



GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET

Naoko Ishii
CEO and Chairperson

July 25, 2014

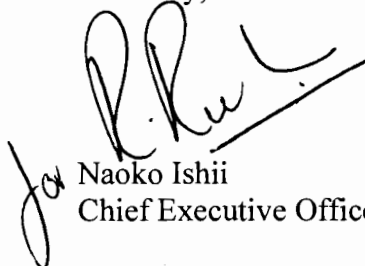
Dear LDCF/SCCF Council Member:

FAO as the Implementing Agency for the project entitled: *Niger: Integrating Climate Resilience into Agricultural and Pastoral Production for Food Security in Vulnerable Rural Areas through the Farmers Field School Approach*, has submitted the attached proposed project document for CEO endorsement prior to final approval of the project document in accordance with FAO procedures.

The Secretariat has reviewed the project document. It is consistent with the proposal approved by LDCF/SCCF Council in August 2012 and the proposed project remains consistent with the Instrument and LDCF/SCCF policies and procedures. The attached explanation prepared by FAO satisfactorily details how Council's comments have been addressed. I am, therefore, endorsing the project document.

We have today posted the proposed project document on the GEF website at www.TheGEF.org. If you do not have access to the Web, you may request the local field office of UNDP or the World Bank to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,



Naoko Ishii
Chief Executive Officer and Chairperson

Attachment: GEFSEC Project Review Document
Copy to: Country Operational Focal Point, GEF Agencies, STAP, Trustee



REQUEST FOR: CEO ENDORSEMENT

PROJECT TYPE: FULL-SIZED PROJECT

TYPE OF TRUST FUND: LDCF

PART I: PROJECT INFORMATION

Project Title:	Integrating climate resilience into agricultural and pastoral production for food security in vulnerable rural areas through the Farmers Field School approach		
Country(ies):	Niger	GEF Project ID:	4702
GEF Agency(ies):	FAO	GEF Agency Project ID:	613837
Other Executing Partner(s):	Ministry of Agriculture (MoA), Ministry of Livestock (MoL)	Submission Date:	July 22, 2014
GEF Focal Area (s):	Climate Change	Project Duration (months):	48
Name of parent program (if applicable):	N/A	Project Agency Fee:	380,000
<ul style="list-style-type: none"> • For SFM/REDD+ <input type="checkbox"/> • For SGP <input type="checkbox"/> • For PPP <input type="checkbox"/> 			

A. FOCAL AREA STRATEGY FRAMEWORK

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-Financing (\$)
CCA-1	Outcome 1.1: Mainstreamed adaptation in broader development frameworks at country level and in target vulnerable areas	Output 1.1.1: Adaptation measures and necessary budget allocations included in policies, plans, and programs of the Ministries of Agriculture, Environment and Animal Productions in the framework of CNEDD's mandate and SPCR's Programme	LDCF	200,000	1,800,000
CCA-2	Outcome 2.2: Strengthened adaptive capacity to reduce risks to climate-induced economic losses	Output 2.2.1: Adaptive capacity of an expanding network of Farmer's Field Schools (FFS) strengthened to rapidly respond to extreme weather events and climate variability	LDCF	2,266,000	6,760,000
		Output 2.2.2: At least 20,000 farmers, agropastoralists and herders covered by adequate risk reduction measures through a minimum of 1000 FFS integrating CCA strategies and practices reach			
CCA-3	Outcome 3.1: Successful demonstration, deployment,	Output 3.1.1: FFS participants integrate a growing number of	LDCF	920,000	3,038,871

	and transfer of relevant adaptation technology in targeted areas	relevant adaptation technologies such as stress-resistant cultivars and varieties, soil conservation and water management, and tree/crops/fodder integration (menu to be developed during PPG)			
CCA-3	Outcome 3.2: Enhanced enabling environment to support adaptation-related technology transfer	Output 3.2.2: the expansion of FFS-based CCA processes are backed by specific rural extension policies and frameworks developed and adopted by rural development line ministries	LDCF	200,000	2,000,000
Sub-Total				3,586,000	13,598,871
Project management cost ¹				214,000	360,000
Total project costs				3,800,000	13,958,871

B. PROJECT FRAMEWORK

Project Objective: To enhance the capacity of Niger's agricultural and pastoral sectors to cope with climate change, by mainstreaming Climate Change Adaptation (CCA) practices and strategies into on-going agricultural development policies and programmes.						
Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Grant Amount (\$)	Confirmed Co-financing (\$)
1. Introducing improved climate-resilient agro-pastoral practices	TA	1. An "operational enabling environment" is created for promoting adoption of CCA practices and technologies through creation of partnerships, execution and analysis of baseline surveys and compilation and pilot-testing of existing and proposed new technologies and methods. <i>LDCF AMAT indicator 3.2.2: Strengthened capacity of project managers and stakeholders to transfer tested and selected appropriate adaptation technologies and tools: Score 2. Moderate Capacity achieved (75%). 25% female</i>	1.1 15 intervention sites and 15 partner-communities identified, 6 partnerships established and 10 awareness-raising campaigns undertaken related to the Project.	LDCF	157,100	0
			1.2 Tools for socio-economic and community self-assessment surveys selected and surveys undertaken in 15 municipalities.	LDCF	311,240	1,069,110
			1.3 Piloting on-farm tests of initial catalogue of crop varieties and farm/pastoralist practices in 15 municipalities.	LDCF	240,960	2,728,000
			1.4 5 regional databases and catalogues developed or updated including region-specific plant and animal genetic resources and potential	LDCF	189,300	1,000,000

¹ GEF will finance management cost that is solely linked to GEF financing of the project.

			best practices for climate resilient agriculture.			
Sub-total C1				LDCF	898,600	4,797,110
2. Capacity building and promotion of improved agricultural practices through agro-pastoral Field Schools	Inv	2. Increased ecological, economic and social resilience of at least three production systems in 15 Municipalities in two agro-ecological zones, through the adoption of improved, Field School-based CCA strategies, practices and a broader choice of adapted genetic material, leveraged/scaled up through interactions with PAC-CR and other partner programs. <i>10% of the cropped surface of the municipalities supported by partner's programmes (40,000 ha) integrate the approved CCA strategies, practices and adapted genetic materials</i> <i>LDCF AMAT 3.1.1 and 3.1.1.2: 100% of targeted groups (1,000 Field Schools/ 20,000 Households) are adopting at least 2 types of new technologies (25% female / 75% male)</i>	2.1 Curricula for FFS, PFS and DFF training of 300 facilitators revised in light of CCA and other cross-cutting themes, such as gender and nutrition	LDCF	84,300	43,813
			2.2 10 FFS/PFS/DFF Master Trainers and 300 Facilitators trained based on CCA curricula	LDCF	333,700	500,000
			2.3 14,000 farmers and herders (70% of target group) trained and implementing new/adapted practices	LDCF	1,268,100	2,500,000
			2.4 Development and adoption of participatory decision-support tools for Climate Change analysis to reduce risks for farmers/herders and communities	LDCF	250,200	532,340
			2.5 5 Producer Organizations (POs) strengthened on CCA practices	LDCF	127,000	1,500,000
			2.6 Local Adaption Investment Fund (LAIF) established in 5 regions (operational and financially sustainable)		110,000	1,100,000
Sub-total C2				LDCF	2,173,300	6,176,153
3. mainstreaming climate change resilient agro-pastoral and agricultural systems into sectoral policies and into local development	TA	3.1. Increased institutional capacities and cross-sector coordination to the mainstream CCA strategies into policies, programs and planning of the agro-sylvo-pastoral sectors <i>LDCF AMAT Indicator 2.2.1: 15 targeted Municipalities, 4 Government Ministries and 1 Research</i>	3.1 Development of policy briefs based on analyses of resilience.	LDCF	98,500	36,864
			3.2 Reinforced institutional capacities of 15 municipalities, 4 government ministries and 1 research institution for mainstreaming of CCA into programmes and policies based on the FFS approach.	LDCF	114,300	2,148,744

		<i>Institution have increased adaptive capacity to reduce risks and respond to climate variability.</i>	3.3 1 National and 15 Municipal investment plans on FFS-based CCA developed for programmes and policies related to agricultural and pastoral sectors	LDCF	81,100	0
Sub-total C3				LDCF	293,900	2,185,608
4. Project monitoring and evaluation	TA	4. Project implementation based on results based management and application of project lessons learned in future operations facilitated	4.1 System for systematic collection of field-based data to monitor project outcome indicators made operational	LDCF	30,700	100,000
			4.2 Midterm and final evaluation conducted		110,700	0
			4.3 Communications strategy developed		78,800	340,000
Sub-total C4				LDCF	220,200	440,000
Sub-Total					3,586,000	13,598,871
Project management Cost				LDCF	214,000	360,000
Total project costs ^d				LDCF	3,800,000	13,958,871

C. SOURCES OF CONFIRMED CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME (\$)

Sources of Co-financing	Name of Co-financier (source)	Type of Co-financing	Co-financing Amount (\$)
National Government	Ministry of Agriculture (MoA)	Grant	9,729,084
European Commission	European Commission	Grant	3,000,000
GEF Agency	FAO	Grant	1,149,787
Research Centre	CNRA	Grant	80,000
Total Co-financing			13,958,871

D. TRUST FUND RESOURCES REQUESTED BY AGENCY, FOCAL, AREA AND COUNTRY¹

GEF Agency	Type of Trust Funds	Focal Area	Country Name/ Global	(in \$)		
				Project amount (a)	Agency Fee (b)	Total c=a+b
FAO	LDCF	Climate Change	Niger	3,800,000	380,000	4,180,000
Total Grant Resources						4,180,000

¹ In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table. PMC amount from Table B should be included proportionately to the focal area amount in this table.

F. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

Component	Grant Amount (\$)	Co-financing (\$)	Project Total (\$)
Local consultants	817,000	0	817,000
International consultants	176,800	0	176,800

PART II: PROJECT JUSTIFICATION**A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN OF THE ORIGINAL PIF**

No significant changes have been made with regards to the project design of the original PIF. However, although the project's overall outcomes are well in line with the PIF, some changes were made during the PPG phase to the arrangement of outcomes and outputs in order to better reflect the problem that needs to be addressed and how opportunities will be exploited during the project implementation. Further the baseline scenario has been updated and strengthened and co-financing sources have been adjusted accordingly.

The following modifications were made during the PPG phase:

- The Outcome 1.1 in the PIF: *"Increased resilience of at least three productions systems in two agro-ecosystems through the adoption of improved CCA strategies, practices and a broader choice of adapted genetic material, in at least 15 municipalities assisted by PAC-CR and other partner programs (surface and yields at least maintained in assisted farmers' groups)"* was re-arranged to be Outcome 2 in the project document. The PPG problem analysis revealed the need of creating an "operational enabling environment" in order to exploit opportunities to pilot-test existing technologies and establish partnerships with a large range of partner projects.
- The outputs A, B, C, D and E in the PIF have all been slightly re-arranged and synthesized into four main outputs to better reflect the changes made to Outcome 1.
- The Output 2.B in the PIF: *"300 FFS facilitators trained in climate change adaptation and ecosystem resilience strategies and practices support CCA in 1,000 FFS"*, has been divided into two separate outputs in the project document (namely Output 2.2 and 2.3), as to distinguish training activities involving FS facilitators and farmer/herders.
- The Output 2.C in the PIF: *"At least 100 FFS leaders aware/informed of options for CCA practices through FFS and farmer-to-farmer exchanges"* has been reformulated to specifically target Producer Organizations, and rearranged to be Output 2.5 in the project document.
- The Outputs 3.A (*"Knowledge and understanding off CC-induced threats obtained from a growing network of FFS are incorporated into broader assessments conducted under PAC-CR and FAO-WFP emergency assistance platforms"*) and 3.B (*"Agricultural policy/capacity assessment – gaps and opportunities for mainstreaming FFS- based climate change adaptation into the rural development sector policies"*) have been merged into one single output in the project document (Output 3.1) as many output specific activities appeared to overlap. Likewise, Outputs 3.C (*"Mechanisms strengthened for cross- sector coordination in the implementation and monitoring of FFS-based outreach strategies for CCA"*) and 3.D (*"Good operational practices and lessons learned for enhanced adaptation to climate risk of the agricultural sector are developed, disseminated and replicated at national level in support to sound CCA policy making and programming"*) in the PIF, were merged into Output 3.2 in the Project Document as they shared similar activities.
- Moreover, based on the PPG assessment the baseline scenario and co-financing contributions have been updated and adjusted (see below and Section A.4), and the additional reasoning has been aligned and reinforced accordingly (see Section A.5). Subsequently the total co-financing has changed from the level anticipated in the PIF. This is detailed in the following table and further illustrated in Section A.4.

Partner	Co-financing (USD\$) as stated in PIF	Actual Co-Financing (USD\$)
MoA	300,000	9,729,085
SDR Secretariat	5,450,000	0
EU Delegation	0	3,000,000
CNRA	0	80,000
FAO	9,450,000	1,149,787

Totals	15,200,000	13,958,871
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- Although the level of co-financing has decreased, the co-financing ratio has remained high at about 1:4.
- The level of co-financing from the MoA has greatly increased from \$ 300,000 anticipated in the PIF to \$ 9,729,085. This illustrates the MoA's increased interest in adopting climate change adaptation practices and also in scaling up the FS approach.
- The FAO's direct co-financing is less than anticipated. This is because at the time of the PIF the main projects considered in the baseline were FAO-led FFS and input provision projects. These baseline projects were under implementation and scheduled to be completed in 2012-2013. The baseline scenario has been reformulated and now describes the expected 2014-2019 situation. The co-financing structure is described in detail in the Project Document Section 4.3 (financial planning by component and by co-financier).
- Moreover, the Government of Niger has increased its commitment to the project, mobilising additional resources through government institutions such as the CNRA that will support Project Component 1.
- Finally, the project has mobilized co-financing from the European Delegation in Niger, especially in support of capacity building through agro-pastoral Field Schools (Project Component 2).
- Based on the detailed analysis undertaken during the PPG, the allocation of co-financing across the components has been slightly modified due to the change in the level of co-financing and as per changes made in the arrangement of outcomes and outputs. The details are provided in the following Table:

Component	PIF Co-financing (USD\$)	Actual Co-financing (USD\$)	Note
Component 1	5,000,000	4,797,110	Grant amount/Co-financing ratio remained as in PIF:1:5
Component 2	6,200,000	6,176,153	Grant amount/Co-financing ratio remained as in PIF: 1:3
Component 3	3,200,000	2,185,608	Grant amount/Co-financing ratio as remained as in PIF: 1:7
Component 4	440,000	440,000	No change registered

- The indicative Project Management Costs (PIF) were elaborated on in detail during the project preparation phase. They now reflect the project's PMC needs based on an analysis of the project's duration and the current (and anticipated) situation in Niger, in view of activities needed to be carried out. It is expected that the administrative expenditures are higher due to more complex procurement requirements in view of Niger's infrastructural and institutional set-up. This should ensure the timely acquisition of all required goods, works and services, avoiding delays in the project's overall implementation. Additionally the project will support the harmonization of the FFS/PFS curricula into the MoA's and the MoL's on-going projects and programmes which implies a higher management effort. For these reasons the Management Costs have been raised from 5% to 6%.

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

N/A

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

N/A

A.3 The GEF Agency's comparative advantage

N/A

A.4 The baseline project and the problem it seeks to address

The problem analysis provided in the PIF has further been developed, and substantially deepened and adjusted during project preparation. Moreover, at the time of the PIF most of the baseline projects were under implementation and scheduled to be completed in 2012-2013. During project preparation, the baseline scenario has been reformulated to describe the expected 2014-2019 situation.

Section 1.2 of the Project Document provides a detailed description of the situation with regards to agro-pastoralism in Niger, and of climate related impacts and threats to agro-pastoralists as follows:

Problems and issues to be addressed

Non climate-driven problems such as; a) unsuited agricultural management practices (regarding crop and variety selection, water and soil management, and rangeland management), b) increasing population pressures that lead to expansion of agriculture areas into fragile ecosystems, c) increasing competition between herders and agriculturalists, and d) a lack in capital investment and positive incentives for sustainable rural development, are likely to be greatly aggravated by climate change. Adaptation of the agricultural sector is therefore not an end in itself but a means to address the development objectives of Niger. The country will have to adapt agricultural and pastoral systems to a hotter and likely drier future, and react to the risk of decreasing yields and the degradation of natural resource-bases (e.g. soils, biodiversity). A mix of technical solutions (such as more diverse sets of crop varieties to minimize risks, different planting patterns and a better integration between the crops, livestock and tree elements of small holders' production systems), as well as the necessity of institutional solutions to support the rural communities in an integrated way. In Niger there are traditional and improved sets of varieties of sorghum, millet, groundnuts, cowpeas and other crops that are grown to minimize losses caused by climate variability. However, without LDCF intervention, the adoption by farmers and pastoralists will remain limited.

The Strategic Programme for Climate Resilience (SPCR) indicates that: "The Government of Niger and its development partners have invested more than US \$ 400 million over the last 3 decades in programmes promoting sustainable land management and other activities aimed at rehabilitating fragile lands. Overall, more than 50 programmes have incorporated activities related to Sustainable Land Management (SLM) such as the promotion of conservation measures for water collection and surface water, tree planting and other measures to rehabilitate lands, etc. Reported results of such investments include increased vegetation, reduced erosion, rehabilitation and greater utilization of degraded lands, improved agricultural yields, increased forage for herds, greater availability of water, improved food security and well-being for vulnerable groups, and the reduction of poverty, among other things²". While it is recognized that Niger has over the course of the past decades gained considerable experience in land recuperation for agro-sylvo-pastoral production, it is also noted that coverage has been limited and focused in areas of more favorable agro-climatic conditions and market access. Less than 8% of villages in Niger, and particularly those in the regions of Dosso, Tillabery and Tahoua have participated in the major SLWM programmes. It is also recognized that "these projects and programmes have already brought together a critical mass of experiences on adaptation to climate change" and that it is now imperative "to scale them up and use them as part of a massive effort of environmental restoration"³.

The NAPA's follow-up to date has been to focus on creating basic institutional and awareness conditions for better addressing CCA issues, and on generating localized field experiences in eight of the most vulnerable communities, one in each of Niger's regions. Parallel to that, the FAO along with partners such as the World Food Program (WFP), Bioversity International and others have also recurrently supported the Niger Government in coping with repeated food crises, and is interested in supporting a shift from a reactive to a more proactive approach linking food security, disaster risk management (DRM) and CCA.

Policy framework and Baseline projects

² Strategic Programme for Climate Resilience, SPCR/Niger, 2010

³ *ibidem*

Over the past decade, the Government of Niger has developed an array of policies, strategies, programmes, plans and projects to support rural development and address natural resource related challenges in rural areas. The first Strategy for Development and Poverty Reduction (Stratégie pour un Développement accéléré et pour la réduction de la Pauvreté - SDRP) established in 2002 and revised in 2007 for the period 2008-2012 aimed at reducing half the incidences of national poverty and decreasing rural poverty from 66% (in 2002) to 55% (in 2015). The strategic objectives were translated into five successive mid-term Plans for Social and Economic Development (Plan de Développement Economique et Social – PSED) to integrate the SDRP and action plans from all the government departments.

The Plan for Social and Economic Development (PSED) 2012-2015 is the framework for state intervention in concert with its development partners. The Initiative “Nigériens feed Nigériens” (I3N) launched in May 2011 and officially announced in March 2012, replaced the Rural Development Strategy (RDS), which was the declaration of the Strategy for Development and Poverty Reduction (SDRP) in the agricultural sector since 2003. The I3N is also the translation of the National Strategy for Food and Nutrition Security, running with a similar horizon to the Strategy for Sustainable Development and Inclusive Growth - 2035 (SDDCI). The I3N Initiative aims to achieve food and nutritional security through improving the productivity of food crops, the development of small-scale irrigation and small livestock, and proving support for coping mechanisms. It focuses on five strategic areas:

- (i) Growth and diversification of agro-sylvo-pastoral production and fisheries
- (ii) Valuation and marketing of agro-sylvo-pastoral products
- (iii) Improved resilience of Nigériens to food crises and disasters
- (iv) Improvement of nutritional status
- (v) Creating a supportive environment

By 2015, the I3N should result in a 41% increase in gross food production (from 3.55 million tons of food produced in 2011 to 5 million tons expected in 2015), including an increase of 40% and 45% of meat and milk production respectively.

Included in the framework of the I3N is the Strategic Programme for Climate Resilience (SPCR), highlighting the recent shift from a “development without adaptation” to a “development with adaptation” scenario. The SPCR includes the WB-sponsored Pilot Programme for Climate Resilience (Programme Pilote pour la Résilience Climatique - PPCR), and the Community Action Project for Climate Resilience (Actions Communautaires pour la Résilience Climatique – PAC-RC).

The PPCR and PAC-RC aim at supporting the current process of incorporating climate resilience into development strategies and plans, in order to scale up and strengthen lessons learned from programmes and projects by supporting existing participatory processes for knowledge exchange, and by pilot testing and scaling up improved climate-resilient agro-pastoral practices.

Within the SPCR the CNEDD/National Technical Commission on Climate Change and Variability (CTNCVC) has been established. However, the latter does not appear to have the means and weight necessary to influence relevant policy-making processes at the moment.

Despite these significant past and ongoing initiatives, a vast number of programmes and projects particularly in the agriculture and livestock sector are still falling short of incorporating the special needs to effectively address the adverse effects of climate change. This is aggravated by a limited coordination among programmes/projects, a weak regulatory environment, as well as the limited knowledge about and sharing of CCA best practice approaches. The table below illustrates the baseline projects that will also provide co-financing to the project.

Project title and description:	Lead Agency	Funding source and duration	Co-financing US \$	Co-financing support to Project
Small Hydropower Project for Food Security in the Dosso, Maradi, Zinder and Tahoua Regions (PPHSA -IESAII) The objective of the project is to	Directorate General of Agriculture / FAO	2014 - 2019 10,9M USD: Spain	1,149,787 Source: FAO	The project will support Component 1 – and specifically Output 1.2 and Output 1.3.

<p>“contribute to the strengthening of national capacities for food production, supply, and resilience to food crises and natural disasters”, and more specifically, to improve the food security and climate resilience of the most vulnerable populations in the rural and peri-urban regions of Dosso, Maradi, Tahoua and Zinder. Sustainable income, diet, and nutrition improvements to be achieved in target groups through intensification, diversification, and valorisation of agricultural production, as well as stakeholders’ capacity building.</p>		AECID		The FAO project will also support other project components and the project management.
<p>Agricultural Productivity Programme in West Africa (PPAAO/WAAPP) The overall project objective is to generate and disseminate proven technologies in priority areas identified by Niger, in accordance with the priorities defined by West and Central Africa for the Agricultural Research and Development (CORAF) Council. These priorities relate to the agro-sylvo-pastoral sector, among which livestock sectors selected for the National Specialization Centre.</p>	Ministry of Agriculture	2011-2016 31,2 M USD: IDA, World Bank	80,000 Source: CNRA	The project will support Component 1 – and specifically Output 1.3
<p>Project to Support the Rural Development Sector (PADSR) The overall objective of the Project is to contribute to food security by promoting sustainable agricultural development and improving rural populations’ access to economic opportunities. More specifically, the objective is to create favorable conditions for producers or producer organizations from 31 municipalities of the Dosso and Zinder regions to develop their productive activities, while ensuring sustainable resource management, as to guarantee food security over the long term. The project will also improve quality and coverage of inclusive rural financial services tailored to the needs of poor in a cleaner and more secure environment.</p>	Ministry of Agriculture	2012-2016 21,4 M USD: European Union	3,000,000 source: EU	The project will contribute to support Component 1 and Component 2 - Output 2.3 and Output 2.6, in particular in relation to microcredit, market and “warrantee” activities.
<p>Project for the Mobilization and Valorization of Water Resources (PROMOVARE) The objective of PROMOVARE is to achieve water management for different uses with a view to adapt to climate change impacts. PROMOVARE aims at increasing and intensifying irrigated and recession cropping by: a) valorizing and developing water resources, b) promoting the development of new irrigation techniques, enabling better adaptation to climate change, c) implementing a series</p>	Ministry of Agriculture/ Directorate of Rural Engineering	2012-2017 13,9M USD	9,729,084 Source: Ministry of Agriculture	The project will support: Component 1 - Output 1.3, Output 1.4 Component 2 - Output 2.2, Output 2.3, Output 2.4 and Output 2.5 Component 3 - Output 3.2: in particular in relation to the involvement of POs into the Consultative Platform.

of actions to improve the living conditions of the beneficiaries, and d) improving water resource monitoring. More specifically, the baseline of PROMOVARE on which the LDCF project will build upon consists of outputs related to support measures and capacity building focused on Producer Organizations (POs). Cereal banks, the selection and popularization of resilient seeds and the strengthening of POs will be the main baseline activities related to the LDCF project.				
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The proposed project will also build on the work of the African Centre of Meteorological Application for Development (ACMAD) and AGRYMET on meteorology and on climate modelling, forecasting and prediction. However, these projects will not provide co-financing. La Direction Nationale de la Météorologie and other national stakeholders are collaborating closely with ACMAD and AGRYMET, and this collaboration will continue throughout the project in order to facilitate the flow of accurate information for developing Output 2.5: "Weather forecasting decision-support tools for farmers are developed".

Remaining barriers and problems to be addressed by the project

The above mentioned programmes and projects represent a real opportunity to make substantial improvements towards sustainable rural development in Niger, in particular for the large number of rural people engaged in integrated livestock/cropping/forestry activities. However, these programmes and projects face several common challenges that undermine their effectiveness and limit their impact as they fail to provide an adequate analysis of climate variability and climate change, and do not identify appropriate adaptation measures.

The effects of CC on rural sectors are exacerbated because of limited knowledge and capacity for adaptation, and there is a need to build capacity in adopting drought-resilient agro-sylvo-pastoral practices to counter the adverse effects of climate variability. Non-climate-driven problems such as unsuited agricultural management practices (regarding crop and variety selection, water and soil management, and rangeland management), increasing population pressures leading to expansion of agriculture into fragile ecosystems, and increasing competition between herders and agriculturalists, as well as lack of capital investment and positive incentives for sustainable rural development, are likely to be greatly aggravated by CC.

Despite the fact that climatic variability has been considered in rural development policies, programs and field activities, farmers and agro pastoralists are now subject to increased risks and will have to adapt their agricultural and pastoral systems to a hotter and likely drier future and react to the risk of decreasing yields and degradation of the natural resource bases (soils, biodiversity).

A mix of technical solutions (such as more diverse sets of crop varieties to minimize risks, different planting patterns and a better integration between the crop, livestock and tree elements of smallholders' productions systems), as well as institutional solutions, are necessary to support the rural communities, in an integrated way.

The following challenges were assessed through the PPG-financed studies:

1. Insufficient knowledge and absence of a consolidated capacity to cope with CC-threats: Farmers and pastoralists need to strengthen their competence related to technologies, tools and practices for increasing the resilience to CC. Moreover, despite recent investment in developing the hydro-meteorological network, the availability of reliable, timely, pertinent information on weather forecasts is insufficient and rarely useful for farmer-herders' decision making.

The *livestock sub-sector* is characterized by a strong competition for the use of natural resources. This has already led to outbreaks of tensions in some places. There is a scarcity of the necessary factors of production – caused by the combined effects of climate variability and high population pressures. Climate-related challenges – in the form of drought and heat – lead to the emergence of animal diseases, through weakness in nutrition and shortages of water. These challenges to the livestock sub-sector, as well as unsuited soil and crop management practices, such as uncontrolled grazing, lead directly to economic losses - primarily related to the exit of capital, reduced productivity and increased production costs on farms. This has major consequences for the resilience of poor households in rural areas.

Likewise, recent advances and development in the *agriculture sector* in Niger are in danger of being lost or reversed by climate change. This most notably relates to the high spatio-temporal variability in rainfall that causes pockets of drought in the rainy season, as well as heavy rains and floods in other areas, along with a probable overall, average shortening of the rainy season. Moreover, as temperatures continue to increase, some vulnerable animal and plant species are expected to disappear or become less productive. The frequency and intensity of wind and sand storms may increase. These climate change impacts are expected to contribute to extensive damage of crops and undermine productivity. Moreover, the limited adapted genetic material risks to exacerbate this difficult context.

2. Weak consideration of traditional knowledge and local practices related to coping with CC: Although both farmers and pastoralists developed a good knowledge and experience to counteract CC-threats, they remain fragmented and not sufficiently valorized. Lack of appropriate tools and approaches based on participatory approaches and/or self-assessments of climate resilience of farmers and pastoralists capable to identify basic needs and monitoring local CCA practices.
3. Public institutions lack information regarding measures for increasing the resilience to CC, with the consequent weakness of sector policies and programmes for improving farmers and pastoralists' livelihoods. Weak application of national policies and programmes aimed at increasing farmers and pastoralists' capacity to adapt to CC is due to the poor awareness of policy makers and institutional staff on CCA measures, and related tools and best practices to be mainstreamed into these policies and programmes.
4. The prevalence of sectoral approaches as opposed to cross-sectoral and integrated approaches: The programmes and projects listed in Table 1 in the project document address rural challenges mostly through a single-sector approach. They categorize natural resource users as either 'farmers', or 'pastoralists' or 'forest users'. In reality, the vast majority of natural resource users in Niger do all three and are therefore "agro-sylvo-pastoralists", and this is an increasing trend. Individuals and communities engage in a complex and diverse, but inter-related set of activities to exploit the range of natural resources at their disposal in order to meet nutrition and livelihood needs. In fact, this adoption of integrated agro-sylvo-pastoralist systems by rural people in Niger has been over time a response to climate variability. In recognition of the integrated nature of the livelihoods of resource users, support programmes should be more integrated.
5. Concrete mechanisms for the formulation of CCA-sensitive sectoral and cross-sectoral policies and of consultation platforms for the definition of agriculture policies on CC are absent. Despite the existing CNEDD/National Technical Commission on Climate Change and Variability (CTNCVC), it does not appear to have the means and weight necessary to influence relevant policy-making processes.
6. Two other very important challenges to increase the livelihood and resilience to CC are:
 - Lack of financial resources. Access to micro-credit remains a challenge for many rural people across Niger, especially those who are predominantly involved in livestock rearing, transformation and commercialisation, having a negative effect on rural household revenue and nutrition. Difficulties include limited access to diverse food, low added-value, lack of processing facilities and infrastructure, insufficient technical and management capacities of producer groups, lack of information on markets, hence marketing

plans that do not take into account the demands of the market.

- The role of Producer Organizations (PO) remains weak. POs need to be strengthened on several levels to be useful for farmers-herders. They are fragile in relation to the capacity on manage efficiently post-harvest processes such as storage of seed and crop product, transportation and linkages to market, as well as management of microcredit and other economic activities. POs representation in the institutions and involvement in decision-making processes and policies is also weak and needs to be strengthened.

In conclusion, the main challenges and barriers related to CC identified within the above described context are: a) insufficient information and awareness of CCA methodology, best practices and strategy among institutions, producers and consumers, b) lack of attention to traditional knowledge and local practices related to coping with CC, c) the need to build capacity in adopting drought-resilient agro-sylvo-pastoral practices to counter the adverse effects of climate variability, d) weakness of policies and programmes aimed at confronting CC in key sectors such as agriculture, pastoral and food security and promoting multi-sectoral policies and programmes, and e) the need for technology, and methods to tackle the impact that climate change has on crops and animal breeding as relevant to food security.

A.5 Additional cost reasoning and associated adaptation benefits

The additional cost reasoning has been further developed and detailed in the Project Document Section 1.2 as follows:

Additional reasoning

To address the above mentioned barriers and achieve adaptation benefits, the additional costs financed by LDCF will allow boosting the adoption of agricultural tools and practices, expanding the scope of the FFS approach, increase capacity building, and support policies and programs to shift from a reactive response towards a pro-active preparedness approach to climate events. Farmers will gain the ability to understand and adapt to climate change impacts through FFS. Once verified and tested how this model works best, and when the required human resources and institutional capacities for up-scaling have been reinforced, the FFS-based CCA will be mainstreamed into national policies through the LDCF Project by strengthening the CTNCVC and scaled-up by SPCR and other I3N programmes.

With the additional financing from the LDCF, the proposed project will expand the scope of the activities carried out in the country related to increase resilience of the agricultural sector to climatic changes and contribute to decrease the vulnerability of small-farmers and pastoralists who depend on agriculture. The intervention measures that this project will provide include; (i) piloting of climate resilient improved agricultural practices that better manage risk through increasing crop variation and pastoral diversity, through linking to a growing network of institutional partnerships, (ii) provision of tools and training for 20,000 farmers and agro-pastoralists to improve their adaptive capacity to adapt to climate change, (iii) complementing ongoing and planned projects and programs by developing decision making tools for farmers and by developing extension curricula for climate change adaptation, and (iv) mainstreaming climate change into agriculture policies and programs. The project marks a shift from earlier NAPA follow-up initiatives (focused on very localized pilot projects in the most vulnerable communities) by choosing to implement an up-scaling / mainstreaming strategy based on a recognized, cost-efficient and expanding training and extension approach building on the Farmers Field Schools (FFS), Pastoral Field Schools and Diversity Field Forum (DFF) concepts. While capitalizing on the results on the early NAPA implementation initiatives, the proposed LDCF project will work through the establishment of partnerships with on-going initiatives for incorporating the Field School-CCA approach in existing program frameworks such as the I3N and associated projects, thus contributing to fill the gap in terms of required increased adaptive capacity of the agricultural sector for food security. Furthermore, the EU-funded CoOPequity Project (2012 – 2015) will support gender sensitive and inclusive processes in the preparation of relevant institutional frameworks. The adaptation scenario will allow for both the expansion of the Field School approach and the integration of CCA considerations and practices in Field School curricula. The Adaptation scenario will lead to a more coherent intervention which will include the following production systems mentioned in I3N's priority programs:

- (i) Dry-cereals and pastures: The major effort will be put on expanding Field Schools for more climate resilient and sustainable production of dry cereals and better integrating the crops / livestock / tree components of production systems which are particularly exposed to climate variability.
- (ii) Irrigated rice: The Field Schools will focus on a sustainable Integrated Production and Pest Management (IPPM)-based intensification strategy, including water management and climate variability mitigation

practices, in support to existing and on-going investment in rice perimeters, particularly along the Niger valley.

- (iii) Vegetable production: The Field Schools will focus on soil and water management practices (including incorporation of organic matter, increased water retention, cultivars selection, better distribution in time of production cycles leading to higher earnings), allowing for increased income generation for vulnerable producers, in particular women groups.

The specific additional value of the proposed LDCF project is three-fold. The LDCF funding will allow for: (i) the development of Field Schools-based CC adaptation models using on-going FFS projects as baseline; (ii) a first level of up-scaling of the developed and tested Field School-CCA models into co-financing projects; and (iii) the mainstreaming of the approach /models through the I3N projects as well as the SPCR by providing CCA curricula and tools (such as SHARP) for farmers and setting up a Consultation Platform within the CNEDD/National Technical Commission on Climate Change and Variability (CTNCVC) to oversee the development of coherent and well-coordinated extension approaches.

Adaptation Benefits

The LDCF project is expected to generate the following adaptation benefits; (i) Increased knowledge and understanding of CC-induced threats generated by other initiatives (PPCR and PAC-RC) are channeled in an effective and efficient manner through an expanding network of Field Schools, (ii) Resilient varieties and cultivars and sound CCA practices are adopted in dry crop cereals and livestock-based production systems (surfaces/40,000 hectares and yields are at least maintained in two agro-ecosystems strategic natural assets), (iii) 20,000 farmers and agro pastoralists adopt improved climate resilient practices through Field School training, (iv) concrete adaptive capacity at farmers and herders level is strengthened through a growing network of at least 1,000 Field Schools fully integrating CCA strategies and practices, (v) Field School-based CCA initiatives are supported by a CCA Local Adaptation Fund, contributing to eliminate financing bottle necks in the adaptation pathways, (vi) 15 targeted Municipalities, 4 Government Ministries and 1 Research Institution have increased adaptive capacity to reduce risks and respond to climate variability, (vii) climate change adaptation strategies mainstreamed into agricultural sector policies, programs and planning based on "lessons learned", and (viii) effective and recurrent mechanisms are in place for cross-sector coordination in the implementation of Field School-based outreach strategies for CCA.

The adaptation activities will particularly focus on the diversification of agricultural systems, including introducing agro-forestry elements and promote increased adoption of improved practices related to soil, seed (varietal diversity and selection related to climate variability), water and pest management together resulting in improved ecological resilience. Community training on marketing will help seek out new sources of economic growth (resulting in economic resilience and improved nutrition). When scaled up, these changes will result in reduced vulnerability to external shocks (socio-economic conditions, natural disasters) and in improved livelihoods. A component of the project will promote mainstreaming of climate-resilient policies in local, provincial and national policy bodies.

The Project will directly support at least 20,000 herder-farmers to develop and implement new approaches, practices and varieties/cultivar that increase climate resilience. The project will also contribute directly to organizational strengthening of these communities – leading indirectly to improvements in terms of gender, nutrition, access to and use of agro-meteorological information and access to credit and market. As a result 20,000 families, therefore approximately 120,000 individuals, will benefit from increased resilience to climate change.

Moreover, the project will directly contribute to improved natural resource management practices over approximately 40,000 hectares by supporting; a) extensively grazed and semi-intensively grazed rangelands, b) agricultural land used for the cultivation of crops for human consumption (rice, millet, cow-pea, peanut and vegetables) and crops for animal feed, c) naturally assisted regeneration of highly degraded rangelands - thereby decreasing the pressure on land (while contributing to globally significant sustainable land management) and increasing the supporting environment for biodiversity, and d) the protection and sustainable use of Diversity Field Flora – thereby protecting globally significant species and varieties.

It is expected that the project will indirectly have the following replication and multiplier effects:

- By supporting the establishment of a dynamic network of Field Schools, the project will indirectly influence the extension system in use across Niger. Notably, it is expected that, as a result of these interventions, the agricultural and livestock local and national interventions will; (i) better integrate climate change adaptation, thereby contributing greatly to overall adaptation across the agriculture sector, and (ii) lead to the adoption of a more integrated ecosystem approach, as opposed to focusing on individual crops. This will lead to improved land management, reduced land degradation and likely to the conservation of some species and unique varieties.
- By empowering Field Schools, and by supporting diffusion to neighboring communities, the project will indirectly influence the implementation of many rural development projects, particularly in the agriculture sector. This should have a strong multiplier effect in terms of increasing resilience to climate change and climate variability. Although no specific indicators in terms of impact on people/per/ha are available, these processes will be monitored.

