis and the Koro lands; (iii) to build human capacities and adapt legal and institutional frameworks to combat desertification, particularly among rural populations, NGOs, and public agencies; (iv) to manage risks and uncertainties exacerbating the fragility of ecosystems and human-induced drivers of land degradation.

There are strong links between the biodiversity strategy, the NAPA and the National Action Program to Fight Desertification and the National Food Security Program (NFPS); they focus around common goals of sustainable development and food security through improved water management, mitigation of land degradation from the effects of drought and climate change, and rural agricultural production with the protection of natural resources and the environment. The project will address these interfaces.

B. PROJECT OVERVIEW:

B.1. Description of the baseline project and the problem that it seeks to address:

The combined GEF/LDCF resources will be complimented with a strong baseline of initiatives being implemented in Chad; among these: (i) Second Local Development Program Support Project for Chad (LDPSP 2); and (ii) the Agricultural Sector Support Project (PAPA) as an emergency response to the recent food crisis in the country. The GEF/LDCF resources will be fully blended with the latter to take advantage of a joint implementation unit, the urgent processing of the PAPA, and the increased resources and attention of an emergency operation, and responding to climate change needs. Without GEF/LDCF support, the baseline projects are:

The World Bank **Agricultural Productivity Support Project** (PAPA) for Chad, which will integrate the GEF/LDCF activities, aims to reduce food insecurity and household vulnerability by stimulating the significant agricultural potential in the country. The PAPA originally had three components: (a) Support to food productivity; (b) capacity building; and (c) project management; to which a supply of agricultural inputs component was added. The operation will use a demand-driven approach, supporting local communities, with a focus on agricultural and livestock linkages. The activities should also increase agricultural incomes, and consequently strengthen the diversification of the Chadian rural economy.

In complement to the PAPA, the **Local Development Program Support Project 2** (LDPSP 2, PROADEL 2) ($77.25M) aims to achieve: (i) improved access to basic infrastructure and social services in targeted districts; and (ii) improved planning, management and monitoring by local communities and communes of decentralized investments. There are three components: (i) capacity building of local communities and communes and support to decentralization; (ii) decentralized financing of micro-projects; and (c) project coordination, monitoring and evaluation. The objective of *Component 1* is to support the development of improved technical and fiduciary skills needed at the different decentralized levels and in the national institutions responsible for decentralization. *Component 2* will support targeted financing of demand-driven micro-projects based on LDPs and Annual Investment Plans (AIPs). The micro-projects, to be financed through a matching grant (MG) mechanism, will promote access to basic socio-economic services, income-generating activities, and sustainable natural resources management through the adoption of innovative technologies. The Project will channel funds to communes and local communities in order to finance: (i) socio-economic infrastructure micro projects (education, health, water facilities, etc); (ii) environmental and natural resources management micro-projects (acacia planting, contour planting, sustainable land management, Sahelian gardens, etc.); and (iii) rural income-generating micro projects (small scale irrigation, agricultural equipment, drying facilities, small transformation and storage facilities, etc.). The project started in 2011 and will close in 2015. It is linked to PAPA though the development of Local Development Plans (LDPs), mutually reinforcing capacity building, complementary social investments, and lessons and mechanisms from the LDPSP grant scheme.

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:

B.2.1. Background information on land degradation, biodiversity and climate change

A more comprehensive analysis is available in Annex 11 of the Project Document.

B.2.1.1. Background context for land degradation and biodiversity in Chad:

Extensive **land degradation** is caused by overgrazing, deforestation, inappropriate farming practices, and the pressure of increased numbers of people and livestock. Open access land-use practices threaten the sustainability of forests and pastureland. Land-use conflicts between pastoralists and agricultural farmers add to migration pressure and undermine social cohesion. Continuous cropping, poor land-husbandry practices, and wind and soil erosion are degrading Chad's land and depleting the soil's native fertility. Other causes of degradation are gully erosion and poor farming practices used in cotton and cassava cultivation. Crop yields are declining. Activities connected with mixed farming (brush fires, slash and burn cultivation, biomass burning), the production of firebricks, and artisanal metallurgy are responsible for the emission of dioxins and furares, which are harmful to biodiversity.

Forests cover roughly 9 percent of Chad's land area and are mostly located in the southern Sudanese zone with vegetation becoming progressively more sparse north of Lake Chad. Only 1.6% (184,000 ha) is classified as primary forest. Chad has a modest network of protected areas including two national parks that make up around 9% of total land, a number of wildlife reserves, and one biosphere reserve. Around 2 percent of Chad's forests are inside protected areas. Chad has about 593,000 hectares of classified forests, and about 17,000 hectares that have been reforested. Closed forests in Chad are generally limited broadleaved riparian forests extending along permanent or semi-permanent watercourses, most notably the Chari and Logone rivers. The wildlife includes elephant, derby elk, kudu, oryx, addax and maned sheep. Gum and shea-butter trees are the main forest species of economic interest.

High population density and pressure on resources have caused significant **forest degradation,** with an estimated deforestation rate was 0.7% (2000–2005). The PRSP indicates that one-third of standing natural forest has disappeared since the 1990s[2]. Causes include illegal clearing of forest land for crops and expansion of land under cultivation, unauthorized tree-cutting, expansion of farming and livestock herding, poaching, and uncontrolled bushfires. The pressures are exacerbated by population displacements, and around refugee camps in eastern Chad. Wood fuels (wood and charcoal) supply more than 90 percent of energy consumed in Chad, which has resulted in rings of desertification and deforestation around population centers.

Biodiversity. Chad is relatively rich in biodiversity with some 698 known species of amphibians, birds, mammals and reptiles (World Conservation Monitoring Centre). Of these, 0.3% are endemic, and 2.6% are threatened. Chad is home to at least 1600 species of vascular plants. Biodiversity is mainly concentrated in the more forested Sudanic zone, where the main national parks play an important conservation role, in spite of the demographic pressures placed on them. However, the wildlife reserves in the southern Zone have lost part of their species due to lack of protection from anthropogenic activities, as well as dramatic climate changes.

Background context on likely impacts of Climate Change in Chad and associated risks

Climate change has severely affected Chad. In 2010, a **prolonged drought** led to widespread crop failures and the loss of large numbers of livestock. The following year, in 2011, the delayed onset of the rainy season and significantly below-normal precipitation levels led to a steep reduction in planted area and caused production of cereals to fall by nearly 40 percent and production of other food crops to fall by approximately 28 percent. The impacts were felt most acutely in the Sahelian region, where food

[2] FAO estimate: In total, between 1990 and 2010, Chad lost 12.1% of its forest cover, or around 1,585,000 ha.

production fell by an estimated 56 percent during the recently concluded cropping season, compared to the previous year. Many farmers in the region combine subsistence agriculture with the raising of cattle, sheep, goats, and poultry. The food outlook has also been characterized as severe in the Sudanian zone. As a result of these successive production shortfalls, the national cereals deficit is currently estimated at 455,000 MT, and an upward trend in prices of cereals in the market has already been observed. The price increase of cereals will probably worsen with reduction in pastoral areas at the end of the dry season.

Mean annual **temperature** has increased by 0.7°C since 1960 with an average rate of 0.16°C per decade, and is projected to increase further (1.0 to 3.4°C by the 2060s). The NAPA finds that that minimum temperatures are rising faster than the maximum (0 to 1.34 ° C). Chad has observed a significant decrease in **rainfall** levels (about 200 mm) between 1960 and 1990. However, some unusually high rainfalls have also occurred in the dry season in recent years, and the NAPA points out that floods due to uneven rainfall poses as much of a direct threat to lives and the environment as drought. Rainfall shows high variability, both from year to year and within rainy seasons. Precipitation is also projected to change, from -15 to +9mm per month by the 2090s. Irregular rainfalls have negative impacts on livestock productivity and development such as lack of fodder, concentration of pastoral activities around protected areas, loss of genetic diversity, lower animal production yields. The lack of water and fresh fodder often prompt high and early migration by pastoralists resulting in cattle mortality reaching to over 31% in 2009. The 2010-11 drought led to a scarcity of drinking water for livestock and pastures especially in the Sahelian zone. The poor quality of pastures and water points may lead to the descent of transhumance to the south. A forage deficit is expected. Prolonged drought has dried up water courses and reduced the amount of quality pastureland. Herders and sedentary farmers compete for land and access to water and put increasing pressure on forest resources.

According to the Chad **National Action Program of Adaptation** (NAPA, 2010), vulnerable sectors include water resources, agriculture, livestock, fisheries, and forest. The NAPA points out that the fragility of its ecosystems makes Chad very vulnerable to these phenomena adverse effects of climatic extremes and the socio-economic situation weakens the adaptability. Thus, the primary sector, which contributes highly to GDP (40%), has experienced negative effects of drought since the 1970s. The **main climate** risks are drought, floods, poor distribution of rain, late rains, strong heat, strong winds, storms and erosion. Many lives have been lost in epidemics that follow floods and extreme heat (NAPA, 2010). Potential effects of climate change in Chad include water shortage due to reduced rainfall, food insecurity, irreversible loss of biodiversity, and increased desertification. The NAPA also assessed loss from climate change to productive sectors of food crops, cotton, livestock and agriculture, fisheries, and forest resources. A likely impact of climate change is scarcer water resources while natural vegetative cover and agricultural production will have to adjust to a dryer and hotter environment.

A key challenge in Chad is the high level of evapotranspiration caused by the high temperatures throughout the year, limiting the potential of natural recharge of groundwater. Cereal production is heavily affected by the erratic rains; cyclical droughts and locust infestations. The depletion of water resources is also of concern to irrigated agriculture which is the source of livelihood for a large part of the population, especially traditional smallholders, producing mainly staple foods for household consumption. Among other impacts are noted: lower yields, disappearance of some crop species, biomass reduction, and recurrent droughts resulting in food crises. There is also some climate change effects observed on biodiversity such as loss of habitats for species, degradation of vegetative cover, and invasive species.

B.2.2. Baseline or Business-As-Usual scenarios:

B.2.2.1. Baseline scenario with regards to Land Degradation, Biodiversity loss and Forest degradation

The baseline for the combined GEF/LDCF resources will be two World Bank projects: The Agricultural Production Support Project (PAPA); and the LDPSP 2.

The World Bank Emergency **Agricultural Production Support Project** (PAPA) for Chad, which will integrate the GEF/LDCF activities aims to reduce food insecurity and household vulnerability by stimulating the significant agricultural potential in the country. The operation will use a demand-driven approach to support local communities with a focus on agricultural and livestock linkages. The activities should also increase agricultural incomes, and consequently strengthen the diversification of the Chadian rural economy.

The **objective** of the project is to support rural communities and producer organizations in increasing production of selected food crops and livestock species in targeted zones. Before GEF/LDCF resources were added, the project was initially envisaged as an agricultural productivity support project, which was turned into an emergency operation. The project has four components:

Component 1, Provision of agricultural inputs aims at increasing access to improved seed, fertilizer, animal food, and veterinary inputs. The baseline component will support the purchase of seeds, fertilizer, animal food, and units of veterinary inputs for subsidized distribution to farmers to enhance domestic food production capacity. It will also ensure training and extension services to beneficiaries on the proper use of the provided inputs. The project will support a communications campaign and sensitization activities intended to 'kick-start' production and fill granaries. The total costs of this component under the baseline scenario would be $1.87M from IDA.

Component 2: Support to food production, with the overall objective to enhance crop and livestock production and productivity through two disbursement windows. First, the baseline project will finance community micro-projects for basic agricultural infrastructure for rural communities, and for improving performance of agricultural markets. The indicative list of eligible micro-projects includes: (i) water resource development for cereal production and animal watering points; (ii) irrigation for rice production; (iii) community storage facilities; (iv) animal health infrastructure; and (v) feeder roads. The sub-component will finance studies related to the infrastructure. Second, producer organization investments will target a sub-set of the value chains targeted by the National Food Security Program (NFSP-II), including cereal and animal value chains. The project will also support provision of agricultural extension services, institutional diagnosis and training. Third, the baseline project will help women's groups to improve their production techniques so as to add value to products and increase revenues from sales and diversification of livelihoods. Under the baseline scenario, the project would generate limited global benefits, and the local benefits would address the emergency situation without internalizing longer term sustainability issues or the added climate change induced risks. The total costs of this component under the baseline scenario would be $15M (IDA).