A.6 Risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and measures that address these risks

The risk analysis has been further detailed during project preparation and mitigation measures have been included in the project design as follows:

Risk Description	Risk level	Mitigation Measure
Limited partnership-building constraints project implementation	M	The project includes many activities to develop partnerships, including participatory assessments, workshops, multi-stakeholder consultations, awareness raising (Outcome 1) and joint institutional activities on mainstreaming FFS into policies and programmes (Outcome 3). Project activities will mainly take place at the local/community level, involving local stakeholders and local institutions. Specific cooperation agreements and letters of understanding, detailing responsibilities and defining joint work plans will be endorsed by implementing partners.
Seed shortages owing to climate variability shock, prolonged droughts, and/ or pest and disease outbreaks with risk of project crop/grassland failure	M	Pest and disease outbreaks related to climate variability may cause crop/grassland failure. The project will address this risk by supporting the implementation of CCA measures, as well as building community-level field observation capacities to monitor and reduce seed multiplication failures, particularly with specialized seed multiplying farmers through DFF approach.
Worsening security crisis in the country or in the neighbouring countries (e.g. Nigeria and Mali) leads to insecurity and/or to a greater influx of migratory herds and/or displaced populations	M	Increased influx of migratory herds may increase pressures on rangelands and lead to conflicts in some of the project areas. The same may occur in case of increased pressure due to increased movements of the displaced population to Niger's northern or southern borders. Conflict sensitive programming will be mainstreamed into the PFS to address natural resource management and sharing of natural resources. Efforts will be made with all stakeholders to establish secure mobility corridors and pasture belts as to reduce the impact on natural resources within protected areas. The situation will be monitored. If necessary, emergency/contingency plans will be developed by the project stakeholders, including the FAO and the responsible ministries. Coordination mechanisms will

		be established from the outset with similar projects in Mali and north Nigeria's federal states, to facilitate communications.
Lack of participation by direct beneficiaries.	L	Farmers and herders may be hesitant to participate in project activities. This risk is considered low, as Field Schools are widely distributed and well-grounded in the territory. Awareness raising campaigns and workshops on CC negative impacts will be conducted involving local institutions and local stakeholders. The Field School bottom-up approach will stimulate local participation. Direct adaptation benefits will increase and stimulate the participation of the project's direct beneficiaries.
Certain project interventions (e.g. provision of agro-meteorological information) are not implemented on a financially sustainable basis.	L	Accurate agro-meteorological information is expensive to produce. Moreover, it is often prepared in a top-down, supply driven manner and not adapted to needs of key users. The project will seek collaboration with key national actors, such the National Directorate of Meteorology, ACMAD and Agrhymet Centres who will be fully involved in project activities and will receive specific training sessions on integration of climate information into Field Schools and dissemination, and use of climate information. Activities will include cost-efficient methodologies of gathering meteorological information such as; gathering indigenous/local knowledge and perception of rainfall patterns, understanding the causes and consequences of climate change through Rain calendars).
Local institutions are slow to agree on project initiatives.	L/VL	Local departments may hesitate to participate due to the innovative nature of the project and/or the need to cooperate with a broad range of partners. Specific cooperation agreements and letters of understanding detailing responsibilities and defining joint work plans will be endorsed by implementing partners

A.7 Coordination with other relevant GEF financed initiatives

The FAO and the Government of Niger will work in close collaboration with the executing agencies of other projects to identify opportunities and facilitate mechanisms to achieve synergies with relevant GEF-supported projects. These efforts will be facilitated through; (i) informal communication between the GEF Agencies, and (ii) exchanging lessons learned, sharing data and technical expertise and tools, and dissemination materials between projects. To ensure that existing opportunities from coordination and collaboration between different initiatives are realized, negotiations will be undertaken during PY1 and MoUs will be established with local authorities and programme/projects implementing agencies defining joint work plans and responsibilities. In particular the project should seek coordination and exchange with the following institutions and initiatives:

- **Community Action Programme Phase 3 (PAC 3).** Executed by the Ministry of Planning, PAC 3 supports the decentralization process initiated during the previous phases within the context of current political, institutional, social and economic changes. Specifically, PAC3 Component 1: "Strengthening the leadership of local governments in local development (through cross-cutting initiatives intended to improve governance and build the capacities of all local stakeholders)" will synergize with Output 1.1 of the present project (activity related to awareness-raising of partner institutions). PAC3 Component 2: "Promoting the adoption and use of sustainable natural resource management practices and techniques, and combining them with general measures that would create jobs and improve local livelihoods" will collaborate with Output 2.5 of the proposed project (activities related to strengthening market strategies, commercialization and transformation of food products and capacity building of farmers-herders to access micro-credit facilities). PAC3 Component 3: "Speeding up a long-term

process of national ownership by national institutions” will cooperate with Outputs 3.1 and 3.2 of the proposed project (activities related to the development of policy briefs based on analyses of resilience and the reinforcement of institutional capacities).

- **Disaster Risk Management and Urban Development Project.** Executed by the Ministry of Planning, the project objective is to improve the country's resilience to natural hazards through; 1) selected disaster risk management interventions in targeted project sites, and 2) strengthening of the government's capacity to respond promptly and effectively to an eligible crisis or emergency. Coordination of activities could benefit the present project for the sharing of analytic information on CC related historical data and participatory decision-support tools to reduce risks for farmer/herder communities (Output 2.4 of present project).
- **Scaling up Community-Based Adaptation (CBA) in Niger.** Executed by the UNDP, the project aims to strengthen the responsiveness and adaptive capacity of administrative/technical support services at the commune-level to enable generation of a critical mass of climate resilient communities and achieve more climate resilient economies in Maradi region. The coordination with the UNDP project could benefit activities of the present project for; (i) providing members and technical workers of regional and municipal councils, extension services (agriculture, environment, and water and livestock), NGOs and CBOs active in the Maradi region, with the necessary tools for mainstreaming climate change into development plans and into the management and planning of socio-economic activities (coordination with Output 1.2 of present project related to tools for socio-economic and community self-assessment surveys), (ii) the development of the communication strategy/system to provide municipal council members, extension services and community organizations (CBOs and NGOs) with relevant climate information and agro and hydrometeorological advisories (coordination with Output 1.2 of the present project related to the development of a communication strategy and the Community Listeners' Clubs), (iii) the development of municipal development plans and annual budgets for vulnerable municipalities will be reviewed and updated to integrate CCA practices (coordination with Output 2.6 of the present project in relation to activities on promotion to improve agricultural practices through agro-pastoral Field Schools), and (iv) sharing of master trainers, facilitators and of CCA-related FFS curricula.

Moreover, the project will coordinate with other on-going LDCF projects in neighbouring countries such as Mali, Burkina Faso and Senegal (in PPG phase). Coordination with these projects will involve; (i) sharing of good practices, (ii) production of CCA-oriented FFS/PFS/DFP training material, (iii) sharing of methodologies and techniques to institutionalize the FFS approach, and (iv) sharing of Master Trainers and Facilitators. Specifically for the latter, the present project could share already trained Master Trainers with neighbouring countries.

B. ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE:

B.1. Describe how the stakeholders will be engaged in project implementation

The project will be technically executed by the Government of Niger represented by the Ministry of Agriculture (MoA), the Ministry of Livestock (MoL), the Ministry of Environment, Urban Sanitation, and Sustainable Development (MEUSSD), and the Ministry of Planning, Land Management and Community Development (MPLMCD). In addition fifteen municipalities in the five regions of Tahoua, Maradi and Zinder (Sahelian agro-climatic Zone) and Tillabery and Dosso (Soudano-Sahelian Zone) will participate in the project implementation together with local NGOs operating in the targeted municipalities. As requested by the government of Niger, the FAO will act as GEF implementing agency and also be responsible for the financial and administrative execution of the project in close cooperation with the MoA and the other project partners.

The MA will be the lead government counterpart and the main Project Executing Partner directly responsible for technical implementation of all project activities, as well as day-to-day monitoring. The Minister of Agriculture or his representative will chair the Project Steering Committee (PSC) and annual project review and planning meetings. The

FAO will sign a Government Cooperation Project (GCP) Agreement with the MoA and will provide procurement and contracting services to the project using FAO rules and procedures. In addition the FAO will provide financial management services of LDCF resources, as well as supervision and technical guidance for the overall implementation process.

The MoA's participation will be primarily through its associated institutions such as the; Directorate of Planning and Studies (DPS), National Directorate of Agriculture (DNA), National Institute of Agronomic Research in Niger (INRA), and the Directorate for Plant Protection (DPV). The DPS will provide support in identifying possible partnerships to be established under project Component 1. The DNA will support the identification of vulnerable households in the project target areas, as well as the establishment of revolving funds under project Component 2; INRA will support the dissemination of techniques to improve climate resilience in agricultural and pastoral production and will provide updated scientific and technological information. The DPV will contribute to improving the agricultural productivity through plant protection, providing support and advice to farms and rural institutions on plant protection, as well as ensure the adaptation of innovations and technologies to the needs of farms at a local level and ensure the translation and dissemination of modern techniques of plant protection through appropriate channels.

The MoL will provide technical support in all project activities related to the livestock sector and Pastoral Field Schools through its associated institutions such as; the Directorate of Planning and Studies (DPS) that will share its own coordination and planning, monitoring and evaluation mechanisms. The Directorate of the Promotion of Livestock Organizations (DPLO) that will provide data related to pastoral resources, evaluation of pastoral resources and monitoring of transhumance. The General Directorate of Production and Animal Industries (GDP) will provide support in trainings and PFS related to strengthening of value chains. GDPAI will also support PFS by mainstreaming in training material/curricula lessons learnt from the "Breeder leader".

The MEUSSD will provide technical support in all project activities related to natural resources management and sustainable development. This includes supporting the institutionalization of the Field School approach in national extension programmes and facilitating the development of climate change adaptation projects.

The MPLMCD will provide support in establishing the coordination mechanism with project related projects and programmes.

The NDM will provide agro meteorological data and will coordinate the processing and dissemination of agro meteorological information towards the achievement of Output 2.5.

At the district/regional level, the regional directorates of agriculture (RDA) and regional directorates of livestock (DDL) will be the institutional focal points for the project from MoA and MoL. Both institutions will designate a focal point in each region among internal staff. Institutional Focal Points will provide important links to other initiatives in the region and will provide technical support to project field activities and will participate in field supervision missions. These institutional focal points, attached to regional directorates, will be provided by the government as in-kind co-financing. Other in-kind co-financing will include one vehicle per target region (5 vehicles in total) and office space. The technical staff will in turn benefit from specific capacity building activities.

At the municipal level, the 15 municipalities will each provide office space and technical support from their staff. Each municipality will designate a focal point among internal staff.

In addition, the project will achieve a number of key outputs through letters of agreements (LoAs) that will be elaborated and signed between the FAO and collaborating partners (service providers). The LoAs will be administratively managed by the Budget Holder (FAO representative in Niger). Funds received by the service providers under a LoA will be used to execute the project activities in conformity with the FAO's rules and procedures.

Moreover, partnerships with executing agencies of other projects local authorities, NGOs, CSOs and CBOs will be defined and established through partnership agreements defining shared workplans and responsibilities (for more details see answer to USA's comment # 6 in Annex B).

B. 2. Describe the socioeconomic benefits to be delivered by the project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund/NPIF) or adaptation benefits (LDCF/SCCF):

The socio-economic benefits have been broadly detailed at the PIF stage. The project will deliver socio-economic benefits through a participatory (bottom up/gender sensitive) planning approach by: i) ensuring resilient agricultural production, and allowing rural populations to adapt and expand their traditional knowledge base and practices to CC impacts to prevent climate-induced economic losses, ii) reducing social tensions between agriculturalists, agro-pastoralists, herders and other NR users through a better integration of crop and livestock production systems and tree components of production systems, iii) strengthening micro-finance mechanisms and linkages to market and supporting local communities to access local Municipalities Development Plans and national development financial resources, and iv) reducing the impacts of climate change on the most vulnerable groups, including rural women, notably through measures to enhance the climate-resilience of vegetable production. Since poor rural women have both production and reproduction roles – by collecting water and wood, raising small animals, laboring land for family subsistence and cash crops such as vegetable plots, and bearing children- they are the most affected by CC.

The adaptation needs will be mainstreamed into local production systems, with a special emphasis on food security and production diversification. Best practices will be disseminated through the methodology of the Field School which has proven to be very well rooted in the territory. The Field School methodology employs a 'bottom up' approach, which aims at empowering local communities by increasing their ability to participate in economic activities and to take ownership over their natural resources. The project will ensure social sustainability by empowering direct beneficiaries to influence the planning and prioritization processes at municipal level as small-scale farmers and herders will be fully involved in the formulation and execution of Community Action Plans and Municipal Development Plans. Moreover, the project respects and strengthens existing decision-making processes at all levels and will work in and with local languages, using appropriate communication channels, as required. These aspects should ensure that, although the project introduces new approaches and technologies, they do not lead to social dis-function or to negative social impacts. On the contrary, they are designed to strengthen social capital, providing a good basis for social sustainability.

Rural population knowing and applying good management practices will help reduce land degradation and prevent competitive pressures on natural resources and risks of desertification (indirect global environment benefits). The project will also reduce their vulnerability and enhance their adaptive capacity to prevent climate-induced economic losses (direct adaptation benefit).

The direct socio-economic benefits and improved local livelihood of local communities will be achieved by: strengthening Producer Organizations organizational capacity, developing micro-credit mechanisms ensuring farmers-herders to access micro-credit facilities, reinforcing market strategies, commercialization and transformation of food products (Output 2.5).

Families will also benefit from the improved, more diverse diet, based on nutritious foods, with the potential for positive effects on health and nutritional status. The selection of varieties resilient to climate change and extreme weather events will help increase local community adaptation to climate change.

The project will support gender equality and gender mainstreaming at the institutional and community level in several different ways. Data will be disaggregated by gender to monitor differentiated project impacts. The Socio-Economic and Gender Analysis (SEAGA4) tool will be tested in Output 1.2 and shared with institutions to be mainstreamed in policies and programmes (Outputs 3.1 and 3.2). The SEAGA focuses on understanding gender roles, responsibilities and relations, and how they are managed in different communities. The approach also analyses the influence exerted on economic and social opportunities by factors such as age, ethnicity and religion all of which are fundamental in understanding livelihood strategies. The SEAGA helps identify asymmetries of power within households and structures

4 SEAGA. Socio-economic and Gender Analysis Programme, FAO, 2001. The SEAGA Field Level Handbook is written for development agents who work directly with local communities in developing countries. It is intended for outsiders such as extensionists, government and Non-government field workers, and private- and public-sector development consultants, and for insiders such as community organisers and leaders of local groups and institutions.

of power. This includes institutions and how they influence people's capacity to play an active role in development, ensuring that their voices are heard. The objective of SEAGA's approach is to systematically incorporate gender analysis in working processes with field agents and field farmer facilitators.

In addition, the project will ensure that all training material will include a gender dimension. The preparation of training material and the training of Master Trainers and Facilitators have modules focused on women and the women's role. Outputs 2.3 to 2.6 cover the provision of technologies, and the market inclusion for various community activities with the aim of increasing revenue and increasing food security, notably for women.

The community based action plans to be prepared under Output 2.3 will have women components and will have gender issues mainstreamed throughout. The DFF activities (Output 2.3) will apply a gender-sensitive perspective as knowledge held exclusively by women or men that may vary between crops or even between different landraces within a species. Because of the gendered nature of local knowledge, collecting data from both men and women, and keeping it in disaggregated format, is of central importance in the management of species, especially in terms of selection, harvesting and processing. The attention to gender will take into account that women often have different knowledge and preferences in terms of crops than men, and women play a key role in seed selection, seed storage, the use of wild plants for food, and the sustainable use of plant diversity.

Among the project adaptation benefits, the above socioeconomic benefits will support the achievement of the following: (i) resilient varieties and cultivars and sound CCA practices are adopted in dry crop cereals and livestock-based production systems (surfaces/40,000 hectares and yields are at least maintained in two agro-ecosystems strategic natural assets), (ii) 20,000 farmers and agro pastoralists adopt improved climate resilient practices through Field School training, (iii) concrete adaptive capacity at farmers and herders' level is strengthened through a growing network of at least 1,000 Field Schools fully integrating CCA strategies and practices, and (iv) Field School-based CCA initiatives are supported by a CCA Local Adaptation Fund, contributing to eliminate financing bottle necks in the adaptation pathways.

B.3 Explain how cost-effectiveness is reflected in the project design:

Cost effectiveness is a concept that is built-in to the programmatic strategy of the GEF/LDCF. The GEF/LDCF finances the 'additional costs' of achieving climate change adaptation, meaning the activities of the partners in the baseline cover most of the basic development and agro-pastoral issues. For this project, this means that the FAO/GEF/LDCF project builds on top of a large baseline of agriculture, food security and livestock-raising projects. With a baseline and co-financing of approximately \$14 million, the FAO/GEF/LDCF costs are approximately 20% of the entire Project costs. That means, for every \$1 invested, FAO/GEF/LDCF gains almost \$5 of impact.

Cost-effectiveness is also at the heart of FAO's strategy to supporting rural development in sub-Saharan African countries such as Niger. The proposed project design is expected to be highly cost-effective since it builds on existing Farmers Field Schools' structures that are already operational across Niger, and on ongoing activities with similar objectives and synergies with existing programmes.

The proposed project also builds directly upon previous collaborations between the FAO and Niger on FFS. Since 2005, the FAO has been supporting FFS in Niger and has created a core capacity of technical expertise and experience. This includes legal and technical capacity in the government, as well as the cadre of FFS experts that have worked on previous FAO projects. By building on these past initiatives, the project capitalizes from FAO's past experience.

Moreover, the FFS approach in itself has demonstrated its cost-effectiveness in many contexts, including in Niger. It is a demonstrated cost-effective manner to deliver high quality technical advice to a large number of communities. Notably, under Outcome 2 of this project, for approximately \$2 million of FAO/GEF/LDCF funds, direct benefits will reach a minimum of 20,000 farmer-herders. This is about \$100 per farmer-herder.

A critical way to achieving this cost-effectiveness with FFS is through collaboration with local partners. The FAO will channel funds from the project to local authorities and NGOs that are already active in similar activities in the project intervention area. Hence, there will be few start-up costs and few costs related to the mobilization of expertise from outside the region or country.

Several alternative designs and approaches were considered for cost-effectiveness during project design. These alternatives included focusing on providing more hardware, or on focusing all capacity development efforts on national government agencies, or by installing new meteorological stations, or by FAO directly providing extension services to farmer-herders. Ultimately, it was decided that these approaches would not have as much impact per input, hence the selected focus of transforming agriculture and livestock-raising through the Field School approach was selected. This approach underlies Outcome 2.

The project also intends to minimize the use of international consultants where national expertise is available. This will reduce the travel costs and the costs of consultancy fees. Notwithstanding, where international expertise is unique or exceptionally credible, it will be utilized.

C. DESCRIBE THE BUDGETED M&E PLAN

Monitoring and evaluation of progress in achieving project results and objectives will be done based on the targets and indicators established in the Project Results Framework (Appendix 1 and described in Sections 2.4 and 2.5). The project Monitoring and Evaluation Plan has been budgeted at USD 220,000 (see table in Section 4.5). Monitoring and evaluation activities will follow the FAO and GEF monitoring and evaluation policies and guidelines. Supported by Component 4 the project monitoring and evaluation system will also facilitate learning and mainstreaming of project outcomes and lessons learned.

Indicators and information sources

To monitor project outputs and outcomes, including contributions to adaptation benefits specific indicators have been established in the Project Results Framework (see Appendix 1). The framework's indicators and means of verification will be applied to monitor both project performance and impact. Following the FAO's monitoring procedures and progress reporting formats, data collected will be of sufficient detail to be able to track specific outputs and outcomes and flag project risks early on. Output target indicators will be monitored on a six-monthly basis and outcome target indicators will be monitored on an annual basis if possible or as part of the mid-term and final evaluations. The project output and outcome indicators have been designed to monitor on-the-ground impacts and progress in building and consolidating capacities for improved climate-resilient agro-pastoral practices both at the municipal institutional level as at the level of local farmers and communities.

On-the-ground impact indicators will track:

The level of adoption by farmers and herders of sound CCA practices, resilient varieties and cultivars –percentage of cropped surface integrate CCA strategies, practices and adapted genetic materials; number of hectares covered and percentage of targeted groups adopting at least two of the following types of new technologies (disaggregated by gender); a) climate resilient crop varieties (drought or flood resistant), b) agronomic practices for flood and drought management in crop production systems (soil conservation and agro-forestry practices), c) resilience evaluation tools, d) weather-forecast decision-support tools. The baseline and target for these indicators are established in the Project Results Framework under Component 2.

The institutional strengthening and capacity building process indicators will capture:

Levels of created awareness: The capacity of project managers and stakeholders to transfer tested and selected appropriate adaptation technologies and tools, the number of FFS/PFS/DFF established, the number of farmers/pastoralists trained and implementing new/adapted practices, the number of targeted municipalities, and the number of government ministries and number of research institutions with an increased adaptive capacity to reduce risks and respond to climate variability.

Level of mainstreaming of climate change adaption in sector policies and local development frameworks: The number of climate change adaptation strategies mainstreamed into agricultural sector policies, programs and planning based on

lessons learned, number of national and municipal investment plans on FFS-based CCA developed for programmes and policies related to agricultural and pastoral sectors.

The main sources of information to support the M&E programme will be; (i) participatory progress monitoring and workshops with beneficiaries, (ii) on-site monitoring of FFS/DFF/PFS training and activities, (iii) PPRs prepared by the NPC, (iv) consultants' reports, (v) participants training tests and evaluations, (vi) mid-term and post project impact and evaluation studies completed by independent consultants, (vii) financial reports and budget revisions, (viii) PIR prepared by the LTO supported by the BH and the NPC, (ix) FAO supervision mission reports, and (x) impact assessment.

The Reporting Schedule is detailed in Section 4.5 (project document).

Evaluations:

An independent mid-term evaluation will be undertaken after two years of project implementation (or at the point where 50% expenditures has been reached). The review will determine progress being made towards achievement of objectives, outcomes, and outputs, and will identify corrective actions if necessary. It will, inter alia:

- review the effectiveness, efficiency and timeliness of project implementation
- analyse the effectiveness of implementation and partnership arrangements
- identify issues requiring decisions and remedial actions
- identify lessons learned about project design, implementation and management;
- highlight technical achievements and lessons learned
- propose any mid-course corrections and/or adjustments to the implementation strategy as necessary.

An independent Final Evaluation (FE) will be carried out three months prior to the terminal review meeting of the project partners. The FE will identify the project impacts and sustainability of project results and the degree of achievement of long-term results. This evaluation would also have the purpose of indicating future actions needed to expand on the existing project in subsequent phases, mainstream and up-scale its products and practices, and disseminate information to management authorities responsible for the management of other project partners.

Some critical issues to be evaluated in the midterm and final evaluations will be; (i) institutional adoption and support for the new approaches introduced by the project, (ii) the functioning and effectiveness of the FFS/PFS/DFF and CLC network and of the inter-institutional coordination mechanism in developing and implementing integrated planning in support of farmer-herder communities, (iii) the level of capacities and involvement of local staff in terms of improved management effectiveness and land management plan implementation capability, and (iv) the level of involvement of farmers and herders in project activities and commitment to follow-up.

The Terms of Reference (ToR) for the Final Evaluation team (one international and one national consultant) will be prepared in close consultation with the NPC, the FAO BH, LTO/LTU and GEF Coordination Unit, and under the ultimate responsibility of the FAO Office of Evaluation, in accordance with the FAO evaluation procedures and taking into consideration the evolving guidance from the GEF Independent Evaluation Office. The ToR and the report will be discussed with, and commented upon by the project partners.

Independently, an impact assessment will consider technical, social and political domains, by focusing on farmers' technical capabilities and educational, social and political capabilities, as well as on effectiveness of the social learning process.

Aspects to be included within the *technical* domain will be; more sustainable production, improved crop management, experimentation skills, innovation, improved livelihoods, ability to deal with risks and opportunities, yield increase, more cost-effective production, risk reduction, and improved marketability of produce.

Aspects to be included within *social* domain will be; group building, collaboration between farmers, communication skills, farmer associations, problem solving skills, community agenda setting, farmer study groups, formation of networks, and farmer-to-farmer extension.

Aspects to be included within the *political* domain will be; farmer-extension linkages, negotiating skills, stronger access to service providers, an improved leverage position, and educational skills.

Monitoring and evaluation plan summary

The table below provides a summary of the main M&E reports, responsible parties and timeframe.

Type of M&E Activity	Responsible Parties	Time-frame	Estimated costs (USD)
Inception Workshop (IW)	PCU, supported by the LTO, BH, and	Within three months of project start up	8,000
Surveys to determine AMAT baseline values	PCU and service providers	Within three months of project start up	Covered under costs of 2.1
Project Inception Report	PCU, LTO, BH, and NPC	No later than one month post IW.	5,000
Field based impact monitoring	PCU, MoA and other relevant agencies – including regional and provincial - to participate.	Periodically - to be determined at inception workshop.	70,000
Supervision visits and rating of progress in PPRs and PIRs	LTO, other participating units and PCU	Annual or as required	The visits of the LTO and the GCU will be paid by GEF agency fee. The visits of the NPC and Technical Assistants will be paid from the project travel budget.
Project Progress Reports	PCU, with inputs from MoA, PSC members and other partners	Semi-annual	Completed by NPC and Technical Assistants
Project Implementation Review report	PCU supported by the LTO and cleared and submitted by the PCU to the GEF Secretariat	Annual	Paid by GEF agency fee
AMAT	PCU supported by the LTO	Project start-up, mid-term and project end.	-
Co-financing Reports	PCU, FAO Niger	Annual	Covered by NPC and National Technical Assistants salaries.
Technical reports	PCU, LTO & Participating Units	As appropriate	-
Mid-term Evaluation	External Consultant, FAO Office for Evaluation in consultation with the project team including the PCU and other partners	At mid-point of project implementation	40,000 for independent consultants and associated costs. In addition the agency fee will pay for expenditures of FAO staff time and travel
Final evaluation	External Consultant, FAO independent evaluation unit in consultation with the project team including the PCU and other partners	At the end of project implementation	40,000 for external, independent consultants and associated costs. In addition the agency fee will pay for expenditures of FAO staff time and travel


Type of M&E Activity	Responsible Parties	Time-frame	Estimated costs (USD)
Terminal Report	NPC, LTO, TCSR Report Unit	At least two months before the end date of the Execution Agreement	Covered by NPC and National Technical Assistants salaries. LTO's involvement is covered by the fee.
Best practices publication	PCU, LTO & Participating Units	Between the second and last year	15,000 for publication preparation and printing
Auditing	External Unit, PCU	Annual	12,000
Impact Assessment	External Consultant and PCU	At the beginning and the end of the project	30,000 for external consultant assessment
Total Budget			220,000

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

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

NAME	POSITION	MINISTRY	DATE (Month, day, year)
Boubaca sanda	General Director	MEUSSD	DECEMBER, 8, 2011

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF policies and procedures and meets the GEF/LDCF/SCCF criteria for project identification and preparation.					
Agency Coordinator, Agency name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Gustavo Merino Director Investment Centre Division Technical Cooperation Department FAO Viale delle Terme di Caracalla 00153, Rome, Italy TCI-Director@fao.org		July 22, 2014	William Settle, Project Manager, Plan Production and Protection Division, FAO Rome	+39 06 5705 6039	William.Settle@fao.org
Jeff Griffin Environment Officer Officer-in-Charge, daily matters GEF Unit Email: Jeffrey.Griffin@fao.org Tel: +3906 5705 55680					

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste the framework from the agency document, or provide reference to the page in the project document where the framework could be found)

Please see Appendix 1 of the FAO GEF Project Document.

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).

Secretariat comment at PIF – Nr. 16 - The socio-economic benefits and the targeting principles of the proposed project should be more clearly described by CEO Endorsement.

Please refer to section B.2 above.

Secretariat comment at PIF – Nr. 17: Is public participation, including CSOs and indigenous people; taken into consideration, their role identified and addressed properly? Comment: A more detailed stakeholder analysis and stakeholder consultations should further be undertaken by CEO Endorsement.

Please refer to response # 6 to USA's Comments and to Prodoc Sections 1.4.

Public participation, including indigenous people, as well as participation of very poor and less-educated families, and more remote villages, will all be ensured by a M&E system which includes a specific focus on marginalized/vulnerable groups, and by the different tools tested and adopted through the project Output 1.2; (i) RAAKS (Rapid Appraisal of Agricultural Knowledge Systems), (ii) the "Climate-Proofing" tool, (iii) SHARP (Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists), (iv) TOP-SECAC, and (v) SEAGA (Socioeconomic and Gender Analysis), IGETI (Improving Gender Equality in Territorial Issues).

USA's Comments:

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).

USA's Comment's:

Comment # 1: *We ask the Agency to provide more information regarding the effectiveness of the current FFS program and how the additional activities funded by the LDCF will increase its effectiveness. The PIF notes that "climatic variability has always been considered in rural development policies, programs, and field activities" though farmers and agro-pastoralists now face increased risk (page 7). Given that, what climate-change-adaptation-oriented techniques are already included in the existing FFS? If there are some of those techniques in place, how effective has the delivery of those techniques or technology been?*

The FAO and other partners have been supporting the FFS approach in West Africa since 1996, particularly beginning with a series of regional projects starting in 2001. The FS approach has proven to be a highly successful approach that continues to elicit growing demand by countries and donors. Due also to the relevant support from the FAO, FFS has been integrated into the national extension systems in several West African countries, including Niger. Collectively, this offers a vast source of knowledge and expertise to which the proposed project will be fully linked. Outcomes from the FAO/FFS – Integrated Production and Pest Management (IPPM) programme in Niger, running since 2009 include up to 50% saving of high quality seeds, 50% reduction in chemical fertilizer use, a substantial increases in the use of organic fertilizer and "soft" alternatives to highly hazardous pesticides, 50 to 100% reduction in use of highly hazardous pesticides, improved conservation of products coming from IPM crops, up to 30% increase in average yield of IPM crops, and up to 27% increase in average producer income.

Moreover, FFS programs in Niger have supported the adoption of traditional and improved sets of varieties of sorghum, millet, groundnuts, cowpea, and others that are grown to minimize the risk of crop loss to climate variability. However, the lack of an adequate outreach platform has limited their adoption by farmers and pastoralists at a significant scale. Furthermore, existing FFS curricula don't take into consideration the adaptation practices to be implemented for dealing with CC threats.

The interventions' measures that this project will provide include complementing ongoing and planned projects and programs by developing extension curricula for climate change adaptation. This is expected to lead to a more coherent intervention which will include the following production systems mentioned in the Rural Development Strategy (SDR)'s priority programs:

- (i) Dry-cereals and pastures: the major effort will be put on expanding FFS for more climate resilient and sustainable production of dry cereals and better integrating the crops, livestock, tree components of production systems which are particularly exposed to climate variability.
- (ii) Irrigated rice: The FFS will focus on a sustainable intensification FFS-based integrated crop management system (GIPD) for an irrigated rice and vegetable production strategy, including water management and climate variability mitigation practices, in support of existing and on-going investment in rice perimeters, particularly along the Niger valley.
- (iii) Vegetable production: The FFS will focus on soil and water management practices (including incorporation of organic matter, increased water retention, cultivars selection, better distribution in time of production cycles, leading to higher earnings), allowing for increased income generation for vulnerable producers, in particular women groups.

The specific additional value of the proposed LDCF project is two-fold. The LDCF funding will allow for; (i) the development of FFS-based CC adaptation models using on-going FFS projects as baseline, and (ii) a first level of up-scaling of the developed and tested FFS-CCA models into co-financing projects.

Project Component 2 (see details in Prodoc Section 2.5) and specifically Output 2.1 aims at revising curricula for FFS, PFS and DFF training of facilitators and Master Trainers (Trainers of Facilitators) in light of CCA and other cross-cutting themes, such as gender, nutrition, agroforestry, seed multiplication and conservation, marketing and livestock management. Farmers will be provided with increased options for addressing a wide variety of CC concerns through local-context appropriate adaptation measures. The CCA curricula will cover a range of integrated crop/livestock/agroforestry systems including; (i) geographically restricted, high-infrastructure systems like irrigated rice (in the context of extreme weather events such as flooding), (ii) moderately dispersed, high-input systems like market garden systems, (iii) geographically widely dispersed, low-intensity rain fed-cereal systems (millet-sorghum-cowpea), and (iv) livestock-raising systems with crop cultivation limited mainly for animal feed. Moreover the project will support experimentation with adapting existing and new practices such as; rehabilitation of grassland species through use of local species and improved local⁵ cultivars (with high palatability and productivity) and community guardianship over grassland and bush land species in rehabilitated areas over a two-year period, establishment of local community seed banks⁶ and multiplication and dissemination of selected seeds. Separate cross-cutting themes for gender and nutrition will be included in all curricula, and through the new joint activities deriving from Field Schools being integrated with Community Listeners' Clubs (CLC). A nutrition-sensitive approach will be introduced into the curricula with the aim of reducing nutritional vulnerability by building basic, pragmatic awareness of the basics on diet and nutrition and how a "win-win-win" scenario of diversifying cropping systems can simultaneously build ecological, economic and nutritional resilience (example: leguminous cover-crops that improve soil fertility, provide produce for local sale and help provide for improved nutrition). The contents will, in part, be based on previous experience on nutrition in FFS developed in other African countries, including Kenya and Malawi.

Moreover, project Output 2.3 (see details in Prodoc Section 2.5) aims at developing participatory decision-support tools for Climate Change analysis to reduce risks for farmers/herders and communities disseminated through Farmer Field Schools. These activities will improve the quality of agro-meteorological information, at various scales for time and space, for farmers and pastoralists. The agro-meteo data will be tailored to their local needs to enable better understanding of climate variability and climate change in their region and highlight levels of risk, thereby improving their ability to make effective decisions for agricultural risk management. With the support of the national and regional meteorological (NDM - climate information's producers) and agricultural (DGPV -agricultural extension staff) services,

⁵ Local = seeds obtained from local farmers/herders who use traditional collection and preservation systems

⁶ seed banks overseen by a local community will demonstrate a low-cost, sustainable way for conserving seeds of locally available species;

and through an iterative process to maximize benefit for all, suitable weather and climate information will be used to develop a "most-likely scenario" with local communities, showing what kind of climate trends are likely to emerge and how they might affect livelihoods in the short, medium and long-term future. The analysis can feed into the participatory and capacity assessment approaches, and can be used as a basis for CCA planning by communities. Community (farmers, pastoralists) feedback may well reveal climate factors that were not understood by the national services.

Comment # 2: *Municipalities may have limited budgets, it is possible that they may not be able to afford to contract technical assistance needed to continue this program once LDCF funding is no longer available, and sustainability of the project is an acknowledged risk. We therefore request that the Agency expand on what plans are in place to ensure the continuation of the climate adaptation education beyond the time line of the proposal. We also request more clarity on the sustainability of the baseline programs.*

The present project will ensure the continuation of the climate adaptation education beyond the conclusion of the intervention and the sustainability of the baseline programs through the Project Output 3.3 "National investment plan on FFS-based CCA developed for programmes and policies related to agricultural and pastoral sectors".

The national investment plan will detail operational mechanisms, duties and responsibilities and criteria for ensuring the sustainability of the investment plan over time. A plan will be drafted both for ongoing programmes related to the agricultural and livestock sector (50 % of which will be revised to include CCA) and for future programmes (100% of which will include CCA). An important aspect of the plan, described in the project document, is its specific focus on the interconnections between national and municipal levels, which will ensure that all of the 15 targeted municipalities will be covered by the action plan deriving from the investment plan.

Comment # 3: *We note the importance of building understanding of the value of changing practices to incorporate adaptation strategies. Engaging users in the development of the program can be critical for achieving this objective. What plans are in place to ensure that farmers are engaged in shaping the program and how will the Agency additionally work with the farmers to ensure they successfully implement the practices learned through FFS?*

The FFS approach in itself is the main guarantee that farmers will implement the practices learned. As described in the Project Document, at the core of the FFS approach lies a participatory process involving groups of farmers who become actively engaged in testing and experimenting adaptive solutions to changing environments and markets, with a view towards sustainable intensification and land restoration. The FFS are "grass-roots labs" in which farmers build and expand their knowledge bases, evaluate technical options, and in that process become better equipped to adapt to changing conditions.

Evaluative evidence (e.g. the recent SCCF evaluation done by the GEF Evaluation Office) very strongly shows that systems that lend reiterative support for the implementation of continuously evolving CCA practices are among the most powerful approaches to building long-term adaptive capacity. For decades to come, dealing with uncertainty and an ever-changing information base is likely to represent the single biggest challenge for CCA activities. Structures facilitating continuous adaptive actions based on real time context-specific information, such as FFS, with its integration of CC with simultaneous implementation and continuous improvement (i.e. the "grassroots lab") are among the very few existing and well-established systems that can provide this added value, thus giving the FAO a unique advantage.

Engagement of farmers and pastoralists in shaping the program is ensured by basing project activities on farmers' FFS community action plans, an activity under project Output 2.3. The plans will set out FFS targets, planned activities, and resource needs in line with farmers' perceived priorities. They will be linked to existing Commune Development Plans (CPD), whenever they exist.

The use of a resilience self-assessment tool, as outlined in project Output 1.2, will further strengthen farmers' engagement in program shaping and successful implementation of learned practices. The SHARP (Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists) tool will be employed throughout the entire

project, in particular as an early diagnostic sample to establish baselines and track system change over time as a participatory tool for use during the course of season-long FFS training to help guide training content along lines of participant priorities; and to help participant households determine priorities for longer-term actions and investments.

Comment # 4: *We request that the Agency provide more information about how women will be included in the benefits of this project. This could include what efforts are already in place to ensure that women participate in FFS programs and what will be added to ensure that their needs are reflected in the new curriculum and that they have access to the expanded FFS resources.*

Please refer to Section B.2.

Moreover, specific gender-disaggregated indicators for monitoring women's involvement and benefits have been included in the project:

1. 100% of targeted groups (1,000 Field Schools/ 20,000 Households) are adopting at least two of the following types of new technologies (disaggregated by gender – 25% female and 75% male); a) climate resilient crop varieties (drought or flood resistant), b) agronomic practices for flood and drought management in crop production systems (soil conservation and agro-forestry practices), c) resilience evaluation tools, and d) weather-forecast decision-support tools.
2. 10 highly qualified trainers fully capable of training facilitators on all aspects of FFS, PFS, CLC and DFF are established. At least three of the trainers are women.
3. 300 facilitators of which at least 30% receive training are women.

Comment # 5: *We ask that the Agency describe how it will work with organizations like ACMAD and AGRYHMET to characterize climate risks to inform when adaptation strategies should be applied.*

The project Output 2.4 is entirely devoted to this issue.

The proposed project will build on the work of ACMAD and AGRYMET on meteorology and on climate modelling, forecasting, and prediction. The National Direction of Meteorology (Direction Nationale de la Météorologie) and other national stakeholders will continue collaborating with ACMAD and AGRYMET throughout the project in order to facilitate the flow of accurate information for developing the project Output 2.4 "Development of participatory decision-support tools for Climate Change analysis to reduce risks for farmers/herders and communities".

This output will improve the quality of agro-meteorological information available to farmers and pastoralists at various scales in time and space. The agro-meteo data will be tailored to agro-pastoralists' local needs to enable better understanding of climate variability and climate change in their region and highlight risk levels, thereby improving their decision-making ability in terms of agricultural risk management.

With the support of the national and regional meteorological (NDM - climate information's producers) and agricultural (DGPV -agricultural extension staff) services, relevant weather and climate information will be used to develop a "most-likely scenario" with local communities, illustrating likely trends in future climate as well as potential livelihood impacts in the short, medium and long term. The analysis can feed into the participatory and capacity assessment activities, and can be used as a basis for CCA planning by communities. Community (farmers, pastoralists) feedback may be able to reveal an understanding of climate factors not previously accounted for by national services.

Specific training sessions will be organized before the starting, during and before the end of a cropping season by multi-institutional teams consisting of NDM, and MoA local meteorological service staff, and Field Schools master trainers and facilitators. Agro-meteorological data collection, archiving, processing and analysis capacity will be achieved mainly by NDM, ACMAD and AGRYMET units which use the large Meteorological Network of Niger.

Comment # 6: *We recommend that the Agency expand on how it will engage other donors and civil society organizations and consider how this project will fit into the recently-formed AGIR Sahel partnership.*

Potential donors, Civil Society Organizations (CSOs) and Community Based Organizations (CBOs) that will be involved in project activities have been identified during the PPG phase. However during PY1, additional partners interested in participating to project implementation will be identified. A diagnostic of ongoing projects/activities implemented in the project area of intervention will be conducted and partnerships will be further defined.

Partnership agreements will be defined and signed with project coordinators, authorities, NGOs, CSOs, and CBOs defining joint work-plans, roles and responsibilities. The five project Regional Assistants and fifteen Institutional Focal points, attached to regional directorates will provide significant support to develop partnerships and agreements.

In addition, the project will achieve a number of key outputs through letters of agreements (LoAs) to be established between the FAO and collaborating partners (service providers).

Special emphasis will be placed on developing partnerships with the relevant public/private regional development agencies or "channels" – support agencies, farmers' organizations and women's groups, some of which are already involved in FFS. Grassroot CSO/NGOs have been identified and their specific roles will be defined to ensure their direct involvement during the implementation phase.

CSOs and CBOs with whom a collaboration was already established during the PPG phase, and which will be confirmed partners in the project include; Producer Organizations in the five project regions, local NGOs (such as VIE Kande Ni Bayra),⁷ local associations such as, the Association of Seed Producers in Niger (APPSN), the Association for the re-dynamization of Livestock in Niger (AREN), l'Union Koda Naka, L'Union Mada Ben, the Association FUGPN-Mooriben, the Federation of Farmers Unions of Niger (FUGPN-Mooriben), and the Platform of Peasants of Niger (PFPN).

The proposed project will support the Global Alliance for Resilience Initiative (AGIR), with particular focus on its third and fourth pillars; a) sustainable agricultural food productivity and incomes of vulnerable households, and improve their access to food, and b) strengthening governance for food and nutritional security. The FAO is already collaborating with AGIR in Niger, and it will reinforce this collaboration through the LDCF project, especially by:

1. Establishing a resilience analysis unit based in CILSS
2. Supporting Niger in the formulation process/ dialogue to fine-tune country resilience priorities, for instance contributing with resilience data collected using the SHARP tool
3. Integrating nutrition dimension and livestock considerations in these plans
4. Developing good practices from lessons learned

⁷ A Letter of Agreement with local NGO Vie Kande Nie Bayra was finalized and as of January 2014, the testing of joint CLC/FFS is on-going in 50 CLC in the Say and Tillabery regions.

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS⁸

A. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES FINANCING STATUS IN THE TABLE BELOW:

PPG Grant Approved at PIF: \$ 50,000.00				
<i>Project Preparation Activities Implemented</i>	<i>GEF/LDCF/SCCF/NPIF Amount (\$)</i>			
	<i>GCP/ELS/015/SCCF</i>			
	<i>Budgeted Amount</i>	<i>Amount Committed</i>	<i>Amount Spent To date</i>	<i>Balance Remaining</i>
5011 Salaries Professional	3,000.00	3,000.00	0.00	3,000.00
5012 Salaries General Service	0.00	0.00	0.00	0.00
5013 Consultants	30,700.00	18,000.00	11,000.00	7,000.00
5014 Contracts	0.00	0.00	0.00	0.00
5021 Travel	9,000.00	19,000.00	19,589.12	-589.12
5023 Training	7,300.00	10,000.00	10,874.67	-874.67
5028 General Operating Expenses	0.00	0.00	522.23	-522.23
Total	50,000.00	50,000.00	41,986.02	8013.98⁹

⁸ If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent funds, Agencies can continue undertaking the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for activities.

⁹ The remaining balance has been committed for the recruitment of consultants that will assist the project task force in the mapping of project sites and in establishing project partnerships.



FAO/GLOBAL ENVIRONMENT FACILITY PROJECT DOCUMENT



PROJECT TITLE: Integrating climate resilience into agricultural and pastoral production for food security in vulnerable rural areas through the Farmers Field School approach.	
PROJECT SYMBOL: GCP/NER/043/LDF	
Recipient Country : Niger	
Resource Partner: LDCF	
FAO Project ID: 613837	GEF/LDCF/SCCF Project ID: 4702
Executing Partners: Ministry of Agriculture (MoA), Ministry of Livestock (MoL), Ministry of Environment, Urban Sanitation and Sustainable Development (MEUSSD)	
Expected EOD (Starting Date): September 2014	
Expected NTE (End Date) : August 2018	
Contribution to FAO's Strategic Framework ¹	a. Strategic objective/Organizational Outcome: SO2: OO1, OO2 ; SO3: OO1 b. Regional Result/Priority Area: Reduction of vulnerability to threats to food security and nutrition; improved management and governance for sustainable use of natural resources ² c. Country Programming Framework Outcome: CPF- 1 (Strengthening the resilience of vulnerable populations), and CPF-2 (growth, diversification and development of agro-forestry-pastoral production)
GEF Focal Area /LDCF/SCCF: Climate Change Adaptation	
GEF/LDCF Strategic Objectives: CCA – 1: Reduce vulnerability to the adverse impacts of climate change, including variability, at local, national, regional and global level.	

¹For projects operated by country offices, it is necessary to link projects in FPMIS at OR level. For all other projects, linkage at product/service level is necessary

² Based on *Priorities for FAO activities in the Africa region, Focus areas of work for 2014-15 and beyond*, 28th Regional Conference for Africa. Tunis, Tunisia, 2014. Source: <http://www.fao.org/docrep/meeting/030/mj777e.pdf>

CCA – 2: Increase adaptive capacity to respond to the impacts of climate change, including variability, at local, national, regional and global level.	
CC-A - 3: Promote transfer and adoption of adaptation technology.	
Environmental Impact Assessment Category (√Insert): A B C √	
FINANCING PLAN:	
GEF/LDCF/SCCF ALLOCATION:	USD 3,800,000
<u>Co-financing:</u>	
Ministry of Agriculture (PROMOVARE)	USD 9,729,085
FAO Niger (PPHSA –IESAI)	USD 1,149,787
EU Delegation Niger (PADSR)	USD 3,000,000
CNRA (PPAAO/ WAAPP)	USD 80,000
Subtotal Co-financing:	USD 13,958,871
Total Budget:	USD 17,758.871
Executive Summary:	
<p>Niger is a landlocked country situated at the centre of the Sahel - one of the poorest regions in the world and forecast to be one of the most affected by future climate change.</p> <p>The climate in Niger ranges from semi-arid to arid. Over three quarters of its land area is covered by desert plains and sand dunes, thus soils generally have very limited productivity and are very sensitive to water and wind erosion. Potential irrigable land is estimated at 270,000 ha, of which 140,000 ha is located in the Niger River Valley. Arable area is estimated at 15 million ha, representing less than 12% of the country's total surface area. Climate variability is likely to affect Niger's agricultural and pastoral sectors that provide food, fibre and forage crops. Small farmers and pastoralists are especially vulnerable because of their limited knowledge and capacity to adapt to climate variability and change.</p> <p>In Niger, 86% of the poor is concentrated in rural areas. The income available to rural farmers and pastoralists does not enable them to escape poverty. With increasing population growth, the rural population is expected to rise from 9 million to 13 million by 2015. This is likely to lead to increased food insecurity and worsening poverty. The rural sector in Niger is characterized by: (i) poor performance of production systems; (ii) increased competition for access to natural resources which is a source of conflicts; (iii) the "mining" of natural resources causing environmental damages; and (iv) staple cereal production is rare (2.5% per year) and lower than the population growth (3.1% per year). In addition, Niger faces recurrent food crises mainly due to irregular and insufficient rainfall and market issues (e.g. speculation on cereals during the lean season, lack of credit for farmers, etc.). Environmental degradation processes are a concern. Between 1990 and 2010 Niger lost about 38% of its forest cover accelerating soil erosion and desertification. Drought is also the principle trigger for spikes in food prices and conflicts over access to pasture and water. Droughts are highly correlated with certain crop pests and diseases, and aggravate mortality and morbidity of livestock due to disease</p> <p>Niger has been a high-risk environment for many generations, but traditional livelihood strategies have evolved to cope with this reality. The traditional symbiotic relationship between livestock and farming community, efficient farming practices using the limited available water, crop species and varieties that can withstand water stress for long dry spells, seasonal and long-term migration, and relying on communal networks for coping, have all been an integral part of livelihood strategies allowing populations to adapt to Niger's high-</p>	

risk environment. Yet, these traditional livelihood strategies are becoming weaker and less effective in the face of the changing environmental context. Erratic rainfall patterns, increasing temperatures, movement of isohyets, encroachment of crop cultivation on cattle corridors, declining soil fertility, reduction in land holding size, increasing household size, and high pressure on land are some of the factors making it increasingly difficult to manage the risks using traditional livelihood strategies.

Despite the impending threats associated with climate change, it should be possible to limit the impacts by increasing adoption of adaptive measures. These include: a) strengthening scientific and technical research for the selection of a broader range of crop varieties that will prove productive and tolerant to an expanded range of climatic conditions, b) strengthening of institutions and political and economic measures to ensure crop protection and soil restoration, and c) improvement of access to locally adapted agricultural machinery/tools.

The proposed LDCF project is a joint effort by the Ministry of Agriculture, other national partners, the FAO and the GEF to support the above mentioned fields and the improvement of the local population's living condition. The proposed project will partially be blended with and co-financed by four major projects/programmes implemented by the Ministry of Agriculture and its partners. The project areas include municipalities in five regions of two different agro-climate zones, the Sahelian Zone (Tahoua, Maradi and Zinder) and the Soudano-Sahelian Zone (Tillabery and Dosso).

The project's Adaptation Objective is to enhance the capacity of Niger's agricultural and pastoral sectors to cope with climate change, by mainstreaming Climate Change Adaptation (CCA) practices and strategies into on-going agricultural development policies and programmes. The project's Development Objective is to help stakeholders adopt a field-based, pragmatic community learning process that leads to an increased understanding, adaptation and eventual wide-scale adoption of improved agro-pastoral practices, which in turn creates a trend towards increasing production, improving livelihoods and enhancing food and nutrition security. The project will be implemented with the following components:

Component 1: Developing and pilot-testing improved climate-resilient agro-pastoral practices. This includes activities to strengthen the capacity of project managers and stakeholders to transfer tested and selected appropriate adaptation technologies and tools.

Component 2: Capacity building and promotion of improved agricultural practices through agro-pastoral Field Schools. This includes activities to: increase an adaptive capacity to reduce risks and respond to climate variability by training 1,000 Field Schools/ 20,000 Households on CCA strategies and practices and adoption of at least two of the following types of new technologies: a) Climate resilient crop varieties (drought or flood resistant); b) Agronomic practices for flood and drought management in crop production systems (soil conservation and agro-forestry practices); c) Resilience evaluation tools; and d) Weather-forecast decision-support tools.

Component 3: Mainstreaming climate change resilient agro-pastoral and agricultural systems into sectoral policies and into local development. This includes activities to: draft a national investment plan in support to Field School-based CCA mainstreaming and up scaling in the agricultural and pastoral sectors and; mainstream CCA in 15 Municipal action plans including a specific budget allocation for adaptation action

Component 3: M&E and information dissemination. This includes activities to ensure a systematic results-based monitoring and evaluation of project's progress and to promote the wider dissemination of project information, data and lessons learned for replication in other

areas.

The expected impacts and adaptation benefits of the project are: (i) Increased knowledge and understanding of CC-induced threats generated by other initiatives (PPCR and PAC-RC) are channeled in an effective and efficient manner through an expanding network of Field Schools; (ii) Resilient varieties and cultivars and sound CCA practices are adopted in dry crop cereals and livestock-based production systems (surfaces/40,000 hectares and yields are at least maintained in two agro-ecosystems/ strategic natural assets); (iii) 20,000 farmers and agro pastoralists adopt improved climate resilient practices through Field School training; (iv) concrete adaptive capacity at farmers and herders level is strengthened through a growing network of at least 1,000 Field Schools fully integrating CCA strategies and practices; (v) Field School-based CCA initiatives are supported by a Local Climate Change Adaptation Fund, contributing to eliminate financing bottle necks in the adaptation pathways; (vi) 15 targeted Municipalities, four Government Ministries and one Research Institution have increased adaptive capacity to reduce risks and respond to climate variability; (vii) CCA strategies mainstreamed into agricultural sector policies, programs and planning based on “lessons learned” and; (viii) Effective and recurrent mechanisms are in place for cross-sector coordination in the implementation of Field School-based outreach strategies for CCA.

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Glossary of Acronyms

ACMAD	African Centre of Meteorological Application for Development
ACIC	Climate Change Adaptation through Improved Climate Information
AD	Agricultural Districts
AGIR	The Global Alliance for Resilience Initiative
AGRYMET	Regional Centre for Training and Application in Agro-meteorology and Operational Hydrology
APRAO	Improvement of Rice Production in West Africa
AREN	Association for the Re-dynamization of Livestock in Niger
BAD	African Development Bank
BH	Budget Holder
CCAFS	Agriculture and Food Security West Africa
CILSS	Permanent Interstates Committee for Drought Control in the Sahel
CNEDD	National Council on Environment and Sustainable Development
CNRA	National Council of Agricultural Research
CTNCVC	National Technical Commission on Climate Change and Variability
DDA	Departmental Directorates of Agriculture
DDL	Departmental Directorates of Livestock
DFF	Diversity Field Fora
DGA	Directorate General of Agriculture
DGLIP	Directorate General for Livestock and Industry Production
DGPDV	Directorate General for Plant Protection
DGSV	Directorate General for Veterinary Services
DRM	Disaster Risk Management
DPS	Directorate of Planning and Studies
DPLO	Directorate of the Promotion of Livestock Organizations
FEWSNET	Famine Early Warning System Network
FFS	Farmer Field School
GCP	Government Cooperation Project
GDPAI	General Directorate of Production and Animal Industries
I3N	<i>“Nigeriens feed Nigeriens”</i> Initiative
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
INRAN	National Institute of Agronomic Research in Niger
IGETI	Improving Gender Equality in Territorial Issues
IPPM	Integrated Production and Pest Management
LDCF	Least Developing Country Fund
LTU	Lead Technical Unit
MAGICC/SCENGEN	Model for the Assessment of Greenhouse-gas Induced Climate Change/scenario generator

MT	Master Trainers
ME/F	Ministry of Economics and Finance
MEUSSD	Ministry of Environment, Urban Sanitation, and Sustainable Development
MoA	Ministry of Agriculture
MoL	Ministry of Livestock
MPLMCD	The Ministry of Planning, Land Management and Community Development
NARS	National Agricultural Research Services
NAPA	National Adaptation Programme of Action
NCAR	National Center for Atmospheric Research
NCESD	National Council for the Environment and Sustainable Development
NDM	National Directorate of Meteorology
NDVI	Normalized Difference Vegetation Index
NPC	National Project Coordinator
ONAHA	National Office of Hydro-Agricultural amenities
PAAPSSP	Support Programme for Pastoral Planning and Pastoral Systems Security
PAC 3	Community Action Programme phase 3
PAC RC	Community Action Project for Climate Resilience
PADAD	Support Programme for Rural Agricultural Development in the Dosso Region
PADSR	Project to Support Rural Sector Development in Dosso and Zinder
PASADEM	Project to Support Food Security and Development in the Maradi region
PCU	Project Coordination Unit
PDES	Plans for Social and Economic Development
PDIPC	Development of Climatic Information and Perspective
PFPN	Platform of Peasants of Niger
PFS	Pastoral Field Schools
PMERSA	Water Mobilization Project for Strengthening Food Security in the regions of Maradi, Tahoua and Zinder
PNEDD	The National Environmental Plan for Sustainable Development
PPAAO	Programme of agricultural productivity in West Africa
PPHSA	Small Hydropower project for Food Security
PROMOVARE	Mobilization and Development of Water Resources
PPCR	Pilot Programme for Climate Resilience
PPILDA	Project to Promote Local Initiatives for Development in Aguié
PSC	Project Steering Committee
RAAKS	Rapid Appraisal of Agricultural Knowledge Systems
RCT	Rain Calendars Tool
RDA	Regional Directorates of Agriculture
RGP/H	General Population and Housing Census
RUWANMU	Small-scale irrigation Project
SDRP	Poverty Reduction Strategy Paper
SDDCI	Strategy for Sustainable Development and Inclusive

	Growth
SEAGA	Socio Economic and Gender Analysis
SHARP	Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists
SLM	Sustainable Land Management
SPCR	The Strategic Programme for Climate Resilience
TOP-SECAC	Planning, monitoring and evaluation of adaptive capacity to climate change
TOF	Training Of Facilitators
TLUs	Tropical Livestock Units
UNFCCC	United Nations Framework Convention on Climate Change

1. SECTION - Relevance and general context

1.1 General development context related to the project – the agriculture and livestock sector

Due to inherently poor soils, highly variable rainfall patterns and a history of deforestation and poor land-management practices, the Sahel region in West Africa is one of the poorest regions in the world and is forecast to be one of the most affected by future climate change. Already during recent decades, climate variability has led to serious challenges in terms of food production, food security, poverty alleviation and socio-economic development. Future climate change in the region threatens to magnify existing climate variability and to have major and direct impacts on food security.

Situated at the centre of the Sahel, Niger is a landlocked country, laying 600km from the sea, bordering Nigeria and Benin to the south, Chad to the east, Libya and Algeria to the north and Mali and Burkina Faso to the west. Over three quarters of its land area (1.267.000km in total) consists of desert plains and sand dunes, and thus soils generally have very limited productivity and are very sensitive to water and wind erosion. Potential irrigable land is estimated at 270,000ha, of which 140,000ha is located in the Niger River Valley (CNI, 2000).

The economy relies mainly on agriculture and livestock. Soils are generally poor and the arable area is estimated at 15 million ha, representing less than 12% of the country's total surface area (RGP/H, 2001).

Niger has a population of 17,129,076 (RGP/H, 2012) with an average birth rate of 4.9% (World Bank, 2010), the highest in the world. The average population density is 8.7 inhabitants per km². The majority of the population lives in the southern part of the country, which is more favourable to agricultural and pastoral activities.

The country's economy is mainly based on the rural sector. In 2001, agro-sylvo-pastoral production contributed to 38.1% of the national GDP (INS, 2005)³. The rural sector also constitutes to the most important source of employment, with 83.7% of the total population employed in activities related to the sectors of agriculture, livestock breeding, exploitation of forest resources, and wildlife and fisheries (SDR, 2008).

Niger's agricultural sector can be divided into:

- The basic agro-pastoral system (cultivation of millet, sorghum and cowpea, sedentary livestock), which is differentiated from off-season cultures (e.g. cassava, vegetables, etc) and rice cultures present along the Niger river banks.
- The oasis systems (crops irrigated from wells and boreholes present in the Sahara-Sahel region).

Agricultural production was in surplus until the beginning of the 1970s, when a prolonged drought struck the entire region. In the 1980s production covered 86% of food needs and continues to be deficient to this day. The cereal production balance was particularly poor from 1989 to 1996 (NAPA, 2005).

With 10.5 million tropical livestock units (TLUs), the country has the largest herd population in the Sahel region. The contribution of livestock to gross agriculture domestic product is 40%, but was much higher in the past. However, the proportion of the national budget invested into this sub-sector has fallen substantially over recent years. Over the past 50 years, Niger's national herd is

estimated to have grown at an average annual rate of 2.47%, if one considers the total number of head or 2.33% p.a. in TLU terms. The small difference is due to the fact that overall herd composition has not changed drastically (modest proportional reduction in cattle, small increase in camels, some shift from goats to sheep within small ruminants). Bigger changes have been the redistribution of livestock over space, across production systems, and in relation to ownership. The livestock system in Niger can be classified into the pastoral zone, where transhumance and nomadism dominate, the agro-pastoral zone and the agricultural zone (World Bank, 2012) - (see also Chapter 2.1.2).

Climate and Climate Vulnerability

Niger is one the hottest countries in the world with a climate ranging from semi-arid to arid. The climate is characterized by four seasons: The *cold season* (mid-December to mid-February) and is characterized by very cool nights with temperatures often falling below 0°C in the northern parts of the country. The *hot and dry season* (March to May) is characterized by warm winds and temperatures reaching 45°C. During this season the Harmattan (dry and warm wind) blows from the north-east and east with moderate speeds of 5 to 10 m/s, and is felt across the entire country.

The *rainy season* (June to September) is characterized by heavy rains, high humidity levels, and temperatures varying between 28.1°C and 31.7°C. The monsoon (wet wind) blowing from south-west towards the north-east affects the majority of the country. During this period, wind speed is generally moderate (2 to 8 m/s), but short periods of high-speed winds (gusts of 40 m/s) can also be observed when storm lines pass from east to west. The *rainless warm season* (October to mid-December) has an average temperature of 35°C. During this season, crops are grown in irrigated systems in oases and gueltas (temporary ponds).

Evapotranspiration is between 1,700 and 2,100mm per year, thus creating the potential for considerable water deficit during the dry season. The flora mainly survives from deep-root penetration allowing access to the water table.

Annual rainfall is characterized by high spatial and temporal variability. In normal years this rainfall allows replenishing of water tables, formation of temporary water bodies and development of the plant canopy. Since the beginning of the 1970s, a decrease in total rainfall has resulted in the southward shifting of isohyets.

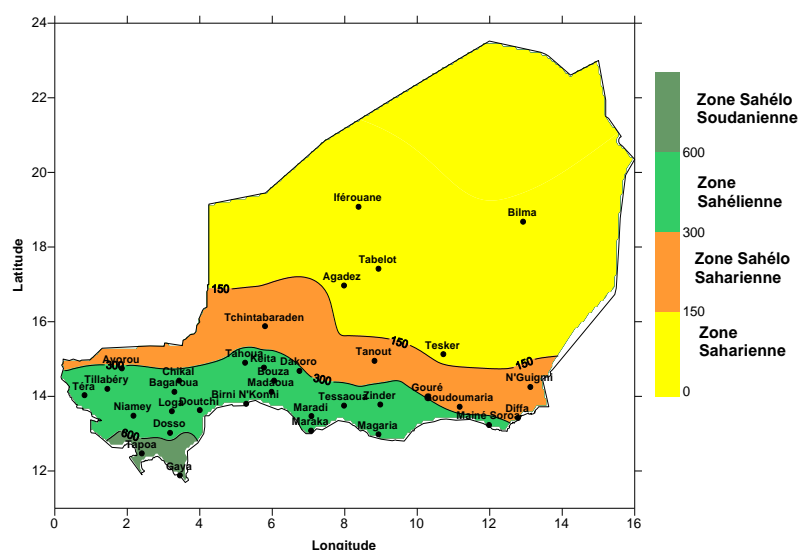


Figure 1: Map of Climatic zones in Niger⁴

⁴ Source: <http://www.memoireonline.com/10/12/6357/Caracterisation-des-acteurs-du-warrantage-au-Niger-leurs-interventions-pour-la-campagne-2010-2011.html>

Niger features four climatic zones, from north to south according to rainfall patterns:

- The Saharan Zone (0 to 150 mm annual rainfall) covers 77% of the country. This area is characterized by an arid to semi-arid climate with high average temperatures at both ends of the spectrum, a very low relative humidity, and low and irregular rainfall patterns.
- The Sahelo-Saharan Zone (150 to 350 mm annual rainfall) forms a transition zone between the Sahara and Sahel regions and covers 12% of total country surface.
- The Sahelian Zone (350 to 600 mm annual rainfall) covers 10% of the total area of the country's surface. The region is defined by a mixture of open savannah, medium-to-loosely covered shrub land, as well as moderately degraded savanna woodlands.
- The Soudano-Sahelian Zone (600 mm to 800 mm) covers less than 1% of the national land surface area.

The project area covers a total of five regions within two climatic zones namely, the Sahelian Zone (Tahoua, Maradi and Zinder) and the Soudano-Sahelian Zone (Tillabery and Dosso).

The Sahel has one of the world's most variable climates. Niger's agricultural production areas are prone to strong seasonal variations due to its proximity to the Sahara Desert, and to the lack of moderating influences from large bodies of water. The harsh climate and the high variability contribute greatly to climate stress, both localised and national. Periodic, severe droughts have plagued the area since the 1970s. Climate predictions based on the MAGICC/SCENGEN Model (Version 2.4 - Mai 2000) do not indicate a general reduction in total precipitation for 2025, except around Niamey and Tillabéri. However, the precipitation regime is reported to be increasingly variable, with consequences in terms of unexpected flash floods, delays in the establishment of the rainy season and episodes of reduced precipitations during the planting season. Additionally, the climatic model clearly indicates that a significant increase in the average summer temperature (around 3°C) is expected in the Sahelian band, with direct consequences in terms of increased evapo-transpiration and stress on crops.

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Climate-related risks:

According to a study carried out in the framework of NAPA, extreme climate events in Niger comprised of:

- Floods
- Droughts
- Sand/dust storms

- Extreme temperatures
- Strong winds

Other equally important phenomena include:

- Locust invasions
- Bushfires

Climate variability is likely to affect Niger's agricultural and pastoral sectors that provide food, fibre and forage crops. Small farmers and pastoralists are especially vulnerable because of their limited knowledge and capacity to adapt to climate variability and change.

Niger has experienced seven droughts between 1980 and 2010, with adverse impact on the national agricultural production. Over the past 12 years, Niger has witnessed four years (2005, 2009, 2010, and 2012) of severe drought-related food insecurity that resulted in appeals for international humanitarian assistance and food relief. Drought is also the principle trigger for spikes in food prices and conflicts over access to pasture and water. Droughts are highly correlated with certain crop pests and diseases, and aggravate mortality and morbidity of livestock due to disease.

Locust outbreaks are another high risk in Niger. Almost one-third of losses during 2004 and 2005 crises were due to locusts, with adverse impact on both the crop and livestock sectors. Crop pests and diseases, like striga (*Striga hermonthica*) and various fungal pathogens are a perennial problem among most crops, however overall losses from a majority of these pests and diseases while frequent, are relatively low. More serious are crop losses from grain eating birds (*Quelea quelea*) and the millet head borer (*Coniesta ignefusalis*). Additional risks include bush fires in pastoral areas and windstorms, which damage young plants at the beginning of harvesting seasons.

As in all countries of Sahelian West Africa, pastoralists in Niger face a range of challenges, including rangeland degradation, low productivity, loss of rangeland to agriculture, conflicts with farmers and conflicts among herders. Associated factors include overstocking, poor technology and limited management techniques. Drought, unreliable rainfall, flash floods⁵ and high temperatures, associated with climate change, will only exacerbate these challenges as they directly lead to degradation and loss of rangeland. Other risk factors include livestock diseases, especially pasteurellosis, anthrax, ovine rinderpest (pest des petits ruminants), and Newcastle disease (for poultry).

The description above gives little room for doubt of the challenges facing the agriculture and the livestock sector in the medium and long-term. Although Niger has been a high-risk environment for many generations, traditional livelihood strategies have evolved to cope with this reality. The traditional symbiotic relationship between livestock and farming community, efficient farming practices using the limited available water, crop species and varieties that can withstand water stress for long dry spells, seasonal and long-term migration, and relying on communal networks for coping, have all been an integral part of livelihood strategies allowing populations to adapt to Niger's high-risk environment.

Yet, these traditional livelihood strategies are becoming weaker and less effective in the face of the changing environmental context. Erratic rainfall patterns, increasing temperatures, movement of

⁵ Climate variability brings not only droughts, but also floods that negatively impact agriculture. In 2012 more than 530,000 people were affected by floods that had not been seen since the 1920s. In 2013 more than 15,000 hectares of cropland were destroyed by floods, affecting more than 75,000 people.

isohyets, encroachment of crop cultivation on cattle corridors, declining soil fertility, reduction in land holding size, increasing household size, and high pressure on land are some of the factors making it increasingly difficult to manage the risks using traditional livelihood strategies.

Despite the impending threats associated with climate change, it should be possible to limit the impacts by increasing adoption of adaptive measures; these include the following:

- Strengthening scientific and technical research for the selection of a broader range of crop varieties that will prove productive and tolerant to an expanded range of climatic conditions,
- Strengthening of institutions and political and economic measures to ensure crop protection and soil restoration, and
- Improved access to locally adapted agricultural machinery/tools.

The proposed project aims to achieve additionality by leveraging and building upon current and future efforts undertaken by the government and implementing partners in the above mentioned fields.

1.2 Rationale

Problems and issues to be addressed

Non climate-driven problems such as: a) unsuited agricultural management practices (regarding crop and variety selection, water and soil management, and rangeland management), b) increasing population pressures that lead to expansion of agriculture areas into fragile ecosystems, c) increasing competition between herders and agriculturalists, and d) a lack in capital investment and positive incentives for sustainable rural development, are likely to be greatly aggravated by climate change. Adaptation of the agricultural sector is therefore not an end in itself but a means to address the development objectives of Niger. The country will have to adapt agricultural and pastoral systems to a hotter and likely drier future and react to the risk of decreasing yields and the degradation of natural resource-bases (e.g. soils, biodiversity). A mix of technical solutions (such as more diverse sets of crop varieties to minimize risks, different planting patterns and a better integration between the crops, livestock and tree elements of small holders' production systems), as well as institutional solutions are necessary to support the rural communities in an integrated way. In Niger there are traditional and improved sets of varieties of sorghum, millet, groundnuts, cowpeas and others that are grown to minimize the risk of crop loss to climate variability. However, without LDCF intervention, their adoption by farmers and pastoralists will remain limited.

The Strategic Programme for Climate Resilience (SPCR) indicates that "The Government of Niger and its development partners have invested more than US \$ 400 million over the last 3 decades in programmes promoting sustainable land management and other activities aimed at rehabilitating fragile lands. Overall, more than 50 programmes have incorporated activities related to Sustainable Land Management (SLM) such as the promotion of conservation measures for water collection and surface water, tree planting and other measures to rehabilitate lands, etc. Reported results of such investments include increased vegetation, reduced erosion, rehabilitation and greater utilization of degraded lands, improved agricultural yields, increased forage for herds, greater availability of water, improved food security and well-being for vulnerable groups, and the reduction of poverty, among other things⁶". While it is recognized that Niger has over the course of the past decades, gained considerable experience in land recuperation for agro-sylvo-pastoral production, it is also noted that coverage has been limited and focused in areas of more favourable agro-climatic conditions and market access. Less than 8% of villages in Niger, and particularly those in the

⁶ Strategic Programme for Climate Resilience, SPCR/Niger, 2010

regions of Dosso, Tillabery and Tahoua, have participated in the major SLWM programmes. It is also recognized that “these projects and programmes have already brought together a critical mass of experiences on adaptation to climate change” and that it is now imperative “to scale them up and use them as part of a massive effort of environmental restoration”⁷.

The NAPA’s follow-up to date have been to focus on creating basic institutional and awareness conditions for better addressing CCA issues, and on generating localized field experiences in eight of the most vulnerable communities, one in each of Niger’s regions. Parallel to that, the FAO along with partners such as the World Food Program (WFP), Biodiversity International and others have also recurrently supported the Niger Government in coping with repeated food crises, and is interested in supporting a shift from a reactive to a more proactive approach linking food security, disaster risk management (DRM) and CCA.

Policy framework and Baseline projects

Over the past decade the Government of Niger has developed an array of policies, strategies, programmes, plans and projects to support rural development and address natural resource related challenges in rural areas. The first Strategy for Development and Poverty Reduction (Stratégie pour un Développement accéléré et pour la Réduction de la Pauvreté - SDRP) established in 2002 and revised in 2007 for the period 2008-2012 aimed at reducing half the incidences of national poverty and decreasing rural poverty from 66% (in 2002) to 55% (in 2015) . The strategic objectives were translated into five successive mid-term Plans for Social and Economic Development (Plan de Développement Economique et Social – PSED) to integrate the SDRP and action plans from all the government departments.

The Plan for Social and Economic Development (PSED) 2012-2015 sets the framework under which national sustainable development will take place and identifies the actions to be undertaken, and the agencies that are responsible for implementing these actions. The Initiative “Nigériens feed Nigériens” (I3N) launched in May 2011 and officially announced in March 2012, replaced the Rural Development Strategy (RDS), which was the declaration of the Strategy for Development and Poverty Reduction (SDRP) in the agricultural sector since 2003. The I3N is also the translation of the National Strategy for Food and Nutrition Security, running with a similar horizon to the Strategy for Sustainable Development and Inclusive Growth - 2035 (SDDCI). The I3N Initiative aims to achieve food and nutritional security through improving the productivity of food crops, the development of small-scale irrigation and small livestock, and providing support for coping mechanisms. It focuses on five strategic areas:

- (i) Growth and diversification of agro-sylvo-pastoral production and fisheries
- (ii) Valuation and marketing of agro-sylvo-pastoral products
- (iii) Improved resilience of Nigériens to food crises and disasters
- (iv) Improvement of nutritional status
- (v) Creating a supportive environment

By 2015, the I3N should result in a 41% increase in gross food production (from 3.55 million tons of food produced in 2011 to 5 million tons expected in 2015), including an increase of 40% and 45% of meat and milk production respectively.

Included in the framework of the I3N is the Strategic Programme for Climate Resilience (SPCR) highlights the recent shift from a “development without adaptation” to a “development with adaptation” scenario. The SPCR includes the WB-sponsored Pilot Programme for Climate

⁷ Ibidem

Resilience (Programme Pilote pour la Résilience Climatique - PPCR), and the Community Action Project for Climate Resilience (Actions Communautaires pour la Résilience Climatique - PAC RC).

The PPCR and PAC-RC aim at supporting the current process of incorporating climate resilience into development strategies and plans, in order to scale up and strengthen lessons learned from programmes and projects by supporting existing participatory processes for knowledge exchange, and by pilot testing and scaling up improved climate-resilient agro-pastoral practices.

Within the SPCR the CNEDD/National Technical Commission on Climate Change and Variability (CTNCVC) has been established. However, the latter does not appear to have the means and weight necessary to influence relevant policy-making processes at the moment.

Despite these significant past and ongoing initiatives, a vast number of programmes and projects particularly in the agriculture and livestock sector are still falling short of incorporating the special needs to effectively address the adverse effects of climate change. This is aggravated by a limited coordination among programmes/projects, a weak regulatory environment, as well as the limited knowledge about and sharing of CCA best practice approaches (see the following sub-chapter on barriers). The most pertinent projects that will also form part of the current project's baseline as located in the same project areas are listed in the table below (Table 1). Part of the current project's strategy is to identify and introduce CCA tools and best practices that are not only in line with farmer's needs and social acceptance but also closely linked to climate data (weather forecasting) made available to them. This information will then be shared with the on-going initiatives and mainstreamed by strengthening the capacity of the CTNCVC (see sub- chapter on additional reasoning).

Table 1: Baseline Projects and Programmes in the Agriculture and Livestock Raising Sectors providing co-financing to the proposed project.

Project title and description:	Lead Agency	Funding source and duration	Co-financing US \$	Co-financing support to Project
Small Hydropower Project for Food Security in the Dosso, Maradi, Zinder and Tahoua Regions (PPHSA -IESAII) The objective of the project is to “contribute to the strengthening of national capacities for food production, supply, and resilience to food crises and natural disasters”, and more specifically, to improve the food security and climate resilience of the most vulnerable populations in the rural and peri-urban regions of Dosso, Maradi, Tahoua and Zinder. Sustainable income, diet, and nutrition improvements to be achieved in target groups through intensification, diversification, and valorisation of agricultural production, as well as stakeholders' capacity building.	Directorate General of Agriculture / FAO	2014-2019 10,9M USD: Spain AECID	1,149,787 Source: FAO	The project will support Component 1 – and specifically Output 1.2 and Output 1.3. The FAO project will also support other project components and the project management.
Agricultural Productivity Programme in West Africa (PPAAO/WAAPP) The overall project objective is to generate and disseminate proven technologies in priority areas identified by Niger, in accordance with the priorities defined by West and Central Africa for the Agricultural Research and Development (CORAF) Council. These priorities relate	Ministry of Agriculture	2011-2016 31,2 M USD: IDA, World Bank	80,000 Source: CNRA	The project will support Component 1 – and specifically Output 1.3

to the agro-sylvo-pastoral sector, among which livestock sectors selected for the National Specialization Centre.				
Project to Support the Rural Development Sector (PADSR) The overall objective of the Project is to contribute to food security by promoting sustainable agricultural development and improving rural populations' access to economic opportunities. More specifically, the objective is to create favorable conditions for producers or producer organizations from 31 municipalities of the Dosso and Zinder regions to develop their productive activities, while ensuring sustainable resource management, as to guarantee food security over the long term. The project will also improve quality and coverage of inclusive rural financial services tailored to the needs of poor in a cleaner and more secure environment.	Ministry of Agriculture	2012-2016 21,4 M USD: European Union	3,000,000 source: EU	The project will contribute to support Component 1 and Component 2 - Output 2.3 and Output 2.6, in particular in relation to microcredit, market and "warrantee" activities.
Project for the Mobilization and Valorization of Water Resources (PROMOVARE) The objective of PROMOVARE is to achieve water management for different uses with a view to adapt to climate change impacts. PROMOVARE aims at increasing and intensifying irrigated and recession cropping by; a) valorizing and developing water resources, b) promoting the development of new irrigation techniques, enabling better adaptation to climate change, c) implementing a series of actions to improve the living conditions of the beneficiaries, and d) improving water resource monitoring. More specifically, the baseline of PROMOVARE on which the LDCF project will build upon consists of outputs related to support measures and capacity building focused on Producer Organizations (POs). Cereal banks, the selection and popularization of resilient seeds and the strengthening of POs will be the main baseline activities related to the LDCF project.	Ministry of Agriculture/ Directorate of Rural Engineering	2012-2017 13,9M USD	9,729,084 Source: Ministry of Agriculture	The project will support: Component 1 - Output 1.3, Output 1.4 Component 2 - Output 2.2, Output 2.3, Output 2.4 and Output 2.5 Component 3 - Output 3.2: in particular in relation to the involvement of POs into the Consultative Platform.

The proposed project will also build upon the work of the African Centre of Meteorological Application for Development (ACMAD) and AGRYMET on meteorology and on climate modelling, forecasting and prediction. However, these projects will not provide co-financing. The National Directorate of Meteorology (NDM) and other national stakeholders are collaborating closely with ACMAD and AGRYMET and this collaboration will continue throughout the project in order to facilitate the flow of accurate information for developing Output 2.4 : “Development of participatory decision-support tools for Climate Change analysis to reduce risks for farmers/herders and communities ”.

Remaining barriers and problems to be addressed by the project

The above mentioned programmes and projects represent a real opportunity to make substantial improvements towards sustainable rural development in Niger, in particular for the large number of rural people engaged in integrated livestock/cropping/forestry activities. However, these programmes and projects face several common challenges that undermine their effectiveness and limit their impact as they fail to provide an adequate analysis of climate variability and climate change and do not identify appropriate adaptation measures.

The effects of CC on rural sectors are exacerbated because of limited knowledge and capacity for adaptation, and there is a need to build capacity in adopting drought-resilient agro-sylvo-pastoral practices to counter the adverse effects of climate variability. Non-climate-driven problems such as unsuited agricultural management practices (regarding crop and variety selection, water and soil management, and rangeland management), increasing population pressures leading to expansion of agriculture into fragile ecosystems, and increasing competition between herders and agriculturalists, as well as lack of capital investment and positive incentives for sustainable rural development, are likely to be greatly aggravated by CC.

Despite the fact that climatic variability has been considered in rural development policies, programs and field activities, farmers and agro pastoralists are now subject to increased risks and will have to adapt their agricultural and pastoral systems to a hotter and likely drier future and react to the risk of decreasing yields and degradation of the natural resource bases (soils, biodiversity).

A mix of technical solutions (such as more diverse sets of crop varieties to minimize risks, different planting patterns and a better integration between the crop, livestock and tree elements of smallholders’ productions systems), as well as institutional solutions, are necessary to support the rural communities, in an integrated way.

The following challenges were assessed through the PPG-financed studies:

1. Insufficient knowledge and absence of a consolidated capacity to cope with CC-threats. Farmers and pastoralists need to strengthen their competence related to technologies, tools and practices for increasing the resilience to CC. Moreover, despite recent investment in developing the hydro-meteorological network, the availability of reliable, timely, pertinent information on weather forecasts is insufficient and rarely useful for farmer-herders’ decision making.