A third component on **capacity building and institutional support to public services** will provide institutional support to the Ministry of Agriculture and Irrigation and to the Ministry of Pastoral Development and Animal Production, and their related decentralized services. Under the baseline scenario, the project would strengthen the country's institutional capacity of these two ministries to accompany rural investments in infrastructure, and it will also strengthen apex producer organizations. Other ministries involved in the Project (those in charge of environment, infrastructure, water, regional planning) would not receive institutional support. Capacity building would not contain elements of knowledge that would allow the decision makers to internalize the climate change induced risks in their long term planning. The component costs under the baseline scenario are $2.43M.

Component 4: Project Coordination and Management ($5.70M) will support project implementation activities, including the start-up and operating costs of a lean Project Coordination Unit (PCU) with

offices at national, regional and local levels, under the Ministry of Agriculture and Irrigation. The PCU will be responsible for day-to-day project management, implementation, fiduciary management, and overall monitoring and evaluation (M&E). The Project will finance the establishment and operations of an M&E unit and a communication unit, the preparation of the Project Implementation Manual (PIM) and other required operation tools.

For the **Second Local Development Program Support Project for Chad (LDPSP 2 or** PROADEL 2), the Project Development Objectives for the project are: (1) improved access to basic infrastructure and social services in targeted districts, and (2) improved planning, management and monitoring by local communities and communes of decentralized investments.

The LDPSP continues to play a key role in implementing the National Decentralization Plan. Structured as a three-phase Adjustable Programme Loan (APL), LDPSP was first approved in 2004. It was designed as part of the PRSP implementation strategy, with the purpose of reducing poverty and promoting sustainable development in rural areas by empowering communities and decentralized authorities and improving access to basic services and economic opportunities at the local level. Implementation of LDPSP 1 benefited from an associated GEF project on community-based ecosystem management.

The second phase of the program builds on the achievements of LDPSP 1, which launched decentralization work in 19 districts; with community Local Development Plans (LDPs) and related projects. LDPSP 2 includes two technical components:

Component 1: Capacity building of national institutions, local communities and communes in support of decentralization, including elaboration of Local Development Plans and Communal Development Plans (CDPs). The total costs of this component under the baseline scenario are $11.77M.

Support will be provided through two sub-components. First, strengthening capacity of communal and local communities will include identification of capacity-building needs to improve local governance; participatory diagnosis for the elaboration of LDPs and CDPs; identification, implementation, and monitoring of local and communal micro-projects as defined in these plans; and strengthening of civil society organizations in participatory local development management. The second sub-component, support to decentralization, will provide technical assistance to strengthen the capacity of the national institutions responsible for decentralization, focusing especially on newly elected leaders, and priority activities of the Ministry Charged with Decentralization.

Component 2: Decentralized financing of micro-projects aims to increase availability of basic infrastructure in targeted districts, through targeted financing of demand-driven micro-projects based on LDPs and Annual Investment Plans (AIPs). The micro-projects, to be financed through a matching grant mechanism, will primarily address needs in health; sanitation and water, and education (socio-economic infrastructure micro-projects); agriculture and rural development, and income-generating activities such as improved seeds, agricultural equipment, drying facilities, small transformation and storage facilities, etc. Under the baseline scenario, while the project will offer possibilities of environmental micro-projects (acacia planting, sustainable land management, Sahelian gardens, etc.), prioritization of limited funding will likely lead to inadequate coverage of NRM natural resources management and SLM. Under LPSDP 1, both the dry northern Sahelian zone and the more humid southern Sudanese zone, the top need identified by the largest number of participating communities was clean drinking water, and slightly more than one-half of all micro-projects addressed this need. The component costs under the baseline scenario would be $56.25M.

Component 3: Project coordination and management (US$ 8.7 million) will support project coordination and management activities, administration, financial management, and monitoring and

evaluation. The PMU will provide general coordination functions with all national institutions, especially those charged with decentralization, and environmental stewardship.

B.2.2.2. Baseline scenario with regards to impacts of Climate Change

According to the Chad National Action Program of Adaptation, vulnerable sectors include water resources, agriculture, livestock, fisheries, and forest, and the main climate risks are drought, floods, poor distribution of rain, late rains, strong heat, strong winds, storms and erosion. Climate change, with scarcer water resources and a dryer and hotter environment, will affect natural vegetative cover and agricultural production. The LDCF resources will cover the additional costs to help ensure the sustainability of the productive investments for food crops, vegetables, livestock and agricultural products made under the project, which would likely be curtailed or damaged by climate change in the future. The most vulnerable groups both in terms of food security and effects of climate change livelihoods, are targeted by the project.

Additionally, the recent NAPA identified a number of priorities, most all of which are covered by the proposed project, related to increasing agricultural and livestock productivity to ensure food security (see next section on Additional Adaptation Cost Analysis for detailed baseline contribution). In the baseline scenario, these needs for adaptive technologies are not sufficiently adapted to likely climate changes.

B.2.1. The GEF Alternative Scenario and Additional Adaptation Cost Analysis[3]

The proposed project will support activities through five defined components: (a) Provision of Provision of agricultural inputs; (b) Support to food production; (c) Sustainable land and ecosystem management (d) Capacity building and Institutional Support to Public Services; and (e) Project Coordination and management.

Component 1: Provision of agricultural inputs (IDA 1.87M$). The GEF/LDCF will not fund activities under this component given its emergency nature of providing subsidized inputs intended to 'kick-start' production and fill granaries in vulnerable areas, as front-loaded activities of the project. The baseline project will also cover s*ub-component 2.3: Income generating assets for women*, because it focuses mainly on small-scale storage facilities; and agro-processing. Women are however, specially targeted though the micro-investments in component 2, and component 3.

Component 2: Support to food production, through micro-investments (LDCF 2.88M$, PAPA and LDPSP-2 40M$). The overall objective of this component is to enhance crop and livestock production and productivity, though providing: (i) Basic infrastructure to benefit rural communities (such as water resource development, irrigation for rice; (ii) community storage facilities; animal health infrastructure; and feeder roads; (iii) Productive assets for producer organizations; and (iv) Income generating assets for women. Micro-projects to produce infrastructure will be implemented by local government bodies for the benefit of the entire community; and sub-projects for semi-public goods, mainly productive assets and income generating assets, will be implemented by producer organizations and women's groups.

Given the high vulnerability of the country to natural disasters and climate change, the component will also support mitigation measures for adaptation to climate change. The LDCF additional funds will allow the project to address the first NAPA priority on Retention **of surface water for agriculture and feeding of livestock.** In order of importance, livestock in Chad consists of cattle, goats, sheep, camels, horses, azins, pigs and chicken, mainly managed though extensive transhumance. Livestock income and management suffer from climate sensitive influences regarding the selection of species, the number of

[3] A Incremental Cost and Additional Cost analysis and matrix are available in Annex 15 of the PAD.

animals per farm/herder, and the net revenue per animal. As the climate warms, one expects net income across all animals to fall which in turn may cause farmers to reduce the number of animals, and to shift away from more climate-sensitive species such as beef cattle, towards sheep and goats. For livestock herders, the fluctuation and variability of water is especially important. The sector has been strongly affected by a decrease in forage production on the one hand and a reduction in pastoral areas heavily dependent on climatic conditions on the other. The NAPA proposes to reduce or mitigate the loss of livestock weight due to large displacements, and lives of livestock by improving the availability of animal food supplements and more natural pastures. The project activities will include the creation of modern water points for off-growing-season in the project zone (cereal and vegetable irrigation), as well as water points along transhumance points and corridors, supported by surrounding agroforestry. Water management infrastructure will be designed to enhance agricultural production eco-systems, minimize conflict with herders around water points or pasture borders, and mitigate impact of natural disasters, climate change and pests. The project will develop typology of climate resilient water resources management schemes for community micro-projects.

The component also responds to the second NAPA priority, Diversification **and intensification of crops in Sudanese and Sahelian areas**. Studies on the food economy of Chad identify both bioclimatic zones as the "breadbasket" of the country. However, traditional crops grown on long-cycle varieties lack a range of high yielding varieties that would easily adapt to new conditions, and thus it will be difficult for producers to cope with the effects negative variability and climate change in the medium and long term. With the LDCF funds, the project can offer identification and testing of crop varieties with high yield, drought tolerant and adapted to the targeted areas; and training techniques for seed production for Producers. Investments will be accompanied by increasing information and awareness of farmers on the issue of climate change; identification and measurement of endogenous practices, in terms of farming techniques; and promotion of technology and good practice packages of technical support tailored to the new climate.

With regard to the other **NAPA priorities**, these will also be addressed, depending on needs and demand from vulnerable communities and national authorities. Specifically, the micro-investments will build in climate change resilient approaches. Construction of infrastructure for the defense and conservation of soils as a means to develop agricultural activities (priority #5, Infrastructure, Infrastructure, agriculture); reducing wind erosion in a system of bunds to help restore soil fertility for the development of agriculture and regeneration of some forage species can help mitigate soil erosion for improved agricultural production and regeneration forest species that constitute a potential nutrient in lean periods. The enhancement of intercommunity pastoral areas (priority #6, Food security, Agriculture) should reduce migratory movements due to erratic rainfall, and enhance these zones of pasture forage species in the peripheral communities and away from agricultural fields to avoid overlaps with crops. To improve the availability of forage to limit migration of pastoralists will to also enable them to pursue other activities and to better cope with the consequences of climate change. In the same vein, foods bank for livestock (priority #9, Food security, Livestock) may reduce or mitigate livestock loss of weight due to large displacements and lives of livestock by improving availability of animal food supplements and more natural pastures.

Given the high emphasis on water management in Chad, water resource development and irrigation for crops is expected to be a key demand for micro-investments. **Irrigation** development has a long payoff period and it is important to understand how changing climate can alter the expected benefits over time. Climate change implies that the amount of water available for irrigation in the future may not be as large as anticipated, especially in Chad where evaporation strongly influences water flows, although some water is absorbed into aquifers which are not efficiently exploited. The huge variability in rainfall means that communities and the government must carefully manage the supply of water and irrigation capacity, for agriculture and other sectors. The LDCF supplement will make the investments sustainable and

adapted to climate change, though for example, terraces and other physical measures (e.g. soil bunds, stone bunds, bench terraces); flood control and drainage measures; water harvesting, runoff management, and small-scale irrigation; and where appropriate gully control measures.

An important feature of the Project is that productive investments supported under Component 2 will whenever possible be accompanied by complementary investments (financed with GEF and/or LDCF resources) that are designed to improve the efficiency of productive activities, enhance their sustainability, and increase their resilience in the face of climate change, while improving the natural resource base on which agriculture depends. Examples of practices to be supported, such as agricultural production, animal husbandry, integrated land and water management including land use regimes; physical structures; land management practices and water management, feature in Annex 1 of project document.

Given the emergency nature of the project, *all* communities and regions and areas targeted are vulnerable and at risk in the face of climate change. Within the vulnerable communities, the targeting criteria and selection method will be detailed in the Project Implementation Manual, which is a condition for effectiveness. Community Local Development Plans (LDPs) will serve as a basis for identifying community needs and priorities; for community organizations, eligibility will further be based on well-defined criteria (e.g., existence for a minimum number of years, organizational capacity, governance arrangements, participation of women, demonstrated history of providing services to members, assets) using a participatory self-targeting process. Eligible projects must conform to national and sectoral policies and guidelines, as well as appropriate environmental and social screening and mitigation measures. LDCF prioritization would be based on level of exposure to extreme impacts of climate change; population density and proportion affected; reduction of poverty and/or in vulnerability risks; level of infrastructure at risk; balanced with cost-effectiveness, financial cost and implementation risks. Additional priority would be given to projects with high likelihood of sustainability, additional natural resources impact and potential synergies and replication.