The *livestock sub-sector* is characterized by a strong competition for the use of natural resources. This has already led to outbreaks of tensions in some places. There is a scarcity of the necessary factors of production – caused by the combined effects of climate variability and high population pressures. Climate-related challenges – in the form of drought and heat – lead to the emergence of animal diseases, through weakness in nutrition and shortages of water. These challenges to the livestock sub-sector, as well as unsuited soil and crop

management practices, such as uncontrolled grazing, lead directly to economic losses - primarily related to the exit of capital, reduced productivity and increased production costs on farms. This has major consequences for the resilience of poor households in rural areas.

Likewise, recent advances and development in the *agriculture sector* in Niger are in danger of being lost or reversed by climate change. This most notably relates to the high spatio-temporal variability in rainfall that causes pockets of drought in the rainy season, as well as heavy rains and floods in other areas, along with a probable overall, average shortening of the rainy season. Moreover, as temperatures continue to increase, some vulnerable animal and plant species are expected to disappear or become less productive. The frequency and intensity of wind and sand storms may increase. These climate change impacts are expected to contribute to extensive damage of crops and undermine productivity. Moreover, the limited adapted genetic material risks to exacerbate this difficult context.

2. Weak consideration of traditional knowledge and local practices related to coping with CC. Although both farmers and pastoralists developed a good knowledge and experience to counteract CC-threats, they remain fragmented and not sufficiently valorized. Lack of appropriate tools and approaches based on participatory approaches and/or self-assessments of climate resilience of farmers and pastoralists capable to identify basic needs and monitoring local CCA practices.
3. Public institutions lack information regarding measures for increasing the resilience to CC, with the consequent weakness of sector policies and programmes for improving farmers and pastoralists' livelihoods. Weak application of national policies and programmes aimed at increasing farmers and pastoralists' capacity to adapt to CC is due to the poor awareness of policy makers and institutional staff on CCA measures, and related tools and best practices to be mainstreamed into these policies and programmes.
4. The prevalence of sectoral approaches as opposed to cross-sectoral and integrated approaches: The programmes and projects listed in Table 1 address rural challenges mostly through a single-sector approach. They categorize natural resource users as either 'farmers', or 'pastoralists' or 'forest users'. In reality, the vast majority of natural resource users in Niger do all three and are therefore "agro-sylvo-pastoralists", and this is an increasing trend. Individuals and communities engage in a complex and diverse, but inter-related set of activities to exploit the range of natural resources at their disposal in order to meet nutrition and livelihood needs. In fact, this adoption of integrated agro-sylvo-pastoralist systems by rural people in Niger has been over time a response to climate variability. In recognition of the integrated nature of the livelihoods of resource users, support programmes should be more integrated.
5. Concrete mechanisms for the formulation of CCA-sensitive sectoral and cross-sectoral policies and of consultation platforms for the definition of agriculture policies on CC are absent. Despite the existing CNEDD/National Technical Commission on Climate Change and Variability (CTNCVC), it does not appear to have the means and weight necessary to influence relevant policy-making processes.
6. Two other very important challenges to increase the livelihood and resilience to CC are:
 - Lack of financial resources. Access to micro-credit remains a challenge for many rural people across Niger, especially those who are predominantly involved in livestock rearing, transformation and commercialisation, having a negative effect on rural household revenue and nutrition. Difficulties include limited access to diverse food, low added-value, lack of processing facilities and infrastructure, insufficient technical and

management capacities of producer groups, lack of information on markets, hence marketing plans that do not take into account the demands of the market.

- The role of Producer Organizations (PO) remains weak. POs need to be strengthened on several levels to be useful for farmers-herders. They are fragile in relation to the capacity on managing efficiently post-harvest processes such as storage of seed and crop product, transportation and linkages to market, as well as management of microcredit and other economic activities. POs representation in the institutions and involvement in decision-making processes and policies is also weak and needs to be strengthened.

In conclusion, the main challenges and barriers related to CC identified within the above described context are: a) insufficient information and awareness of CCA methodology, best practices and strategy among institutions, producers and consumers, b) lack of attention to traditional knowledge and local practices related to coping with CC, c) the need to build capacity in adopting drought-resilient agro-sylvo-pastoral practices to counter the adverse effects of climate variability, d) weakness of policies and programmes aimed at confronting CC in key sectors such as agriculture, pastoral and food security and promoting multi-sectoral policies and programmes, and e) the need for technology, and methods to tackle the impact that climate change has on crops and animal breeding as relevant to food security.

Additional reasoning

To address the above mentioned barriers and achieve adaptation benefits, the additional costs financed by LDCF will allow boosting the adoption of agricultural tools and practices, expanding the scope of the FFS approach, increase capacity building, and support policies and programs to shift from a reactive response towards a pro-active preparedness approach to climate events. Farmers will gain the ability to understand and adapt to climate change impacts through FFS. Once verified and tested how this model works best, and when the required human resources and institutional capacities for up-scaling have been reinforced, the FFS-based CCA will be mainstreamed into national policies through the LDCF Project by strengthening the CTNCVC, and scaled-up by the SPCR and other I3N programmes.

With the additional financing from the LDCF, the proposed project will expand the scope of the activities carried out in the country related to increase resilience of the agricultural sector to climatic changes and contribute to decrease the vulnerability of small-farmers and pastoralists who depend on agriculture. The interventions measures that this project will provide include; (i) piloting of climate resilient improved agricultural practices that better manage risk through increasing crop variation and pastoral diversity, through linking to a growing network of institutional partnerships, (ii) provision of tools and training for 20,000 farmers and agro-pastoralists to improve their adaptive capacity to adapt to climate change, (iii) complementing ongoing and planned projects and programs by developing decision making tools for farmers and by developing extension curricula for climate change adaptation, and (iv) mainstreaming climate change into agriculture policies and programs. The project marks a shift from earlier NAPA follow-up initiatives (focused on very localized pilot projects in the most vulnerable communities) by choosing to implement an up-scaling / mainstreaming strategy based on a recognized, cost-efficient and expanding training and extension approach building on the Farmers Field Schools (FFS), Pastoral Field Schools and Diversity Field Forum (DFF) concepts. While capitalizing on the results on the early NAPA implementation initiatives, the proposed LDCF project will work through the establishment of partnerships with on-going initiatives for incorporating the Field School-CCA approach in existing program frameworks such as the I3N and associated projects (see Table 1), thus contributing to fill the gap in terms of required increased adaptive capacity of the agricultural sector for food security. Furthermore, the EU-funded CoOPequity Project (2012 – 2015) will support gender sensitive and

inclusive processes in the preparation of relevant institutional frameworks. The adaptation scenario will allow for both the expansion of the Field School approach and the integration of CCA considerations and practices in Field School curricula. The Adaptation scenario will lead to a more coherent intervention which will include the following production systems mentioned in I3N's priority programs:

- (i) Dry-cereals and pastures: The major effort will be put on expanding Field Schools for more climate resilient and sustainable production of dry cereals and better integrating the crops / livestock / tree components of production systems which are particularly exposed to climate variability.
- (ii) Irrigated rice: The Field Schools will focus on a sustainable Integrated Production and Pest Management (IPPM)-based intensification strategy, including water management and climate variability mitigation practices, in support to existing and on-going investment in rice perimeters, particularly along the Niger valley.
- (iii) Vegetable production: The Field Schools will focus on soil and water management practices (including incorporation of organic matter, increased water retention, cultivars selection, better distribution in time of production cycles leading to higher earnings), allowing for increased income generation for vulnerable producers, in particular women groups.

The specific additional value of the proposed LDCF project is three-fold. The LDCF funding will allow for: (i) the development of Field Schools-based CC adaptation models using on-going FFS projects as baseline; (ii) a first level of up-scaling of the developed and tested Field School-CCA models into co-financing projects; and (iii) the mainstreaming of the approach /models through the I3N projects as well as the SPCR by providing CCA curricula and tools (such as SHARP) for farmers and setting up a Consultation Platform within the CNEDD/National Technical Commission on Climate Change and Variability (CTNCVC) to oversee the development of coherent and well-coordinated extension approaches.

1.3 FAO's Comparative Advantages

The Food and Agriculture Organization (FAO) is the lead United Nations (UN) agency for agriculture, fisheries, forestry and rural development. Its mandate is to offer Member States the policy and technical capability to raise their levels of nutrition, improve agricultural productivity, better the lives of rural populations and contribute to the growth of the world economy while safeguarding natural resources.

The proposed project is aligned with the FAO's comparative advantage in the areas of capacity building, and technical analyses and assessments in relevant areas such as sustainable crop and animal production intensification (SPI); water, land and rangeland management; agro-biodiversity; policy analysis and support; and community participative approaches (Farmer Field Schools, Action Research, etc.). The FAO has considerable technical experience and many field projects in the specific topics to be covered under this project (e.g., forage and livestock production, grasslands management, agriculture production, food security analysis, seed-sector analysis and development, analysis of functional agro-biodiversity, capacity building, community-based training, communications, sustainable land and water management and rural development, and resilience analysis).

The FAO has significant experience and a strong comparative advantage in supporting Field School approaches with experience in around 30 countries in sub-Saharan Africa. Both in Niger and in the region, the FAO is implementing several projects with significant FFS components. It can therefore draw on a large pool of expertise and experience, through the South-South cooperation, to undertake the project in Niger. The FAO's Department of Agriculture and Consumer Protection Division, through projects based on Field Schools, has developed a diversity of curricula on: a wide

variety of specific crops, on principles of soil management, on connecting farmers to markets, on participatory skills in non-formal trainings and on data management and M&E.

Since its establishment in Niger (1978), the FAO conducted a series of actions in the field of rural development and food security. In 1980 the FAO was heavily involved in the fight against desertification through work on land recovery and land management in the region of Tahoua (Keita Project). Since the year 2000, the FAO has intensified its interventions aiming at modernizing production systems and food security through the Special Programme for Food Security (SPFS) and the project “*Appui à la promotion de l’utilisation des intrants agricoles*”, as well as other initiatives. One of the FAO’s major results in Niger was the restoration of the “*National system for the production of quality seed*” (constituting research centres, centres for seed multiplication, private sector and farmer seed multipliers). In addition the FAO took action to support *Nutrition Security* through the programme « *Jardins Potagers scolaires* » (JPS) and contributed to strengthening the capacity of public institutions in the development of national policy for food and nutrition security. It has also contributed to the development of the Niger National Strategy for Food and Nutrition Security (NSFNS) and the Strategy and the Investment Plan of the national I3N initiative.

As part of the FAO regional programme on Integrated Production and Pest Management - IPPM, particular emphasis was placed on the expansion of small-scale irrigation and development of the rice sector.

Ongoing initiatives related to the proposed projects are the EU funded CoOPequity project (2012 – 2015) designed to support the government in implementing policies and measures to encourage the development of equitable and effective agricultural producer organizations (POs), and Dimitra Community Listening Clubs (CLC) or *Clubs d’Écoute Communautaires*.

1.4 Stakeholders and target beneficiaries

The key government stakeholders are the following:

- Ministry of Agriculture (MoA)
- Ministry of Livestock (MoL)
- Ministry of Environment, Urban Sanitation and Sustainable Development (MEUSSD)
- Ministry of Planning, Land Management and Community Development (MPLMCD)
- Ministry of Higher Education, Scientific Research and Innovation (MHESRI)
- The National Council for the Environment and Sustainable Development⁸ (NCESD)
- The National Directorate of Meteorology (NDM)
- Regional Governments responsible for sustainable development in the concerned region, including the coordination/implementation of support projects and the provision of policy and technical support;
- Regional and Provincial technical departments of national line ministries, providing technical support to rural populations.

Other key stakeholders include local NGOs and CSOs. A vast number of NGOs and CSOs providing agricultural/pastoral extension services are present in remote rural areas across Niger. In most of the cases, they are based in the regional hubs, as well as in Niamey.

The beneficiaries of the project will be 1,000 Field Schools composed by about 20,000 farmers/herders, Producer Organizations in the five project regions, local associations such as, the Association of Seed Producers in Niger (APPSN), the Association for the re-dynamization of Livestock in Niger (AREN), the Federation of Farmers Unions of Niger (FUGPN-Mooriben) and

⁸ Conseil National de l'Environnement pour un Développement Durable (CNEDD)

the Platform of Peasants of Niger (PPFN), as well as, Government staff at both central, regional and municipal level, and research institutions.

Farmer-herder communities that are targeted by the project belong to several ethnic groups. Most of them depend on a single production system, agriculture or pastoralism. The Hausa is the largest ethnic group constituting of more than half of Niger's population. They predominantly live in the centre of southern Niger. The south west is mainly populated by the Songhai-Zarma ethnic group, while the Kanuri live to the east of Zinder. These three ethnic groups are sedentary peoples who depend mainly on agriculture for their subsistence. They raise millet, rice, corn, peanuts (groundnuts), and cotton. On the other hand, the Fulani (Peul) and the Tuareg are dispersed throughout the country and are mostly nomadic tribes. The Fulani breed horned cattle and oxen, and the Tuareg raise goats, sheep, and dromedaries. They tend to travel over the northern region during the winter. Both Fulani and Tuareg live in tribal groups, in temporary or portable shelters and gain their subsistence from their livestock. There is a tendency among the nomads to settle down, and the already sedentary peoples are expanding the lands under cultivation towards the north. Rural life tends to slow down in pace during the long dry season. It is during these times of the year that migration to towns or other countries occurs.

1.5 Lessons Learned from Past and Related Work (including evaluations)

The proposed project builds on a vast array of lessons learned that (to the extent possible and relevant) have been reflected in the project design.

The FAO recently undertook an assessment of support mechanisms to agro-sylvo-pastoral communities⁹, notably in East Africa. The assessment provided the following summary of lessons-learned (see Table 2 below) supporting agro-sylvo pastoral communities:

Table 2: Lessons Learned from East Africa

Lesson learned	Suggested actions/instruments
Promote a comprehensive livelihood approach focusing on integrated priority areas such as crop production, livestock production and, land and water management within a disaster risk management framework.	<ul style="list-style-type: none"> - Diagnosis analysis in the area of intervention - Household Economy Analysis - Mapping of key productive infrastructure, migratory routes, geospatial distribution of community animal health workers, veterinary supply points, markets, etc.
To build resilience, focus on institution building and institutional arrangements around natural resources management.	Mainstream CCA in development frameworks
Focus on quality enhancement in national extension services	Systematically ensure that a structure overseeing quality enhancement and assurance exists and is well embedded in the overall national extension services delivery system.
Focus on the legal/policy and local governance dimension	Focus on local instruments for arbitration purposes including simple constitutions, bylaws, formal registration with the local administration and functional leadership.
Systematically focus on gender equity and	- Apply socio economic gender analysis

⁹ *Supporting Communities in Building Resilience through Agro Pastoral Field Schools* (FAO, 2013)

gender balance in development initiatives	(SEAGA) tools - Support activities that reduce female labour constraints
Focus on sustainable production intensification practices	- Safeguarding biodiversity - Diversification of farming systems
Focus on livestock nutrition and health	- Locally available feed resources, forage preparation & preservation - Tree nurseries and appropriate tree planting - Community Animal Health Workers - Approach for trans boundary animal diseases
Emphasis on rangeland rehabilitation, as key-element to build resilience	- Community rehabilitation - Over sowing with legumes in pasture swards - Appropriate bush and tree pastures
Increase resilience and food security by ensuring physical and economic access to information and resources	- Markets and market information - Resilience fund - Seed/grain banks
Focus on land management, as key element for the local socio-economic process.	- Resource sharing agreements - Conflict management techniques - Rational use of soil - Community action plans (CAPs) - Self-assessment and monitoring - Community managed disaster risk reduction plans
Promote dialogue and interchange between local and scientific knowledge.	Implement action-research programs involving; research institutions, local governments, customary institutions, specialized NGOs and local NGOs/CBOs.

The Field School Approach in Niger

The FAO and other partners have been supporting the FFS approach in West Africa since 1996 and particularly beginning with a series of regional projects starting in 2001. The FS approach has proven to be a highly successful approach that continues to elicit growing demand by countries and donors. Due also to the relevant support from the FAO, FFS has been integrated into the national extension systems in several West African countries, including Niger. Collectively, this offers a vast source of knowledge and expertise to which the proposed project will be fully linked. Outcomes from the FAO/FFS – Integrated Production and Pest Management (IPPM) programme in Niger, running since 2009 include:

- Up to 50% saving of high quality seeds;
- 50% reduction in chemical fertilizer use;
- Substantial increases in the use of organic fertilizer and “soft” alternatives to highly hazardous pesticides;
- 50 to 100% reduction in use of highly hazardous pesticides;
- Improved conservation of products coming from IPM crops;
- Up to 30% increase in average yield of IPM crops and up to 27% increase in average producer income

1.6 Links to National Development Goals, Strategies, Plans, Policy and Legislation, GEF/LDCF and FAO Strategic Objectives

Alignment to national development goals and policies

Over the past twenty years Niger has made efforts to develop a comprehensive framework of laws, policies, strategies, action plans and programmes, addressing rural development and the agriculture and pastoral sectors. The proposed project is firmly in line with national development goals and policies as follows:

Laws

The Ordinance 92/030 (8 July 1992) laying down the "directors of the rural development policy principles" and the Ordinance 93/015 (2 March 1993) "the guiding principles of the Rural Code" constitute the legal basis of the rural sector in Niger.

The Rural Code of Niger is a legal and institutional instrument that recognizes customary land tenure, pastoral mobility, and provides rules to manage local natural resources in a concerted manner. In particular, the Ordinance No. 93/015 sets the principle of the Rural Code of Niger and establishes the legal framework for agricultural, forestry, and sylvo-pastoral activities in the context of regional planning, protection of the environment, and human welfare. Moreover, it ensures the safety of rural operators by recognizing their rights and favours development through rational organization of rural populations.

Development policies and strategies

The project is in line with the major development challenges identified in the “*Nigériens feed Nigériens*” initiative (I3N), the Plans for Social and Economic Development (PDES), the National Environmental Plan for Sustainable Development (Plan National de l'Environnement pour un Développement Durable - PNEDD), the Niger’s National Adaptation Action Programme (NAPA), and UNFCCC National Communications (INC and SNC).

The PSED project for 2012 – 2015 constitutes the framework of reference of the government and its development partners’ interventions. The sectorial translation of the PSED for agriculture (including livestock) is the initiative entitled “*les Nigériens nourrissent les Nigériens*” or I3N, officially presented in March 2012.

The I3N is also the framework of the National Strategy for Food and Nutrition Security. It aims to achieve food and nutrition security through improving the productivity of food crops, the development of small-scale irrigation and small livestock, and proving support for coping mechanisms

Within the framework of the I3N is included the Strategic Programme for Climate Resilience (SPCR), highlighting the recent shift from a “development without adaptation” to a “development with adaptation” scenario. The SPCR includes the WB-sponsored Pilot Programme for Climate Resilience (Programme Pilote pour la Résilience Climatique - PPCR), and the Community Action Project for Climate Resilience (Actions Communautaires pour la Résilience Climatique - PAC RC)

The PPCR and PAC-RC aim at supporting the current process of incorporating climate resilience into development strategies and plans, in order to scale up and strengthen lessons learned from

programmes and projects by supporting existing participatory processes for knowledge exchange, and by pilot testing and scaling up improved climate-resilient agro-pastoral practices.

Within the SPCR the CNEDD/National Technical Commission on Climate Change and Variability (CTNCVC) has been established.

Niger has developed and implemented a National Environmental Plan for Sustainable Development (PNEDD) with the purpose of having a specific, unified, and integrated environmental policy. The PNEDD comprises six (6) priority programmes, including the climate change and variability programme, which specifically aims at establishing the milestones for the implementation of the UNFCCC in Niger. The proposed project will support implementation of the component on 'Information, education and training of communities support services to the problem of climate change' and will also help to improve the scientific and technological capacity of local decision-makers.

Niger also has a National Gender Policy (2008), of which the axis 2 is "The fair promotion of the potential and status of women and men within the household economy and in the market economy". These include strengthening the response capacity of women in the informal sector, food production, processing and marketing of agricultural products.

National Adaptation Program of Action

Niger's National Adaptation Programme of Action (NAPA) process, supported by other national processes such as the National Strategy and Action Plan for Climate Change and Variability (SNPA/CVC), established that climate change is likely to have adverse effects on communities' livelihoods resources and consequently on food security.

The preparation of the NAPA was through a participatory identification and prioritization process. The NAPA identified the following vulnerable sectors: agriculture, water, livestock and forests/biodiversity. The NAPA also identified the most vulnerable groups as being the rural poor, notably women, youth, and small-scale producers. The proposed project will focus on key adaptation interventions that were identified in the NAPA process as being of high priority by stakeholders at national, departmental, communal, and village levels. The NAPA identified 14 priority actions to be implemented immediately, covering vulnerable groups in the four above-mentioned sectors. This project will contribute to the following 8, among these 14 priority actions:

1. Introduction of fodder species in pastoral environments
2. Diversification and sustainable intensification of irrigated crops
3. Promotion of peri-urban legume growing and animal production
4. Production and dissemination of agro-meteorological information
5. Contribution to controlling climate-sensitive diseases (affecting cropping systems)
6. Development of soil/water conservation and soil protection/restoration activities
7. Promotion of climate-adapted species for animal and vegetal production
8. Strengthening of technical, material and organizational capacities of rural producers

Alignment with FAO Strategic Framework and Objectives

FAO's Strategic Framework as reflected in the Organisation's 2014–2017 Medium-term Plan, contains five Strategic Objectives (SO). Strategic Objectives 2 and 3 are particularly in alignment with the objectives of the project.

Strategic Objective 2 (SO2): Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner. Under the SO2 the project will contribute specifically to:

- *Outcome 2.1:* Producers and natural resource managers adopt practices that increase and improve the provision of goods and services in the agricultural sector production systems in a sustainable manner. Aligned with Outcome 2.1, the second component of the project aims at increasing resilience of three production systems through the adoption of improved Field School-based Climate Change Adaptation strategies, practices and a broader choice of adapted genetic material. The project will build skills among producers and natural resource managers to enable them to adopt practices that improve sustainable production intensification.
- *Outcome 2.2:* Stakeholders in member countries strengthen governance – the policies, laws, management frameworks and institutions that are needed to support producers and resource managers in the transition to sustainable agricultural sector production systems. Aligned with the Outcome 2.2, the third component of the project will increase institutional capacity and cross-sector coordination which will lead to the mainstreaming of climate change adaptation strategies into policies, programs and planning of the agro-sylvo-pastoral sectors.

Strategic Objective 3 (SO3) - Reduce rural poverty. Under the SO3 the project will contribute specifically to:

- *Outcome 3.1:* The rural poor have enhanced equitable access to productive resources, services, organizations and markets, and can manage their resources more sustainably. The project will contribute to SO3 in particular through Output 2.6 aimed at improving the communities' resilience by strengthening Producer Organizations which will support farmers to access microcredit, reinforcing links to markets and increasing income generation.

The project is also aligned with Niger Country Programme Framework (2013 – 2016), contributing to the first two of the three priority intervention areas in the framework; 1) strengthening the resilience of vulnerable populations, and 2) increase, diversify and enhance agro-forestry-pastoral production and fisheries.

By 2018, the project will contribute to fulfilling Priority 1 of the UNDAF which is “Resilience: food and nutrition security, environmental management, risk and disaster prevention and management” as well as Priority 3, “Governance-peace-security”. Thus, by 2018, (i) vulnerable households and targeted communities will have increased their nutritional and food resilience, (ii) supported national, regional and local institutions will use systems and mechanisms adapted to risk/disaster prevention/management, sustainable management of the environment and food security, and (iii) national and local institutions, communities and target groups will apply principles for good governance and consolidation of the rule of law.

This project will also contribute to achieving the objectives defined by the FAO in the Action Plan for the Country Programming Framework (CPF) for Niger until 2018. Thus, the FAO with its available resources accompanies the Government of Niger in building, (i) resilience of vulnerable populations to food insecurity, (ii) on increasing diversification and valorization of agro-sylvo pastoral and fisheries production, and (iii) a creation of a political and institutional environment conducive to agricultural development and food and nutrition security.

Alignment with the GEF focal area and/or LDCF/SCCF strategies

The proposed project is consistent with the strategic objective of the LDCF fund to promote LDC's “climate compatible” development options and supports the achievement of the MDGs under

conditions of climate change.

The project is fully in line with the guidance from ‘*Programming Paper for Funding the Implementation of NAPA’s under the LDC Trust Fund*’ (GEF/LDCF 2006). Firstly, in line with GEF/LDCF (2006)¹⁰, this project was identified and conceived through the participatory NAPA process in Niger. Moreover, it was designed to be consistent with, and supportive of, national development strategies, and with the I3N initiative and the National Adaptation Plan (NAP).

Secondly, the project addresses the urgent and immediate activities identified in the Niger NAPA, and is in line with the priority sectors identified in GEF/LDCF (2006)¹¹ at a global basis. Notably, this project focuses on the food security, agriculture and community development sectors. Thirdly, this project is designed to be an integral part of (and to give support to) the ongoing new national development process I3N¹². Hence, it has been developed with key stakeholders at all levels in the agriculture, livestock-raising and agro-forestry sectors, and it is fully consistent with existing plans and policies in these sectors.

Finally, this project has been designed to address the additional costs imposed on the development by climate change¹³. As such, the project builds on a sizeable baseline and enjoys significant co-financing from government and other partners. The project only supports activities that would not be necessary in the absence of climate change. In the calculation of the Additional Costs, the simplified sliding scale has been adopted, in line with GEF/LDCF (2006)¹⁴.

Specifically, the project will support the objectives CCA-1, CCA-2 and CCA-3, with particular focus on CCA-3, in accordance with FAO’s comparative advantages. Moreover, the GEF/LDCF/SCCF “*Adaptation Monitoring and Assessment Tool*” (AMAT) has been used in the design of the project’s results framework. AMAT indicators are to be used to measure progress toward achieving the outputs and outcomes established at the portfolio level under the LDCF/SCCF results framework.

Finally, this project will also contribute indirectly to reduce land degradation (LD) by strengthening the “*Gestion Durable des Terres*” (GDT) approach’s capacity to more effectively coordinate actions with line ministries of the rural development sector and more fully incorporate CC considerations into GDT’s menus.

¹⁰ Article: 8.1 (b).

¹¹ GEF/LDCF, 2006, Article: 12.

¹² GEF/LDCF, 2006, Articles 13 and 14.

¹³ GEF/LDCF, 2006, Articles 18 and 19.

¹⁴ GEF/LDCF, 2006, Articles 27-30.

2. SECTION - Project Framework and Expected Results

2.1 Project Strategy

The proposed LDCF Project will employ a suite of proven and cost-effective outreach and non-formal extension methods in order to effectively scale-up local testing and adoption of CCA strategies and practices with the aim of increasing climate resilience of Niger's key agricultural and agro pastoral production systems. The project approach is in line with Niger's recent move from a "development without adaptation" to a "development with adaptation" baseline scenario.

In order to respond to the challenges of the baseline scenario, the project will help communities to integrate climate change adaptation (CCA) knowledge, strategies and tools in the agricultural sector by using a three-pronged approach; a) taking stock of promising existing and new practices for plant and animal genetic materials, and pilot-testing them together with farmers and researchers, b) using these results to strengthen farmers capacities through developing and scaling-up a process of Field Schools (three types), and c) mainstreaming climate change considerations into agricultural sector planning and by increasing cross-sector coordination.

Communities will be aided through a variety of tools to collectively explore and discuss their past, current and potential future farming systems in an open, gender-sensitive and transparent forum in order to jointly determine priorities for action. Broad stakeholder involvement in diagnostic activities will provide a pragmatic and understandable profile of the agro-sylvo-pastoral sectors. The first project component will employ a set of diagnostic, participatory tools and pilot a range of CCA practices aiming to improve resilience (e.g. adaption and adoption of genetic material, soil and water management practices, etc.). Under the second project component the piloted actions that show most promise will be up-scaled in existing and new Farmer Field Schools (FFS) and Pastoralist Field Schools (PFS). The project will further reinforce pragmatic approaches to community learning by integrating Diversity Field Fora (DFF) for plant genetic resource management, and Community listeners Clubs (CLC), for communication and dissemination of experience within and among neighbouring communities.

To assure longer-term sustainability of project results, activities will provide special attention to linking community groups resulting from the Field Schools to producer organisations (POs), while helping build capacity among existing POs. The project will foster the development of inclusive, gender and nutrition-based initiatives, and microcredit and revolving-fund development actions within FFS/PFS. As per GEF requirements accredited institutions will be involved in the process¹⁵.

Under the third project component, the activities and outputs of the first two components will be presented for discussion among stakeholders at all levels, with the intention of eventually mainstreaming CCA perspectives and approaches into national and district-level sectoral

¹⁵ GEF Council Paper (2007): *As regards revolving funds, UN agencies (UNDP, UNEP, FAO) can make grants to a credible financial entity to establish a revolving fund (sinking fund, contingent fund, or guarantee fund). The UN*

Agencies are not able to recover investment returns, but can ensure that any repayments and returns on capital be reinvested in project objectives. Such funds would not normally result in reflows to the GEF Trust Fund.

policies. Ministerial institutional personnel and policy-makers will be assisted and trained to design CCA policies and an inter-institutional discussion platform will be established in support of the CCA mainstreaming process.

The Integrated FFS, DFF, PFS and CLC Approach

The Farmer Field School (FFS)¹⁶

The Farmer Field School is an approach to agricultural extension that is based on the concepts and principles of non-formal education (also known as ‘adult education’, ‘participatory training’, ‘discovery based learning’, etc.), and was first developed in an FAO programme more than 20 years ago in southeast Asia as an alternative to the conventional top-down extension approaches. It uses participatory methods to create a small-group learning environment in which small-farm managers have the opportunity to learn together in a group of peers over the course of a cropping season in a risk-free, field-based setting.

The FFS is coordinated by a “facilitator”, normally an extension worker or in some cases, a farmer who has graduated from another field school and then gone through additional training. The facilitator organizes the weekly meetings and guides the group, of roughly 20-25 small-holders through a set of field-based activities based on simple experiments contrasting the farmers’ “conventional practice” with an alternative set of practices that the farmers discuss and agree upon ahead of time.

Each week the FFS, divided into small groups of five farmers, take measurements and make observations of the two comparison plots. They also take measurements of plant growth and development, samples of insects, weeds, or diseased plants and then return to prepare a weekly presentation based on samples, counts and drawings. Each week one member from each group reports back during the plenary session, which is followed by discussions and group planning.

The facilitator is tasked with encouraging farmer participation to discuss and introduce new ideas through guided exercises. The challenge is to encourage active exploration and understanding within key themes of the mechanisms of how farming systems work, but without the facilitator dominating and driving the nature and content of the discussions. The emphasis is on observation, experimentation and discussion “by farmers, for farmers”.

The facilitators are trained by Master Trainers trained in intensive, season-long ‘training of facilitators’ (TOF) programmes, with the aid of detailed curriculum and training modules, but following the same in-field, ‘learning-by-doing’ approach that they will in turn practice with the farmers. Master Trainers in the first instance come from other countries that are already advanced in the process; hence, ‘south-south’ collaboration is critical to the quality and success of the programme. The Facilitators and Master Trainers provide links to district and national-level resources, including extension and research services, in order to access needed reference information and to keep information and knowledge flowing in all directions.

The alternative practices being explored are not assumed automatically to be ‘superior’ to conventional practice. They may or may not be better suited to the local context and it is up to the farmers to decide what works best for them, constructing their own evidence-based

¹⁶ Source: www.fao.org; FAO 2013 (op cit.)

‘recommendations’. The approach is meant to be experimental and to provide farmers a safe and risk-free setting in which to try out new ideas, inputs and technologies. The approach can be a mechanism whereby farmers explore and modify generic, national research recommendations in their own local context. The FFS thereby provides a mechanism for local adaptation by local practitioners, as a means of increasing the likelihood of eventual adoption of improved practices.

At the end of the season the FFS group holds a field day to show local politicians and government agriculture workers, and other farmers what they are doing. The project also supports farmers to host exchange visits for members of other field schools, and visit the other field schools themselves. This allows them to share ideas and see how others are dealing with similar problems.

The approach has been used to enable farmers to investigate a wider range of topics, including soil fertility management, conservation agriculture, control of surface runoff, water harvesting, issues related to local varietal selection and conservation of seeds, alternatives to toxic pesticides, new crops for food and profit, and many more topics. The season-long approach helps build stronger social ties (“social capital”) and has led to many initiatives (i.e. development of ‘clubs’, cooperatives and networks and strengthening of Producer Organizations) in subsequent seasons after the initial FFS.

The FFS approach anticipates working with farmers for more than just the one season. A multitude of approaches have been developed for maintaining group activities after the first season. The FFS approach includes strong emphasis on team building and organizational skills. This organizational capacity can be applied to many challenges, not just productivity. Notably, the organizational capacity can be applied along the value chain – to financing, post-harvest processing, marketing, and to sales and investments.

In Niger, the implementation of FFS started in 2005, tackling the main agricultural crops (millet, groundnut, cowpea, etc.) and for integrated soil fertility management. Such activities were supported by the project "*Promoting the Use of Agricultural Inputs by Producer Organisations*" funded by Belgium, with a particular emphasis on the linkages between learning, income generating activities and input shops (*Boutiques Intrants* (BI)).

Earlier efforts to establish FFS in Niger can be found in the most productive agricultural areas of the country, along the Niger River and the Sahelian band of the regions of Tillabery, Dosso, Tahoua, Maradi and Zinder. Therefore covering the two main agro-ecological zones considered vulnerable by NAPA.

Tools for capacity building in Niger have been developed and applied through the integrated management system of production (IPPM¹⁷) based on the experience of the FFS for irrigated rice and vegetable crops. Different projects conducted during the period 2010 – 2013 (e. g. IPPM APRAO, RUWANMU) introduced 1350 field schools (of which 850 for vegetable crops and 500 for rice) benefiting more than 27,000 farmers.

The FAO and other partners collaborated closely with the General Directorate of Crops Protection¹⁸ of the Ministry of Agriculture. The success of the approach is recognized by the Government of Niger who requested the FAO to help institutionalize the FFS approach.

¹⁷ Gestion Intégrée de la Production et des Déprédateurs (GIPD)

¹⁸ Direction Générale de la Protection des Végétaux (DGPV)

Despite these successes and improvements, the FFS approach in Niger currently faces several challenges. The first challenge is the fact that many of the earlier FFS projects were based on different approaches to the model approach to training described above; hence, a diversity of FFS models have evolved in Niger. The government has requested the FAO to help 'harmonize' the approach in order to assure high standards of quality and sustainability of the approach.

Another important challenge is that the FFS approach in Niger has focussed on small-plot vegetable and rice production systems. This approach applies most appropriately to agriculturalists that focus on a limited number of crops, especially cash crops. However, a great number of farmers in Niger are almost entirely subsistence-level producers, who practice integrated crop/livestock farming. In many cases, their central activity is livestock-raising, with some crops produced for animal feed and other crops grown for subsistence. The FFS models previously developed in Niger are not sufficiently equipped for these farmers because; (i) the technical needs are different to those of the technical support needed for livestock raising and for a greater diversity of crops, and (ii) the approach used within crop/livestock farming is different. With livestock, the focus is on the animal herd and the grazing land and not on small plots of land, and (iii) because the technical demands are more diverse the institutional linkages for technical support need to be broadened.

A further challenge is that, although FFS has been de-facto adopted as the extension model, the actual understanding of FFS among decision-makers and policy-makers is limited. Hence, inadequate attention is paid to; (i) ensuring a community-based bottom-up approach, and (ii) ensuring sustainability, notably through follow-up refresher courses and adequate M&E.

Pastoral Field School (PFS)

The Pastoralist Field School is an approach first introduced in arid and semi-arid lands (ASAL) areas by *Vétérinaires Sans Frontières* - Belgium (VSF-B) and International Livestock Research Institute (ILRI) in 2004, with the FAO providing technical assistance in terms of training the facilitators in the delivery methods. The primary aim was to improve the capacity of Community Animal Health Workers (CAHW) so that they could serve as livestock managers. This CAHW had already been recognised as distributors of veterinary supplies. Since then a number of partners have been implementing PFS funded under different programmes.

The PFS approach is an adaptation of the FFS for use in pastoral communities. The idea behind the approach is to provide pastoralists with a means of testing different innovations compared to their own indicators of success (which are commonly as much social as they are economic). In its application, the PFS concept is envisaged to contribute to improved livelihoods of the pastoral communities through creating unity, building conflict negotiation skills, reducing poverty and strengthening of pastoral institutions, thus leading to improved preparedness for crises, principally drought and floods.

The PFS aims to build skills, knowledge and social capital within pastoral communities to improve their livelihood strategy to better cope with the effects of environmental shocks and other serious issues. PFS will be a platform for participation by a diversity of actors, where skills can be explored and developed for a variety of key challenges, including improving production and better managing conflicts. The learning-by-doing, experimentation and

validation aspects integral to the Field School approach, facilitates the adaptation and eventual adoption of methods and technologies within a local agro-ecological context. Pastoralists participating in Field Schools gain organizational skills, knowledge and practical skills that carry on beyond the end of the project; thus giving some basis for sustainable solutions.

The Diversity Field Fora (DFF)

The Diversity Field Fora (DFF) or “*Champ de Diversité (CD)*” is a well-tested approach in the region that builds on the concept of FFS. The DFF approach was developed in low-heritability environments in West Africa to strengthen the capacity of farmers to analyze and manage their own crop’s plant genetic resources¹⁹. Low-heritability environments are those in which seedling establishment and breeding of locally adapted varieties are difficult due to extreme spatial and temporal heterogeneity in crop-environment conditions, including the unpredictability of seasonal distribution of rain in the Sahel. As in other subject domains, the community participatory approach generates skills, leading to better and more locally adapted outcomes for farmers with regard to their crop-plant genetics, when compared to a strict “technology transfer” approach that has historically been applied uniformly across large geographic areas.

DFF experimental plots at the village level aim to strengthen the capacity of farmers to examine and set priorities to overcome barriers in order to better manage their own plant genetic resources in a manner that maximizes adaptive potential. The DFF create a social “safe space” (low risk to participants) that facilitates the exchange of ideas among farmers, extension agents and researchers. In DFF, farmers experiment with different varieties – both landraces and improved varieties – and evaluate different management practices. The DFF is an adaptation of the joint learning process developed under the FFS approach and was first established in Burkina Faso, Mali and Niger at three sites per country, representing different environmental conditions with annual rainfall averages ranging between 200 – 600mm.

DFF was introduced and is still on going in many areas of Niger, including Dan Saga, Guidan Tagno, Elguéza and Angoul Doua.

The DFF approach involves the following steps:

A group of 30-40 male and female farmers meet from a cluster of neighbouring villages. The group examines major constraints to the production of their food crops and prioritizes those problems to be resolved through participatory research. The group decides on a number of priority crop species to be tested and agrees on a suitable plot where the experiment will be set up. With facilitated guidance from research and the extension service personnel, the farmers select both local cultivars and improved varieties of the species to be tested at a chosen site.

The group agrees on criteria for testing and selection of the best performing cultivars and on conservation practices. Both traditional and modern criteria are used. Previous experience shows that female farmers tend to assign higher value to criteria related to cooking quality and post-harvest characteristics, while male farmers gave more importance to quantity and market value.

Weekly meetings at the experimental site allow DFF participants to closely monitor the crop cycle. As in Farmer Field Schools, participants are divided into smaller groups to observe

¹⁹ Bioversity International 2008

and collect information on the various crop varieties. This information is then presented and discussed in the local language in the larger group plenary.

The most important constraint identified at each stage of the crop development cycle becomes the focus of discussion and experiments aimed at finding solutions. At the end of the cycle, varieties with desired traits (e.g. plant vigour, resistance/tolerance to pests and disease, tolerance to water stress and with good taste and yield potential) are selected, multiplied and disseminated within the group and beyond.

DFF Gender Approach: To date, the farmer groups in the DFF have included about two-thirds male and one-third female participants, on average. The age of participating farmers varied from one site to another with an average of about 30 years. Depending on religious or cultural constraints, the groups have sometimes been subdivided into separate groups of men and women. In Dan Saga at Aguié in Niger, the women's sub-group successfully worked on the newly domesticated leafy vegetable *Cassia tora* and produced seeds that were sold to farmers from other villages.

A study conducted in Aguié in Niger (project PPILDA, financed by IFAD) revealed the fundamental role played by women in increasing genetic diversity through the production and dissemination of seeds of various crops, including newly domesticated ones. Indeed, in parts of the project area in Niger, tradition requires brides to bring varieties from their villages of origin to their new homes, as both gifts and as 'agricultural working capital'. If a woman should later lose her introduced variety, it is reintroduced from her village of origin. Women are often the first to domesticate a wild food species. In Niger, women were the first to cultivate and to conserve seed for food crops such as *Cassia tora* and *Ceratotheca sesamoides*.

Experimental design: As mentioned, the species and cultivars to be tested in the DFF are selected by farmers based on their priorities for crops and the constraints they identify in their production systems. With the climate variability inherent in the areas, farmers generally favour introducing relatively well-performing cultivars from dryer zones into relatively more favourable (wetter) zones, in order to benefit from their evolved traits for drought stress. Older cultivars, known previously for specific traits, which have disappeared from a village, are tested for possible reintroduction.

A simple randomized complete-block experimental design is used in the DFF. The experiment is repeated in different local soil conditions (e.g. sandy, clayey or intermediate soil types) to take into consideration the varying environments.

The Community Listeners' Clubs (CLCs)

The Community Listeners' Clubs (*Clubs d'Écoute Communautaires, CLC*) is a FAO initiative known as DIMITRA. In a typical CLC, communities organize themselves into three groups of women, men and youth, to discuss specific topics determined ahead of time by the groups. After separate group sessions are held, a common plenary session is held in which each group presents its findings. Their conversations are aired live on local partnering radio stations or recorded for later broadcast. This stimulates discussions in other community clubs – in turn aired by the radio station – focusing on concrete actions that can be taken in the communities and keeping the conversation going among all the Dimitra listeners' clubs in the area. The

clubs are equipped with windup, solar-powered radios and in some cases, solar-charged cell phones.

These interactive radio programmes are aired in local languages. The CLCs empower their members to become actors of their own development to increase knowledge and understanding of issues important for the communities' lives and livelihoods.

The goal is to open up communities to discussing important social and technical questions and to build members' knowledge in such areas as agricultural and livestock practices, community strategies for reducing food shortages, hygiene and sanitation, health, nutrition, and food safety. The project will in this manner introduce concrete management issues that ultimately link to building resilience to climate change. Existing listeners' clubs in Tera - Niger, proved instrumental in alerting local officials about locusts in the region in September 2011. In Kiota, community club members reduced animal waste in public places simply by agreeing publically to prevent livestock from wandering freely, and are encouraging neighbouring villages to do the same.

Since 2013, pilot Community Listening Clubs have been established in Niger to explore possible connections with the IPPM/FFS project. A Letter of Agreement with local NGO *Vie Kande Nie Bayra* was finalized and as of January 2014, the testing of joint CLC/FFS is on-going in 50 CLC in the Say and Tillabery regions.

2.2 The Project Intervention Area

The Project will engage communities and stakeholders across a diverse geographic and socio-economic context. Activities will take place in five regions and will work with three general categories of farmer/herder communities.

CCA activities in the context of Field Schools will focus on the areas that are at risk of extreme weather events (droughts, floods, winds, etc.). Niger is divided into a Sudanian zone (1% arable land) most suitable for agricultural intensification, and a Sudano-Sahelian zone suitable for agriculture and livestock (10% of Niger's arable land). These two agro-climatic zones mainly cover the five project regions (Maradi, Tahoua, Zinder, Dosso, and Tillabery) where targeted communities are located (see Appendix 6).

Project sites will be identified in the first three months of project implementation and will be selected through a participatory process. The project will target 1000 Field Schools in 500 communities across the five regions.

The project will work with the following three types of Field School communities:

Communities based around transhumant livestock-raising systems. In Niger, there are different types of systems ranging from sedentary livestock rearing to transhumant pastoralists. Highly mobile herds and extensive grazing constitute the majority of cases. Approximately 75% of livestock management is based on nomadic and transhumant movement, at national or cross-border levels. These are predominantly in northern and eastern regions. Livestock rearing is characterized by cyclical migration in search of pasture, water and salt-lick points; involving camel, cattle, goats and sheep. Herders travel for long periods with their livestock and so, community activities are spread out across a vast area. Other members of the community are involved in food production practices for human consumption and animal feed.

Since the 1960's the government has implemented various standards to secure and support pastoralism in Niger. The northern boundary of cropping defined by the 1961 Act establishes two types of ownerships in the country: at the southern geographic limit, the land tenure system, and at the north of this boundary, the land dedicated to livestock farming. These Zones are subject to strict management regimes, governed by the *Code Rural Secretary*. Theoretically, livestock producers, officially installed in these zones, benefit from a strong extension input and a strong network of livestock infrastructure (water points, vaccination pens, sale points for inputs, small milk collection units and so on). In May 2010, a sectoral law on pastoralism was adopted, integrating all previous texts into a unified national Rural Code. Among the principles that already exist in the Rural Code that are reflected in the sectoral law on pastoralism is; (i) the validity and immutability of the northern boundary of crops destined to protect the pastoral area from encroachment by crop-based agriculture, and (ii) the definition of pastoral lands as common lands. Meanwhile, the right to pastoral mobility is clearly recognized by Article 3, which states that "mobility is a fundamental right of farmers, pastoralists and transhumant" and "this right is recognized and guaranteed by the National Government and local authorities".

Communities based around semi-intensive, non-transhumant, livestock-raising systems. These are predominantly in the West and South Central Regions. Although livestock-raising is the dominant economic activity, the communities are not transhumant and the areas covered by herds are smaller. However, economic (and cultural) life revolves around the herd, not the agricultural land or cultivation activities. Grazing is typically structured around *communal pastoral zones*, managed at the commune level. Land for animal feed and food production is also specified in the communal land maps and plans.

Communities based on agriculture having existing Field Schools: These communities are in more fertile areas with more reliable climates and are able to perform agricultural work, notably cultivate rice, millet, cowpeas, peanuts and vegetables. However, all the farmers also have livestock – as a source of additional income and food security and numbers of livestock are increasing. These communities already receive Field School support through ongoing projects (IPPM, PPHSA, RUWANMU, PASADEM). However, those projects support is crop-focused, it does not address the ecosystem in an integrated manner, and it does not support livestock raising activities. It focusses on a small plot of land managed by the Field School. In Niger, FAO is already working with 214 Field Schools.

In such communities, the project will strengthen the existing approach to FFS. It will ensure that climate resilience plays a central role in the Field School, and that the community becomes climate resilient. It will include integrated technical support to cover areas such as land management, water management, catchment protection, and nutrition, modules on commercialization and increased biodiversity and animal husbandry. It will provide organizational support, directly assisting communities to address issues such as land tenure, micro-credit, and improving the role of women. It will assist the Field Schools to link-into commune planning and development processes, and obtain greater levels of development support.

2.3 Project Objectives

The **Adaptation Objective** of the Project is to enhance the capacity of Niger's agricultural and pastoral sectors to cope with climate change, by mainstreaming Climate Change Adaptation (CCA) practices and strategies into on-going agricultural development policies and programmes.

The **Development Objective** is to help stakeholders adopt a field-based, pragmatic community learning process that leads to increased understanding, adaptation and eventual wide-scale adoption of improved agro-pastoral practices, which in turn creates a trend towards increasing production, improving livelihoods and enhancing food and nutrition security.

The Project is to be implemented through **four Components**.²⁰

2.4 Expected Project Outcomes

In line with the three core Components, the **three expected Project Outcomes** are as follows:

Outcome 1: An “operational enabling environment” is created for promoting adoption of CCA practices and technologies through creation of partnerships, execution and analysis of baseline surveys and compilation and pilot-testing of existing and proposed new technologies and methods.

Indicators

- Strengthened capacity of project managers and stakeholders to transfer tested and selected appropriate adaptation technologies and tools. From No Capacity < 50% to Moderate Capacity achieved (75%). 25% female (LDCF AMAT indicator 3.2.2).

Baseline

- No specific technologies and tools to improve resilience to climate change are implemented in the project area.
- There are only fragmented and not systematized experiences of project managers and stakeholders on adaptation technologies and tools within the five project regions. (Score 1. No capacity achieved < 50% correct). (LDCF AMAT indicator 3.2.2)

Outcome 2: Increased ecological, economic and social resilience of at least three productions systems in at least 15 municipalities in two agro-ecological zones, through the adoption of improved, Field School-based CCA strategies, practices and a broader choice of adapted genetic material, leveraged/scaled up through interactions with PAC-CR and other partner programs.

Indicators

- 10% of the cropped surface of the municipalities supported by partner's programmes (40,000 ha) integrate the approved CCA strategies, practices and adapted genetic materials.
- 100% of target group (1,000 Field Schools/ 20,000 Households) is adopting at least 2 of the following types of new technologies (disaggregated by gender – 25% female: a) Climate resilient crop varieties (drought or flood resistant); b) Agronomic practices for

²⁰ There is a fourth, non-technical, component “Project Monitoring and Evaluation”

flood and drought management in crop production systems (soil conservation and agro-forestry practices); c) Resilience evaluation tools; d) Weather-forecast decision-support tools. (LDCF AMAT Indicators 3.1.1 and 3.1.1.2).

Baseline

- No cropped surface integrate CCA strategies, practices and adapted genetic materials
- Different projects conducted during the period 2010 – 2013 (e. g. IPPM, APRAO, RUWANMU) introduced 1350 Field Schools (of which 850 for vegetable crops and 500 for rice) benefiting more than 27,000 farmers. Nevertheless the curricula do not take into consideration the adaptation practices for dealing with CC threats.
- The PFS and DFF are few and recently created.

Outcome 3: Increased institutional capacity and cross-sector coordination lead to the mainstreaming of climate change adaptation strategies into policies, programs and planning of the agro-sylvo-pastoral sectors.

Indicators

- 15 targeted Municipalities, 4 Government Ministries and 1 Research Institution have increased adaptive capacity to reduce risks and respond to climate variability (LDCF AMAT Indicator 2.2.1).

Baseline

- Weak institutional capacity on mainstreaming CCA into policies and programmes.
- Targeted local and national institutions have limited adaptive capacity to reduce risks and respond to climate variability (LDCF AMAT Indicator 2.2.1).

2.5 Project Components, Outputs and Activities

Component 1: Developing and pilot-testing improved climate-resilient agro-pastoral practices

This component prepares the ground by ensuring that partnerships and working relations are clearly established with related national projects (PADSR, PPHSA, PPAAO, PDIPC, PROMOVARE, and I3N) and institutions (MoA, MoL, MEUSR, CNEDD, CNRA, NDM) in order to jointly develop strategies to address CCA in all projects. Efforts will be undertaken to compile, test and make available CCA practices and provide access to a wider array of potentially useful varieties, cultivars and breeds. Intervention sites will be identified in the five regions and extensive baseline surveys undertaken using a variety of survey tools. A database will be developed and existing catalogues brought up to date with local language versions made available, when feasible. Outputs from which strategies and curricula are developed are a prerequisite to the second component, and will inform programmes and policies in the third component.

Output 1.1 - 15 intervention sites and 15 partner-communities identified, 6 partnerships established and 10 awareness-raising campaigns undertaken related to the Project

Managers and decision-makers from the agricultural and pastoral sub-sectors will include staff of MoA, MoL, MEUSR, CNEDD, CNRA, NDM, together with regional staff in each of the five target Regions. Other key collaborators will include project coordinators and lead

technical experts from the following national programmes and projects: PADS, PPHSA, PPAAO, PDIPC, PROMOVARE, and Initiative 3 N.

Awareness raising and agreements to work together with these key stakeholders is critical to facilitate subsequent activities in Outcome 2 as well as development of Component 3 (Outputs 3.1 and 3.2). The Ministry of Agriculture has previously expressed concern on the diversity and divergence of Field School methods and has requested that FAO provide guidance to existing projects on the best methods to employ in Field School projects (“harmonizing FFS approaches”).

Baseline: Some key decision-makers and planners have a basic awareness of climate change and a basic understanding of the Field Schools approach, but this is generally limited to the traditional crop-focused approach. Many do not have a thorough understanding of the entire process of capacity building through Field Schools and some existing “Field School” projects may have specific weaknesses that need to be addressed and improved through involvement in the LDCF project.

The following potential partnerships have been identified among projects occurring in the same areas, which to date do not consider explicit CCA interventions:

- PASADEM (2012-2018)
- RUWANMU (2013-2018)
- PMERSA/MTZ (2012-2017)
- PADAD (2011-2016)
- AGIR (2012-2022)
- DGPDV, DDA, INRAN, ONAHA (Rice Cooperatives)

The proposed LDCF Project will: together with partners at the local level in each of the five target regions (Dosso, Tillabery, Maradi, Tahoua, and Zinder) identify, in PY1, the intervention sites and the targeted beneficiaries on the basis of criteria to be fully determined at the inception phase, but likely to include to some degree: diversity in terms of agro-ecological characteristics coverage; degree of support available from provincial technical services; availability of partners (including co-financing partners); availability of local NGOs or associations willing to participate in project implementation, and the presence of previous Farmers’ Schools (FFS/PFS/CLC/DFP). The Project will conduct an institutional diagnostic assessment of the projects/activities ongoing in the identified areas in order to provide guidance on how best to establish partnerships and collaborations.

The Project will undertake negotiations with the other project coordinators and local authorities (services) in order to define the collaborative/partnership work plan, identifying entry points for Field Schools training. Possibilities for joint inputs, joint activities and joint outputs will be identified and collaborative agreements secured with each of the partner projects. Joint activities may involve sharing of master trainers and already trained facilitators; the adoption and use by partners of training, with the aim of replicating within partner projects, the process, practices and CCA approaches that will be promoted by the LDCF project.

In 2001 the national Executive Secretary of the inter-ministerial committee for the piloting of SDR developed a national Atlas of projects involved in rural development. The proposed LDCF Project will update this Atlas.

With LDCF support from this project, key decision-makers and managers (100 national, regional, and district programme managers from the agriculture and livestock sectors and 50 local authority representatives) will acquire a better understanding of, and contribute to an understanding of climate change threats and possible adaptation measures. They will learn how climate change relates to their work, and how to integrate climate change adaptation into their work programmes. Additionally, they will gain a detailed understanding of Field Schools, including integrated FFS/PFS approaches suitable for agro-sylvo-pastoral communities. As a result, these key decision-makers and managers will promote climate change adaptation and integrated Field Schools approaches, and will be open to integrating these measures into their projects and programmes.

Activities will include:

- Identification of the project sites;
- Institutional analyses of potential partner institutes, projects and programmes;
- Development and signature of protocols/agreements;
- Diagnostic reports will provide material to eventually update the national atlas of projects and programmes involved in rural development;
- Awareness-raising activities will be undertaken with decision-makers and managers at all levels;
- Development of communication documents on CCA approaches based on Field schools;
- Exchanges of good practices with neighbouring country experts from Mali, Burkina Faso, Senegal and East Africa (Kenya and Uganda for PFS).

Output 1.2 - Tools for socio-economic and community self-assessment surveys selected and surveys undertaken in 15 municipalities.

A variety of diagnostic survey tools using participatory methods will be explored, selected and employed. Different tools are appropriate for use at different scales (national, regional and local levels). Data from these surveys will inform subsequent training efforts (Component 2) and provide statistically valid points of reference for future impact studies.

Baseline: In general, climate resilience assessments are only undertaken at the department level. Such baseline assessments are broad, covering mainly most of the socio-economic aspects without providing the elements needed for more detailed analyses to support interventions at community levels.

The proposed LDCF Project will support: In Project Year 1 (PY1), the elaboration of an inventory on a variety of existent baseline multi-stakeholder community assessment tools, including assessing tools and adapting them to the Niger context. Detailed assessments of farmer-herder families' climate resilience will be undertaken all throughout project implementation, using, inter alia and where appropriate: (i) RAKS (Rapid Appraisal of Agricultural Knowledge Systems), (ii) the "Climate-Proofing" tool, developed by GIZ²¹ and employed successfully in the Mali LDCF/FAO project, (iii) SHARP (Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists) currently being

²¹ On 1 January 2011, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH was formed. It brings together the long-standing expertise of the Deutscher Entwicklungsdienst (DED) GmbH (German Development Service), the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH (German Technical Cooperation), and InWent - Capacity Building International, Germany.

developed and tested by FAO specifically for LDCF projects Mali, Senegal and Uganda, (iv) TOP-SECAC, (v) SEAGA (Socioeconomic and Gender Analysis), IGETI (Improving Gender Equality in Territorial Issues), and (vi) proven multivariate socio-economic statistical methods used to characterize farming system typologies.

Resulting outputs from the baseline surveys will provide a detailed, socio-economic and agro-ecological profile of the communities and practices currently existing in the project regions. The community self-assessment tools will provide critical information on how communities currently see the status and trajectory of their agricultural systems, and provide important information on the communities' priorities for action. These data will inform the content of the subsequent project Field Schools as well as serve as baselines for estimating impacts later in this project and beyond.

Analyses from the assessment tools will later be used to develop arguments for building policy instruments to help mainstream CC into national and municipal strategies (Component 3 see Output 3.1).

Another important outcome of the surveys will be an inventory of local knowledge/practices as they relate (strongly or weakly) to CCA. During the course of the Project these practices may be modified (by farmers), but also substantiated and reinforced with appropriate research-based knowledge from Niger and neighbouring countries and institutions. Outputs will provide the basis for curriculum development for the various FS.

Activities will include:

- Establishment of a permanent working group with representatives from key project stakeholders, for the evaluation and management of the emerging technical and scientific knowledge on CCA and resilience practices;
- Baseline community self-assessment and other surveys undertaken at each of the 15 municipalities previously identified. The type and nature of these surveys to be determined by a multi-stakeholder group during the inception phase;
- Development of a geo-referenced database of currently available varietal materials and farming practices employed in the five target regions;
- Data analyses, reports, and workshops with stakeholders and invited experts to determine the significance of the data in guiding development of specific, localized strategies for addressing CCA;
- Characterization of farming system typologies for the five target regions, based on the socio-economic and agro-ecological survey results;
- A stocktaking and compilation for use of promising materials and methods from national and regional research on CCA;
- Development of a communication strategy to include as well cross-cutting issues (gender, nutrition, revenue generating activities).

Output 1.3 - Piloting on-farm tests of initial catalogue of crop varieties and farm/pastoralist practices in 15 municipalities.

Under this Output climate resilient varieties will be selected and tested in pilot sites. Varietal tests and potential improved practices will be tested in pilot sites, also known as "Action Research" efforts that involve farmers in Field School, DFF and PFS settings, together with experienced researchers who will facilitate these initial tests with farmers and help to analyze results. The outcome will be greater understanding of feasibility and strengths and weaknesses

of specific practices and varieties, together with valuable information on the challenges and opportunities of integration of multiple topics. New and locally adapted practices and technologies will be made available for use in scaling up (component 2). The emphasis will be on developing a large set of alternatives (a “toolbox”) for use in other communities, and **not** on predetermining what choices will be disseminated through future Field Schools, because what might be a strong or weak method in one community might have a different outcome in other communities.

Baseline: Improved CCA-appropriate practices are almost absent. Current knowledge of CC risks as a function of farmers' seasonal plans is inadequate to non-existent. Local knowledge and practices need to be reviewed, integrated with new methods and varietal materials, and then validated locally by farmers together with scientists. This can then be systematically shared among communities who are facing similar CC challenges.

Table 3 below shows a preliminary census of the number and type of species/varieties available and currently in use by agricultural producers in the project target zones. This constitutes a tentative first list of varieties to be tested in order to estimate their adaptive capacity to climate change.

Table 3: Initial list of species and number of varieties to be used in the project

	Species	Number of varieties included
1	Mil	33
2	Niébé	16
3	Riz	16
4	Arachide	12
5	Sorgho	7
6	Manioc	6
7	Tomate	5
8	Maïs	4
9	Sésame	4
10	Pomme de terre	4
11	Oignon	3
	Total	110

Source: national catalogue of plant species and varieties, Niger 2012

The proposed LDCF Project will support: Testing of potentially improved practices and climate resilient cultivars related to rainfed cereals, vegetables and agro-forestry-pastoral production systems in 5 pilot sites, one site per region, within both the two major agro-ecological zones of the project (PY1 and PY2). Crop management and diversification, and improved soil management techniques will be special areas of focus, as will an increased availability and diversity of food and fodder species/cultivars, together with the knowledge of how to best use them to address specific threats related to climate variability and generally increased uncertainty. Communities will be encouraged to understand that they are as much contributing to the overall development of new adaptive practices as they are benefiting from the knowledge and experience from other communities and experts (Output 2.3).

Activities will include:

- Joint research-farmer based field trials (Action Research) in locations representative of the range of conditions found in the five regions, on an initial inventory of relevant endogenous and exogenous practices and materials (many derived from Output 1.2);
- Output from initial studies discussed among partner agencies, and techniques and technologies (agricultural and fodder varieties, soil, water, etc.) added to project database and available to inform curriculum development (Output 2.1).

Output 1.4 - 5 regional databases and catalogues developed or updated including region-specific plant and animal genetic resources and potential best practices for climate resilient agriculture.

This Output will be databases and catalogues that collect, categorize and make available for use, the widest range of information existing on climate resilient agronomic practices, varieties, cultivars, and breeds appropriate to the intervention regions. It will map climate-resilient, best practices diagnosed in Output 1.2; and the outcomes of field-level tests from Output 1.3. Existing national and regional catalogues of adapted varieties will be updated, translated into main local languages, when feasible, pictographed and shared. These databases and catalogues will be an important foundation for technical support to be provided to the Field Schools under Outcome 2.

Baseline: Institutions such as the national National Center for Atmospheric Research (NCAR, the international International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and the Regional Permanent Interstates Committee for Drought Control in the Sahel (Comité permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel – CILSS), are collecting related information and drafting case studies documents on plant genetic resources, local varieties and best practices. However, there is no data-base that: (i) is specifically tailored to the Project intervention areas; (ii) is accessible in a format suitable for farmer-herders (most work has been done for academic purposes). A catalogue of local and improved adapted varieties/cultivars has already been published by the National Council of the Environment for Sustainable Development (Conseil National de l’Environnement pour un Développement Durable – CNEDD), including datasheets, but it is out of date and lacks local language versions and is not accessible to a broad set of actors.

The proposed LDCF Project will support: In PY1 and PY2, the development of a user-friendly, up-to-date database/catalogue of varieties, cultivars, breeds and diversity of practises of potential use to communities to increase resilience to climate variability for the selected Project intervention areas (Local language versions will be made available where feasible.

Activities will include:

- Collect existing information on climate-resilient agronomic varieties, cultivars and breeds appropriate to the five intervention zones (partially resulting from output 1.2);
- Update regional catalogues of adopted varieties, and translate into main local languages, where feasible, and, when appropriate, into pictograph-based guidelines;
- Include agro-forestry and pastoral best practices in database.

Component 2: Capacity building and promotion of improved agricultural practices through agro-pastoral Field Schools

This component ensures the improvement of agro-pastoral practices through three models of Field Schools (FS) in the framework of ongoing FAO-supported and governmental projects. Over the initial period of the project, the three Field School models (FFS, PFS and DFF) will be developed, refined, and up-scaled, leading to direct benefits to poor and marginalized communities across the four Regions. The improvement of crops and livestock production value chains will increase household revenue and capital accrual. The Field School approach will integrate the previously developed, but until recently, separately implemented ‘Community Listeners’ Clubs’ (CLC) approach, as a powerful means to give voice over a much larger geographic area to farmers involved in FS/CCA project activities. It is expected that the approach will broaden farm-community discussions related to CCA and adaptive production practices, and will likely accelerate adoption of new methods and technologies, including climate-resilient practices and diversification strategies that show promise to participating farmers. Producer Organizations will be strengthened to improve farmer-herders’ links to markets and microcredit institutions. The focus is at the community level, but also on developing links to regional hubs, important for local trade and policy development.

Output 2.1 Curricula for FFS, PFS and DFF training of facilitators revised in light of CCA and other cross-cutting themes, such as gender and nutrition

This Output will be a revised set of curricula in the form of training modules for FFS/PFS/DFF that will provide farmers with increased options for addressing a wide variety of CC concerns through local-context appropriate adaptation measures. The CCA curricula will cover a range of integrated crop/livestock/agro-forestry systems including: (i) geographically restricted, high-infrastructure systems like irrigated rice (in the context of extreme weather events such as flooding), (ii) moderately dispersed, high-input systems like market garden systems, (iii) geographically widely dispersed, low-intensity rain fed-cereal systems (millet-sorghum-cowpea), and (iv) livestock-raising systems with crop cultivation limited mainly for animal feed. Separate cross-cutting themes for gender and nutrition will be included in all curricula, and through the new joint activities deriving from Field Schools being integrated with Community Listeners’ Clubs (CLC). A nutrition-sensitive approach will be introduced into the curricula with the aim of reducing nutritional vulnerability by building basic, pragmatic awareness of the basics on diet and nutrition and how a “win-win-win” scenario of diversifying cropping systems can simultaneously build ecological, economic and nutritional resilience (example: leguminous cover-crops that improve soil fertility, provide produce for local sale and help provide for improved nutrition). The contents will, in part, be based on previous experience on nutrition in FFS developed in other African countries, including Kenya and Malawi.

Baseline: 214 FFS have been installed through the FAO/IPPM²² Integrated Production and Pest Management project, in vegetable and rice production systems. Separately, around 400 FFS are under development (to be updated at the beginning of the project) through the IFAD-funded RUWANMU project (with which the project will collaborate - see table in section 4 - and the concluded IARBIC project (2008-2013)²³. Different projects conducted during the period 2010 – 2013 (e. g. GIPD, APRAO, RUWANMU) introduced 1350 field schools (of

²² In French GIPD

²³ IARBIC: FAO Government Project to intensify agriculture to reduce undernourishment in Niger.

which 850 for vegetable crops and 500 for rice) benefiting more than 27,000 farmers. Nevertheless the curricula do not take into consideration the adaptation practices for dealing with CC threats. The PFS are few and recently created. The curricula will be developed for Niger in light of best practices introduced in Arid and Semi-Arid Lands (ASAL) areas by *Vétérinaires Sans Frontières* - Belgium (VSF-B) and International Livestock Research Institute (ILRI) in 2004.

Around 1,000 Community Listening Clubs (CLC) have been installed by FAO-Dimitra in Niger. A first field pilot test was carried out identifying possible modalities for linking Field Schools (FFS/PFS) with CLC. FAO DIMITRA studies support the conclusion that the highly complementary approaches provide greater mutual benefit for sharing and disseminating knowledge, information and experience than either approach does alone.

Under EU funded programme “CoOPequity” (see chapter 4.1), a partnership has been established to link Farmer Field Schools (implemented by FAO) and Community Listening Clubs (implemented by FAO/DIMITRA in collaboration with the local NGO “Vie Kande Nie Bayra”). The purpose is to establish CLC (men, women and youth) in the same locations and together with Field Schools. This will enable technical issues and new practices experimented on in the Field Schools to a broader audience in the community and beyond to other communities; the joint FFS/CLC will also enable discussion and progress on non-agricultural concerns, such as gender-balance, nutrition and land tenure. As a pilot initiative, six CLC have been established in Boga. A Letter of Agreement with local NGO Vie Kande Nie Bayra is being finalized to broaden the experience to 50 clubs existing in Say and Tillabéri.

The proposed LDCF Project will support: Revising of FFS/PFS/DFF curricula as well as introduction of multi-media training methods (CLC and participatory video) based on lessons-learned to date (PY1). Curricula will cover a range of integrated crop/livestock/agro-forestry systems currently existing in the five Regions. Training modules will include e.g., soil fertility, soil protection and soil restoration through green manure cover crops; composting techniques, water capture and management techniques; grassland rehabilitation, and introduction of non-timber forest products (NTFP). Related modules will be developed to cover livestock/grassland management and restoration practices. The database, maps, and catalogues derived from Output 1.4 will provide a basis for the development of much of the technical material to be used in training modules. The revised modules will include specific improvements in addressing issues of gender.

Based on the positive results from a recent investigation (baseline of this Output) the training strategy will promote the incorporation of the CLC as a standard method for facilitating discussion more broadly within and among local communities.

Activities will include:

- Production of CCA-oriented FFS/PFS/DFF training materials;
- Testing and revision of these materials in Training of Facilitator (ToF), refresher courses for existing facilitators (“recyclage”) and Field Schools;
- Monitoring of acceptance, and adoption of proposed methods and technologies.

Output 2.2 - 10 FFS/PFS/DFF Master Trainers and 300 Facilitators trained based on CCA curricula (at least 30% women)

Within the framework of PFS/FFS/DFF, training sessions for Master Trainers will be organized, using the training material developed under Output 2.1. Master Trainers will then train at least 300 new and existing Facilitators over the course of the project. The trained facilitators will support the training of farmers/pastoralists in 1,000 FFS/PFS/DFF leading to eventual adoption of CCA practices.

Baseline: Both Master Trainers (MT) and Facilitators for FFS projects currently exist: 45 facilitators, of which 12% are women, were trained through the FAO/IPPM project and around 100 through RUWANMU and IARBIC projects. As the latter usually do not receive regular training refresher courses, it is a challenge for them to remain up-to-date on the latest technological developments and lessons learned among colleagues in the field. MTs have generally only been trained on a single-crop, small-farmer plots, and hence (so) lack the skills and knowledge needed to address integrated agriculture/forestry/pastoral systems.

The proposed LDCF Project will support: The training of ten (10) highly qualified Master Trainers (MT) fully capable of training Facilitators on all aspects of FFS, PFS, CLC and DFF (PY1). At least three (3) of the MTs will be women. The Project Coordination Unit (PCU), assisted by national and international technical consultants will lead the development of PFS/FFS/DFF training modules, which will cover crop/livestock/agro-forestry integrated approaches. Climate change adaptation and climate resilience will be integrated in these modules as a result of pilot testing (Output 1.3). International consultants, including experienced African experts from nearby countries (e.g., Mali, Senegal, Kenya), will then provide training to the Master Trainers (“South-South” collaboration).

The Project will train at least 300 Facilitators (first half of PY2), of which at least 30% will be women. The vast majority (approximately 80%) will be from among the already existing facilitators, i.e. farmers and herders, who have previously received Field School training. These existing facilitators will have their skills/knowledge enhanced and upgraded and will be divided into specialist groups to cover the specific approaches (FFS/PFS/DDF)

All facilitators will be trained to work with a basic core curriculum, addressing “core topics” of soil and land management, IPM, water capture and management, as well as the cross-cutting topics of non-formal education (NFE) and gender. Among the 300 trained facilitators (60 per region) will be selected 15-25 “facilitator focal points” (3-5 per region) with the tasks of coordinating the group of facilitators of the region.

An additional set of “specialized topics” will also be introduced to facilitators during their initial training in ToF; however, the Project will at the same time provide intensive training to a sub-group of 5 ‘technical focal points’ (TFP) in each region from among the most experienced facilitators, some of whom will specialize, for example, on nutrition, others on agroforestry, seed multiplication and conservation, marketing and livestock management, etc. These TFPs will then provide on-going support to facilitators during the course of their work in the field as facilitators in FFS/PFS/DFF. Each of the five zones will have a specialist team of focal points, one for each specialized topic.

To evenly cover the different project intervention areas, an estimated 600 existing Field Schools will be strengthened and at least 400 new Field Schools will be installed.

Activities will include:

- Training of 10 highly qualified Master Trainers on all aspects related to FFS, PFS,

- CLC and DFF at least three (3) of the Trainers will be women;
- Additional training on CCA will be given to at least 300 facilitators (including women and youth);
- Selection from among the 300 facilitators of a cadre of 25 Technical Focal Points (TFP) to receive specialized training in one area from among the topics of nutrition, agroforestry, seed systems/conservation, marketing and livestock management;
- Strengthening of at least 600 existing Field Schools and installation of at least 400 new Field Schools in the 15 municipalities of the 5 selected regions;
- Exchange of experiences among facilitators in order to capitalize on their existing and growing experiences through national and regional workshops and “refresher courses”.

Output 2.3- 14,000 farmers and herders (30% women) trained and implementing new/adapted practices (70% of target group)

Trained facilitators operating in 1000 Field Schools (Output 2.2) will train, between the second half of the PY2 and the end of the project, at least 14,000 farmer-herders in FFS/PFS/DFF with curricula including improved CCA practices integrated crop/livestock/agro-forestry (Outputs 1.3, 2.1)

Baseline: About 5,432 producers, of which 18% women, have been trained on rice and vegetable production through the FAO/IPPM project; and another several thousand were trained by RUWANMU and IARBIC projects. The farmer/pastoralists in most of the project intervention zones do not otherwise benefit from standard, government extension support and if they receive it, extension experts are not trained on CCA practices.

The proposed LDCF Project will support: The implementation of 1000 Field Schools to develop fundamental knowledge and skill sets related to a range of technical topics to help farmers and herders address production issues within their farming/livestock system in light of CC.

With the Field Schools the farmers/pastoralists have an opportunity to go through a comprehensive learning program for at least two successive growing seasons. By merging their own traditional knowledge with external information, and by engaging in guided community self-assessment exercises (e.g., SHARP) farmers and pastoralists will identify their particular priority topics and move to eventually adopt the most suitable practices and methodologies to suit their livelihoods. Expected outcomes include more productive, profitable and resilient systems.

Some common entry points for farmers will include integrated pest management (IPM), land and water management, organic and conservation agriculture, disease management and adoption of adapted varieties.

Some common entry points for pastoralists will include livestock production systems, rangeland ecosystems, land and resources uses. Within the Climate Change pastoralists will learn how to supplement their traditional knowledge and practices.

Activities for FFS include:

- Field training of famers over a period of a full growing season, with follow-on activities during subsequent seasons;
- Adoption of new/adapted CCA practices and adapted varieties;

- Training on agricultural products management, processing, storage and marketing;
- Preparation of FFS community action plans. These plans will set out the targets, planned activities and resource needs of the FFS. These plans will be linked to existing Commune Development Plans (CPD) whenever they exist.

Activities PFS will include:

- Field training of pastoralists over a period of 18 months. In practice each group will be supported by at least one facilitator responsible for each PFS.
- Training and experimentation with adapting existing and new practices such as:
 - Integration of crop/agro-forestry/livestock system management;
 - Rehabilitation of grassland species through use of local species and improved local²⁴ cultivars (with high palatability and productivity);
 - Community guardianship over grassland and bush land species in rehabilitated areas, over a two-year period;
 - The preparation of PFS community action plans. These plans will set out the targets, planned activities and resource needs of the PFS. These plans will be linked to existing Commune Development Plans (CPD) as they exist.

Activities for DFF include:

- Selection of CC-adapted local seeds for testing;
- Identification and introduction of local varieties to be used in the FFS and in the PFS;
- Establishment of local community seed banks. Seed banks overseen by a local community will demonstrate a low-cost, sustainable way for conserving seeds of locally available species;
- Multiplication and dissemination of selected seeds.

Common activity for FFS/PFS/DFF

- Exchange of good practices from farmer-to-farmer (“field days”, CLC, rural radios and farmer-to-farmer organized field trips)

Output 2.4 - Development and adoption of participatory decision-support tools for Climate Change analysis to reduce risks by target farmers/herders and communities

This Output will improve the quality of agro-meteorological information, at various scales for time and space, for farmers and pastoralists. The agro-meteo data will be tailored to their local needs to enable better understanding of climate variability and climate change in their region and highlight levels of risk, thereby improving their ability to make effective decisions for agricultural risk management.

With the support of the national and regional meteorological (NDM - climate information’s producers) and agricultural (DGPV -agricultural extension staff) services, and through an iterative process to maximize benefit for all, suitable weather and climate information will be used to develop a “most-likely scenario” with local communities, showing what kind of climate trends are likely to emerge and how they might affect livelihoods in the short, medium and long-term future. The analysis can feed into the participatory and capacity

²⁴ Local = seeds obtained from local farmers/herders who use traditional collection and preservation systems

assessment approaches, and can be used as a basis for CCA planning by communities. Community (farmers, pastoralists) feedback may well reveal climate factors that were not understood by the national services.

Baseline: Despite the existence of several institutions working on this topic (AGRHYMET, ACMAD, FEWSNET, etc.), and the presence of an important meteorological/agro-meteorological network,²⁵ access to climate information still constitutes a challenge to different users. For instance, at present long-term general circulation models of climate are not able to provide predictions at the national level, or even at the regional level. Meteorological institutions (e.g. NDM) are poorly resourced, understaffed, lack facilities for generating climatic data, and even if they are computerized, have an insufficient level of expertise for accessing and processing climate data correctly.

Nevertheless, the existence of the project “Development of Climatic Information and Perspective”²⁶, (PDIPC)” funded by the African Development Bank, through its Component 1 “Strengthening of capacities for the generation of Climatic Information”: i) will increase and reinforce the national meteorological network with the installation, within 2015, of 35 synoptic stations, 796 rain gauges; ii) will develop 7 regional meteorological centers, one computing center, and a strategy for the maintenance of the network and the capacity building of observation personnel; iii) will develop and ameliorate climatic products and the reinforcement of the NDM capacities on seasonal forecasting and on the use of short term seasonal forecasting and the development of products adapted to the producer’s needs; iv) will establish a climate information delivery system; v) will develop guidelines for strategic planning of agro-forestry and pastoral activities and training of 266 extension agents; vi) will facilitate several agro-meteorological vulgarization campaigns for 15000 farmers and herders within the PROMOVARE project areas.

Community level understanding of the cause and effect relationships associated with climate variability is weak; information on climate variability is often expressed in probabilities and statistics, which makes it difficult for communities to understand the significance. Access to information about short-term weather and longer-term change is limited and such information is often not trusted by communities when it is available.

The proposed LDCF Project will support: The PDIPC project focused on the development and use of agro-meteorological data, information and forecast results, taking advantage of the important weather network already existing and under development/enhancement. The project will organize common training sessions in order to build capacities for Master Trainers and facilitators on climate and agro-meteorological forecasting. The Project will work together with PDIPC (collaboration) and PROMOVARE (co-finance), which have been established in the same areas.

In PY1, the project will gather information at two different levels: i) from local level by helping collect local knowledge and perspectives (participatory assessment), ii) at national and regional services level, by collecting the least 30 years historical rainfall data (mainly days and amount of rainfalls). Such information will be used to develop rain calendars tracking past trends that farmer and herders can use to compare with current rain calendars. In this way they are able to compare past trends and current status.

²⁵ The meteorological/agro-meteorological network includes: 15 synoptic stations; 3 agro-meteorological stations; 10 meteorological stations; 600 rainfall stations.

²⁶ In French - Développement de l’Information et de la Prospective Climatiques

In PY2 and PY4 data collection at local levels will be based on a participatory community-based learning approach for adaptation to climate change. This will start by introducing, through Field Schools, the Rain Calendars Tool²⁷ (RCT) to farmers, herders, POs and other relevant stakeholders. Local Indigenous knowledge covers an important role in this process because it is highly localized and often comes with practical advice on the actions to take in view of the forecast conditions.

Technical capacity will be enhanced for Master Trainers, Field School facilitators and other relevant key persons, through a training programme that will enable them to make use of agro-meteorological stations, weather and seasonal climate forecasts, agro-meteorological information, crop yield models, satellite and crop monitoring data, and a climate data base, in order to provide agricultural advisories that will increase the preparedness of farmers and pastoralists to climate variability and change.