Component 3: Sustainable land and ecosystem management (LDCF 1.48M$, GEF 2.4M$, PAPA and LDPSP-2 31.25M$). This component has been introduced to address issues of forest and biodiversity in the larger ecosystem landscape related to agricultural production and expansion. The baseline set of activities of the project is aiming at addressing agricultural production, and this component will complement activities of components 1, 2 and 4 to mitigate land degradation, forest degradation and biodiversity loss which may be associated with increase in agricultural productivity. The overall objectives of this component are to (i) complement the productive investments being made through micro-projects and sub-projects funded under Component 2, and (ii) support sustainable management and protection of ecosystems, including in areas outside the five regions being targeted by micro-projects and sub-projects. Component 3 will include two sub-components: (i) Sustainable land management and climate change adaptation; and (ii) Ecosystem management.

The LDCF increment will ensure that activities take into account the close interconnectivity between expansion of agriculture and livestock, land degradation and ecosystem services from forested or protected areas. The baseline project would mainly focus on the sectors of agriculture and animal husbandry, while GEF support would ensure extensive involvement by the departments related to environmental sustainability and protection.

Sub-component 3.1: Sustainable land management and climate change adaptation (US$ 1.48 million LDCF). The LDCF funds programmed under Sub-component 3.1 will finance investments designed to promote better management of land and water resources, with the goal of improving the efficiency, sustainability, and climate resilience of the productive investments being financed through micro-projects and sub-projects. Examples of activities to be supported include: (i) construction of terraces and soil

bunds, stone bunds, bench terraces, as well as agro-forestry; (ii) capacity building at national, regional and local level on issues related to natural resource and ecosystem management and climate change; and (iii) provision of advisory and technical services to communities and organizations and government departments related to the micro-financing in Component 2.

LDCF resources will help improve the efficiency, sustainability, and climate resilience of agricultural investments carried out under Component 2, by financing activities that promote better management of the natural resource base on which agriculture depends. Examples of activities to be supported include promotion of water harvesting and water conservation technologies in dryland farming zones, introduction of improved water management practices in small-scale irrigation systems (irrigation and drainage), protection and restoration of natural and indigenous vegetation on hillsides surrounding irrigated lowlands, and adoption of integrated watershed management approaches to maximize returns to scarce water resources in the face of competing demands. With LDCF additional support, infrastructure will be designed to minimize conflict with herders around water points or pasture borders, and mitigate impact of natural disasters (drought, flood) and climate change.

The project will support investments in specific value chains targeted by the National Food Security Strategy (NFSP-II), including: (i) cereal value chains (sorghum/millet, maize, and rice); and (ii) animal value chains through supporting sheep fattening, sheep, goat and pig rearing and meat and leather processing and marketing and creating animal health centers. According to the NAPA, the calendars developed by meteorological services to project planting dates based on assumptions and integrating agro-climatic empirical data have become obsolete following the succession of extreme weather in recent years. The LDCF funds will facilitate the urgent update and dissemination in real time of cultural calendars which will benefit adaptation to climate change to both agriculture and management of livestock herds, and the planning of technical itineraries for livestock movements (NAPA priority 3).

LDCF resources will help complement the climate resilience of vulnerable communities and groups supported by component 2. For that reason, community micro-projects will comprise two parts: (i) IDA-financed activities for direct support to agricultural production, and (ii) GEF–financed activities for natural resource management to enhance direct production investments. Through GEF support, producer organizations will also be assisted to promote and disseminate sustainable agricultural practices such as land and water management and integrated pest management in the value chains and investment planning. Examples of the practices to be supported by the project appear in Table 4 in Annex 1 of the project document.

The NAPA pointed to significant barriers for its implementation in Chad, including gaps or inconsistencies in the legal or policy framework; institutional, financial, social, economic and cultural problems; and lack of knowledge of climate change issues in the field of coordination and implementation. Thus, the project will systematically address **capacity enhancement** to complement the on-the-ground investments, reflecting NAPA priority #4, Improvement of information, education and communication on adaptation to climate change (Education and Capacity-building, outreach activities) and Improvement and promotion to the general public of cultural calendars (priority #3, Education and Capacity-building, Food security). By addressing institutional strengthening and capacity-building, these activities will lay the groundwork for the remaining NAPA priorities related to early warning systems, National observatory for climate change adaptation policies (priority #8, Education/Capacity-building,); and Reduction of climate change related vulnerability of the populations/management of climate change induced risks (priority #10); and Improvement of the quality of seasonal forecasts for rain fall and surface water flow and their integration into an overall strategy for assessing vulnerability **(**priority #8). A comprehensive **framework for enabling environment, awareness, and education activities** will be developed, including training for capacity building strategy. Main target groups would include (a) at local level, producer organizations, service providers and rural communities; (b) at regional level, ministerial

decentralized departments and DACs; and (c) at national level, ministries and departments and Apex organizations, as well as topics (areas within climate change, SLWM approaches, cultural calendars, etc); and approaches/ methods). Given the substantive inter-linkages, the capacity framework will address both dimensions of adaptation and sustainable land and water management, together with linkages to natural resource management, and covered by LDCF and GEF resources (see Component 4.3 on capacity building).

Sub-component 3.2: Ecosystem management (US$ 2.40 million GEF) will support management and protection of natural resources in the larger ecosystem landscape. The project zones contain several protected areas and reserves, and the component will ensure that agricultural productivity and livestock management are pursued sustainably in the context of these ecosystems. GEF resources will be used to support planning processes, investments in sustainable technologies, and community and government capacity building. Examples of activities likely to be financed under Sub-component 3.2 include: (i) local information dissemination, awareness-raising, education, communication for communities in the context of the Great Green Wall Initiative; and (ii) direct support to conservation of ecosystem biodiversity, including in forests and national park buffer zones. Examples of the latter category of activities include: (i) development of environmental management schemes/plans for vulnerable ecosystems with ecosystem services valuation; (ii) management and rehabilitation of gallery forests and increasing tree cover with natural/near-natural vegetation; (iii) development of community-level management schemes for grazing corridors; (iv) development of local drought management plans and bushfire awareness and control programs; and limiting use of fire range management; and (v) introduction of sustainable agro-forestry techniques linked to the SLWM activities under component 2. Because the activities being financed under Component 3 will not always be ranked among the highest priorities demanded by local communities, it is expected that many of the activities to be financed under Component 3 will be implemented by service providers contracted directly by the Project.

Activities supported under Component 3 will be implemented in the five target **regions** located in the Sahelian, Sahelo-sudanian and sudanian zones. The project target area encompasses zones in which productivity and production increases are deemed possible and where food security and poverty challenges are high, but which also contain several protected areas and reserves, including Dar Sila: *Réserve de Goz Be*ida, (ii) Guera: *Réserve de faune d'Aboutelfane* and *Réserve de faune de Signaka minia*; (iii) Moyen Chari: *Forêt de Dodji*, *Parc de Man*da, and *Site de Nyala*; and (iv) Salamat: *Réserve de faune de Bahr Salamat*. Biological wealth is especially noted in Moyen-Chari, where the tropical forests of the Congo basin and semi-humid to humid ecosystems converge. The project will apply lessons learnt from an earlier GEF-supported World Bank project *Community-based ecosystem management*, linked to LDPSP-I, for expansion of select approaches within the project zones and of other relevant areas, based on lessons from ecosystems in six areas of relatively diverse ecological nature and geographic scope supported by the Community-based Ecosystem Management project.

Implementation arrangements for Component 3 will be designed to ensure that MEF is able to play a leading technical coordination role. The GEF increment will enable the project and the Ministry of Environment and Fisheries to incorporate monitoring and knowledge sharing on sustainable land management practices for Chad, building on earlier efforts in measurement of environmental results, to monitor the global environmental results of the project, and will enable the project to incorporate communication and information on climate change adaptation and NRM linkages to agriculture. The component is closely linked to the main project focus on climate resilient sustainable land and water management.

With the GEF scenario, more communities can address mutually beneficially environmental and social benefits, and expanded agricultural productivity can be pursued in a sustainable manner. To secure global environmental benefits the GEF increment would finance the establishment of community soil and water

conservation zones in areas prone to erosion, and also enhance the country's effort to conserve its remaining forestry and biodiversity assets. By protecting vegetation cover or re-greening project sites, carbon will be accumulated in the biomass and soil. Without incremental GEF support, there would be none or fewer specific conservation zones, and biodiversity assets would likely not be identified or specifically targeted.

Under the GEF alternative, communities will be provided with sustainable investments such as rainwater harvesting and improved drainage, small-scale irrigation systems and restoration of natural vegetation within a watershed management approach. To promote sustainability of the irrigation schemes, these would be complemented by contour planting on slopes and hills linked to the agricultural investments. This would slow the runoff of water, reduce erosion, conserve water and avoid water pollution, as well as provide global environmental benefits. Given the emphasis on increased rice production, sustainable irrigation management for rice will be given special attention, considering system of rice intensification, wetland rice grown in moist soil with intermittent irrigation; using improved varieties of rice; or upland rice cultivation under slash-and-burn shifting cultivation.

Regarding **livestock** management, the project will provide services for selected animal value chains to producer organizations in the areas of animal health services supply, advisory services, and training, as well as diagnosis of producer organizations' capacity gap. The activities will target about 1200 vulnerable groups of producers, livestock owners and women's groups relying on mono-cropping and small ruminants rearing for their livelihoods. The GEF increment will allow the project to pursue more improved animal husbandry practices, including sustainable range management and supplemental feeding, as well as sustainable grazing management, introduction and expansion of silvo-pastoral systems and improved management of domestic animals. Linked to agriculture, options for support to integrated crop-livestock systems and manure management will be added.

Component 4: C**apacity building and institutional support to public services** (GEF 1.95M$, PAPA and LDPSP-2 7.57M$) will provide institutional support to the Ministry of Agriculture and Irrigation and to the Ministry of Pastoral Development and Animal Production, and their related decentralized services and strengthen apex producer organizations. Under the baseline scenario, other ministries involved in the Project (those in charge of environment, infrastructures, water, regional planning) would not receive institutional support.

Under the GEF increment, the Ministry or Environment and Forest Resources (MEF) would also receive support. The new *Sub component 4.3: Support to the Ministry of Environment and Fisheries* will support capacity building in MEF, in other relevant line ministries, in local government agencies, and within community groups on land planning processes, ecosystem management, and sustainable use of natural resources. Technical assistance in these areas will be directly linked to the planning and implementation of investment activities supported under Components 2 and 3, as well as training, awareness-raising, and capacity enhancement of national and local-level institutions, and communities in the target zones. Activities will be coordinated under a framework on information, education, and communication, in concert with activities in 2.1 on adaptation to climate change. The component will develop capacity of MEF and of other relevant actors at the different levels: (i) preparation of legislative texts by the MEF that will help to better promote SLM and climate change activities in the country; (ii) development of a knowledge base on SLM by the MEF like a national database collecting key information concerning SLM technologies and approaches; (iii) necessary related studies; and (iv) training courses for the relevant staff of the MEF including the decentralized teams involved in the project, the environmental team to be established within the national PCU and to be charged with coordinating the implementation of Component 3, and the communities. Because very little information is available in Chad relating to forest management and carbon sequestration, the Project will support a study and capacity building related to calculation of carbon, biomass, and forest development.

Under the GEF scenario, Chad will be assisted to promote and disseminate sustainable agricultural practices such as land and water management and integrated pest management in sectoral investment planning. This sub-component will finance operational costs associated with the preparation of legislative texts as needed, collection of key information on SLM and climate change, necessary studies: e.g. advocacy and communication activities, training, organization and/or participation in regional workshops and other knowledge sharing events, technical assistance, consultancy services, workshops equipment and software, purchase of maps, training to build the capacity in database management. Capacity enhancement would also help develop model investment plans for the selected **agricultural crops** and animal value chains, and indicative plans for implementation, monitoring and maintenance of producer organizations sub-projects on selected crop productions.

For both micro-project and sub-project design, appropriate social and **environmental screening** and mitigation measures will be incorporated. For this purpose, the technical staff of the Ministry of Environment and Fisheries (MEF) will be called upon to participate in the components on micro-project and sub-project identification, preparation, and implementation. Under the various components, the GEF and LDCF funds will bring targeted and additional capacity building related to awareness, knowledge, techniques and approaches to SLM and adaptation at all levels, in order to secure the sustainability of the investments from component 2, as well as other investments supported by the project.