Specific training sessions will be organized before the starting, during and before the end of a cropping season through integrated teams composed of NDM, MoA local meteorological services, and Field Schools master trainers and facilitators. Data collection, archiving, processing and analysis capacity of the Agro-meteorological information, on a decadal basis, will be achieved mainly by NDM, ACMAD and AGHYMET units that use the large Meteorological Network of Niger.

The above mentioned information will be strengthened with FAO Normalized Difference Vegetation Index (NDVI) data to measure the distribution and degree of drought. The actual impact of drought will be measured locally using consultative/participatory approaches in order to shed light on factors that can be difficult to capture through objective measures (e.g. collective community responses to drought stress, barriers to livelihood diversification among pastoralists, perceived equity of government infrastructure and agriculture investments).

Specific care will be dedicated to dissemination of agro-meteorological information through the most appropriate channels and local language (rural radios, CLC, periodic bulletin, etc.). Climate information will be regularly disseminated and analysed during the 4 years of the project.

Activities will include:

- Acquisition of past 30 years rainfall data, and development of past and current Rain Calendars;
- Gathering indigenous/local knowledge and perception of rainfall patterns;
- Supporting farmers, herders and communities in understanding the causes and consequences of climate change (Rain calendars);
- Training on Participatory scenario development for translating impacts of climate change into adaptations (in collaboration with PDIPC and co-financing from

²⁷ The rain calendar tool was designed by CARE and the International Institute for Sustainable Development (IISD) to gather community perceptions of rainfall patterns, to determine the parameters for good, average, and bad years in terms of rainfall, and to provide a platform for discussing risk management strategies to adapt to changing rainfall patterns. It is a simple, user-friendly participatory tool. It takes a relatively short time to apply it, and it doesn't require a high level of expertise to use. It provides useful information that can be used to compare weather conditions for specific sites across seasons and years. It helps document changes in the predictability of rainy and dry seasons, based on the onset and cessation. It also clarifies the consequences of the changes on livelihoods. However, it does not help in providing patterns of weather conditions

PROMOVARE);

- Capacity building of master trainers and facilitators on understanding seasonal climate forecasts at local and national level;
- Specific training sessions for NDM, MoA local meteorological services, and facilitators on integration of climate information into Field Schools;
- Dissemination and use of climate information.

Output 2.5 – 5 Producer Organizations (POs) strengthened by adoption of CCA practices

Under this Output POs within the five Project regions will be strengthened to support community development, increase capacities of POs to support the resilience of their member households, and ensure the sustainability of activities implemented through FFS/PFS. POs will also be supported to manage CCA activities funded through microcredit fund established through the Output 2.7 and to reinforce farmers' linkages to markets.

Baseline: POs are present in the project areas, even though they are often weak and insufficiently organized and operational. In the last years several projects have supported the POs.

An ongoing EU funded programme “CoOPequity” aiming at supporting government in implementing policies and measures that will encourage the development of equitable and effective POs, is taking place in areas where the proposed Project will be deployed. In particular the EU-FAO project will: a) facilitate participatory analysis of performance, equity and governance within targeted POs and sustain to organizational change; b) reinforce multi-stakeholder platforms for dialogue and consultation and building networks among POs (vertically and horizontally); c) contribute to inclusiveness (youth) and gender equality; d) empower communities. Potential synergies and collaborations between the EU-FAO project and the LDCF Project have been discussed during the PPG process and a common work plan will be defined at the beginning of the proposed project. Moreover, Niger has benefited from 1999 to 2007 from a project promoting the use of agricultural inputs (including fertilizers, pesticides, seeds) through POs, named “Boutiques d'intrants” (input supply shops). There was a particular interest on issues related to inputs financed by the warehouse receipt system. This has led to the development of a strategy of supply of inputs for sustainable agriculture (ACIS), which has been included in the Rural Development Strategy (RDS) of Niger. The continuation of this experience has been conducted since 2008 through the project “Intensification of agriculture by strengthening the input shops Cooperatives (IARBIC – 2008-2011)”. The IARBIC project's strategy was to raise awareness of POs on the importance and relevance of fertilizer control groups, to consolidate the network of cooperative input shops already widely adopted in the country and to support POs in coordinating the process of group orders for fertilizer and seed inputs. Finally, the project “Promotion of decentralized cooperation between Niger and Italy on livestock and animal enterprises (2005-2011)” contributed to strengthening the capacities of national and local actors, including POs, women groups and NGOs by providing training in different livestock production-related activities.

The proposed LDCF Project will support: The strengthening of 5 existing POs, one for each Project region (PY1-PY4). Activities carried out with POs will be closely linked to those of the Field Schools so that POs will ensure long-term support to the farmers-herders beneficiaries of the Project. The Project will support the capacity development to create an enabling environment and foster representation and participation of POs. The involvement of POs in policy consultation will be reinforced particularly through Output 3.2 within the Consultation Platform.

Autonomy and self reliance of POs members will be improved particularly in the area of governance, service provision to members, marketing, transformation, finance and human resource capacity. Improved POs governance and reduced gender gaps will be achieved by following the approach and in collaboration with the mentioned EU funded programme “CoOPequity”.

POs representatives will be trained and supported to develop and implement a Plan of Action focused on improving resilience of communities (including through Field Schools approach). Action Plans activities related to resilience as well as those which aim at improving the links to local and regional markets will be funded by the Local Adaptation Fund developed in Output 2.6.

From PY3, the Project will focus on monitoring and supporting POs partners in the implementation of action plans and in reinforcing the links with local and national institutions.

Activities will include:

The POs support will be linked to the field schools training activities and will include:

- Diagnostic and selection of POs to partner with in each of the five regions, in collaboration with FAO/ESP and/or FAO/AGS (taking into account the linkages between national umbrella organizations, local POs and farmer groups);
- Institutional strengthening of POs in terms of governance and gender equity;
- Raising the awareness of communities and POs on CCA practices for adoption of CCA practices through experience gained in FFS/PFS/DFF;
- Training PO members or management as facilitators for FFS/PFS/DFF, as relevant;
- Participation of POs in the identification of farmers to participate in FFS/PFS/DFF in their localities; analysis of the business model of POs, of market and transformation opportunities, and provision of training and support for improved service provision, commercialization and transformation of food products, based on regionally-differentiated local/national/sub-regional marketing strategies;
- Strengthening capacity building of farmers-herders to access micro-credit facilities established under Output 2.6;
- Support expansion of warehouse receipt system (“warrantage”);
- Training in elaboration and assessing of action plans based on improving resilience of their members through field schools approach;
- Support to PO participation in policy platforms and dialogue activities undertaken under component 3.

Output 2.6 Local Adaption Fund (LAIF) established in 5 regions (operational and financially sustainable)

For many Field Schools supported by this Project (Outputs 2.1 – 2.4), lack of access to micro-credit is an obstacle to climate resilience. For concerned Field Schools, it is anticipated that this aspect will come up in the community action plans prepared under Output 2.4.

Baseline: As revealed by the baseline, farmer-herders in vulnerable areas do not have access to formal financial services for various reasons (including the weakness of individuals' saving capacity, the lack of collateral, perceived high risks, and low profitability of proposed activities). This prevents farmer-herders from implementing the small investments needed to increase their resilience.

The proposed LDCF Project will support: In PY 2, the establishment of a Local Adaptation Fund in each of five Regions. The funds will finance action plan activities and operate on a revolving loan basis, through a certified financial entity,²⁸ and provide access to credit to small farmers/herders to support initiatives such as: small equipment; farm/landscape improvements; multiplication of seeds; product transformation, conservation and commercialization; other activities aimed at livelihood diversification.

Activities will include:

- International consultant develops detailed design of approach to LAIF, supports selection of implementation partners among POs and local financial institutions, and selection of national expert to support project activities;
- Selection of concerned communities based on: (i) investment needs as identified in FFS/PFS community action plans (2.4) and (ii) community capacity to save and borrow;
- Establishment of LAIF based on FFS/PFS community action plans;
- Operationalization of the Fund.

Component 3: Mainstreaming climate change resilient agro-pastoral and agricultural systems into sectoral policies and into local development

This component will mainstream climate change considerations into agricultural sector policies, programs and planning through a two-pronged approach: (i) the strengthening of mechanisms for cross-sector coordination and awareness-raising on climate-resilient production, and (ii) the consolidation of institutional capacity at national and local level to develop CCA policies and programmes, shifting from a reactive, to a pro-active approach.

Output 3.1 Development of policy briefs based on analyses of resilience

This Output will use the analytical results from Output 1.2 such as, community self-assessment tools to measure resilience, together with data from other studies that have examined issues of resilience and adoption of CCA practices, to develop policy briefs and to raise awareness of possible approaches to improve local and national agricultural policies and strategies.

Baseline: No permanent mechanism links lessons learned from local experience with decisions taken at programme and policy levels. Ongoing programmes related to CC (ACCIC, PDIPC, PAC-RC) do not include evaluation tools allowing validation of previous experiences nor the improvement and design of CC-sensitive programmes and policies. Desktop studies

²⁸ GEF Council Paper (2007): *As regards revolving funds, UN agencies (UNDP, UNEP, FAO) can make grants to a credible financial entity to establish a revolving fund (sinking fund, contingent fund, or guarantee fund). The UN Agencies are not able to recover investment returns, but can ensure that any repayments and returns on capital be reinvested in project objectives. Such funds would not normally result in reflows to the GEF Trust Fund.*

have been undertaken by FAO of large datasets produced by The World Bank, but these have not yet been fully analysed nor brought back to decision-makers in the form of policy briefs.

The proposed LDCF Project will support:

The main institutional partners (MoA, MoL, MEUSSD, MPLMCD) will be sensitized on Climate Change, CCA and resilience during PY2 to PY4, using the results of the resilience baseline analyses (Output 1.2) and possibly under other national programmes such as I3N, ACCIC, PDIPC, PAC-RC. National and local workshops will be organised to share the results of the diagnostic survey tools (such as Climate-Proofing and SHARP) selected and employed under Output 1.2 and from lessons learned from other studies undertaken to examine adoption of practices that have impact on CCA.

Activities will include:

- Translation of outputs from baseline surveys (Output 1.2) to develop proposals for mainstreaming CCA into local and national policies;
- Joint activities with the EC Global Governance project to finalize econometric analysis of a large data set that looks at “Adoption of Sustainable Land Management Practices, Climate Variability and Food Security in Niger and Ethiopia” and to then bring these results to decision makers in the form of policy briefs;
- Regional workshops to strengthen the capacity of stakeholders and decision makers on tools for monitoring and evaluation of resilience.

Output 3.2 - Reinforced institutional capacities of 15 municipalities, 4 government ministries and 1 research institution for mainstreaming of CCA into programmes and policies based on the FFS approach.

The use of resilience evaluation schemes/tools (Output 1.2) delivered through an expanding FFS network (Component 2) and shared with government institutions (Output 3.1) will lead to outcomes that may have important implications for policy at local and national levels. This Output will help facilitate actions to use the analytical results from these assessments, to identify gaps in existing rural development policies in order to establish and strengthen concrete mechanisms for the formulation of sectoral and inter-sectoral policies that incorporate CCA strategies.

Baseline: Despite the existence of programmes dealing with CC-induced threats, very few policies incorporate CC dimensions. Concrete mechanisms for the formulation of CCA-sensitive sectoral and cross-sectoral policies and of consultation platforms for the definition of agriculture policies on CC are also absent. The CNEDD/National Technical Commission on Climate Change and Variability (CTNCVC) does not appear to have the means and weight necessary to influence relevant policy-making processes.

The proposed LDCF Project will support: In PY1, the identification of strengths, weaknesses, barriers and opportunities in current policies related to CC, based on an assessment made together with the Ministry partners (MoA, MoL, MEUSSD and MPLMCD). Gaps will be addressed by reinforcing the capacity of Ministerial institutional personnel and policy-makers to design policies that address CC issues, with a particular focus on cross-sectoral policies integrating agriculture and pastoral sectors (PY2).

A coordination mechanism will be developed by setting up a Consultation Platform (PY2-PY4) within the CTNCVC to oversee the development of coherent and well-coordinated extension approaches for the five regions. Mechanisms and roles will be defined for a Consultative Platform, based on memorandum of understanding with Ministry partners and a 4-year work plan and yearly targets.

The Consultative Platform will comprise two levels—national and municipal, and will take into account policies formulated in the context of the “Communes de convergence” that are emerging across the country.

The coordination work of the Consultative Platform will include participatory workshops with decision makers, institutional stakeholders, and representatives of POs, for the purpose of collecting information about needs and proposals from local institutions and community representatives. The Consultative Platform will reinforce the involvement of POs in policy consultation relating to agriculture development for ensuring the integration of concerns and issues of POs as critical inputs in the formulation of rural development programmes.

Results from the Output will include recommendations to support greater implementation of policies in cross-sectoral programmes and the elaboration of proposals for incorporating Field School-based CCA into policies and ministerial programmes according to the national investment plan developed in Output 3.3.

Activities will include to:

- Identify gaps and inconsistencies in inter-institutional competencies and assess the capabilities and shortcomings in the formulation of CC adaptation policies;
- Establish a Consultation Platform within the CTNCVC with defined operating mechanisms and roles and including a memoranda of understanding and a 4-years work plan;
- Conduct participatory Workshops with decision makers, institutional stakeholders, and representatives of POs for sharing the community needs and identify key CCA measures to be included into policies;
- Develop and carry out training courses to strengthen the capacities of responsible for setting policies and strategies for a better consideration of CCA in sectoral and cross-sectoral policies on the basis of patterns of resilience analysis developed by the CNEDD and the FAO;
- Develop proposals for mainstreaming of CCA into national and municipal programmes and policies.

Output 3.3 - 1 National and 15 Municipal investment plan on FFS-based CCA developed for programmes and policies related to agricultural and pastoral sectors

The existing national programmes and policies will be modified and updated in order to adequately address climate change resilience in the agro-pastoral sub-sector.

Baseline: Although some programmes related to CC, such as ACCIC, PDIPC, PAC-RC, exist in the area; the current investment plans do not include Field School- based CCA.

The proposed LDCF Project will support: The identification of the investment needs (PY1) for integrating CCA measures into programmes and policies as well as available institutional project partners’ financial resources. On this basis, an investment plan will be developed

(PY2) that will describe: operational mechanisms, responsible units and their tasks, and criteria for ensuring the sustainability of the investment plan. Plans will be drafted both for ongoing programmes (50 % of which will be modified to include CCA) and for future programmes (100% of which will include CCA). The investment plan's operational mechanism will be discussed and defined using the Consultation Platform established in Output 3.2.

By taking into consideration interconnections existing between national and municipal levels, it will be possible for the investment plan to become operational in a short time in project zones.

Activities will include:

- Identify investment needs to support the growing awareness on CCA through Field Schools;
- Develop an investment plan to support the inclusion of the CCA in political strategies and programming;
- Raising awareness of national institutions to take into account the CCA investment plans within their budget frameworks.

Component 4: Project monitoring and evaluation

The objective of Component 4 is to ensure a systematic results-based monitoring and evaluation of project progress. Thus achieving project outputs and outcome targets that are established in the Project Results Framework, as well as promoting the wider dissemination of project information, data and lessons learned for replication in other areas.

Output 4.1 System for systematic collection of field-based data to monitor project outcome indicators made operational

The National Project Coordinator (NPC) will be responsible for preparing a Project Progress Report (PPR, six-monthly) in close cooperation with the PSC and the PCU. The PPR includes the project results framework with project output and outcome indicators, baseline, and six-monthly target indicators, the risk matrix monitoring, and identification of potential risks and mitigation measures for unexpected risks reduction.

On an annual basis, the Lead Technical Officer (LTO) in FAO will prepare the Project Implementation Report (PIR). The PIR includes the project results framework with project output and outcome indicators, baseline and yearly target indicators, the monitoring of the risk matrix, and identification of potential risks and mitigation measures to reduce those unexpected risks. The LTO will be supported by the NPC and PCU.

Output 4.2 Midterm and final evaluation conducted

After 18 months of project implementation, a mid-term project review will be conducted by an external consultant, who will work in consultation with the project team including the FAO-GEF Coordination Unit, the LTO, and other partners. At the end of project implementation, a final project evaluation will be conducted by an international external consultant under the supervision of the FAO Independent Evaluation Office, and in

consultation with the project team including the FAO-GEF Coordination Unit, the LTO, and other partners.

Output 4.3 Communications strategy developed

Project-related “best-practices” and “lessons-learned” for enhanced adaptation to climate risk of the agricultural sector are disseminated via publications, project website and others (PY2-PY4).

A communication strategy will be developed to promote project visibility, knowledge sharing, and “communication for development”. The latter refers to use of specific communication tools to develop key messages to target community and national levels to support the attainment of project objectives). Tools for the communication strategy will include participatory rural radio programmes, participatory videos, Community Listeners’ Clubs, articles written for local newspapers, journals and websites, as well as articles written for international websites including the project website, scientific articles, and presentations at conferences, TV reportage on national TV, and more.

In the first year of implementation, a webpage will be built within the existing IPPM programme website, hosted by FAO. The website will be maintained and updated by Project staff during Project implementation in order to share experiences and lessons learned.

Over the course of the Project, at least five publications will be issued on best practices and lessons learned through the Project. All publications will be uploaded on the Project website, and will be distributed through printed and electronic copies to local partners and government staff.

2.6 Adaptation Benefits

The LDCF project is expected to generate the following adaptation benefits; (i) Increased knowledge and understanding of CC-induced threats generated by other initiatives (PPCR and PAC-RC) are channeled in an effective and efficient manner through an expanding network of Field Schools, (ii) Resilient varieties and cultivars and sound CCA practices are adopted in dry crop cereals and livestock-based production systems (surfaces/40,000 hectares and yields are at least maintained in two agro-ecosystems strategic natural assets), (iii) 20,000 farmers and agro pastoralists adopt improved climate resilient practices through Field School training, (iv) concrete adaptive capacity at farmers and herders level is strengthened through a growing network of at least 1,000 Field Schools fully integrating CCA strategies and practices, (v) Field School-based CCA initiatives are supported by a CCA Local Adaptation Fund, contributing to eliminate financing bottle necks in the adaptation pathways, (vi) 15 targeted Municipalities, 4 Government Ministries and 1 Research Institution have increased adaptive capacity to reduce risks and respond to climate variability, (vii) climate change adaptation strategies mainstreamed into agricultural sector policies, programs and planning based on “lessons learned”, and (viii) effective and recurrent mechanisms are in place for cross-sector coordination in the implementation of Field School-based outreach strategies for CCA.

The adaptation activities will particularly focus on the diversification of agricultural systems, including introducing agro-forestry elements and promote increased adoption of improved practices related to soil, seed (varietal diversity and selection related to climate variability), water and pest management together resulting in improved ecological resilience. Community

training on marketing will help seek out new sources of economic growth (resulting in economic resilience and improved nutrition). When scaled up, these changes will result in reduced vulnerability to external shocks (socio-economic conditions, natural disasters) and in improved livelihoods. A component of the project will promote mainstreaming of climate-resilient policies in local, provincial and national policy bodies.

The Project will directly support at least 20,000 herder-farmers to develop and implement new approaches, practices and varieties/cultivar that increase climate resilience. The project will also contribute directly to organizational strengthening of these communities – leading indirectly to improvements in terms of gender, nutrition, access to and use of agro-meteorological information and access to credit and market. As a result 20,000 families, therefore approximately 120,000 households, will benefit from increased resilience to climate change.

Moreover, the project will directly contribute to improved natural resource management practices over approximately 40,000 hectares by supporting; a) extensively grazed and semi-intensively grazed rangelands, b) agricultural land used for the cultivation of crops for human consumption (rice, millet, cow-pea, peanut and vegetables) and crops for animal feed, c) naturally assisted regeneration of highly degraded rangelands - thereby decreasing the pressure on land (while contributing to globally significant sustainable land management) and increasing the supporting environment for biodiversity, and d) the protection and sustainable use of Diversity Field Flora – thereby protecting globally significant species and varieties.

It is expected that the project will indirectly have the following replication and multiplier effects:

- By supporting the establishment of a dynamic network of Field Schools, the project will indirectly influence the extension system in use across Niger. Notably, it is expected that, as a result of these interventions, the agricultural and livestock local and national interventions will; (i) better integrate climate change adaptation, thereby contributing greatly to overall adaptation across the agriculture sector, and (ii) lead to the adoption of a more integrated ecosystem approach, as opposed to focusing on individual crops. This will lead to improved land management, reduced land degradation and likely to the conservation of some species and unique varieties.
- By empowering Field Schools, and by supporting diffusion to neighbouring communities, the project will indirectly influence the implementation of many rural development projects, particularly in the agriculture sector. This should have a strong multiplier effect in terms of increasing resilience to climate change and climate variability. Although no specific indicators in terms of impact on people/per/ha are available, these processes will be monitored.

2.7 Cost Effectiveness

Cost effectiveness is a concept that is built-in to the programmatic strategy of the GEF/LDCF. The GEF/LDCF finances the ‘additional costs’ of achieving climate change adaptation, meaning the activities of the partners in the baseline cover most of the basic development and agro-pastoral issues. For this Project, this means that the FAO/GEF/LDCF project builds on top of a large baseline of agriculture, food security and livestock-raising projects. With a baseline and co-financing of approximately \$14 million, the FAO/GEF/LDCF costs are approximately 20% of the entire Project costs. That means, for every \$1 invested, FAO/GEF/LDCF gains almost \$5 of impact.

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Cost-effectiveness is also at the heart of FAO’s strategy to supporting rural development in sub-Saharan African countries such as Niger. The proposed project design is expected to be highly cost-effective since it builds on existing Farmers Field Schools’ structures that are already operational across Niger, and on ongoing activities with similar objectives and synergies with existing programmes.

The proposed project also builds directly upon previous collaborations between the FAO and Niger on FFS. Since 2005, the FAO has been supporting FFS in Niger and has created a core capacity of technical expertise and experience. This includes legal and technical capacity in the government, as well as the cadre of FFS experts that have worked on previous FAO projects. By building on these past initiatives, the project capitalizes from FAO’s past experience.

Moreover, the FFS approach in itself has demonstrated its cost-effectiveness in many contexts, including in Niger. It is a demonstrated cost-effective manner to deliver high quality technical advice to a large number of communities. Notably, under Outcome 2 of this project, for approximately \$2 million of FAO/GEF/LDCF funds, direct benefits will reach a minimum of 20,000 farmer-herders. This is about \$100 per farmer-herder.

A critical way to achieving this cost-effectiveness with FFS is through collaboration with local partners. The FAO will channel funds from the project to local authorities and NGOs that are already active in similar activities in the project intervention area. Hence, there will be few start-up costs and few costs related to the mobilization of expertise from outside the region or country.

Several alternative designs and approaches were considered for cost-effectiveness during project design. These alternatives included focusing on providing more hardware, or on focusing all capacity development efforts on national government agencies, or by installing new meteorological stations, or by FAO directly providing extension services to farmer-herders. Ultimately, it was decided that these approaches would not have as much impact per input, hence the selected focus of transforming agriculture and livestock-raising through the Field School approach was selected. This approach underlies Outcome 2.

The project also intends to minimize the use of international consultants where national expertise is available. This will reduce the travel costs and the costs of consultancy fees. Notwithstanding, where international expertise is unique or exceptionally credible, it will be utilized.

2.8 Innovativeness

Building an environment that promotes innovation is the objective of the farmer field school approach. Non-formal educational methods promote a socially safe environment. Everyone is encouraged to participate and share ideas and gender is an explicit focus. Existing local knowledge is solicited, valued and tested along with newly introduced ideas. Discussion, debate, and experimentation are the core of the field school approach. Conducting experiments in communal field school plots provide a zero-risk environment where farmers can test new ideas with no fear of loss.

Continuous innovation is ensured by the FFS approach as “grass-roots labs” in which farmers build and expand their knowledge bases and evaluate technical options, which is particularly suitable considering the need for evolving knowledge to understand CC impacts. With the additional financing from the LDCF, the proposed intervention will expand the scope of the activities carried out in the country related to increased resilience of the agricultural sector to climatic changes and contribute to decreasing the vulnerability of small-farmers and pastoralists who depend on agriculture and husbandry, through the FFS methodology which ensures a continuous process for updating the information base needed to cope with CC.

In general, previous experiences with the FFS projects in the sub-region show that sustainability of the Field School approach requires investment and time. Adoption or “institutionalization” of these educational approaches come only after sustained stakeholder involvement, at multiple levels, during which the benefits of the approach become clear, leading to increasing demand for activities.

Experience with FFS projects in West Africa shows that with time and attention to building partnerships at national, district and local levels, scaling-up to significant numbers is possible. At the community level, practices that lead to clear benefits to farmers and which are cost-effective tend to spread from farmer to farmer. In many of the countries in the sub-region where Field Schools have been active, statistics show a more than 90% reduction in use of toxic pesticides by training only a fraction of the total farming households. Diffusion (farmer-to-farmer) helps in scaling up numbers. To enable this diffusion, the project will build networks of trained trainers and farmers and link with all interested stakeholders (broadly speaking develops social capital within communities and between communities and district level service providers).

A second innovation is the development of Diversity Field Fora (DFF) within an integrated framework of FFS and PFS. The DFF approach involves local farmer-herders in the conservation of globally significant biodiversity, through the demonstration of economically viable methods that also yield benefits to local people. Thus, the DFF will help to preserve indigenous agricultural and grassland species, local protected varieties and locally developed cultivars. This approach is largely untested in Niger, despite some DFF have been positively tested, for instance in Dan Saga at Aguié.

The Project also introduces several new climate resilience related tools, many for the first time in Niger:

- SHARP, is the acronym of a programme named “Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists”. It is developed by the FAO in a collaborative manner with numerous contributors. It addresses the need to better understand and incorporate the situations, concerns and interests of farmers and

pastoralists relating to climate resilience and agriculture. It fills a void in farm system resilience assessments in an integrated, participatory and yet scientific manner that is tailored to the needs of smallholder farmers and pastoralists. SHARP is built upon the concept of participatory learning and has four main assessment areas: environment, social, economic, governance and a fifth general information category. This reflects the need to understand all aspects of the farm system and external environment that may impact the climate resilience of farmers and pastoralists.

- TOP-SECAC is a tool-box aiming to analyse and perform monitoring and evaluation. It is based on 11 tools that can be used at various stages, such as analysis of vulnerability and adaption capacities, planning of adaptation actions, and their monitoring and evaluation. It is being developed (2011) jointly by the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) West Africa, the International Union for Conservation of Nature (IUCN), and five National Agricultural Research Services (NARS) of Burkina Faso, Ghana, Mali, Niger and Senegal. This tool was, for its first time, only used in Burkina Faso. Its application also in Niger would benefit decision making and adaptation strategies.

3. SECTION - Feasibility (fundamental dimensions for high quality delivery)

3.1 Environmental impact assessment

The environmental considerations are elaborated on an outcome-by-outcome basis as mentioned in the following paragraphs.

Outcome 1: An “operational enabling environment” is created for promoting adoption of CCA practices and technologies through creation of partnerships, execution and analysis of surveys and pilot-testing of existing and proposed new technologies and methods.

Existing national policies and programmes do not adequately focus upon the nexus of climate change and food security. Project supported activities will establish a climate change vulnerability assessment and monitoring programme to inform agriculture and food security decision making. Extensive surveys and assessments will be undertaken using a variety of survey tools such as SHARP and TOP-SECAC. Pilot-testing of existing and proposed new technologies and methods is the core of this Outcome which is designed to enhance the environmental capital in target areas, and so will tend towards a positive environmental impact. The integration of ecosystem-based climate change adaptation within existing programmes and institutional responsibilities will be supported by establishing partnerships and working relations with related national projects (PADSR, PPHSA, PPAAO, PDIPC, PROMOVARE, and Initiative 3 N) and institutions (MoA, MoL, MEUSRD, CNEDD, CNRA, NDM) in order to jointly develop strategies to address CCA and to reduce environmental impact in all projects.

Outcome 2: Increased ecological, economic and social resilience of at least three productions systems in at least 15 municipalities in two agro-ecological zones, through the adoption of improved, Field School-based CCA strategies, practices and a broader choice of adapted genetic material, leveraged/scaled up through interactions with PAC-CR and other partner programs.

Activities under this Outcome aim at identifying, developing and disseminating improved methods, measures and practices for agro-sylvo-pastoral productions. This will include the sustainable use of green manure cover crops – which have positive environmental impacts and increases soil fertility. It may include the introduction of more productive adapted varieties (climate resilient seeds), and integrate crops vegetables, fruit trees, and small ruminant into households, as well as develop procedures to conserve important genetic biodiversity. Under no circumstances, intensive agricultural or animal husbandry will be introduced, and all introductions will be fully in line with carrying capacities and environmental limits. In the event that alien seed varieties are introduced, this will be first subject to FAO’s rigorous assessment process.

Outcome 3: Increased institutional capacity and cross-sector coordination lead to the mainstreaming of climate change adaptation strategies into policies, programs and planning of the agro-sylvo-pastoral sectors.

Activities under this Outcome are restricted to mainstreaming climate change issues and adaptation strategies into the national policies and strategies. This will be done through lobbying, consultation, investment and awareness raising. There will be no direct negative

impacts on the environment. Indeed activities aim to promote and institutionalize methods, measures and practices that would have a positive impact on livelihoods, and natural resource, base and on environmental capital and so improve resilience to climate change. Hence, there should be a positive impact on the environment.

Outcome 4 Project implementation based on results-based management and application of project lessons learned in future operations facilitated.

Based on the above assessment of the Project Outcomes, no adverse environmental or social impacts are likely to occur. The project therefore conforms to FAO's pre-approved list of projects excluded from a detailed environmental assessment (i.e. Category 'C'). On the contrary, the project and the LDCF resources invested are expected to have positive impacts on farmer systems, and on the sustainable use of agro-sylvo-pastoral resources, thereby creating some global environmental benefits. Notably, it should contribute to the conservation and sustainable use of genetic agro-biodiversity.

3.2 Risk Management

Risks and mitigation measures

Please see the detailed risk table provided in Appendix 4.

Fiduciary risk analysis and mitigation measures

Not required, as this is not a NEX Project.

4. SECTION - Implementation and Management Arrangements

4.1 Institutional Arrangements

General institutional context and responsibilities

The main institutions involved in the project will be the Ministry of Agriculture (MoA) and its Directorates (DPS, DGA, DGPV, RDA, AD and NIARN), the Ministry of Livestock (MoL) and its Directorates (DPS, GDLIP, Departmental Directorates of Livestock), the Ministry of Environment, Urban Sanitation, and Sustainable Development (MEUSSD), the Ministry of Planning, Land Management and Community Development (MPLMCD), the National Directorate of Meteorology (NDM), the Regional Departments of Tahoua, Maradi, Zinder, Tillabery and Dosso, 15 Municipalities within the five Regional Departments, grassroot NGO's and Associations and local Producers Organizations present in the area.

The Ministry of Agriculture, develops and implements the national agricultural policy in Niger. The key technical directorates and services in MoA are:

- Directorate of Planning and Studies (DPS) – responsible for the coordination, planning, monitoring and evaluation of all projects in the agricultural sector;
- Directorate General for Plant Protection (DGPV) – responsible for pesticide and crop protection extension system;
- Directorate General of Agriculture (DGA) – has a departmental office in each region and a technical extension service in each community. It is responsible for implementing the national strategies and policies for agricultural production, development, crop protection and food security;
- Regional Directorates of Agriculture (RDA) – responsible for operationalizing national strategies and policies at the regional level;
- Agricultural Districts (AD) – services that provide direct technical support to local authorities, communities and farmers;
- National Institute of Agronomic Research in Niger (INRA) – the country's main agricultural research and development agency.

The Ministry of Livestock (MoL), separated from the MoA late in 2011, is currently the main national service responsible for providing policy and technical support to rural areas on all issues related to livestock production and management. The key technical units in MoL are:

- Directorate of Planning and Studies (DPS) – responsible for coordination, planning, monitoring and evaluation of all projects in the livestock sector;
- Directorate of the Promotion of Livestock Organizations (DPLO);
- Directorate of Production and Animal Industries (GDP);
- Directorate General for Veterinary Services (DGSV);
- Departmental Directorates of Livestock (DDL) – provide direct technical support to local authorities, farmers and pastoralists; and promote the integration of good livestock practices at farm gate level.

The Ministry of Planning, Land Management and Community Development (MPLMCD) is responsible for the International Cooperation and Coordination of National Programmes and Projects. Its main technical unit is the Regional Directorate of Plan Management, whose mandate is to coordinate all programmes and projects at national level. It is responsible for the implementation of the local development plan (LDP) and for the technical monitoring of such implementation.

The Ministry of Environment, Urban Sanitation and Sustainable Development (MEUSSD) is the responsible agency (focal point) for implementing the UNFCCC and coordinating projects related to the adaptation to climate change, including through the provision of technical support to urban and rural areas. It is also responsible for water infrastructure in rural areas.

The National Council for the Environment and Sustainable Development²⁹ (NCESD) is responsible for the coordination and monitoring of the national environmental and sustainable development policies.

The National Directorate of Meteorology (NDM) is responsible for the collection of meteorological data and the provision of forecasts and climate change models.

Coordination with other ongoing and planned related initiatives

The project will seek to coordinate with the projects mentioned in Table 4 (see below). These include the following: (i) CCA related national development programmes (ii) FAO projects across the region (iii) GEF TF and LDCF-funded projects in Niger that address issues of common concern and that are simultaneously being implemented. The coordination will focus on exchanging lessons learned and sharing technical expertise and will be established through partnership agreements and joint work-plans.

Coordination with other initiatives will be the responsibility of the FAO Representation in Niger and other members of the Project Steering Committee, notably the MoA, the MoL and the MoEUSSD. MoA, MoL and MoEUSSD will ensure the coordination with national initiatives, whereas the FAO will facilitate coordination with regional bodies and initiatives. To ensure effective coordination, joint work-plans will be established during Year 1, through project Output 1.1.

The project will be closely coordinated with *The Programme d'Action Communautaire – Résilience Climatique (PAC-RC)*. PAC-RC has the objectives of supporting the inclusion of climate resilience concepts and tools into development strategies and plans, scaling up and strengthening lessons learned from various programmes and projects, using existing participatory processes to establish demand-driven climate-resilient development support procedures, and enhancing successful experiments favouring resilience of agro-sylvo-pastoral systems and disseminating them all over the country.

The **PAC-RC** clearly aims at integrating climate resilience in 38 selected vulnerable municipalities (“communes”), and strengthening the capacities of those municipalities to address CCA and manage CCA-related investments at local level. However, the PAC-RC proposes no specific proven methodologies or approaches to allow the “communes” to effectively reach farmers. Under PAC-RC, municipalities will have to contract (or establish agreements and partnerships for) technical assistance to be provided to farmers in

²⁹ Conseil National de l'Environnement pour un Développement Durable (CNEDD)

order to up-scale the adoption of CCA practices. It should be noted that 29 of PAC-RC's 38 selected communes are located in the Sahelian band of the regions of Tillabéri, Dosso, Tahoua, Maradi and Zinder, where the FAO is currently working with FFS, which will ensure a good geographical overlap both with FAO activities and with the proposed area of intervention of the LDCF project.

The LDCF project will also benefit from FAO's broader experience in the application and mainstreaming of the FFS approach in Niger and in neighboring countries.

The FAO is currently supporting the Government of Niger through several projects that aim at reinforcing farmer's capacities and to provide the required capacity building. These projects are based on participative education developed with the FFS approach. Funding for FFS in Niger is more recent and still more limited than in other Sahelian countries, and the FFS approach is supported by the following projects, that all aim at integrated long-term development and to poverty reduction in rural areas: i) the multi-focal GEF program "Reducing Dependence on POPs and other Agro-Chemicals in the Senegal and Niger River Basins through Integrated Production, Pest and Pollution Management - **IPPM**"; ii) "Intensification of agriculture by strengthening a network of cooperative input shops - **IARBIC - INTRANTS II**"; iii) GCP /RAF/453/SPA "Improvement of Rice Production in West Africa - **APRAO**". The mentioned projects are located in the most productive agricultural areas of the country, along the Niger valley and along the Sahelian band in the five regions targeted by the project (Tillabéri, Dosso, Tahoua, Maradi and Zinder). To date, capacity building tools in Niger have been developed and applied through the FFS-based integrated crop management system (IPPM) for irrigated rice and vegetables production.

In addition, in 2012 the FAO, with backing from the European Union, launched the **CoOPequity Programme** (Strengthening Gender Equity and Governance for Effective Producer Organisations and Improved Food Security), contributes to the Improved Global Governance for Hunger Reduction Programme which is designed to improve coordinated and informed food security and nutritional governance at global, regional and national levels. The CoOPequity Project, that aims at reinforcing farmers organizations, will focus on strengthening self-reliance and empowerment of members of the producers' organization, including increased management, entrepreneurship, leadership skills and knowledge related to access to markets in a gender sensitive, equitable and economically sustainable way. Nonetheless, the project does not support CCA approaches. Furthermore, since April 2011, the FAO has established about 1,000 Dimitra Community Listening Clubs (CLC) or Clubs d'Écoute Communautaires in Niger. **The Dimitra CLC** is a participatory information and communication project, which contributes to improving the visibility of rural populations, women in particular. The goal of Dimitra is to highlight the role of women and men as producers, so that their respective interests are taken into consideration and they can fully participate in the rural development of their communities and countries. The integration of CLC with the Field Schools has recently been piloted in Niger, Senegal and Mauritania, and will be a key aspect of this proposed project.

The table below, illustrates other FAO supported initiatives and national projects/programmes with whom the project will seek coordination.

Table 4: Related projects/programmes

Related project/programme/initiative	Implementing Partner	Budget/ Duration	Coordination Mechanism
<p><u>Project for the development of information and climate perspective in Niger (PDIPC).</u></p> <p>The overall objective of the PDIPC is to improve populations' climate change resilience through better integration of climatic information during the planning and implementation of development actions. More specifically, the project aims at promoting resilience of the sectors most vulnerable to climate change (agriculture, livestock, forestry, health and fisheries) through improving the quality of information and climate products, bettering climate modeling and prediction capacities, disseminating climate information to all main users, i.e. farmers and pastoralists, in understandable form; and strengthening the early warning system.</p> <p>The project focuses on capacity building for the development and integration of climate products in development activities.</p>	National Directorate of Meteorology (NDM) / Ministry of Transport	2012-2017 USD 10 M African Development Bank (ADB)	A negotiation process to determine joint activities and shared work plan will be implemented in PY1
<p><u>Small-scale irrigation Project (RUWANMU).</u></p> <p>The overall objective of the Project is to improve Niger's rural populations' food security. Its development objective is to increase the income of 65000 rural households in 30 municipalities in the Maradi, Tahoua and Zinder regions. Two outcomes, corresponding with the two technical project components, will contribute to reaching this development objective: (i) sustainable increase in the productivity of irrigated areas and strengthening of local capacity for the sustainable management of water resources; and (ii) improved delivery and marketing of products derived from small-scale irrigation.</p>	Ministry of Agriculture	2013-2018 USD 25,6 M IFAD, Spain	
<p><u>Project to Support Food Security and Development in the Maradi region (PASADEM).</u></p> <p>The overall objective of PASADEM is to improve the living conditions and strengthen the capacity of crisis resilience of rural populations in the Maradi region. The development objective is to improve the food and nutrition security of 65000 rural households around five rural poles of economic development centered on intermediary markets for (semi-wholesale) cereals, vegetable crops, and livestock in 18 municipalities of the Maradi region.</p>	Ministry of Agriculture	2012-2018 USD 31,7 M IFAD, WFP	
<p><u>Water Mobilization Project for Strengthening Food Security in the regions of Maradi, Tahoua and Zinder (PMERSA/MTZ).</u></p> <p>The PMERSA-MTZ revolves around water mobilization and valorization actions with a view to increase and secure agricultural production thereby strengthening food security through: (i) rural development by mobilization of water resources; and (ii) infrastructure development, including social infrastructures.</p>	Ministry of Agriculture	2012-2017 USD 40,4 M ADB GAFSP, SPAIN	
<p><u>Project to Support Climate Change Adaptation in West Africa through Improved Climate Information (ACCIC).</u></p> <p>The Project comprises three levels of support: 1) Improved management and strengthened capacity for analysis of the hydro-climatological network and satellite data; 2) Improved production of hydro-climatic information; 3) Improved dissemination of hydro-climatic information for better climate change adaptation.</p>	Ministry of Agriculture	2013-2015 USD 4,9 M - Danish Cooperation (DANIDA)	
<p><u>Community Action Programme phase 3 (PAC 3).</u> The third phase of the Community Actions Program (CAP3) takes place within the context of the decentralization process initiated during the previous phases, in order to strengthen and extend it</p>	Ministry of Planning	2013-2017 USD 44,5 M, IDA, GEF	

geographically, while taking into account on-going political, institutional, social and economical changes. Component 1 “Strengthening the leadership of local governments in local development (through cross-cutting initiatives intended to improve governance and build the capacities of all local stakeholders). Component 2 “Promoting the adoption and use of sustainable natural resource management practices and techniques and combining them with general measures that would create jobs improve local livelihoods”. Component 3 “Speeding up a long-term process of national ownership by national institutions”.			
<u>Community Action Project for Climate Resilience (PAC RC)</u> The PACRC project development objective is to improve the resilience of both populations and production systems to climate change and variability as to improve national food security.	Ministry of Planning	2011-2016 USD 63 M	
<u>Support Programme for Rural Agricultural Development in the Dosso Region (PADAD).</u> Integrated rural development project. Strengthening of competencies. Target regions: Dosso	Ministry of Agriculture	2011-2016 USD 17,3 M, Luxembourg	
<u>Support Programme for Pastoral Planning and Pastoral Systems Security (PAAPSSP).</u> Improved livestock sector performance in Niger and its contribution to rural poverty reduction. Define and implement a strategy and priority actions for pastoral planning and improved security of pastoral systems. Target regions: Dosso, Tahoua, and Maradi.	Ministry of Livestock	2010-2014 USD 15,1 M - Belgium	
<u>Project for the Planning of Sustainable management of the Badaguichiri valley.</u> Improve security and intensify exploitation of fertile valley land (vegetable and perennial crops, arboriculture, etc.) Restore and build degraded farmland plateaus, basins and glazes, and grazing land; Reinforce beneficiaries’ management capacities for water and all natural resources and address desertification. Target regions: Tahoua	Tahou Region Governemnt	2009- 2014 USD 19,8 M, AFD, GIZ	
<u>The Global Alliance for Resilience Initiative (AGIR)</u> Structurally reduce, in a sustainable manner, food and nutritional vulnerability by supporting the implementation of Sahelian and West African policies”- Zero Hunger in 20 years 4 Pillars: 1. Restore, and secure livelihoods & improve social protection for the most vulnerable communities and household; 2. Strengthen nutrition of vulnerable households; 3. Sustainable agricultural food productivity and incomes of vulnerable households, and improve their access to food; 4. Strengthening governance for food and nutritional security Target regions: Sahelian and West African region (15 ECOWAS member states, plus Chad and Mauritania) and 3 regional organisations (ECOWAS, UEMOA, CILSS)	European Union, ECOWAS, UEMOA and CILSS	2012- 2022 N/A	
<u>Scaling up Community-Based Adaptation (CBA) in Niger</u> LDCF project aiming to strengthen the adaptive capacity of administrative/technical support services at the commune-level to generate a critical mass of climate-resilient livelihood systems in the vulnerable Maradi region. The project contributes towards Niger’s NAPA priorities on the promotion of climate-resilient income-generating opportunities,	GEF LDCF /UNDP	2014- 2018 (CEO- Endorsed) USD 19,4 M	

water management and control, and the enhancement of the adaptive capacities of smallholder farmers. Nearly two thirds of the LDCF grant will be allocated towards tangible investments in community-level adaptation measures and hydro-meteorological monitoring.			
Disaster Risk Management and Urban Development Project The objective of the project is to improve the country's resilience to natural hazards through: 1) selected disaster risk management interventions in targeted project sites, and 2) strengthening of the government's capacity to respond promptly and effectively to an eligible crisis or emergency.	Ministry of Planning	2013-2017 USD 6,6 M IBRD/GEF	

4.2 Implementation Arrangements

Roles and responsibilities of the executing partners

The FAO will be the GEF Agency responsible for supervision and provision of technical guidance during the project implementation. In addition, the FAO will act as executing agency, and will deliver procurement and contracting services to the project using FAO rules and procedures, as well as financial services to manage GEF/LDCF resources. The technical execution of the project will be supported by the Government of Niger represented by the Ministry of Agriculture (MoA). The MoA will be the lead government counterpart and the main project executing partner. The FAO will execute the project as requested by the government of Niger in close cooperation with the MoA and the other project partners. Other technical executing partners include the Ministry of Livestock (MoL), the Ministry of Environment, Urban Sanitation, and Sustainable Development (MEUSSD), and the Ministry of Planning, Land Management and Community Development (MPLMCD).

The roles and responsibilities of the main institutional units involved in project implementation are the following:

National level

The **National Council on Environment and Sustainable Development (CNEDD)** is the GEF Operational Focal Point of Niger responsible for coordinating the programming of GEF resources and overseeing Niger GEF portfolio with the GEF Agencies.

The **MoA** will be the **main Project Executing Partner** directly responsible for technical implementation of project activities of all project components, as well as day-to-day monitoring. The Minister of Agriculture or his representative will chair the Project Steering Committee (**PSC**) and annual project review and planning meetings. The FAO will sign a Government Cooperation Project (**GCP**) Agreement with the MoA. The GCP Agreement will outline the roles and responsibilities of the FAO and MoA, including legal aspects of collaboration such as responsibilities for facilitating inputs, copyrights among others.

The MoA will provide in-kind co-financing as office space, equipment, utilities, and will finance events logistics and local travel needed to carry out the project workshops and capacity-building activities. The MoA's participation will be primarily through its associated institutions such as the: Directorate of Planning and Studies (DPS); National Directorate of

Agriculture (DNA), National Institute of Agronomic Research in Niger (INRA), and the Directorate for Plant Protection (DPV).

- **DPS** will provide support in identifying possible partnerships to be established under project Component 1.
- **DNA** will support the identification of vulnerable households in the project target areas. as well as the establishment of revolving funds under project Component 2.
- **INRA** will support the dissemination of techniques to improve climate resilience in agricultural and pastoral production. and will provide updated scientific and technological information.
- **DPV** will contribute to improving the agricultural productivity through plant protection. providing support and advice to farms and rural institutions on plant protection as well as ensure the adaptation of innovations and technologies to the needs of farms at a local level and ensure the translation and dissemination of modern techniques of plant protection through appropriate channels.

The **MoL** will provide technical support in all project activities related to the livestock sector and Pastoral Field Schools through its associated institutions such as: the Directorate of Planning and Studies (**DPS**) that will share its own coordination and planning, monitoring and evaluation mechanisms. The Directorate of the Promotion of Livestock Organizations (**DPLO**) that will provide data related to pastoral resources, evaluation of pastoral resources and monitoring of transhumance, The General Directorate of Production and Animal Industries (**GDP**) will provide support in trainings and PFS related to strengthening of value chains. GDPAI will also support PFS by mainstreaming in training material/curricula lessons learnt from the "Breeder leader".

The **MEUSSD** will provide technical support in all project activities related to natural resources management and sustainable development. This includes supporting the institutionalization of the Field School approach in national extension programmes and facilitating the development of climate change adaptation projects.

The **MPLMCD** will provide support in establishing the coordination mechanism with project related projects and programmes.

The **NDM** will provide agro meteorological data and will coordinate the processing and dissemination of agro meteorological information towards the achievement of Output 2.5.

Regional/Municipal level

At the regional level, the regional directorates of agriculture (RDA) and regional directorates of livestock (DDL) will be the institutional focal points for the project from MoA and MoL. Both institutions will designate a focal point in each region among internal staff. Institutional Focal points will provide important links to other initiatives in the region and will provide technical support to project field activities and will participate in field supervision missions. These institutional focal points, attached to regional directorates, will be provided by the government as in-kind co-financing. Other in-kind co-financing will include one vehicle per target region (5 vehicles in total) and office space. The technical staff will, in turn, benefit from specific capacity building activities.

At the municipal level, the 15 municipalities will each provide office space and technical support from their staff. Each municipality will designate a focal point among internal staff.

In addition, the Project will achieve a number of key outputs through letters of agreements (LoAs)³⁰ that will be elaborated and signed between the FAO and collaborating partners (service providers). The LoAs will be administratively managed by the Budget Holder (FAO representative in Niger). Funds received by the service providers under a LoA will be used to execute the project activities in conformity with FAO's rules and procedures. The respective LoAs are listed under the "Contracts" budget line of the project budget. Proposed and tentative LoAs are summarized in the Table below.

Table 5: Tentative LoAs

Component 1 Outputs	Partner institution	Budget US\$
1.1-1.4 Characterization of project sites and updated database that includes best CCA practices and varietal materials	MoA General Directorate of Plant Protection (tbd)	10,000
1.2 CLC Communication strategy	NGO (i.e VIE Kande Ni Bayra/tbd)	75,000
1.3 Inventory of relevant endogenous know-how on CCA	INRAN and/or NGOs (tbd)	7,000
1.3 Testing and selecting climate resilient varieties in pilot sites and developing a toolbox- Action Research	MoA General Directorate of Plant Protection (tbd)	20,000
1.4 Establishment of a user-friendly, updated data-base and 6 catalogues of selected varieties, with a focus on climate resilience	INRAN (tbd)	20,000
Total		132,000

Component 2 Outputs	Partner institution	Budget US\$
2.3 FFS – training material and agricultural inputs	MoA General Directorate of Plant Protection (tbd)	800,000
2.3 DFF– training material	Bioversity International (tbd)	45,000
2.5 Institutional strengthening of Producer Organizations (POs) on CCA practices and communities' resilience improved	NGO (such as VIE Kande Ni Bayra) and/or Association (i.e. FUGPN-Mooriben)	25,000
2.6 Establishment and operationalization of the Local Adaption Investment Fund (LAIF)	Association (i.e. FUGPN-Mooriben) and/or farmer organizations, local finance institutions	50,000
Total		920,000

³⁰ "Protocole" in French

FAO's role and responsibilities, as the GEF Agency (and as an executing agency, when applicable), including delineation of responsibilities internally within FAO

The Food and Agriculture Organization (FAO) will be the GEF implementing and executing agency. As such, FAO will be responsible for project oversight to ensure that GEF/LDCF policies and criteria are adhered to and that the project meets its objectives and achieves expected outcomes and outputs as established in the project document in an efficient and effective manner. FAO will report on the project progress to the GEF Secretariat and financial reporting will be to the GEF Trustee. The FAO will closely supervise and carry out supervision missions of the project through the Lead Technical Unit (LTU –see below) and the GEF Coordination Unit in the Investment Center Division (TCI), and monitor project progress and provide technical support through FAO's Agriculture and Consumer Protection Department.

The FAO-Niger, together with the LTO/LTU, will be responsible for setting up all necessary LOAs with Executing Partners to be defined at the initial phase of project implementation.

Executing Responsibilities (Budget Holder). Under the FAO's Direct Execution modality, the FAO Representative in Niger will be the Budget Holder (BH) of this project. The BH, working in close consultation with the Lead Technical Officer (LTO), will be responsible for the timely operational, administrative and financial management of the project. The BH will head the multidisciplinary Project Task Force (see below) that will be established to support the implementation of the project and will ensure that technical support and inputs are provided in a timely manner. The BH will be responsible for financial reporting, procurement of goods and contracting of services for project activities in accordance with FAO rules and procedures. Final approval of the use of GEF resources rests with the BH, also in accordance with FAO rules and procedures.

Specifically, working in close collaboration with the LTO, the BH will: (i) clear and monitor annual work plans and budgets; (ii) schedule technical backstopping and monitoring missions; (iii) authorize the disbursement of the project's GEF resources; (iv) give final approval of procurement, project staff recruitment, LoAs, and financial transactions in accordance with FAO's clearance/approval procedures; (v) review procurement and subcontracting material and documentation of processes and obtain internal approvals; (vi) be responsible for the management of project resources and all aspects in the agreements between FAO and the various executing partners; (vii) provide operational oversight of activities to be carried out by project partners; (viii) monitor all areas of work and suggest corrective measures as required; (ix) submit to the GEF Coordination Unit, the TCID Budget Group semi-annual budget revisions that have been prepared in close consultation with the LTO (due in August and February); (x) be accountable for safeguarding resources from inappropriate use, loss, or damage; (xi) be responsible for addressing recommendations from oversight offices, such as Audit and Evaluation; and (xii) establish a multi-disciplinary FAO Project Task Force to support the project.

The FAO Lead Technical Unit (LTU): The Plant Production and Protection Division of the Department of Agriculture, Pesticide Management team (AGPMC) at FAO HQ will be the LTU for this project and will provide overall technical guidance in its implementation.

The FAO Lead Technical Officer (LTO): The team leader of the West African IPPM programme-team within AGPMC will be the LTO for this project. Under the general technical oversight of the LTU, the LTO will provide technical guidance to the project team

to ensure delivery of quality technical outputs. The LTO will coordinate the provision of appropriate technical backstopping from all the concerned FAO units represented in the Project Task Force. The Project Task Force is thus composed of technical officers from the participating units (see below), operational officers, the Investment Centre Division/GEF Coordination Unit and is chaired by the BH. The primary areas of LTO support to the project include:

- review and ensure clearance by the relevant FAO technical officers of all the technical Terms of Reference (ToR) of the project team and consultants;
- ensure clearance by the relevant FAO technical officers of the technical terms of reference of the Letters of Agreement (LoA) and contracts;
- review and ensure clearance by the relevant FAO technical officers of all the technical Terms of Reference (ToR) of Mid Term Evaluation (MTE) report and Final Evaluation Report (FER);
- in close consultation with TCID (FAO/Rome) and MoA (Niger), lead the selection of the project staff, consultants and other institutions to be contracted or with whom an LoA will be signed;
- review and clear technical reports, publications, papers, training material, manuals, etc.; monitor technical implementation as established in the project results framework;
- review the Project Progress Reports (PPRs) and prepare the annual Project Implementation Review (PIR).

Within FAO, a multidisciplinary **Project Task Force (PTF)** will be established by the LTU which is mandated to ensure that the project is implemented in a coherent and consistent manner and complies with the organization's goals and policies, as well as with the provision of adequate levels of technical, operational and administrative support throughout the project cycle. The PTF comprises of the BH, Lead Technical Unit (AGPMC) and the GEF/TCID Coordination Unit.

FAO/TCID GEF Coordination Unit in Investment Centre Division will review and approve project progress reports, annual project implementation reviews, financial reports and budget revisions. The GEF Coordination Unit will provide project oversight, organize annual supervision missions, and participate as a member in the FAO Project Task Force and as an observer in the project steering committee meetings, as necessary. The GEF Coordination Unit will also assist in the organization, as well as be a key stakeholder in the mid-term and final evaluations. It will also contribute to the development of corrective actions in the project implementation strategy in the case needed to mitigate eventual risks affecting the timely and effective implementation of the project. The GEF Coordination Unit will in collaboration with the FAO Finance Division, request the transfer of project funds from the GEF Trustee based on six-monthly projections of funds needed.

The **Investment Centre Division Budget Group (TCID)** will provide final clearance of any budget revisions.

The **FAO Finance Division** will provide annual Financial Reports to the GEF Trustee and, in collaboration with the GEF Coordination Unit and the TCID Budget Group, call for project funds on a six-monthly basis from the GEF Trustee.

Project technical, coordination and steering committees

The Project will be managed through the institutional structure depicted in Figure 2 below.

A **Project Steering Committee (PSC)** will be established to provide oversight of and guidance for project implementation. It will be chaired by the Minister of Agriculture and will be comprised of the GEF focal points, representatives of MoL, MEUSSD, MPLMCD, and NDM, the FAO Representative in Niger, a representative of the EU Delegation in Niger, Representatives of Producers Organizations (POs) and CSOs.

The PSC will meet minimally twice a year and its specific responsibilities will be: (i) overall oversight of project progress and achievement of planned results as presented in six-monthly Project Progress Reports (PPR); (ii) review the PPRs as well as Financial Reports and approve the Annual Workplan and Budget; (iii) facilitate cooperation between the Project and other ongoing projects and programmes relevant to the project; (iv) ensure the sustainability of key Project outcomes, including up-scaling and replication; (v) ensure effective coordination between Executing Partners.

The members of the PSC will each assure the role of Focal Point for the Project in their respective agency. Hence the As Focal Point in their agency, they will (i) technically oversee activities in their sector (ii) ensure a fluid 2-way exchange of information and knowledge between their agency and the project (iii) facilitate coordination and a linking between the project activities and the workplan of their agency and (iv) facilitate the provision of co-financing to the Project.

A Project Coordination Unit (PCU): The PCU will be hosted by the MoA or FAO and will act as secretariat to the PSC. The PCU will be led by the National Project Coordinator (NPC) and will be comprised by the MoA, the FAO and by a small core group of operational and technical staff including amongst others: the National Project Coordinator (NPC); three Technical Assistants (TAs), the Procurement and Finance Officer; a Finance and Operations Assistant; and five Project Regional Assistants. The Project Regional Assistants, although out-posted, are full-time members of the PCU and report to the NPC and the TAs. They will act as regional operational focal points for the project and will be responsible for day-to-day planning, supervision and monitoring of project activities at field level.

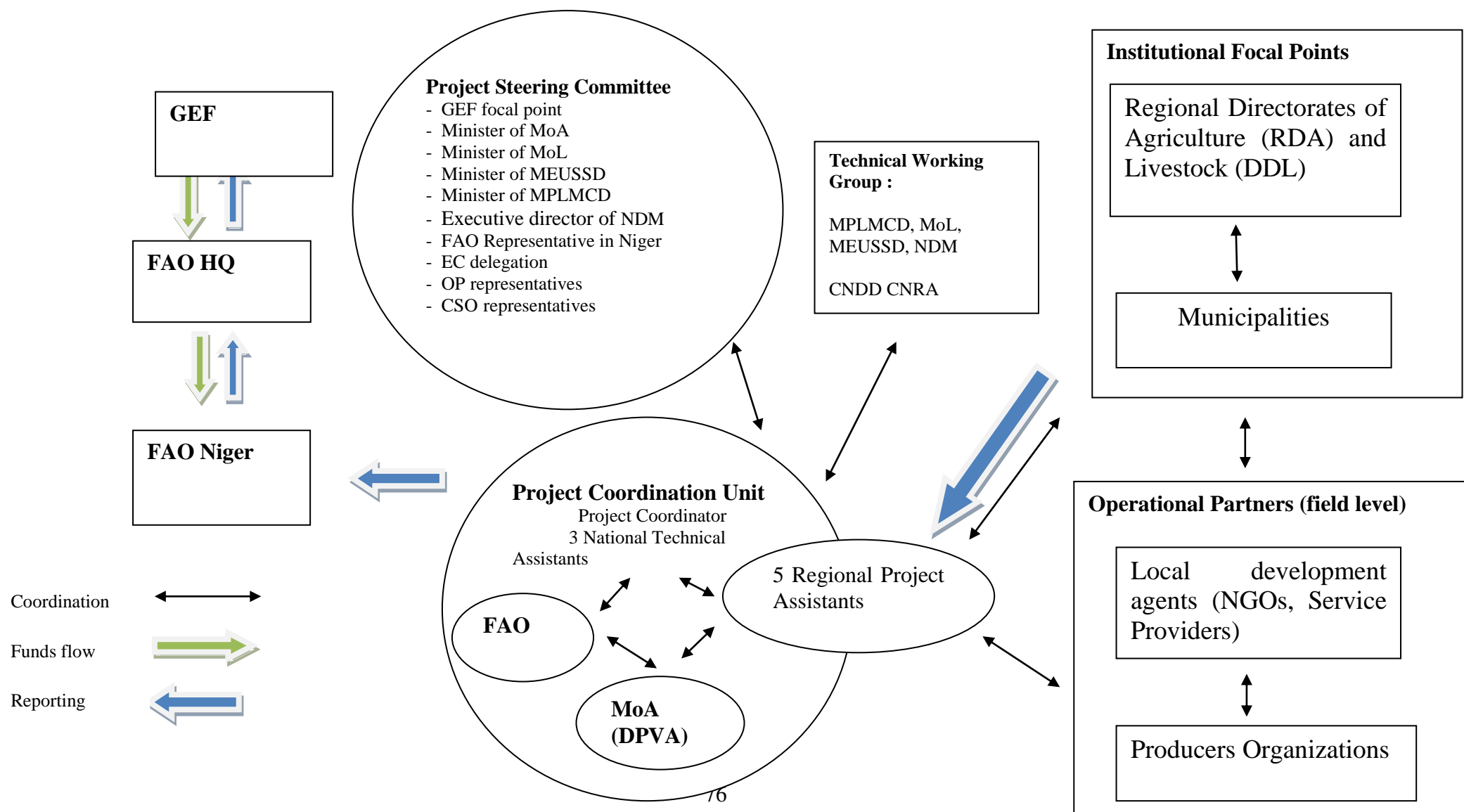
The PCU staff will be recruited by the project and report to the BH. The PCU will be responsible for day-to-day project operations and will carry out its functions in line with FAO rules and regulations. The following are some of the key functions of the PCU:

- prepare the results-based Annual Work Plan and Budget (AWP/B);
- be responsible for day-to-day implementation of the project in line with the AWP;
- ensure a results-based approach to project implementation, including maintaining a focus on project results and impact as defined by the Results Framework indicators;
- coordinate project interventions with other ongoing activities;
- monitor project progress; be responsible for the preparation of FAO Project Progress Reports (PPRs) and the annual Project Implementation Report (PIR); facilitate and support the mid-term review and final evaluations of the project;
- draft the Terms of Reference and technical inputs to the Letters of Agreement (LoAs) to be concluded with project partners.

The role of the PCU will be, in close consultation with the PSC and members of the Technical Working Groups (see below), to ensure the coordination and execution of the Project through

the timely and efficient implementation of annual work plans. It will coordinate work and follow closely the implementation of project activities, handle day-to-day project issues and requirements, coordinate project interventions with other on-going activities and ensure a high degree of national and local inter-institutional collaboration, monitor project progress and ensure the timely delivery of inputs and outputs. It will organize workshops and annual meetings for the Project for monitoring project progress and develop work plans with detailed budget for the next year to be approved by the PSC.

Figure 2: Institutional Arrangements for the Implementation of the project *Integrating climate resilience into agricultural and pastoral production for food security in vulnerable rural areas through the Farmer Field School Approach*.



The PCU members include:

National Project Coordinator (NPC)³¹ (financed 100% by LDCF funds), will lead the PCU and work closely with the FAO office and MoA. The NPC reports to the BH on administrative issues and to the LTO/LTU on operational and technical issues. The NPC is a full-time position that will lead and organize the day-to-day execution of the project. The NPC will also take the lead in advocacy and communications with government agencies and will be responsible for providing technical advice and guidance in his/her area of technical expertise. The NPC will report regularly on Project progress in line with FAO procedures, and will, in collaboration with the LTO, develop and submit semi-annual PPRs and annual PIRs. In addition to technical and operational duties the NPC will:

- Oversee creation of a participatory monitoring system for the Project's work;
- Ensure real-time monitoring and financial and technical reporting of Project progress and timely communications with MoA, BH and the LTO/LTU and alert them to potential problems that could result in delays in implementation;
- Help identify consultant candidates and work with the BH to ensure their timely recruitment;
- Ensure the Project's effective and efficient work with stakeholders in the pilot areas;
- Help organize and supervise consultant inputs;
- Oversee creation of the Project's approach to managing and sharing knowledge, and to identifying and disseminating lessons learned; and,
- Communicate, advocate and engage in policy dialogue.

Three National Technical Assistants namely, the **Institutional Social Assistant**³² the **Agronomist Assistant**³³ and the **Pastoralist Assistant**³⁴ will work together to directly support the NPC and the PCU to ensure that all technical inputs are well designed and integrated into the Project work plan and activities. The three Technical Assistants will report to the NPC.

The three Assistants will support all aspects of the day-to-day execution of the Project and will support the NPC in reporting on Project progress and developing semi-annual PPRs and annual PIRs. In addition they will:

- Ensure latest and best international practices and approaches are reflected in the design and planning of Project Activities;
- Help design a participatory monitoring system for the Project;
- Support monitoring of Project progress and alert the NPC to potential problems that could result in delays in implementation;
- Help identify consultant candidates;
- Support collaboration with stakeholders in the pilot areas;
- Help organize and supervise consultant activities;
- Help propose a system for managing and sharing knowledge, and to identify and disseminate lessons learned;
- Help provide on-the-job capacity development to all members of the PCU;
- Communicate, advocate and engage in policy dialogue.

³¹ Detailed TORs in Appendix 5, N° 1

³² Detailed TORs in Appendix 5, N° 2

³³ Detailed TORs in Appendix 5, N° 3

³⁴ Detailed TORs in Appendix 5, N° 4

The **Procurement and Finance Officer**³⁵ will be responsible for the day-to-day financial management of the project including raising contracts, procurement and other needed actions in accordance with the approved budget and annual work plans. The Procurement and Finance Officer will work in close consultation with the Project Coordinator, BH, LTOs and especially with the FAO Representation in Niger. He/she will be responsible for timely delivery of inputs needed to produce project outputs. The Procurement and Finance Officer will have an assistant (Finance and Operations Assistant) that will support his/her work.

Technical Working Groups (TWG) ³⁶ will be established to provide technical advice on specific project components and outputs and will be composed of consultants and technical staff from MoA, MoL, MEUUSD and FAO, among others. The main tasks of the TWGs will be to provide technical advice to the PSC, backstop the PCU on request, advise the PCU on other on-going and planned activities and facilitate collaboration between the Project and other programmes, projects, and initiatives of sector agencies and research institutions. The TWGs may also be involved in technical evaluation of project progress and outputs, and identification of possible solutions and/or changes in project activities when technical issues arise in the course of project implementation.

4.3 Financial Planning and Management

Financial plan (by component and by co-financier)

The total cost of the project will be US\$ 17,829,572 to be financed through US\$ 3,800,000 LDCF funds and US\$ 13,958,872 in co-financing from: (i) MoA (US\$ 9,729,084); (ii) European Delegation (US\$ 3,000,000); (iii) FAO (US\$ 1,149,787); (iv) CNRA (US\$ 80,000). Table 6 below shows the cost by component and by sources of financing. The FAO will, as the GEF Agency, only be responsible for the execution of the GEF resources and the FAO co-financing.

Table 6: Summary of financial contributions

³⁵ Detailed TORs in Appendix 5, N° 6

³⁶ Specific TORs for specialists/consultants that will be part of the TWG are defined in Appendix 5

Comonent/output	Ministry of Agriculture (MoA)	European Commission	FAO	CNRA	Total Co-financing	% Co-financing	GEF	% GEF	Total
Comp. 1: Pilot-testing improved agro-pastoral practices	3,548,000	900,000	269,110	80,000	4,797,110	84%	898,600	16%	5,695,710
O 1.1: Intervention zones, partners and partner-communities identified	-	-	-	-	-	0%	157,100	100%	157,100
O 1.2.: Tools selected	-	900,000	169,110	-	1,069,110	77%	311,240	23%	1,380,350
O 1.3: Piloting on-farm tests of crop varieties	2,548,000	-	100,000	80,000	2,728,000	92%	240,960	8%	2,968,960
O 1.4: Databases and catalogues	1,000,000	-	-	-	1,000,000	84%	189,300	16%	1,189,300
Comp. 2: Capacity building through agro-pastoral Field Schools	4,032,340	2,100,000	43,813	-	6,176,153	74%	2,173,300	26%	8,349,453
O 2.1: Curricula for FFS, PFS and DFF training of Facilitators	-	-	43,813	-	43,813	34%	84,300	66%	128,113
O 2.2: FFS/PFS/DFF Master Trainers and Facilitators trained	500,000	-	-	-	500,000	60%	333,700	40%	833,700
O 2.3: Farmers/pastoralists trained	1,500,000	1,000,000	-	-	2,500,000	66%	1,268,100	34%	3,768,100
O 2.4: Participatory decision-support tools for Climate Change	532,340	-	-	-	532,340	68%	250,200	32%	782,540
O 2.5: Producer Organizations strengthened	1,500,000	-	-	-	1,500,000	92%	127,000	8%	1,627,000
O 2.6: Local Adaptation Fund	-	1,100,000	-	-	1,100,000		110,000		1,210,000
Comp. 3: Mainstreaming climate change into sectoral policies and local government	2,148,744	-	36,864	-	2,185,608	88%	293,900	12%	2,479,508
O 3.1: Policy briefs	-	-	36,864	-	36,864	27%	98,500	73%	135,364
O 3.2.: Reinforced institutional capacity	2,148,744	-	-	-	2,148,744	95%	114,300	5%	2,263,044
O 3.3: National Investment Plan	-	-	-	-	-	0%	81,100	100%	81,100
Comp. 4: Project Monitoring and Evaluation	-	-	440,000	-	440,000	67%	220,200	33%	660,200
O 4.1: Project Monitoring	-	-	100,000	-	100,000	77%	30,700	23%	130,700
O.4.2. Midterm and Final Evaluation	-	-	-	-	-	0%	110,700	100%	110,700
O.4.3. Communication	-	-	-	-	-	81%		19%	

strategy			340,000	-	340,000		78,800		418,800
Project Management	-	-	360,000	-	360,000	63%	214,000	37%	574,000
Total Project	9,729,084	3,000,000	1,149,787	80,000	13,958,871	79%	3,800,000	21%	17,758,871

GEF/LDCF inputs

The GEF funds will finance inputs needed to generate the outputs and outcomes under the Project. These include: (i) local and international consultants for technical support and Project management; (ii) support to designing and establishing an improved approach to FS, incorporating PFS, DFF and CLC in Niger; (iii) support to direct monitoring activities; (iv) support through LoA/contracts with technical institutions and service providers, the delivery of specific Project activities on the ground; (v) international flights and local transport and minor office equipment; and (vi) , dissemination, project visibility and awareness raising material. GEF resources will also finance publications for awareness raising and education on adaptation best practices.

Government inputs

The government in-kind co-financing will mainly consist of staff time, office space and utilities, and logistic support for field activities. The government cash co-financing will support the piloting of improved climate-resilient agricultural practices, the promotion of agricultural practices through Field Schools, capacity building at central, local and grassroots level, and will facilitate the establishment of micro-credit facilities at local level.

FAO inputs

The FAO will provide technical assistance, logistical support, training and supervision of the execution of activities financed by GEF resources. The GEF project will complement and be co-financed by the main projects and activities implemented by the FAO HQ and FAO Representation in Niger funded by the FAO Technical Cooperation Programme and by various donors through trust fund arrangements. These are described in the previous sections and include the following project: *Small irrigation project for food security in the regions of Dosso, Maradi, Zinder and Tahoua* as part of the EU-FAO Global Governance for Hunger Reduction Program (CGP/INT/130/EU).

The FAO Niger office will also provide in-kind support over the lifetime of the project.

Other co-financiers inputs

Bioversity International of the CGIAR, will provide support to the development of DFF in Output 2.4. This support will be provided through the project “Reducing the risk of crop failure for poor farmers through enhancing traditional seed systems in Sahelian West Africa”, and the Project “Promotion of Local Initiative for Agricultural Development (PPILDA)”. This will contribute to the identification of valuable local species and varieties/hybrids, to determining conservation measures, and to support rangeland rehabilitation through FS.

Financial management of and reporting on LDCF resources

Financial Records

FAO shall maintain a separate account in United States dollars for the project's LDCF resources showing all income and expenditures. Expenditures incurred in a currency other than United States dollars shall be converted to United States dollars at the United Nations operational exchange rate on the date of the transaction. FAO shall administer the project in accordance with its regulations, rules and directives.

Financial Reports

FAO-representative in Niger, as the BH, shall prepare six-monthly project expenditure reports and final financial report for the project, showing amount budgeted for the year, amount expended since the beginning of the year, and separately, the un-liquidated obligations as follows:

- Details of project expenditures on a component-by-component and output basis, reported in line with project budget codes as set out in the Project Document, as at 30 June and 31 December each year.
- Final expenditures report on completion of the project on a component and output-by-output basis, reported in line with project budget codes as set out in the Project Document.
- A final statement of expenditures in line with FAO Oracle project budget codes, reflecting actual final expenditures under the project, when all obligations have been liquidated.

The BH will submit the financial reports for review and monitoring by the LTU and the FAO GEF Coordination Unit. Financial reports for submission to the donor (GEF) will be prepared in accordance with the provisions in the GEF Financial Procedures Agreement and submitted by the FAO Finance Division.

Budget Revisions

The BH in consultation with the FAO LTU at HQ, in accordance with FAO standard guidelines and procedures, will prepare Periodic six months, budget revisions.

Responsibility for Cost Overruns

The BH is authorized to enter into commitments or incur expenditures up to a maximum of 20 percent over and above the annual amount foreseen in the project budget under any budget sub-line provided the total cost of the annual budget is not exceeded.

Any cost overrun (expenditure in excess of the budgeted amount) on a specific budget sub-line over and above the 20 percent flexibility should be discussed with the FAO GEF Coordination Unit with a view to ascertaining whether it will involve a major change in project scope or design. If it is deemed to be a minor change, the BH shall prepare a budget revision in accordance with FAO standard procedures. If it involves a major change in the project's objectives or scope, a budget revision and justification should be prepared by the BH for discussion with the GEF Secretariat.

Savings in one budget sub-line may not be applied to overruns of more than 20 percent in other sub-lines even if the total cost remains unchanged, unless this is specifically authorized by the FAO GEF Coordination Unit upon presentation of the request. In such a case, a revision to the project document amending the budget will be prepared by the BH.

Under no circumstances can expenditures exceed the approved total project budget or be approved beyond the NTE date of the project. Any over-expenditure is the responsibility of the BH.

Audit

The project shall be subject to the internal and external auditing procedures provided for in FAO financial regulations, rules and directives and in keeping with the Financial Procedures Agreement between the GEF Trustee and FAO.

The audit regime at FAO consists of an external audit provided by the Auditor-General (or persons exercising an equivalent function) of a member nation appointed by the governing bodies of the Organization and reporting directly to them and an internal audit function headed by the Inspector-General who reports directly to the Director-General. This function operates as an integral part of the Organization under policies established by senior management, and furthermore has a reporting line to the governing bodies. Both functions are required under the Basic Texts of FAO which establish a framework for the terms of reference of each. Internal audits of interest accounts, records, bank reconciliation and asset verification take place at FAO field and liaison offices on a cyclical basis.

4.4 Procurement

The Budget Holder, in close collaboration with the National Project Coordinator, the Lead Technical Officer and the Financial and Operations Officer will procure the equipment and services provided for in the detailed budget in Appendix 3, in line with the Annual Work Plan and Budget and in accordance with FAO's rules and regulations.

Prior to commencement of procurement, the BH in close consultation with the National Project Coordinator and the Lead Technical Unit (LTU) will complete the procurement plan for all services and equipment to be procured by FAO.

The procurement plan shall be updated every 12 months and submitted to and cleared by the FAO Budget Holder and LTO with the AWP/B and annual financial statement of expenditures report for the next instalment of funds.

4.5 Monitoring and Reporting

Oversight and monitoring responsibilities

The M&E tasks and responsibilities clearly defined in the project's detailed Monitoring Plan (see below) will be achieved through: (i) day-to-day monitoring and supervision missions of Project progress (PCU); (ii) technical monitoring of indicators (PCU); (iii) FS-level monitoring activities (by project M&E expert and local technical services); (iv) midterm and final evaluations (independent consultants and FAO Evaluation Office); and (v) continual oversight, monitoring and supervision missions (FAO).

During the Inception Phase of the GEF Project, the PCU will set up a project progress monitoring system strictly coordinated with subsystems in each of the four Regions. Participatory mechanisms and methodologies for systematic data collection and recording at the level of the FS will be developed in support of indicators, monitoring and evaluation. During the inception workshop (see section 4.5.3 below), M&E related tasks to be addressed will include: (i) presentation and clarification (if needed) of the project's Results framework indicator targets and their means of verification, and assumptions and risks with all project stakeholders; (ii) review of the M&E indicators and their baseline; (iii) drafting the required clauses to include in consultants' contracts to ensure they complete their M&E reporting functions; and (iv) clarification of the respective M&E

tasks among the Project's different stakeholders, (v) finalization of the first results-based annual work plan and budget, (vi) prepare financial reporting procedures and obligations, (vii) schedule of PSC meetings.

One of the main outputs of the Inception Phase will be a detailed monitoring plan, agreed upon by all stakeholders and based on the monitoring and evaluation plan summary presented in section 4.5.4 below.

The Inception Phase will conclude with the holding of an Inception Workshop (IW) organized by the PCU. The IW will: (a) assist all stakeholders to fully understand and take ownership of the Project; (b) review and confirm/finalize Project indicators and results framework with stakeholders; (c) Review the Project's first AWP with results-based annual budget; (d) discuss the roles, functions, and responsibilities within the Project's decision-making structures; (e) review a detailed M&E work plan and budget based on the M&E plan summary presented in Table 7, below. The first PSC meeting will be held within the two months of the IW.

The day-to-day monitoring of the Project implementation will be the responsibility of the NPC with support from the Technical Assistants, driven by the preparation and implementation of an Annual Work Plan and Budget (AWP/B) followed up through six-monthly Project Progress Reports (PPRs). The preparation of the AWP/B and six-monthly PPRs will represent the result of a unified planning process between the main project partners. As tools for results-based-management (RBM), the AWP/B will identify the actions proposed for the coming project year and provide the necessary details on output targets to be achieved, and the PPRs will report on the monitoring of the implementation of actions and the achievement of output targets. Specific inputs to the AWP/B and the PPRs will be prepared based on participatory planning and progress review with local stakeholders and coordinated through the PCU and service providers and facilitated through project planning and progress review workshops. The respective Service Provider Managers would consolidate these inputs before forwarding them to the Technical Assistants and to NPC who will consolidate the information into a draft AWP/B and PPRs. An annual project progress review and planning meeting should be held with the participation of all involved service providers. Subsequently, the AWP/B and PPRs are submitted to the local and national PSC for approval (AWP/B) and Review (PPRs) and to FAO for approval. The AWP/B will be developed in a manner consistent with the project's Results Framework to ensure adequate fulfilment and monitoring of project outputs and outcomes.

Following the approval of the Project, the Project's first year AWP/B will be adjusted (either reduced or expanded in time) to synchronize with an annual reporting calendar. In subsequent years, the Project workplan and budget will follow an annual preparation and reporting cycle as specified under the heading Reporting Schedule, below.

Indicators and information sources

The project's Results Framework (RF) indicators will be the main reference point for M&E of Project outcomes including contributions to adaptation benefits (see Appendix 1). The RF's indicators and means of verification will be applied to monitor Project performance and impact. Data collected will be of sufficient detail to track outputs and outcomes and flag Project risks early on, using FAO's monitoring procedures and progress reporting formats. The PCU will link each AWP/B to the RF indicators to ensure that Project implementation maintains a focus on achieving the impact indicators as defined. A key element to this will be the elaboration and monitoring of output target indicators in each AWP/B that cumulatively lead to outcome level results. Output targets will be monitored on a semi-annual basis and outcome target indicators will be monitored on an annual basis if possible or as part of the mid-term and final evaluations.