Component 5: Project Coordination and Management (GEF 0.26M$, LDCF 0.26M$, PAPA and LDPSP-2 13.7M$) will support project implementation activities, communication and M&E. The baseline project will cover the start-up and operating costs of a lean Project Coordination Unit (PCU) with offices at national and regional level, under the Ministry of Agriculture and Irrigation, as well as the fiduciary aspects and implementation of the Governance and Anti-Corruption Plan. The M&E unit will carry out baseline and impact studies, as well as targeted studies or surveys. The GEF increment and the LDCF addition will enable the project and the Ministry of Environment to manage its support and incorporate monitoring and knowledge sharing on sustainable land management practices and climate change adaptation for Chad, while building on earlier efforts in measurement of environmental degradation to monitor the global environmental results of the project.

The LDCF resources will implement related priorities identified in the National Action Plan for Adaptation (NAPA) such as retention of surface water for agriculture and feeding of livestock (#1), diversification and intensification of cultures in Sudanese and Sahelian areas (#2), improvement of information, education and communication on adaptation to climate change (#4), food bank for livestock (#8), and construction of infrastructure for the defense and conservation of soils as a mean to develop agricultural activities (#5). Also relevant are improvement and promotion of farming calendars (#3), enhancement of intercommunity pastoral areas (#6), and food banks for livestock.

A likely impact of climate change is scarcer and more unpredictable water resources while natural vegetative cover and agricultural production will have to adjust to a dryer and hotter environment. Without LDCF support, most vulnerable livelihoods, such as food crops, small livestock products and marketing of agricultural products are likely to be significantly impacted. In the baseline scenario, the PAPA aims at increasing agricultural productivity to ensure food security. Inappropriate agricultural technologies or technologies that are not sufficiently adapted to likely climate forecast will not generate these expected benefits. With the LDCF addition, the productive investments will be adapted to anticipate climate change and thus reinforce the sustainability of the national benefits. With LDCF resources, the baseline project will benefit from training and awareness raising. Climate resilient agricultural practices will be implemented. The investments in improving capacity at the national, regional and local levels will ensure sustainability and scale-up of the investments in climate-resilient agricultural practices made under the project.

B.2.2. Global environmental and adaptation benefits:

The GEF support will contribute to safeguarding the ecosystem services provided by natural production systems generating intertwined global and local environmental benefits. Global benefits will cut cross the different GEF focal areas to result in an (i) reduction in the negative trends in land degradation through adoption of better SLM practices in additional areas under in the targeted zones; (ii) increase in biodiversity conservation through mainstreaming in targeted landscapes; and (iii) increase in carbon stocks, over time, in vegetation as a result of better managed forest and improved soil conservation and avoided deforestation in the project area.

Adaptation benefits will be generated from sustainable adaptive micro-projects successfully implemented, and community and other stakeholder groups trained on SLWM and climate resilience. The project targets the most vulnerable population groups affected by food insecurity in rural areas and the poorest population in rural areas dependent on rain-fed crop and livestock production. It is expected that food production will become more secure and thus save lives and livelihoods.

B.3. Description of 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.":

At local level:

Project activities financed under the project are expected to generate on-site private benefits and community benefits at the advantage of producer organizations and the society (*i.e.* a group of villages, a single village or parts). Communities will benefit from sustainable crop production intensification due to the acquisition of improved seeds and livestock, the adoption of sustainable agriculture practices (e.g. sustainable land and water management- SLWM, integrated pest-management, crop diversification) and capacity building. In addition to high climate change adaptation and mitigation potential, SLWM techniques have proven being financially and economically profitable in Sub-Saharan Africa.[4] Increased income and food security will arise from increased livestock production due to the access to water points, animal feeding and veterinary inputs and improved animal health; and improved access to markets. The dissemination of various agro-processing technologies will support increased production of high-value products, incomes and gender equality. Rural roads rehabilitation and construction investments will enhance the economic development of the areas and reduce transportation costs and vehicle operating costs; and reduce post-harvest losses due to timely evacuation of agricultural products.

Non-quantified benefits at the private and community levels are expected to come from the reduction of household food insecurity and vulnerability to natural hazards, reduce sources of vulnerability to natural hazards such as droughts, pests and bird invasions, but also decrease post-harvest losses and food shortages, hence decreasing the risk of food insecurity. The project will strengthen human capital through empowerment grassroots community groups through support in participatory appraisal and monitoring; and involvement of vulnerable groups in sub-projects.

[4] **An important number of technical studies in Sub-Saharan Africa have shown that Sustainable Land Management (SLM) practices can yield high financial and economic returns.** For example, Integrated Soil Fertility Management (ISFM) that mixes organic and inorganic soil fertility management practices are more cost-effective (in terms of IRR and NPV) than techniques using either mineral fertilizer or organic soil fertility management practices alone (World Bank, 2011; Tittonnell, 2008; Musahara, 2007; Doraiswamy et al., 2007). For example in Nigeria, agronomic tests showed that **ISFM produced the greatest maize and rice yields and Benefit-Cost ratios** (Benefit-Cost Ratios in the order of 4.97-6.59 for maize). In Kenya, Tittonell *et al.* (2008) noticed that maize yields were larger when manure was combined to fertilizer (increase in the order of 100 percent when compared to controls using chemical fertilizer without manure). In Rwanda, studies from Musahara (2007) and Bekele-Tesemma *et al (*2008) indicate that investment in on-farm soil conservation alone can increases marginal productivity of land in the order of 30-216 percent.

At national level:

The project will generate public benefits such as institutional strengthening to participating ministries and capacity building of public services as well as more global benefits, such as natural resources protection and resilience to climate change risks. Spillover effects from beneficiary communities to non beneficiary communities are also expected through replication to non-beneficiaries communities/Producer Organization within and outside the Project areas, as a result of the diffusion of technologies and trainings received by beneficiaries. Public benefits are expected to be due to improved efficiency and effectiveness of public services through capacity building and institutional support to the line Ministries and their related decentralized services. Across EAPSP's components and activities, targeted producers will benefit from improved public technical support (services supply, trainings, and micro-project management). The synergies established between PAPA and other donor projects will contribute to aid efficiency in Chad and enhance the implementation of the National Plan for Food Security (NPFS).

The above defined socioeconomic activities within the project will contribute to the overall global benefits through directly impacting the food chain, safeguarding ecosystem services, improving soil quality and supporting Chad's long term adaptation measures. Global environmental benefits will result from improved land husbandry, integrated ecosystem, landscape management and reforestation that will improve the resource base of the population as a whole, and respond the global emerging challenge of climate change.

B.4. Risks indication, 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

In line with the SAWAP's objective, the objective of the proposed project is to support rural communities and producer organizations in increasing production of selected food crops and livestock in targeted zones while increasing the use of sustainable land and water management practices in climate vulnerable ecosystems. Chad is rated as "extreme risk" to natural disasters by the Climate Change Vulnerability Index. The project is developed in direct response to the effects of climate change of drought and food security, and as such inherently addresses adaptation.

As for project implementation, the overall risk is assessed as Medium-I (High Impact / Low Likelihood). Through its NPRS-II and NFSP-II, the Government is strongly committed to supporting the agricultural sector and improving food security. The Government has set up a comprehensive institutional framework for the implementation of NFSP-II. While the institutional framework is comprehensive, it may not function effectively due to lack of coherence, weak capacity, and potential political infighting. Historically, poor coordination between sectoral ministries and the decentralized sectors has been observed, and the project will put in place coordination and steering committee framework at all levels, with clear responsibilities and distribution of work, capacity building and using existing mechanisms where they exist. This risk is also mitigated by the fact that the project preparation has been actively guided by an Inter-ministerial Preparation Committee.

Working at the local level in Chad is involves high risks due to weak capacity, poor governance and corruption risks. In order to mitigate these risks, implementation mechanisms will be designed to be extremely transparent, with mechanisms built in that will allow beneficiaries to monitor the use of Project resources and hold accountable the various implementing agencies and their staff, community leaders, and government officials. Given the risks related to governance, fraud and corruption, a Governance and Anti-Corruption Plan will be established, and a fiduciary capacity assessment will guide corrective measures and priority activities. Preparation of Project implementation manuals (PIM) as well as a management guide for matching grants will detail the decision making and accountability mechanisms to be used at the level of community groups and producer organizations. Due to the emergency element of

the project, supervision is based on additional risk mitigation and control measures, as well as thorough monitoring of financial management, procurement, and safeguards.

The Operational Risk Assessment Framework is available in Annex 4 of the Project Document, and key risks are summarized in the table below.

Table 1. Risks assessment and potential mitigation measures

Risks	Risk rating*	Risk mitigation measures
Stakeholder: Community-level conflicts may arise because of limited or non-access to investments and infrastructure on water and lands management by vulnerable groups.	M	The project will support participatory conflict resolution mechanisms at the local level, and include mechanisms for inclusion of vulnerable groups and women. Integrated ecosystem management approaches would mitigate and manage such conflicts. Training will also focus on collaborative approaches.
Climate: High vulnerability to natural disasters and climate change may limit project performance. Chad is rated as "extreme risk" to natural disasters by the Climate Change Vulnerability Index. Natural disasters such as drought, floods and landslide could adversely affect Project outcomes.	S	The project approach is demand-driven and based on natural resource management and SWLM. The project will bring soft and hard investments to improve natural resource (land and water) management and mitigate natural disasters and climate change impacts. The Project will work closely with the Committee for Food Security and Management of Crisis in order to benefit with support from its Early Warning System.
Coordination**:** There is a poor coordination between sectoral ministries at different levels that may delay project preparation and implementation of activities.	M	The project will put in place a coordination and steering committee framework at all levels, with clear responsibilities and distribution of work, capacity building and using existing mechanisms where they exist.
Management: The Technical Secretariat (PIU) has limited experience of Bank procurement, financial and project management rules and procedures.	M	Governance and Anti-Corruption Plan, fiduciary capacity assessment with corrective measures, capacity building, Project implementation manuals, and additional implementation support and supervision.

***** *Risk rating – H (high risk), S (Substantial risk), M (Moderate risk), and L (low risk).*

B.5. Identify key stakeholders involved in the project including the private sector, civil society organizations, local and indigenous communities, and their respective roles, as applicable:

The project has been prepared through active guidance by an Inter-ministerial Preparation Committee, as well as an extensive consultation and appraisal process. Several intensive stakeholders' consultations have taken place during the project preparation with a combination of consultations organized in all 5 regions and at national, with ministries, departments, apex organizations, and elected officials. The consultations addressed the full range of issues, such as selection of zones and target groups; development of local priorities, identification of needs for seeds and inputs, analysis of the value chain, and technical assessment supported by FAO. Results of the consultations in the regions have formed the basis for project design at local level, and implementation arrangements based on appropriate roles and capacities of the various stakeholders.

The project will continue to benefit from the participatory process behind the National Food Security Program. The project will be supervised by a multi-partner Steering Committee with representatives from different sectors and ministries.

At the national level, key stakeholders for the project are the Apex organizations, such as the Collectif des Associations des Eleveurs du Tchad, and the Conseil National de Concertation des Producteurs Ruraux du Tchad. The project will work with various departments, including the Office National de Développement Rural, Bureau National des Semences, Direction de l'Enseignement Agricole des Formations et de la Promotion Rurale, Direction Générale de la Production Agricole et de la Formation Professionnelle, Direction de la Production Agricole et de la Statistique Agricole ; and the Direction de la Protection des Végétaux et de la Conservation, as well as other institutions (the Famine Early Warning Systems Network, and the Institut Tchadien de Recherches Agronomiques pour le Développement). Ministries involved include those of Agriculture and Irrigation; Ministry of Infrastructure and Equipment; Ministry of Pastoral Development and Animal Production; Ministry of Economy and Plan; and Ministry of Environment and Fisheries.

At local level, community and commune stakeholders, through their Local Development Councils, will be fully empowered during the identification and preparation of micro-projects. The component on *Basic agricultural infrastructure to benefit rural communities* will include resources for recruiting facilitators (usually private firms or NGOs) to assist beneficiary communities in organizing, planning, and developing their micro-projects. Resources will also be made available to the beneficiary communities to obtain support from private service providers, NGOs, and technical services departments of the relevant line ministry for implementing micro-projects.

The project's Regional Coordination Units will work with the Departmental Action Committees to determine suitable micro-projects, as well as Producer Organizations, CSOs and Non-Governmental Organizations to deliver services. All procurement will be undertaken in strict accordance with World Bank guidelines (annex 6). At the local level, the Project Implementation Manual will develop a section entirely dedicated to Community- Based Procurement, and training will be provided at all levels. Actual selection of service providers will depend on the mix of goods, small works, and services needed based on demand-driven identification process and need from communities. Criteria for provider selection will mirror the needs of the investments; (a) eligibility according to the Project guidelines and screening using a negative list of non-eligible activities; (b) coherence with other on-going development work; (c) verifying their technical, environmental, social, and economic expertise; and (d) experience in executing and monitoring related projects. Common criteria of local presence/ knowledge and past performance will be considered. Further, a typology of sustainable and integrated water resources management schemes to, and correspondent model investment plans with detailed technical specifications will be addressed in the PIM. The Environmental and Social safeguards framework (annex 9) will apply to these activities, including due consultation with stakeholders. The implementation action plan (annex 7) indicates as a first step the development of TORs for NGOs, conventions (i.e. agreements) and related Work Plans and budgets, as well as for apex producer organizations; these will specify tasks to be undertaken towards which capacities may be assessed. The project will benefit from experience of the earlier GEF project and PROADEL-1 and 2 that both contract with service providers for this kind of work.

B.6. Outline the coordination with other related initiatives:

Overall, this proposed project in Chad has been designed to ensure synergies with both national and regional level initiatives. Chad is an official member of the pan-African Agency for the Great Green Wall. In June 2010, eleven countries signed a convention in Ndjamena, Chad, to create the Great Green Wall Agency and nominate a Secretary to further develop the initiative. The proposed project contributes to the objectives of the Great Green Wall Initiative. The project is the third project to be

formulated under the SAWAP that was approved by the GEF and LDCF/ SCCF Councils in May 2011. The Program will offer a large platform for exchange of experience on climate resilient natural resources based livelihoods and SLM.

In Chad, government priorities and strategies revolve around the NPRS-II and NFSP-II, and donors' interventions in Chad are well coordinated and aligned with these. NFSP-II is one of the main implementation mechanisms for the national agricultural development strategy being developed in accordance with the framework established by the Comprehensive Africa Agricultural Development Programme (CAADP). A Matrix of interventions of donors ensures coordination and complementarity between activities. Key donors that are active in the agricultural, environment and rural development sector in Chad are World Bank (WB), African Development Bank (AfDB), French Development Agency (AFD), European Union (EU), WFP, Food and Agricultural Organization of the United Nations (FAO), the International Fund for Agricultural Development (IFAD) and UNDP.

The proposed operation is designed to consistently build synergies with past or ongoing projects, particularly, the LDPSP-II and the recently completed GEF/WB-supported Community-Based Ecosystem Management Project (CBEM). The Project will complement the Bank-financed LDPSP-II and other projects supported with GEF funding. The LDPSP-I assisted the Government of Chad in designing and implementing a decentralized and participatory financing mechanism that aims at empowering rural communities and decentralized institutions to manage development funds in a transparent way and according to their own priorities, eventually contributing to the decentralization agenda. The project piloted activities on natural resources management strategic issues (particularly land tenure, pastoralism and water) and identified solutions for subsequent phases. The CBEM Project promoted community-based integrated ecosystem management of targeted fragile ecosystems in the framework of sustainable rural development in Chad, thus combating desertification and preserving biodiversity while fostering multiple global environmental benefits.

Within the framework of **NFSP**, the regions were identified as potential areas for the project by the Agricultural Strategy Support Technical Assistance, jointly prepared by World Bank and *Agence Française de Développement* in July 2011. Based on a Matrix of interventions of donors for a good coordination, it was decided the project will concentrate on vulnerable zones and domains not directly covered by other donors. In its covered areas, the project will not support activities related to pastoral farming that are already being supported by French Development Agency (AFD), and other relevant activities that are being supported or are identified to be promoted by projects financed by IFAD and AfDB. To avoid duplication, the project will not support activities related to pastoral farming in Guera region, and in Salamat and Sila regions, which are being targeted by a new AFD project for the pastoral development in the East. Also, the project will not cover the activities supported by: (i) the IFAD-financed Support to the Development of Guera Project (PADER-G); (ii) the EU-financed Local Development Project in Sila, Salamat, Guéra, Moyen-Chari; and (iii) the ADB-financed (a) Rural Infrastructure, Pastoral Development and Transhumance Project in Moyen-Chari and Mandoul, and (b) Development of Irrigated Perimeters Project in Moyen-Chari.

With GEF funding, UNDP is supporting **Conservation and Sustainable Use of Biodiversity in the Moyen-Chari**, specifically the Manda National Park (MNP), located in southeastern Chad. The project aims to ensure the conservation and sustainable use of MNP and its immediate surroundings while demonstrating the use of wildlife corridors as a technique for rehabilitating and maintaining the biological diversity of southeastern Chad, and to place less pressure on MNP's natural resources. The project is scheduled to close in 2012. A smaller MSP is proposed to support the establishment of an effectively managed PA network in Chad through improved capacities and involvement of key stakeholders in PA management (PPG approved).

The GEF Council approved in November 2011 a ***Lake Chad Basin Regional Program*** *for the Conservation and sustainable use of natural resources and energy efficiency*, covering Cameroon, Chad, Nigeria, Niger and the Central Africa Republic. This programmatic approach is managed by the African Development Bank (AfDB) with the goal to maintain the ecosystem services in the Lake Chad Basin by conserving the water and agro-sylvo ecosystems and ensuring the sustainability of use of resources in a context of energy efficiency and food security. The program will mainly be implemented through the Lake Chad Basin Commission with National Program Management Units guided by Steering Committees in each country. The program will be anchored in the implementation of the international waters Strategic Action Plan (SAP) and contain a new sub-project in Chad, *Comprehensive management of natural resources in the Lake Chad Basin (2.5M$)*. The Lake Chad project will have a component on local-level generation of renewable energy, complementing the Chad PAPA, which will not focus on climate change mitigation. While the project is not yet developed, it will likely encompass a component on investment in SLWM and biodiversity based livelihoods. As AfDB is one of the partners in NFSP, the two Banks and the government will ensure coordination and sharing of lessons with the new project. In any case, the PAPA will not work in the immediate surroundings of Lake Chad. The AfDB also has a baseline project in Chad "Projet d'infrastructures rurales, pastorales et de transhumance" (US$ 16.74 million) with the specific objective to increase animal production so as to increase the incomes of the beneficiaries in the long term.

C. GEF Agency's comparative advantage to implement this project:

C.1. Confirm the co-financing amount the GEF agency brings to the project:

The World Bank is bringing $102.25M as co-financing as per Table C of this CEO Endorsement Memorandum.

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 builds upon the World Bank Country Assistance Strategy (CAS), which has the long-term objective of improving efficiency and sustainability of Natural Resource Management (NRM). The proposed project Emergency Agriculture Production Support Project (PAPA) is well aligned with the Chad Country Interim Assistance Strategy 2010-11 (CIAS)**,** which is designed to support NPRS-II (2008-11). CIAS includes three main pillars: (i) strengthening governance and public financial management; (ii) improving livelihoods and access to key social services; and (iii) improving regional integration and connectivity. The proposed project supports the second pillar of CAIS and contributes to Outcome 6: Improved agriculture productivity. The proposed project will complement the Bank's rural portfolio in Chad, which includes the Local Development Program Support Project - Second Phase (LDPSP-II).

The Project will also contribute to three of the five sub-programs of NFSP-II: (i) Sustainable management of natural resources, including water supply and soil fertility improvement; (ii) Intensification and diversification of crop, livestock and fisheries production; and (iii) Storage, conservation, transformation and marketing.

After unrest and evacuation in 2008, the World Bank office in N'Djamena has cemented Bank engagement with a productive dialogue and working relationship with state and non-state actors, while strengthening the Bank's knowledge base for further engagement. The emergency aspect of the operation has secured additional expertise and resources to the project team. The overall task team for the Project includes very experienced experts with in-depth knowledge of the region, and extensive background in Chad. Given the multi-sectoral nature of the project, the team includes Rural Development Specialists, Agricultural Economists, several Monitoring and Evaluation Specialists, Transport Specialist, Social Development Specialist, Environmental Specialist, as well as Finance Officer, Procurement Specialist,

and Financial Management Specialist and experts on information and communication. A full team of FAO agriculture and livestock experts have also supported the project.

PART III: INSTITUTIONAL COORDINATION AND SUPPORT

A. Institutional arrangement:

The Ministry of Agriculture and Irrigation (MAI) will have the overall responsibility for project implementation. A Project Coordination Unit (PCU) will be established within MAI to manage the project. The Project will be located at the *Direction Générale de la Production Agricole et de la Formation Professionnelle* (DGPAF).

At the operational level, the Project Coordination Unit (PCU) will be in charge of project implementation nationally, and oversee the activities of five Regional Project Coordination Units (RCUs). The RCUs will facilitate the implementation of project activities at the departmental and local levels, including technical support to communities; liaison on project implementation activities with the PCU; and ensuring fiduciary management.

At the national level, a Project Steering Committee (PSC) will comprise all the key stakeholders involved. It will vet proposals, annual work plans, and budgets; review progress; facilitate coordination of project activities among the various entities; and make recommendations.

Existing committees, called Departmental Action Committees (DACs), are already in charge of the approval of LDPSP-II's micro-projects, and will be responsible for checking eligibility of proposed PAPA micro-projects and coherence with other development work; verifying their technical, environmental, social, and economic feasibility; and monitoring micro-project implementation. The committees consist of representatives from the relevant technical ministries (economic development, agriculture, livestock, environment and water etc.). The Committees liaise with the project; beneficiaries; and the territorial administration. At the local level, activities will be implemented by the beneficiaries including the rural communities and Producer Organizations.

With regards to Component 3, the Ministry of Environment and Fisheries (MEF) will play a leadership role in deciding the work plan for Component 3 and in overseeing its implementation. A Memorandum of Understanding will be established between the Ministry of Agriculture and the specifying the roles and functions of MEF in managing Component 3, the assignment of resources following the approval by the Bank of the annual work plans, and the responsibilities in terms of reporting. A small Environmental Team (ET) consisting of an Environmental Specialist (ES), a Monitoring and Evaluation Specialist, and an Accountant will be established within the national PCU and charged with coordinating the implementation of Component 3. For more details, please refer to Annex 7 of the Project Document.

B. Project Implementation arrangement:

Please refer to the section above and Annex 7 of the Project Document for details. The implementation arrangements will be further negotiated as per the implementation action plan (annex 7) through a convention, Work Plans and budget in the first months of the project. The MOEF has indicated that the institutional arrangements will include the involvement of several of its departments, based on a convention and workplans for component 3 and in support of components 2 and 4:

(a) The Department of Forests and Combating Desertification (DFLCD) to cover the implementation of the national policy of forest management and fight against desertification, planning and programming of associated operations, and specifically activities related to erosion and desertification; bush fires; and Agroforestry.

(b) The Department of National Parks, Wildlife Reserves and Game (DPNRFC) is responsible for the implementation of the national policy on protection of wildlife and wildlife reserves, planning and programming of those operations, and specifically promotion of protected areas and wildlife; combating illegal poaching and regulation of field hunting. The department will also ensure appropriate involvement of the local authorities and Park management staff and consistency with activities of the Protected Areas.

(c) The Directorate of Environmental Assessments and the Fight against Pollution (DEELCPN) covers implementation of national policy and environmental assessments of the fight against pollution and nuisances, planning and programming of related operations, and specifically validation of TORs for impact on the environment; admissibility of impact studies and their validation; supervision of public consultations; and environmental monitoring.

(d) The Directorate of Environmental Education and Sustainable Development (DEEDD) will ensure the implementation of the national policy on environmental education and sustainable development, planning and programming of related operations, in close collaboration with other structures, and especially Development of tools for communication and promulgation; and information, education and awareness.

(e) The Directorate of Fisheries and Aquaculture (DPA) is responsible for implementing Government policy on development of fisheries and aquaculture, especially protection of aquatic ecosystems; community management of water bodies; development of aquaculture; coordination of actors involved in fishing and aquaculture.

PART IV: ALIGNMENT OF PROJECT DESIGN WITH THE ORIGINAL PIF

This project was approved by the GEF and LDCF/SCCF Councils in May 2011 as part of the SAWAP. In line with GEF streamlined procedures, there was no formal PIF submission, but the project was described in Annex C of the SAWAP Program Framework Document (PFD). Main design points summarized below demonstrate the strong alignment between the proposed project and the original description in the PFD.

- Project objective: The objective is directly derived from the SAWAP GEO: “To expand sustainable land management (SLM) in targeted landscapes and in climate vulnerable areas [in Chad] .”With the addition of GEF/LDCF support, the initial project development objective (PDO): “to support the Government of Chad to support rural communities and producer organizations in increasing production of selected food crops and livestock species in targeted zones” was reformulated to better reflect the sustainability approach which is central to the design of this project. The PDO is now is “to support rural communities and producer organizations in increasing production of selected food crops and livestock in targeted zones while increasing the use of sustainable land and water management practices in climate vulnerable ecosystems.”
- Linkage with LDCF/SCCF. There are no changes to the proposed use of LDCF resources. As anticipated, these will be deployed to cover some of the additional costs to improve the climate resilience of Government and community investments, and to implement priorities identified in the NAPA.
- Project design. The baseline project was initially planned with four components. In order to simplify management and implementation roles, a component on ecosystem management was added under the MEF, while the first component on agricultural input remains IDA-funded only. The project encompasses all the elements mentioned in the PFD, including sustainable land management interventions for agricultural systems; support for creation and management of nurseries and management of humid and gallery forests; and information, education, communication for communities; and institutional and legal framework for implementation of GGWI. It was found

unrealistic to promote creation of additional protected areas in Chad, but the project will support ecosystem management in protected area buffer zones in the five regions.

- Project financing. No change was made to the project financing.
- With respect to the baseline investment, there has been no substantive change made. The PFD indicated two baseline projects in Chad and these remain valid in support of the GEF project. While the PFD envisaged that the GEF support would be blended with the LDPSP 2, the project is blended with the other baseline project PAPA. This adjustment was made in recent developments of the food crisis due to climatic changes and variability. The PAPA was adjusted accordingly as an emergency operation, meaning that the GEF/LDCF increment would be more effectively deployed when associated with that project, as well as benefit from the additional support that this type of operation entails. Meanwhile, the Local Development Program Support Project 2 (LDPSP 2) has already started but remains closely associated with the Agricultural Production Support Project and its GEF/LDCF support, as it will support the PAPA with community level development plans, micro-granting mechanisms, capacity enhancement and targeted social investments.

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

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

(Please attach the Operational Focal Point endorsement letter(s) with this template. For SGP, use this OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE *(MM/dd/yyyy)*
Mr. Gaourang MAMADI N'GARKELO	Operational Focal Point, Directeur de Cabinet du Ministre de L'Environnement	Ministere de l'Environnement, de la Qualité de vie et des Parcs Nationaux, Chad	**03/29/2011**

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 CEO endorsement/approval of project.

Agency Coordinator, Agency Name	Signature	Date	Project Contact Person	Telephone	Email Address
Karin Shepardson GEF Agency Executive Coordinator		04/6/2012	Paola Agostini	(202) 473-7620	pagostini@worldbank.org

ANNEX A: PROJECT RESULTS FRAMEWORK

Project Development Objective (PDO): To support rural communities and producer organizations in increasing production of selected food crops and livestock in targeted zones while increasing the use of sustainable land and water management practices in climate vulnerable ecosystems											
PDO/GEO Level Results Indicators*	Core	Unit of Measure	Baseline	Cumulative Target Values**				Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition etc.)
				YR 1	YR 2	YR3	YR 4				
PDO Indicator 1: Increased production of targeted food crops by direct beneficiaries in the targeted regions[5]	☐	Tons	759,800	759,800	836,800	905,800	989,900	Yearly progress report	Ministry of Agriculture and Irrigation (MAI) annual reports / Annual Agricultural survey in the targeted areas	Ministry of Agriculture and Irrigation	Total volume of crop production (Sorghum, Millet, Maize and Rice) in the targeted regions
PDO Indicator 2: Increased production of targeted animal species by direct beneficiaries in the targeted regions[6]	☐	Number	Sheep: 629,800 Goat: 1,142,000 Poultry: 10,602,800 Pigs: 22,800	629,800 1,142,000 10,602,800 22,800	644,900 1,169,400 10,772,400 24,000	647,400 1,174,000 10,814,800 24,200	650,000 1,178,500 10,878,400 24,400	Yearly progress report	Ministry of Pastoral Development and Animal Production annual reports / Annual livestock survey in the targeted areas	Ministry of Pastoral Development and Animal Production	Total number of livestock in the targeted regions
GEO Indicator 3: Additional area under sustainable land and water management (SLWM) practices		Ha	0	500	3,000	6,000	9,500	Yearly progress report	Ministry of Environment and Fisheries Annual reports/Annual survey in the targeted areas	Ministry of Environment and Fisheries	Total number
PDO/GEO Indicator 4: Direct project beneficiaries[7]	☒		0	25,300	42,300	65,300	97,300	Yearly progress report	M&E System	Project Coordination Unit (PCU), Regional Coordination Units (RCUs)	Total number of project beneficiaries

[5] Target values are estimated based on the annual production growth rate of each crop computed on the period from 2006 to 2010.

[6] Target values are estimated based on the annual growth rate of the herd size of each animal species computed on the period from 2006 to 2010.

[7] Target values are estimated based on the experience of the Agricultural Services and Producer Organizations Project and are for planning purposes given the demand-driven nature of the project.

• Beneficiaries receiving emergency support (i) Agricultural producers (ii) Livestock owners		Number	Agricultural producers: 0 Livestock owners: 0	15,000 8,300	0 0	0 0	0 0	Yearly progress report	M&E System	Project Coordination Unit (PCU), Regional Coordination Units (RCUs)	Total number of food insecure persons who benefitted from emergency support of the project
• Beneficiaries receiving non-emergency support[8]		Number	0	2,000	17,000	40,0000	72,000	Yearly progress report	M&E System	Project Coordination Unit (PCU), Regional Coordination Units (RCUs)	Total number of persons who benefitted from support of the project
Direct project beneficiaries, female[9]	☒	Percentage	0	14	20	26	32	Yearly progress report	M&E System	PCU, RCUs	Percentage of female in the total number of persons who benefitted from support of the project
INTERMEDIATE RESULTS											
Intermediate Result (Component 1): Provision of agricultural inputs											
Intermediate Result Indicator 1: Improved seeds(rainfed Sorghum and Berebere) procured and distributed		Tons	0	130	0	0	130	Yearly progress report	M&E System	PCU, RCUs	Total quantity of improved seed procured and distributed as part of emergency intervention
Intermediate Result Indicator 2: Animal feed procured and distributed		Tons	0	2,800	0	0	28,00	Yearly progress report	M&E System	PCU, RCUs	Total quantity of animal feed procured and distributed as part of emergency intervention
Intermediate Result Indicator 3: Food insecure populations receiving training and extension services		Number	0	23,300	0	0	23,300	Yearly progress report	M&E System	PCU, RCUs	Total number
Intermediate Result (Component 2): Support to food production											

[8] Total number of direct beneficiaries of basic infrastructures, productive assets and other products delivered by the Project. Target values are estimated based on the experience of the Agricultural Services and Producer Organizations Project.

[9] Target values are estimated based on the experience of the Agricultural Services and Producer Organizations Project.

Intermediate Result Indicator 4: Sub-projects on productive assets financed		Number	0	60	120	180	260	Yearly progress report	M&E System	PCU, RCUs	Total number
Intermediate Result Indicator 5: micro-projects on rural infrastructures financed		Number	0	0	60	120	180	Yearly progress report	M&E System	PCU, RCUs	Total number
Intermediate result Indicator 6: Sub-projects for women's organizations financed		Number	0	40	100	160	220	Yearly progress report	M&E System	PCU, RCUs	Total number
Intermediate Result (Component 3): Sustainable land and ecosystem management											
Intermediate Result Indicator 7: Innovative SLWM practices introduced in targeted zones[10]		Number	0	0	1	2	3	Yearly progress report	Ministry of Environment and Fisheries Annual reports/Survey	Ministry of Environment and Fisheries, PCU, RCUs	Total number
Intermediate Result Indicator 8: GEF/SLWMP micro- projects implemented on time [11]		Number	0	0	10	30	40	Yearly progress report	Ministry of Environment and Fisheries Annual reports/Survey	Ministry of Environment and Fisheries, PCU, RCUs	Total number
Intermediate Result Indicator 9: Community groups trained on SLWM and climate resilience		Number	0	0	100	150	200	Yearly progress report	Ministry of Environment and Fisheries Annual reports/Survey	Ministry of Environment and Fisheries, PCU, RCUs	Total number
Intermediate Result (Component 4): Capacity Building and Institutional Support to Public Services											
Intermediate Result Indicator 10: Farmers receiving advisory services or training[12]	☐	Number	0	4,500	11,500	16,000	16,000	Semi-annual (Project level)	M&E System	PCU, RCUs	Total number

.

[10] Examples of innovative SLWM practices include agro forestry, Integrated Crop/Livestock systems, Pastoralism and rangeland management

[11] Target values are estimated based on the experience of the Community-Based Ecosystem Management Project and are for planning purposes given the demand-driven nature of the project

[12] This indicator may need to be adjusted during implementation given the demand-driven nature of the project

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

A. Responses to STAP on the SAWAP Document

Before the Councils' approval in May 2011, detailed responses were provided to address comments on the SAWAP PFD. Some of these responses were to be further developed at CEO Endorsement Memorandum stage and are thus addressed below.

STAP comment	**Response at PFD stage (April 2011)**	**Response at CEO Endorsement Memorandum stage (October 2011)**
General comment: Response to the following questions will help the proponent to be clear. Is the development of this PDF based on changes the various stakeholders or the countries would like to see? Are these based on identified gaps in knowledge, new opportunities and/or challenges? What are the theories of change? How can we be sure that any change will lead to better development?	The PFD includes a detailed and updated discussion of the barriers that have prevented an uptake in sustainable land and water management in the past. These barriers inform the design and focus of the program and its investment options that specific discrete individual projects will promote on the ground depending on local circumstances to be further identified and quantified as each individual project gets designed during the next 18 months. As per normal World Bank project preparation procedures and principles, each project under the Program Framework will have a detailed results chain, stakeholder analyses, and investment areas that target specific landscapes/ecosystems in the participating countries, and that include costed management activities.	The proposed project was developed based on an analysis of food insecurity linked to climate change and land degradation, as detailed in a number of national plans and strategies. The project has been designed to address these challenges through investment on the ground in selected areas and through broad technical assistance. The Government is strongly supportive of the project. Success stories from neighboring countries will of course be integrated in the training to exemplify the benefits from SLM approaches.
1[13]. The scientific rationale of the program is weak. For example, the sustainable land and water management (SLWM) interventions are not well-defined. The proponents also do not define explicitly the rationale for the interventions, or where they will take place, and how will they be delivered. Details on indicators also are needed to justify and assess the scientific rationale of the program, and how it intends to	See comments immediately above on technologies. On targeting, each country project summary is annexed to the PFD. Projects are either beginning preparation or will begin preparation after approval, as per normal World Bank procedures. Given the large amount of baseline co-financing involved, the GEF increment needs to be integrated well, and that means following the World Bank project cycle. The KPIs in the proposed program framework are currently in use in many projects in Africa, many supported by	Comment addressed: The result framework of the proposed project was carefully designed to integrate all key GEF/LDCF indicators as well as SAWAP KPIs. GEF/ tracking tools will be monitored during the project at start, mid-term and end. A description of indicators is provided in Annex 2 of the PAD. A detailed list of SLWM interventions is described in annex 1; application depends on zones,

[13] Numbers out of sequence in order to remain consistent with STAP review document

STAP comment	Response at PFD stage (April 2011)	Response at CEO Endorsement Memorandum stage (October 2011)
measure and monitor the expected multiple global environment benefits at the country level and across the region. The proposal indicated it will build on TerrAfrica's monitoring and evaluation indicators, but this is poorly referenced. As such, STAP requests for the proponents to detail how the global environment benefits will be tracked and monitored, and how the program will build on TerrAfrica's indicators – if at all.	TerrAfrica. The first KPI is explicitly included in the UNCCD's current indicator set. The Bank believes it is too early at pre-PIF stage to articulate the methodologies on how each of the 13 projects will measure global benefits. It is sufficient to include at this point the KPIs, and to work through each project's preparation process to define the detailed approaches. For example, the GEF is already financing a small number of operations that seek to improve cost-effective tracking of terrestrial carbon benefits. However, at the time of this writing, these tools are not yet available. The PFD notes that projects will avail themselves of these tools once available and if pragmatic and cost-effective for the local circumstances of each project. There is intense interest in tracking terrestrial carbon. On biodiversity and other focal areas, the PFD is clear that the relevant GEF FA tracking tools would be deployed by each discrete project.	technical feasibility and needs of beneficiaries. Comment addressed: All relevant tracking tools (LD, CCA, BD and SFM) have been completed.
2. Although there are some researchable promising aspects such as integration of solutions, multiple global environment benefits, and several management options at the landscape level that serves all countries, these are poorly developed and the whole the scientific quality of this PDF is disappointing. The inclusion of a section on the scientific approach and methodology might shed light on the thinking of the proponents. 4. Research and Development (R&D) efforts on SLWM have long been pursued as separate disciplines. By integrating research across disciplines and across scales from farmer's field to landscape, we can put the pieces together to achieve the integrated, holistic	This is an umbrella program framework, not a research project. The discrete projects to be developed (or are being developed) under the umbrella will each be informed by specific additional lessons learned from past and on-going investment projects, as well as from investment-oriented research publications. See knowledgebase.terrafrica.org for an extensive library already gathered. Additional specific country level analyses will be done as part of project preparation according to the specific needs of countries and their investment projects. To clarify, this is not a research project, but we agree that trade-offs in the landscape need to be articulated and managed as part of the preparation of individual projects under the Program Framework. We agree that socio-economic variables are critical drivers of land use and management decisions. The PFD's barrier analysis explicitly recognizes economic and financial barriers to greater adoption of improved land and water	Comment addressed: The project was prepared primarily based on the prioritization process that led to the national food securirt program. Several plans and programs (NABSAP, NAPA,…) which are based on best available science were used as inputs for the preparation of the project. In the course of the project, SLWM techniques selection will be further refined in partnership with technical departments and research institutions. The project specifically includes socio-economic, gender, institutional and policy dimensions. It has to be recognized, however, that capacity and available data is particularly challenging in Chad.

STAP comment	Response at PFD stage (April 2011)	Response at CEO Endorsement Memorandum stage (October 2011)
approach required to synergize investments in water, soil, crops, environment and livelihoods. Often R&D excludes the socio-economic, gender, institutional and policy dimensions and uptake is not nearly at the pace required for widespread gains. Interventions required to bring this change about are less well understood. Many of the reasons are socio-economic, the very factors that the proposal tends to ignore.	management, and includes livelihoods activities and financial innovations to counter these barriers among its eligible activities. This barrier analysis has now been updated. In addition the PFD also summarizes the socio-economic pressures at work in the Sahel and southern systems.	
5. Formulating some development and research questions in both physical and socio-economical terms with consideration of livelihood and equity issues, or of power relations and potential conflicts and need for tradeoffs, will be useful and helpful to drive the expected outputs and outcomes from this initiative. These are important if the initiative wants to get its (largely physical) outputs to have positive outcomes and impacts for poverty reduction, improved livelihoods and wellbeing, as well as enhanced ecosystem services and environmental sustainability. There are clearly numerous assumptions underpinning this initiative which are not clearly expressed.	In addition to the comment immediately above on barriers, it is worth noting that the PFD's risk analysis treats socio-economic topics and political economy. Also, normal Bank project preparation includes detailed assessments of these as part of normal project preparation with the client. We agree on the need to address trade-offs within the landscape, and PFD has been updated to include this. Indeed as each discrete project is designed, these trade-offs will be articulated closer to the level of resolution needed that a PFD of this nature is not designed to address. For example, a discrete project might support local communities to carry out natural resource asset mapping and land use planning.	Comment addressed: During the design of the project, careful attention has been paid to address both environmental benefits and development needs of the population in targeted areas. This approach was obvious for the project preparation team in Chad due to the history of the country. Several consultations have taken place to define project activities. Small income generation activities are planned as part of the project. Best land management practices offer win-win-win solutions: improving productivity, livelihood and ecosystems.
9. On institutional coordination and support- The document indicates that special attention will be given so that the Program will include projects implementing priority activities that have	These are principles for designing the discrete projects. These gaps will be identified and addressed as each discrete project is prepared under the Program Framework, and following the usual rigorous World Bank project preparation	Comment addressed: The project includes project implementing priority activities as defined in the national food security program and the NAPA prepared in 2010. It this framework, donor support is strongly coordinated, and synergies with baseline

STAP comment	Response at PFD stage (April 2011)	Response at CEO Endorsement Memorandum stage (October 2011)
not been sufficiently addressed before and that do not duplicate existing efforts. Nonetheless, these gaps are not well defined, or how will they be addressed by the proposal. Therefore, STAP recommends defining explicitly these gaps, as well as their responses.	procedures.	projects are explicitly described in the Incremental and Additional cost reasoning and Matrix on donor interventions. Coordination with other projects is also outlined in section B6 of this Memorandum. There are a number of institutional gaps in Chad, and the project addresses the lack of capacity to manage the environment, environmental analytical work and inter-departmental coordination.
17. There are opportunities throughout the proposal to build-in specific gender interventions. For example, the proposal could specify further how land and water use planning and priorities to address livelihoods will take into account gender, given women's significant roles in agriculture, land management, food security, and water resources in the Sahel. STAP recommends that gender related interventions be built better throughout the document.	This is a welcome comment that we believe is addressed in the PFD. Please see the response above on gender in Bank projects (gender must be tracked). At the level of individual project development, detailed stakeholder assessments are carried out, and gender dimensions investigated.	Comment addressed: Gender targets are explicitly included in the PAD, see Annex 2, and sections B3 and B5 of this CEO Endorsement Memorandum.

B. Responses to GEFSEC comments on the SAWAP Document

Before the Councils' approval in May 2011, detailed responses were provided to address comments on the SAWAP PFD. Some of these responses were to be further developed at CEO Endorsement Memorandum stage and are thus addressed below.

GEF Secretariat's comments	Response at PFD stage (April 2011)	Response at CEO Endorsement Memorandum stage (October 2011)
Review sheet Q7 - The focal area breakdown is not correct for Chad and Chad based on country allocations in the STAR. Please review these, and also ensure	Please note that the amounts proposed for the countries are based on the flexibility rule under the STAR. For Chad, resources allocated to CC focal area would be transferred to LD focal area.	Transfer confirmed.

GEF Secretariat's comments	Response at PFD stage (April 2011)	Response at CEO Endorsement Memorandum stage (October 2011)
consistency with endorsement letters for all countries.		
Review sheet Q8 Baseline and Targets for LD, BD, CC, and SFM	The team has looked into the feasibility of estimating baselines and targets, […] Thus, quantitative targets and spatial coverage will be provided for each project when it goes for CEO endorsement. Given that the proposed projects are only in the conceptualization stages, it is premature at this stage to define quantitative targets. These will evolved based upon on-going dialogues and preparation activities in countries and will be summed by Project 13 for CEO endorsement. The proposed program integrates FAs and adaptation windows […]	Comment addressed: Quantitative targets and baselines are available in the Project Results Framework (Annex 1), in the GEF tracking tools and in the AMAT for CCA. For the selection of project indicators and correspondence with GEF / LDCF indicators and SAWAP KPIs, please refer to Annex 2 of the PROJECT DOCUMENT.
Review sheet Q8 Biodiversity: The program identifies two objectives in the GEF biodiversity strategy. In order to clearly demonstrate use of the focal area resources toward these two objectives, please provide in the Program Framework (Table B) indicative outcomes or outcome targets from the focal area results framework, such as actual estimates of hectares of existing protected areas for improved or effective management. These should also be consistent with the narrative in the PFD and highlighted in the concept note for countries as appropriate.	*Biodiversity is a key element of the Program:* The biodiversity related activities are aiming […] In line with the integrated ecosystem approach of the Program, […] The specific areas covered, policies supported and financing mechanisms will be detailed for CEO endorsement. […] *Figures unavailable at this stage*: Quantitative targets and spatial coverage will be provided for each project when it will be submitted for CEO endorsement. Given that the proposed projects are only in the conceptualization stages, it is premature at this stage to define quantitative targets. These will evolved based upon on-going dialogues and preparation activities in countries.	Comment addressed. The proposed project target BD-2 to improve mainstreaming of biodiversity conservation in selected landscapes. Comment addressed: Quantitative targets and baselines are available in the Project Results Framework (Annex 2) and in the GEF tracking tools.
Review sheet Q8 - For SFM/REDD+, please provide indicative target of forest area and ensure consistency with the PFD narrative and in concept notes for each of the countries.	SFM will complement and be combined with resources from other FA to generate sustainable flow of forest ecosystem services. In some countries, SFM will support expansion or rehabilitation of protected areas. Quantified target will however be provided at the CEO endorsement stage. For the program targets, see also answer to question 8, page 2. The PFD has been adjusted in order to further outline SFM	Comment addressed: Please refer to the Project Results Framework (Annex 2) which defines outputs and outcome indicators for the project. Additional specific indicators are also being tracked through the GEF Focal Area Tracking Tools.

GEF Secretariat's comments	Response at PFD stage (April 2011)	Response at CEO Endorsement Memorandum stage (October 2011)
	supported activities.	
Review sheet Q10 For the LDCs: Please provide adequate information related to the linkage between the specific projects in the program and the country NAPAs.	Under the GEF/LDCF or SCCF Alternative section of countries' preliminary project summaries, a section lists the relevant NAPA activities. In some preliminary project summaries, the level of priority of the identified related NAPA activities is provided. For instance, LDCF resources would support the implementation of NAPA priorities 1 and 2 activities in Chad. This has been further clarified in the PFD to the extent possible. At CEO endorsement phase, the list of relevant NAPA activities to which the program and associated projects will contribute to, will be refined to identify the most relevant ones to LDCF supported activities in association with the baseline.	Comment addressed: Please refer to Annex 14 of the PROJECT DOCUMENT and Section B.2.5 *Additional Adaptation Cost Analysis* of this CEO Endorsement Memorandum.
Review sheet Q13 With respect to the LDCF and SCCF, additional information is requested to describe the vulnerabilty of the baseline projects, and the problems the proposed projects seek to address	The PFD has been revised […] The Bank further agrees to develop the adaptation benefit analysis including climate change vulnerabilities, baseline/business-as-usual development, additional adaptation cost proposed for LDCF financing and specific adaptation activities, at the stage of the CEO endorsement.	Comment addressed: Please refer to Annex 14 of the PROJECT DOCUMENT and to sections B.2.1.2., B.2.2.2. and B.2.5. of this CEO Endorsement Memorandum.
Review sheet Q14 a) alignment of baseline investments: please clarify exactly how multiple baseline projects in most of the countries will be integrated or linked to effectively leverage GEF resources for the alternative project.	The program is using as baseline multiple projects, […]. In particular: […] Each country description addresses the link with the baseline project(s). Further details will be developed during project preparation.	Comment addressed: Please refer to Annex 14 of the PROJECT DOCUMENT and Section B.2. *Incremental / Additional Cost Reasoning* of this CEO Endorsement Memorandum for a detailed incremental cost and additional cost analysis.
Review sheet Q15 - Annex C country level increment: Incremental activities must be better described, especially for the CC funding as well as SFM funding. In the annex to the Chad project, with the SFM funds, expected carbon benefits should be listed.	At CEO endorsement stage, the projects will detail the incremental cost reasoning by country. In Annex C1 on the project detailed description for Chad, section B1 describes the baseline projects and section B2 details the baseline scenario and how the different GEF resources (STAR LD, STAR BD, SFM and LDCF) can contribute to transform the baseline. In particular SFM resources (see paragraph on GEF alternative scenario)	Comment addressed: Please refer to Annex 14 of the PROJECT DOCUMENT and Section B.2. *Incremental / Additional Cost Reasoning* of this CEO Endorsement Memorandum for a detailed incremental cost and additional cost analysis.

GEF Secretariat's comments	Response at PFD stage (April 2011)	Response at CEO Endorsement Memorandum stage (October 2011)
	contribute to carbon sequestration through the rehabilitation of existing Protected Areas under Components 2 and 4. SFM resources add up to BD (improved management of existing Protected Areas) and LD (Integrated landscape management adopted by local communities). Annex C1 has been adjusted to better outline the carbon benefits supported by SFM resources through avoided deforestation and natural regeneration.	Because very little information is available in Chad relating to forest management and carbon sequestration, the Project will support a study and capacity building related to the calculation of carbon, biomass, and forest development. Carbon estimates are not available in the tracking tool now, but efforts are being made to establish a rough estimate.
At CEO endorsement please provide the following: - Include Bonn recommendations at project level	Overall, the team has noted the key points for elaboration at the time of CEO endorsement. It should be noted that a lot of these details are also part of the Bank's requirements for project development. (See also specific responses below)	Bonn's recommendations have been taken into account during project preparation.
- Show that recommendations made by partners in the Bonn Declaration at project level are included in the project document	Noted.	Bonn's comments made by partners have also been taken into account. Worth noting, the collaboration with projects supported by UNDP and AfDB is outlined in this CEO Endorsement Memorandum (Section B6).
- Develop partnerships with bilateral and other GGWI partners (EU, IFAD, FAO, for instance) - additional cofinancing is expected from engagement by potential partners including bilateral agencies who are interested by the programmatic approach (see the Bonn Declaration)	The WB will promote coordination with other agencies working in the countries in similar initiatives such as the African Development Bank (AfDB), bilateral agencies (such as France, European Commission, Norway, Netherlands, Germany, USA) and UN agencies (IFAD, UNEP, UNDP, FAO). The WB will work with these institutions under the TerrAfrica platform for coordination and implementation of the Program. Additional cofinancing for the projects may be explored during preparation based on bilateral discussions with partners and other donors.	Comment addressed: Other donors have been consulted during project preparation. The project is subject to strong donor coordination under the NFSP. See point just above.
- Confirm cofinancing. Please include cofinancing from bilateral partners who mentioned their interests in the Great Green Wall Initiative (the US, Germany, and France).	Cofinancing will be confirmed. Additional cofinancing for the projects may be explored during preparation based on bilateral discussions with partners and other donors.	Comment addressed: Co-financing identified at PFD stage have been confirmed.
- Provide a clear baseline with quantified indicators. Develop the assumptions and the barriers that the program and its projects will seek to resolve. It is notably important that this	All projects will develop the results framework which details the baseline with quantified indicators. The points mentioned will be given due consideration.	Comment addressed: Baseline with quantified indicators are available in the Project Results Framework (Annex 2). Other quantitative targets, are also available in the GEF tracking tools and in the AMAT for CCA.

GEF Secretariat's comments	Response at PFD stage (April 2011)	Response at CEO Endorsement Memorandum stage (October 2011)
barrier analysis address issues for each focal area. Lessons learned from past investments should underpin assumptions related to linking environment and development goals in such an ambitious program (e.g. alternative livelihood activities, knowledge and institutional barriers, etc.).		
- Provide a comprehensive risk analysis,	The individual project documents will detail the risks analysis, as per the World Bank requirement.	Comment addressed: Refer to the ORAF table in Annex 4 of the PROJECT DOCUMENT and section B.4. of this CEO Endorsement Memorandum.
- Develop a monitoring and evaluation plan with quantified indicators,	The individual project documents will include the results framework with realistic, quantifiable indicators, as per the World Bank requirement.	Comment addressed: Refer to the Project Results Framework in Annex 2 of the PROJECT DOCUMENT which defines outputs and outcome indicators for the project. Additional indicators are also being tracked through the GEF Focal Area Tracking Tools.
- Provide analysis of local stakeholders to justify the selection of beneficiary and targeted communities.	The individual project documents will detail the stakeholder participation analysis.	Several intensive stakeholders consultations have taken place during the project preparation with a combination of consultations organized in the regions and national level consultations to compile the results of the consultation in the regions.
- We are expecting at CEO endorsement a rationale to use 10 percent of management costs.	At CEO endorsement will provide rationale for 10% management costs.	Based on the blending with final calculations done at the appraisal stage, the project management costs have been reduced to 5% as per GEF requirements.
- SFM: Impacts of SFM activities are expected on the ground. Regardless of whether CC funding is directly involved as a focal area for a country, the SFM project must show carbon benefits.	SFM: Carbon benefit from SFM funds in particular and from other GEF resources in general will be monitored through KPI-4: Change in carbon accumulation rates in biomass and soil, compared to baseline (tC/ha)	Comment addressed: Given the exceptionally poor availability of data in Chad on this subject, it was not possible to establish realistic estimates on current or targeted carbon sequestration. While targeted hectares are available, but none of other parameters are available to ensure calculations. However, Because very little information is available in Chad relating to forest management and carbon sequestration, the Project will support a

GEF Secretariat's comments	Response at PFD stage (April 2011)	Response at CEO Endorsement Memorandum stage (October 2011)
		study and capacity building related to calculation of carbon, biomass, and forest development, so that estimates may be developed.
- GEF investments are 4% of the total. Based on past experiences under Terrafrica for instance, it is always a case to imagine how the GEF is going to be incremental. Please develop the reasoning at CEO endorsement.	The incremental reasoning will be provided for each project and we agree that the projects will have strong baseline cofinancing and careful attention will be placed on justifying the GEF incrementality.	Comment addressed: Refer to Annex 14 of the PROJECT DOCUMENT and sections B.2.2.1 and B.2.4. of this CEO Endorsement Memoandum.
TTs for all relevant focal areas will be required at CEO Endorsement.	TTs will be included at the time of CEO endorsement.	Comment addressed: All relevant tracking tools (LD, CCA, BD and SFM) have been completed for the baseline stage.

C. Responses to Secretariat's comments at CEO Endorsement Level

ANNEX C: CONSULTANTS TO BE HIRED FOR THE PROJECT USING GEF/LDCF/SCCF RESOURCES

Position Titles	*$/ Person Week**	*Estimated Person Weeks***	*Tasks To Be Performed*
For project management			
Local Consultant			
Project coordination and Environmental Specialist	1500	67	Overall component coordination and technical advice
Accountant	1500	65	Overall financial management for work planning
M&E specialist	1500	65	Monitoring the implementation of activities of the GEF/LDCF component and the GEF Tracking Tools
International Consultant	0	0	
	$/ Annual Cost	***$ / Estimated Cost***	
Office facilities, equipment and vehicles			
Desktop + Stabilizer ()		5000	
Vehicle (1)		30,000	
Printer (1)		300	
Photocopier (1)		400	
Telephone	1,000	4,000	
Stationery	1,000	4,000	
Fuel	9,000	36,000	
Intranet	1,000	4,000	
Printing	1000	4,000	
Project workshops	8,000	20,000	
Total Office facilities, equipment and vehicles		107,700	
Travel			
Missions in the country (approx 2/year for 2 staff of the PIU)	27200	108,800	
Missions abroad (approx 2) mainly for regional experience sharing visits	4,000	8,000	
Total travel		116,800	
Justification for travel, if any: Chad is a very large country and the project zone covers five regions. Therefore the project will be implemented across a large area, with difficult conditions for travel. Travel will be required to coordinate and supervise project activities, to interact with the stakeholders and to ensure effective project implementation in each region. Travel to/from N'djamena will be needed to coordinate project activities between central and local levels.			

For Technical Assistance			
Local	***$/ Person Week****	***Estimated Person Weeks*** **	
Natural Resources Management Specialist	1500	30	Support to national and local teams for the preparation of sustainable management plans and forest inventory
Natural Resources Management Specialist (SLWM)	1500	30	Support to national and local teams for the identification and dissemination of appropriate SLM practices
Climate Change Specialist (adaptation)	1500	30	Preparation of the training program on climate resilient agriculture and SLWM
Education Specialist	1500	30	Preparation of the training program on climate resilient agriculture and SLWM and NRM and preparation of guide
Communication expert	1500	30	Support to awareness raising activities and project communication
International			
Climate Change Specialist (adaptation)	2800	5	Expertise to develop training program on climate resilient agriculture and SLWM and support to prepare a national Carbon sequestration estimate
Justification for travel, if any: This activity will require intensive field work (site visits, interaction with stakeholders etc.): See above.			

* Provide dollar rate per person week. ** Total person weeks needed to carry out the tasks.

ANNEX D: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS - NOT APPLICABLE

ANNEX E: CALENDAR OF EXPECTED REFLOWS (IF NON-GRANT INSTRUMENT IS USED) - NOT APPLICABLE

ANNEX F: Estimation of Carbon Dioxide Balance from SFM Elements of Project

Under the baseline scenario, the current estimated rates of deforestation and forest degradation would prevail, with a resulting loss in forest areas and reduced forest carbon stocks on the reduced forests. The project is targeted sustainable forest management activities on 36,000 ha of woodland. This woodland is subject to pressure from deforestation (i.e., conversion of forest land to land under other uses) and forest degradation (ie., reduction of standing stock on remaining forest land). The FAO estimates that current woodlands in Chad have an average standing stock of carbon of 55 t C/ha (FAO, 2011, Table3). With the current deforestation rate of -0.7% per annum (FAO, 2011[14], Table 2), over ten years the 36,000 ha targeted under the project would be reduced to 33,448 ha. Using the deforestation rate as the de-stocking or degradation rate, the standing carbon stock on that land after 10 years would be 51.3 t C/ha. Across the

[14] FAO, 2011. *State of the World's Forests, 2011*. Rome: FAO.

remaining forest-land, this would indicate that the total lost carbon would come to 259,518 tonnes or 951,565 tonnes of CO2.

The project scenario seeks to reduce the rate of deforestation and degradation from 0.7% per annum, to 0.3% per annum by promoting sustainable forest management practices. Thus, the loss in forest area and in standing stock on that forest area would be reduced. After ten years of these sustainable practices, the total loss of C from the original 36,000 hectares would be 115,474 tonnes of carbon or 423,400 tonnes of CO2. This improved forest management scenario represents a savings in CO2 stored in the targeted forest areas of 528,160 tonnes after ten years.

At the end of the project in 5 years, it might be reasonable to have ½ of this target achieved in terms of forest land preserved and the standing stock on that forest land.

Table: Estimated Carbon and CO2 Balances from SFM Activities in Chad Agricultural Project

	Targeted Forest Area	Carbon Stock on Targeted Forest Area, Yr 0	Estimated remaining forest Area after 10 years	Estimated Remaining C Stock on that Forest Land	Total Loss of C stock by end of 10 years	Total Loss of CO2 in Forest Stock in 10 years	
Baseline Scenario: Deforestation rate 0.7% pa and Degradation rate, reduction of standing stock on remaining forests by 0.7% pa	(Ha)	55 t/ha	0.7%pa * ha*10	55/t/ha			
Risk 1: Loss of Forest area (conversion of existing forests to existing non forest)	36,000	1,980,000	33,557.92	1,845,685			
Risk 2: Degradation of Existing Forestland		55	51.3	1,720,482			
					259,518	951,565.61	
Project Scenario: Reduce rate of Deforestation and Forest Degradation from 0.7% pa to 0.3%pa over 10 years							
Risk 1: Loss of Forest area (conversion of existing forests to existing non forest)	36,000	1,980,000	34,934.46	1,921,396			
Risk 2: Degradation of Existing Forestland		55	53.4	1,864,526			
					115,474	423,406.04	
					CO2 Preserved in Forest Stocks because of Project	528,159.57	