The main sources of information to support the M&E programme will be: (i) participatory progress monitoring and workshops with beneficiaries; (ii) on-site monitoring of FFS/DFF/PFS training and activities; (iii) PPRs prepared by the NPC (iv) consultants reports; (v) participants training tests and evaluations; (vi) mid-term and post project impact and evaluation studies completed by independent consultants; (vii) financial reports and budget revisions; (viii) PIR prepared by the LTO supported by the BH and the NPC and (ix) FAO supervision mission reports.

Reporting schedule

Specific reports that will be prepared under the M&E program are: (i) Project inception report; (ii) Annual Work Plan and Budget (AWP/B); (iii) Project Progress Reports (PPRs); (iv) annual Project Implementation Review (PIR); (v) Technical Reports; (vi) co-financing Reports; and (vii) Terminal Report. In addition, assessment of Climate Change Adaptation through use of the LDCE/SCCF Adaptation Monitoring and Assessment Tool (AMAT) will be undertaken during midterm and final project evaluation (against the baseline to be completed during project inception).

Project Inception Report

After approval of the Project an inception workshop will be held. Immediately after the workshop, the NPC will prepare a Project Inception Report in consultation with the FAO LTO/LTU, BH and national partners.

The report will include a narrative on the institutional roles and responsibilities and coordinating action of project partners, progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation. It will also include a detailed first year AWP/B, a detailed project monitoring plan based on the monitoring and evaluation plan summary presented in table 7 below. The draft inception report will be circulated to FAO and the Project Steering Committee for review and comments before its finalization, no later than three months after project start-up. The report should be cleared by the FAO BH, LTU and the FAO GEF Coordination Unit and uploaded in FPMIS by the LTUs.

Results-Based Annual Work Plan and Budget (AWP/B)

The draft of the first AWP/B will be prepared by the NPC in consultation with the Project Task Force and reviewed at the project Inception Workshop. The Government of Niger inputs will be incorporated and the NPC will submit a final draft AWP/B within two weeks of the IW to the BH. For subsequent AWP/B, the NPC will organize a project progress review and planning meeting for its assessment. Once comments have been incorporated, the BH will circulate the AWP/B to the LTO and the GEF Coordination Unit on a no-objection basis prior to uploading in FPMIS by the BH. The AWP/B must be linked to the project's Results Framework indicators so that the project's work is contributing to the achievement of the indicators. The AWP/B should include detailed activities to be implemented to achieve the project outputs and output targets and divided into monthly timeframes and targets and milestone dates for output indicators to be achieved during the year. A detailed project budget for the activities to be implemented during the year should also be included together with all monitoring and supervision activities required during the year. The AWP/B should be approved by the Project Steering Committee.

Project Progress Reports (PPRs)

The NPC will prepare six-monthly Progress Reports (PPRs) and submit them to the FAO LTO and the BH no later than 31 July (covering the period January through June) and 31 January (covering

the period July through December). The first semester six month report should be accompanied by the updated AWP/B. The PPRs are used to identify constraints, problems or bottlenecks that impede timely implementation and take appropriate remedial action. PPRs will be prepared based on the systematic monitoring of output and outcome indicators identified in the Project Results Framework. The FAO LTO and BH will review the progress reports, collect and consolidate eventual FAO comments from the LTU, the GEF Coordination Unit, and the BH Office and provide these comments to the MASA. When comments have been duly incorporated the LTU will give final approval and submit the final PPR to the GEF coordination Unit for final clearance. Thereafter the BH will upload final documents in FPMIS.

Annual Project Implementation Review (PIR)

The LTO, with support from the NPC and BH will prepare an annual Project Implementation Review (PIR) covering the period from July (the previous year) through to June (current year). The PIR will be submitted to the FAO GEF Coordination Unit for review and approval no later than 10 September. The FAO GEF Coordination Unit will upload the final report on FAO FPMIS and submit it to the GEF Secretariat and Evaluation Office as part of the Annual Monitoring Review report of the FAO-GEF portfolio. The FAO GEF Coordination Unit will provide the updated format when the first PIR is due.

Technical Reports

Technical reports will be prepared to document and share Project outcomes and lessons learned. The drafts of any technical reports must be submitted by the NPC to the BH who will share it with the LTU for review and clearance and to the FAO GEF Coordination Unit for information and eventual comments, prior to finalization and publication. Copies of the technical reports will be distributed to the PSC and other project partners as appropriate. The final reports will be posted on the FAO FPMIS by the LTU.

The drafts of any technical reports must be submitted by the NPC or executing partners to the BH who will share it with FAO LTO. The LTO will be responsible for ensuring appropriate technical review and clearance of the reports. The BH will upload the final cleared reports onto the FPMIS. Copies of the technical reports will be distributed to the national executing partners and other Project partners as appropriate. These will also be posted on the Project website and FAO FPMIS.

Co-financing Reports

The BH, with support from NPC/CTA, will be responsible for collecting the required information and reporting on in-kind and cash co-financing provided by the Government of Niger and other partners. The NPC will compile the information received from the executing partners and transmit in a timely manner to the LTO and BH. The report covers the period from July (the previous year) through to June (current year). The format and tables to report on co-financing can be found in the PIR.

GEF/LDCF/SCCF AMAT Tracking Tool

Following the GEF policies and procedures, the tracking tool for climate change adaptation area will be submitted at three moments: (i) with the project document at CEO endorsement; (ii) at the project's mid-term evaluation; and (iii) with the project's terminal evaluation or final completion report.

Terminal Report

Within two months of the Project completion date, the NPC, with the technical support of the Technical Assistants, will submit to the BH and LTO/LTU a draft Terminal Report. The Report will include a list of outputs detailing the activities undertaken under the Project, lessons learned and any recommendations to improve the efficiency of similar activities in the future. This report will specifically include the findings of the final evaluation as described above. The main purpose of the final report is to give guidance at the ministerial or senior government level on the policy decisions required for the follow-up of the Project and to provide the donor with information on how the funds were utilized. The terminal report is accordingly a concise account of the main products, results, conclusions and recommendations of the Project, without unnecessary background, narrative or technical details. A final project review meeting should be held to discuss the draft terminal report before the BH finalizes it and approved by the FAO LTU and the GEF Coordination Unit.

Monitoring and evaluation plan summary

The Table below provides a summary of the main M&E reports, responsible parties and timeframe.

Table 7: Summary of M&E Related Costs

Type of M&E Activity	Responsible Parties	Time-frame	Estimate of costs (USD)
Inception Workshop (IW)	PCU, supported by the LTO, BH, and PCU	Within three months of project start up	8,000
Surveys to determine AMAT baseline values	PCU and service providers	Within three months of project start up	Covered under costs of 2.1
Project Inception Report	PCU, LTO, BH, and PCU	No later than one month post IW.	5,000
Field based impact monitoring	PCU, MoA and other relevant agencies – including regional and provincial - to participate.	Periodically - to be determined at inception workshop.	70,000
Supervision visits and rating of progress in PPRs and PIRs	LTO, other participating units and PCU	Annual or as required	The visits of the LTO and the GCU will be paid by GEF agency fee. The visits of the NPC and Technical Assistants will be paid from the project travel budget.
Project Progress Reports	PCU, with inputs from MoA, PSC members and other partners	Semi-annual	Completed by NPC and Technical Assistants
Project Implementation Review report	PCU supported by the LTO and cleared and submitted by the PCU to the GEF Secretariat	Annual	Paid by GEF agency fee
AMAT	PCU supported by the LTO	Project start-up, mid-Term and project end.	-
Co-financing Reports	PCU, FAO Niger	Annual	Covered by NPC and National Technical Assistants salaries.
Technical reports	PCU, LTO & Participating Units	As appropriate	-

Type of M&E Activity	Responsible Parties	Time-frame	Estimate of costs (USD)
Mid-term Evaluation	External Consultant, FAO Office for Evaluation in consultation with the project team including the PCU and other partners	At mid-point of project implementation	40,000 for independent consultants and associated costs. In addition the agency fee will pay for expenditures of FAO staff time and travel
Final evaluation	External Consultant, FAO independent evaluation unit in consultation with the project team including the PCU and other partners	At the end of project implementation	USD 40,000 for external, independent consultants and associated costs. In addition the agency fee will pay for expenditures of FAO staff time and travel
Terminal Report	NPC, LTO, TCSR Report Unit	At least two months before the end date of the Execution Agreement	Covered by NPC and National Technical Assistants salaries. LTO's involvement is covered by the fee.
Best practices publication	PCU, LTO & Participating Units	Between the second and last year	15,000 for publication preparation and printing
Auditing	External Unit, PCU	Annual	12,000
Impact Assessment	External Consultant and PCU	At the beginning and the end of the project	30,000 for external consultant assessment
Total Budget			USD 220,000

4.6 Provision for Evaluations

An independent mid-term evaluation will be undertaken after two years of project implementation (or at the point where 50% expenditures has been reached). The review will determine progress being made towards achievement of objectives, outcomes, and outputs, and will identify corrective actions if necessary. It will, inter alia:

- review the effectiveness, efficiency and timeliness of project implementation
- analyse the effectiveness of implementation and partnership arrangements
- identify issues requiring decisions and remedial actions
- identify lessons learned about project design, implementation and management;
- highlight technical achievements and lessons learned
- propose any mid-course corrections and/or adjustments to the implementation strategy as necessary.

An independent Final Evaluation (FE) will be carried out three months prior to the terminal review meeting of the project partners. The FE will identify the project impacts and sustainability of project results and the degree of achievement of long-term results. This evaluation would also have the purpose of indicating future actions needed to expand on the existing project in subsequent phases, mainstream and up-scale its products and practices, and disseminate information to management authorities responsible for the management of other project partners.

Some critical issues to be evaluated in the midterm and final evaluations will be; (i) institutional adoption and support for the new approaches introduced by the project, (ii) the functioning and effectiveness of the FFS/PFS/DFP and CLC network and of the inter-institutional coordination

mechanism in developing and implementing integrated planning in support of farmer-herder communities, (iii) the level of capacities and involvement of local staff in terms of improved management effectiveness and land management plan implementation capability, and (iv) the level of involvement of farmers and herders in project activities and commitment to follow-up.

The Terms of Reference (ToR) for the Final Evaluation team (one international and one national consultant) will be prepared in close consultation with the NPC, the FAO BH, LTO/LTU and GEF Coordination Unit, and under the ultimate responsibility of the FAO Office of Evaluation, in accordance with the FAO evaluation procedures and taking into consideration the evolving guidance from the GEF Independent Evaluation Office. The ToR and the report will be discussed with, and commented upon by the project partners.

Independently, an impact assessment will consider technical, social and political domains, by focusing on farmers' technical capabilities and educational, social and political capabilities, as well as on effectiveness of the social learning process.

Aspects to be included within the technical domain will be; more sustainable production, improved crop management, experimentation skills, innovation, improved livelihoods, ability to deal with risks and opportunities, yield increase, more cost-effective production, risk reduction, and improved marketability of produce.

Aspects to be included within the social domain will be; group building, collaboration between farmers, communication skills, farmer associations, problem solving skills, community agenda setting, farmer study groups, formation of networks, and farmer-to-farmer extension.

Aspects to be included within the political domain will be; farmer-extension linkages, negotiating skills, stronger access to service providers, an improved leverage position, and educational skills.

4.7 Communications and Visibility

Giving high visibility to the project and ensuring effective communications in support of the Project's message is to be addressed through a number of activities that have been incorporated into the Project design. These include: (i) the recruitment of one PCU staff member responsible (inter alia) for communications and knowledge management; (ii) the preparation of documents and communication tools that capture the Project's economic, ecological and social benefits; (iii) several regional and national workshops to raise awareness and lobby, and; (iv) several awareness raising activities.

These inputs and activities will be integrated into the Project Work Plan, and, as such, will come out of the Project's technical activities rather than be stand-alone activities. Notably, under Component 2, the support to Field Schools will include: (i) communication and multi-media training materials; (ii) demonstration material to increase the visibility of the use of local and wild species for food and fodder; (iii) multiple training workshops including local institutions, stakeholders and populations in the project intervention areas, that will raise awareness among participants; (iv) dissemination of results of gender-disaggregated assessments and selected community maps, and (v) and preparation of FFS/PFS/DFF and CLC videos and spots.

Component 3 will result in the development of three policy briefs on FFS-based CCA practices. In addition, a project website will be established and will help disseminate periodic project newsletters and specific publications on project-related best practices.

5. SECTION - Sustainability of RESULTS

5.1 Social Sustainability

The project will ensure social sustainability by introducing and adopting a predominantly ‘bottom up’ approach that aims at empowering local communities and increasing their ability to participate in economic activities and to take ownership over their natural resources. Direct beneficiaries will be empowered to influence the planning and prioritization processes at municipal level as small-scale farmers and herders will be fully involved in the formulation and execution of Community Development Action Plans and Municipal Development Plans. Moreover, the project respects and strengthens existing decision-making processes at all levels and will work in and with local languages, using appropriate communication channels, as required. These aspects should ensure that, although the project introduces new approaches and technologies, they do not lead to social dis-function or to negative social impacts. On the contrary, they are designed to strengthen social capital, providing a good basis for social sustainability.

The project directly aims to complement existing programmes that improve local livelihoods and improve food security. That is, the project will help local communities to engage in these existing programmes, and this engagement should continue after the project finishes, another aspect of social sustainability. The project has several strategies to support this community engagement with existing programmes: it strengthens community organizational capacity; it develops micro-credit mechanisms; it supports local communities to access national development financial resources.

The Project will also reinforce the Field School extension system by creating new schools in some areas and strengthening existing schools in other areas. The Field School system is well rooted in the territory and has previously demonstrated its sustainability in the whole in general and in Niger in particular. Field Schools benefit from a range of partnerships with key institutional partners (the Government, local NGOs and with international development partners).

Moreover, Farmer Field Schools will include activities aimed at increasing the organizational capacities of Producer Organizations (POs), developing micro-credit mechanisms facilitating access to micro-credit facilities by farmers/herders; reinforcing market strategies, commercialization and transformation of food products (output 2.5) all of which contribute to sustainability.

Furthermore, the Project introduces new technologies and tools directly aimed at ensuring local participation and ownership in efforts to increase resilience to climate change. These tools include SHARP and TOP-SECAC. These are all designed to ensure social integration and support at the local level, and to contribute to project sustainability.

Gender

The project will support gender equality and gender mainstreaming at the institutional and community level in several different ways. Data will be disaggregated by gender to monitor differentiated project impacts. The Socio-Economic and Gender Analysis tool (SEAGA³⁷) will be tested in Output 1.2 and shared with institutions to be mainstreamed in policies and programmes (Outputs 3.1 and 3.2). The SEAGA focuses on understanding gender roles, responsibilities and relations, and how they are managed in different communities. The approach also analyses the

³⁷ SEAGA. Socio-economic and Gender Analysis Programme, FAO, 2001. The SEAGA Field Level Handbook is written for development agents who work directly with local communities in developing countries. It is intended for outsiders such as extensionists, government and Non-government field workers, and private- and public-sector development consultants, and for insiders such as community organisers and leaders of local groups and institutions.

influence exerted on economic and social opportunities by factors such as age, ethnicity and religion all of which are fundamental in understanding livelihood strategies. The SEAGA helps identify asymmetries of power within households and structures of power. This includes institutions and how they influence people's capacity to play an active role in development, ensuring that their voices are heard. The objective of SEAGA approach is to systematically incorporate gender analysis in working processes with field agents and field farmer facilitators.

In addition, the project will ensure that all training material will include a gender dimension. The preparation of training material and the training of Master Trainers and Facilitators have modules focused on women and women's role. Outputs 2.3 to 2.6 cover the provision of technologies, and the market inclusion for various community activities with the aim of increasing revenue and increasing food security, notably for women.

The community based action plans to be prepared under Output 2.3 will have women components and will have gender issues mainstreamed throughout. The DFF activities (Output 2.3) will apply a gender-sensitive perspective as knowledge held exclusively by women or men may vary between crops or even between different landraces within a species. Because of the gendered nature of local knowledge, collecting data from both men and women, and keeping it in disaggregated format, is of central importance in the management of species, especially in terms of selection, harvesting and processing. The attention to gender will take into account that women often have different knowledge and preferences in terms of crops than men, and women play a key role in seed selection, seed storage, the use of wild plants for food, and the sustainable use of plant diversity.

5.2 Environmental Sustainability

As the vast majority of the population in the project intervention areas depend directly on natural resources for their livelihoods, the main problem addressed by the project is the ongoing degradation of natural resources, notably grazed rangeland, forest land, water resources and of land used primarily for crop cultivation. That is, the project is fundamentally about strengthening the natural resource base, increasing environmental capital, and therefore increasing ecosystem resilience and supporting the climate resilience of the local communities. Several aspects illustrate this:

- The Field School approach being promoted under this project is based on integrated farming systems, whereby cropping/grazing/tree harvesting are undertaken in combination, in order to optimize production, to reduce the removal of nutrients from the land, and to maximise the return of nutrients to the land. This approach also optimizes the level of inputs to agriculture – i.e. the practices of irrigation, pesticide use, fertilizer use are minimal and finely adapted to needs and to the sustainable use of land. It also ensures that livestock stocking levels are based on scientifically determined carrying capacities;
- Many of the project intervention areas currently consist of large areas of already degraded land. In those areas, the aim of the project is to improve natural and agricultural resources management. Several approaches will be demonstrated under Outcome 2. These approaches build on indigenous knowledge and the use of indigenous and local adapted species and varieties/cultivars;
- Many of the project intervention areas also include degraded agricultural land, due to over-exploitation and inadequate management. The project will introduce alternatives and technological improvements to reverse this land degradation tendency;
- The training material to be developed by the project will cover environmentally sustainable practices and measures. This will include low-input farming, sustainable crops production intensification techniques, green manure/cover crops techniques, sustainable land management, water conservation measures, etc.;

- The Project supports the conservation of genetic diversity through the DFF approach, and through activities to conserve local seeds, and through support to establishing community seed banks.

5.3 Financial and Economic Sustainability

Economic sustainability: As discussed in previous sections, a main focus of the project is the economic sustainability. The project will introduce methods, measures, practices and technologies that contribute to the economic development of the targeted agro-pastoralist communities. Accordingly, some 20,000 farmers will benefit from increased knowledge and increased ability to generate revenue in a sustainable manner, and in a manner resilient to climate change. Moreover, the changes introduced by the project will be developed through a participatory approach and will respect local needs, local resources and local capacity. Hence, the local communities will be able to sustain the economic improvements after the project. This is mostly the focus of Outcome 2.

In addition, by strengthening the existing extension system (network of trained facilitators operating in the Field Schools), and by strengthening the capacity of technical agencies (both governmental and non-governmental), the project creates an institutional capacity that can continue to support local communities after the project has been completed (this is mostly through Outcomes 2 and 3).

Financial sustainability: Overall, the economic improvements introduced by the project (see previous two paragraphs) will contribute to the financial sustainability of many of the project interventions. However some aspects of the project require specific attention in terms of financial sustainability.

Firstly, the provision of support by the government agencies to remote communities across Niger is costly, and in many cases the government has not been able to effectively do this in the past, due to financial constraints. This relates notably to the provision of extension services to farmer-herder communities. The project supports this during its lifetime; however, it is also necessary to ensure that this can continue *after* the project is completed. The Field School approach to extension services introduced by the project is low-cost and is relatively easy to maintain. Previous experience, demonstrates that with limited governmental input the structure can continue to function and sustainability should be achievable.

Secondly, lessons learnt from similar projects in the past show that, whereas it is relatively straightforward to identify, in a participatory manner, the required investments needed to improve resource management. Often the financial capacity is not present and there is no way to make the actual investments. Hence, participatory planning processes lead to low-cost investment plans, but the necessary investments do not take place. The Project has two strategies in place to address this. First, by developing community action plans, and ensuring they are firmly integrated into existing Communal (and Regional) development planning (see Outputs 2.3), the project will directly assist the mobilization of available resources to the investments that are identified by farmer-herders in order to increase resilience to climate change. Second, under Output 2.6, the Project will establish the Local Adaptation Investment Fund (LAIF) and create the institutional capacity for managing it on a sustainable basis. The LAIF shall be established in each of the five Regions. This will provide access to small-scale credit for herder -farmers in the intervention sites, in order to support adaptation to climate change. The benefits of this Fund shall be demonstrated within the lifetime of the project, and the local communities will have the capacity to maintain it, supported by the Producer Organizations – hence it should be sustainable. This is a sustainable way to support the small-scale investments identified as essential through the project.

Thirdly, the mainstreaming of climate change resilience into sectoral policies and local development will be ensured through the development of an investment plan. Plans will be drafted both for ongoing programmes and for future programmes by ensuring that all programmes will include Field School-based CCA measures. This is a critical point to guarantee financial sustainability.

5.4 Sustainability of Capacities Developed

The project will address the three dimensions of capacity development (CD) identified in *FAO's Approach to Sustainability*³⁸: i) individuals (small-scale farmers/herders, households, female-led households); ii) institutions (municipal governments, regional branches, line ministries, extension agents, NGOs); and iii) the policy enabling environment (enhanced institutional capacities through trainings on CCA; strategic partnerships and alliances with other development actors, a new national investment plan, revised Municipal Development Plans and Community Action Plans based on multi-stakeholder processes). The interaction between community members and local CSOs/NGOs, and between CSOs and municipal governments will be also addressed.

The project will develop capacity at many levels which will contribute to the overall body of capacity related to Field School and extension systems in Niger. This capacity will all be aligned to, and integrated into, existing organizations, both governmental and non-governmental, and so will have a sustained use after the project. The project will not support new structures, or support organizations on issues for which they do not currently have a mandate.

With the aim of mainstreaming CCA into national and local development frameworks and programmes, the project will build the capacity of planners and technical decision makers on climate resilient approaches to agro-sylvo-pastoral sectors (Outputs 3.1 and 3.2). It will develop catalogues and databases (Output 1.4) and training materials (Output 2.1) that can be used for training, awareness raising and dissemination, and which (based on past experience) will continue to be used after the project. Moreover, under Outputs 2.2-2.5, the Project will directly train more than 20,000 farmers, facilitators, master trainers and Producer Organizations. In each case the training will be designed in a participatory manner to respond to the needs and resources of the direct beneficiaries, it will be focussed, demand-driven and needs-driven. The recipients of the training will be well placed to immediately apply the contents of the training to their work. Through practical and learning-by-doing activities the target population will be incentivized to participate in project activities. Output 3.1 will include awareness raising activities and the development of policy briefs addressed to national technical experts and decision-makers – suitable efforts will be made to ensure that the most pertinent participants are involved, and they will be helped to apply the contents of the training to their work. Finally, Output 3.2 will reinforce institutional capacities particularly by setting up a coordination mechanism based on a cross-sectoral Consultation Platform within the existing CNEDD/National Technical Commission on Climate Change and Vulnerability (CTNCVC) which will continue to be operational, on the basis of a MoU, beyond project termination.

5.5 Appropriateness of Technologies Introduced

The project will test, validate and promote local knowledge-based technologies (agricultural and pastoral measures and practices) to increase sustainability and diversify production. These will be based on past experience and should therefore be locally appropriate.

³⁸<http://www.fao.org/capacitydevelopment/the-three-dimensions-of-the-fao-capacity-development-framework/en/20>

However, the project will also introduce, or refine, an innovative approach to extension (i.e. the Field School and other approaches). Similar approaches are already used throughout Niger, and have been developed across much of Africa. Close monitoring will take place to ensure these approaches are appropriate to the project intervention area in Niger.

5.6 Replicability and Scaling-Up

Under Output 1.1, the project will enter into operational partnerships with a range of rural development, agricultural and pastoral related projects and programmes. Through these partnerships, the project will disseminate the PFS and FFS approaches that are to be developed through Outputs 2.2 – 2.4. Technical and institutional conditions for the replication of the approach will also be created through awareness raising activities and capacity building support provided with the Outputs 2.2-2.5 and Outputs 3.1 and 3.2.

Scaling up will also be ensured through project Component 3 aimed at mainstreaming the CCA in policies and programmes. This project component consists on the institutionalization of the successes achieved and the lessons learnt from Outcome 2. Under the Output 3.2, the Project will develop a coordination mechanism that is the mentioned Consultation Platform across the five regions, and this Platform will be the vehicle for promoting the technologies developed in the project.

Through the Outputs 3.2 and 3.3, the project will integrate the community action plans (developed by the project under Output 2.3 and integrating Field School approaches with climate resilience) into the formal CPD processes in concerned Communes. This will be used as a basis for mobilizing resources to CPD implementation in order to support activities that increase climate resilience amongst agro-pastoral communities.

Component 4, and specifically Output 4.3, focuses on dissemination of best practices and lessons-learned, and will provide a further significant scaling up of the use of information and methodologies produced by the project. A significant role for replication of best practices and lessons-learned will be played by the Community Listeners' Clubs' (CLC) approach, as a powerful means to give voice over a much larger geographic area to farmers involved in Field School/CCA project activities.

By bringing together the experiences and practices from five targeted regions, the project will be able to facilitate the potential for replication and scaling-up of project activities outputs and results within the remaining communities of the two climatic zones (particularly regarding the analysis of resistance to climatic variability).

APPENDIX 1: RESULTS MATRIX

Project outcomes and impacts:

Objective/Impact	Baseline	Outcome indicators	Assumptions
<p>Adaptation Objective: To enhance the capacity of Niger's agricultural and pastoral sectors to cope with climate change, by mainstreaming Climate Change Adaptation (CCA) practices and strategies into on-going agricultural development policies and programmes</p> <p>Project Development Objective:³⁹ To help stakeholders adopt a field-based, pragmatic community learning process that leads to increased understanding, adaptation and eventual wide-scale adoption of improved agro-pastoral practices, which in turn creates a trend towards increasing production, improving livelihoods and enhancing food and nutrition security</p>	Component 1		
	<p>Outcome 1:</p> <p>No specific technologies and tools to improve resilience to climate change</p> <p>There are only fragmented and not systematized experience of project managers and stakeholders on adaptation technologies and tools within the five project regions. (Score 1. No capacity achieved < 50% correct). [LDCF AMAT indicator 3.2.2]</p>	<p>Outcome 1:</p> <p>Strengthened capacity of project managers and stakeholders to transfer tested and selected appropriate adaptation technologies and tools: Score 2. Moderate Capacity achieved (75%). 25% female [LDCF AMAT indicator 3.2.2]</p>	<p>High involvement and participation of local institutions and partner programs in climate resilient agriculture coordination and monitoring mechanisms.</p> <p>Local stakeholders and partner institutions are willing to support awareness-raising campaigns and workshops on CCA approaches based on Field Schools approach.</p>
	Component 2		
	<p>Outcome 2:</p> <p>No cropped surface integrate CCA strategies, practices and adapted genetic materials</p> <p>Different projects conducted during the period 2010 – 2013 (e. g. IPPM, APRAO, RUWANMU) introduced 1350 Field Schools (of which 850 for vegetable crops and 500 for rice) benefiting more than 27,000 farmers. Nevertheless the curricula do not take into consideration the adaptation practices for dealing with CC threats.</p> <p>The PFS are few and recently created.</p>	<p>Outcome 2:</p> <p>10% of the cropped surface of the municipalities supported by partner's programmes (40,000 ha) integrate the approved CCA strategies, practices and adapted genetic materials</p> <p>100% of targeted groups (1,000 Field Schools/ 20,000 Households) are adopting at least 2 of the following types of new technologies (disaggregated by gender – 25% female / 75% male): a) Climate resilient crop varieties (drought or flood resistant); b) Agronomic practices for flood and drought management in crop production systems (soil conservation and agro-forestry practices); c) Resilience evaluation tools; d) Weather-forecast decision-support tools. (LDCF AMAT 3.1.1 and 3.1.1.2).</p>	<p>The targeted Municipal governments, Government Ministries and Research Institution involved in the project preparation process are still willing to provide their support for field actions at local level and community levels.</p> <p>Local households have been involved in the design of Component 2 and are willing to participate in field activities.</p> <p>Climate related shocks and/or epidemic outbreaks do not cause shortages or unavailability of crop seeds that could negatively impact distribution and adoption of new crop varieties.</p>

³⁹ In line with FAO SOs

	Component 3		
	<u>Outcome 3</u> Weak institutional capacity on mainstreaming CCA into policies and programmes Targeted local and national institutions have limited adaptive capacity to reduce risks and respond to climate variability [LDCF AMAT Indicator 2.2.1]	<u>Outcome 3</u> 15 targeted Municipalities, 4 Government Ministries and 1 Research Institution have increased adaptive capacity to reduce risks and respond to climate variability. [LDCF AMAT Indicator 2.2.1]	Commitment to development with adaptation scenario continues throughout project implementation. High involvement of targeted Ministries and Municipalities in PAC-CR activities
	Component 4		
		<u>Outcome 4:</u> Project implementation based on results-based management	FAO will execute the project and is providing technical backstopping to the overall project cycle. The M&E system will be design by the M&E Specialist

Outcomes and Outputs	Baseline	Target	Milestones to Achieve outcomes and outputs targets				Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Means of Verification	Responsible Person
Component 1: Developing and pilot-testing improved climate-resilient agro-pastoral practices								
Outcome 1: An “operational enabling environment” is created for promoting adoption of CCA practices and technologies through creation of partnerships, execution and analysis of baseline surveys and compilation and pilot-testing of existing and proposed new technologies and methods.	No specific technologies and tools to improve resilience to climate change There are only fragmented and not systematized experience of project managers and stakeholders on adaptation technologies and tools within the five project regions. (Score 1. No capacity achieved < 50% correct). [LDCF AMAT indicator 3.2.2]	Strengthened capacity of project managers and stakeholders to transfer tested and selected appropriate adaptation technologies and tools: Score 2. Moderate Capacity achieved (75%). 25% female. [LDCF AMAT indicator 3.2.2]		Strengthened capacity of project managers and stakeholders Score 2. Moderate Capacity achieved (50%). 25% female. [LDCF AMAT indicator 3.2.2]		Strengthened capacity of project managers and stakeholders Score 2. Moderate Capacity achieved (75%). 25% female. [LDCF AMAT indicator 3.2.2]	Technical reports on adaption technologies and tools; PPRs PIRs	Project Coordinator Project Coordination Unit (PCU) Technical Working Groups MoA, MoL
Output 1.1: Intervention zones, partners and partner-communities identified and awareness-raising undertaken related to the Project	Planners and programme managers have a basic awareness of climate change and a basic understanding of the Field Schools approach, but generally limited to the traditional crop-focused approach. Thus they do not have a thorough understanding of the entire process of capacity building as well as lacking awareness of the full potential of Field Schools. Some partnerships have been established among projects implemented in the same project areas, but are not considering CCA interventions.	6 partnerships established with institutions operating in project intervention areas 1 National Atlas of projects and programmes on the strategy for rural development is updated Awareness-raising activities undertaken with partner institutions (100 national, regional, and district programme managers from the	Intervention sites identified 2 partnerships established and possibilities for joint work plans identified. Updating process for the National Atlas-reviewed 3 CCA awareness campaigns 2 Exchanges of good practices with	2 additional partnerships established First National Atlas-draft available and shared with main stakeholders 3 additional CCA awareness campaigns 1 additional exchange of good practices	2 additional partnerships established (6 in total) National Atlas finalized 3 additional CCA awareness campaigns	1 additional CCA awareness campaigns (10 in total)	Signed Partnership protocols/a greements. Diagnostic reports PIRs Advocacy document on CCA approaches based on Field School approach	Project Coordinator Socio-Institutional Project Assistant

	The Executive Secretary of the inter-ministerial committee for the piloting of the SDR developed in 2001 the National Atlas of projects and programmes on the strategy for rural development	agriculture and livestock sectors and 50 local authority representatives)	neighbouring country experts from Mali, Burkina Faso, Senegal and/or East Africa (Kenya and Uganda for PFS).	with neighbouring country experts			Didactical material used in awareness campaigns	
Output 1.2: Tools for socio-economic and community self-assessment surveys selected and surveys undertaken.	In general, climate resilience assessments are only undertaken at the department level. Such baseline assessments are broad, covering mainly most of the socio-economy aspects without providing the necessary understanding and elements for a better detailed interventions design at agro-sylvo-pastoral community levels.	A variety of diagnostic survey tools using participatory methods are explored, selected and employed in 15 Municipalities. An inventory of local knowledge/practices as they relate (strongly or weakly) to CCA is established.	A multi-stakeholder permanent working group based on Raaks analysis Community self-assessment surveys undertaken and tools tested in 15 Municipalities.	Compilation of promising tools, materials & methods for CCA, finalized An inventory of local knowledge/practices established in 1 region	Selected tools and materials employed in 8 municipalities. An inventory of local knowledge/practices established in 2 additional regions	Selected tools and materials employed in 7 additional Municipalities. An inventory of local knowledge/practices established in 2 regions	Inventory of relevant endogenous know-how on CCA Completed Surveys Workshops attendance list PPRs	Socio-institutional specialist Agro-economist (int. consult.) SHARP specialist Anthropologist (int. consult.) Project Coordinator Project Regional Assistants FAO
Output 1.3: Piloting on-farm tests of initial catalogue of crop varieties and farm/pastoralist practices	Improved CCA-appropriate practices are almost absent. Current knowledge of CC risks as a function of farmers' seasonal plans is inadequate to non-existent.	Techniques and technologies added to project database and available to inform Field School curriculum development (Output 2.1).	Joint research-farmer based field trials (Action Research) conducted in 6 sites (at least 1 per region)	Joint research-farmer based field trials (Action Research) conducted in additional 4 sites Information systematically shared among communities who are facing similar CC		Project Database Research reports	Research result reports Project database	Agronomist Project Assistant Agro-economist (int. consultant) Pastoral Project Assistant

				challenges.				
Output 1.4: Databases and catalogues developed or updated including region-specific plant and animal genetic resources and potential best practices for climate resilient agriculture	Institutions such as the national NCAR ⁴⁰ the international ICRISAT ⁴¹ and the regional CILSS ⁴² are collecting related information and drafting case studies documents on plant genetic resources, local varieties and best practices. However, there is no data-base that (i) is specifically tailored to the Project intervention areas; (ii) is accessible in a format suitable for farmer-herders (most work has been done for academic purposes). A catalogue of local and improved adapted varieties/cultivars has already been published by the CNEDD ⁴³ , including datasheets, but it is out of date and lacks local language versions and is not accessible to a broad set of actors	Updated regional catalogues of adopted varieties including pastoral and agro-forestry good practices, translated into main local languages, where feasible, and, when appropriate, into pictograph-based guidelines	Existing information on climate-resilient agronomic varieties, cultivars and breeds is collected and analysed 5 draft regional catalogues are updated with data gathered through Output 1.3	5 regional catalogues translated into local language and distributed			Updated catalogues Technical papers on local varieties and best practices PIR	Agronomist Project Assistant; Agro-economist (int. consultant) Project Coordinator MoA, MoL
Component 2: Capacity building and promotion of improved agricultural practices through agro-pastoral Field Schools								
Outcome 2: Increased ecological, economic and social resilience of at least three productions systems in 15 Municipalities in two agro-ecological zones, through the adoption of improved, Field School-based CCA strategies, practices and a broader choice of adapted genetic material,	No cropped surface integrate CCA strategies, practices and adapted genetic materials Different projects conducted during the period 2010 – 2013 (e. g. IPPM, APRAO,	10% of the cropped surface of the Municipalities supported by partner's programmes (40,000 ha) integrate the approved CCA strategies, practices and adapted genetic materials 100% of targeted groups (1,000 Field Schools/	2% of the cropped surface supported by partner's programmes	6% of the cropped surface supported by partner's programmes 20% of targeted groups are	8% of the cropped surface supported by partner's programmes 40% of targeted groups are	10% of the cropped surface supported by partner's programmes 100% of targeted groups are adopting at least	FFS/PFS/ DFF Action plans and Commune Development Plans Training	Project Coordination Unit (PCU) PFS/FFS/DFF Experts MoA, MoL, MEUSSD Implementing

⁴⁰ National Center for Atmospheric Research

⁴¹ International Crops Research Institute for the Semi-Arid Tropics

⁴² Regional Permanent Interstates Committee for Drought Control in the Sahel (in French CLISS: Comité permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel)

⁴³ National Council of the Environment for Sustainable Development

leveraged/scaled up through interactions with PAC-CR and other partner programs.	RUWANMU) introduced 1350 field schools (of which 850 for vegetable crops and 500 for rice) benefiting more than 27,000 farmers. Nevertheless the curricula do not take into consideration the adaptation practices for dealing with CC threats. The PFS and DFF are few and recently created.	20,000 Households) are adopting at least 2 of the following types of new technologies (disaggregated by gender – 25% female / 75% male): a) Climate resilient crop varieties (drought or flood resistant); b) Agronomic practices for flood and drought management in crop production systems (soil conservation and agro-forestry practices); c) Resilience evaluation tools; d) Weather-forecast decision-support tools. (LDCF AMAT 3.1.1 and 3.1.1.2).		adopting at least 1 of new technologies	adopting at least 2 of new technologies	2 of new technologies	attendance lists	Partners (LoA)
Output 2.1: Curricula for FFS, PFS and DFF training of facilitators revised in light of CCA and other cross-cutting themes, such as gender and nutrition	Existing FFS/PFS/DFP curricula don't take into consideration the adaptation practices to be implemented for dealing with CC threats.	Revision of FFS/PFS/DFP curricula and introduction of multi-media training methods (CLC and participatory video) based on lessons-learned to date.	CCA-oriented FFS/PFS/DFP training materials, produced ToF training material and refresher modules for existing facilitators ("recyclage"), revised 5 training modules for Technical Focal Points (nutrition, agroforestry, seed multiplication and conservation, marketing and livestock management), developed	Acceptance, and adoption of proposed methods and technologies, monitored		Multi-media training program <u>fully integrated</u> in CLC & FFS/PFS/DFP curricula Impact level of applied tools and material assessed within 10 communities (2 x region)	Training material. Training participation lists Training evaluation forms (disaggregated by gender) PPRs	FFS/PFS/DFP experts; Non-formal education Specialist Anthropologist (int. consult.) Socio-institutional Project Assistant Project Coordinator;
Output 2.2: FFS/PFS/DFP Master	Both Master Trainers (MT) and Facilitators for FFS	10 highly qualified Trainers fully capable of	10 highly qualified Trainers are				Training material.	PFS/FFS/DFP Experts;

Trainers and Facilitators trained based on CCA curricula	projects currently exist: 45 facilitators, of which 12% are women, were trained through the FAO/IPPM project and around 100 through RUWANMU and IARBIC projects. As the latter usually do not receive regular training refresher courses, it is a challenge for them to remain up-to-date on the latest technological developments. MTs have generally only been trained on a single-crop, small-farmer plots, and lack skills & knowledge needed to address integrated agro/forestry/pastoral systems.	training Facilitators on all aspects of FFS, PFS, CLC and DFF are established. At least 3 of the Trainers are women.	established (3 of which are women).				Training participation lists Training evaluation forms (disaggregated by gender) PPRs PIRs	Agronomist Project Assistant; Pastoralist Project Assistant National Project Coordinator Project Coordination Unit (PCU)
		300 Facilitators of which at least 30% women receive training. The vast majority (approximately 50%) will be based on the existing facilitators, i.e. farmers and herders who have previously received FFS training.	120 Facilitators received training. Female: 30%	Additional 180 Facilitators received training. Female: 30%				
		5 Project Regional Assistants trained	5 Project Regional Assistants trained					
		25 (5x region) Technical Focal Points (TFP) receive specialized training	A cadre of 25 Technical Focal Points selected to receive specialized training	25 Technical Focal Points trained				
		At least 600 existing Field Schools will be strengthened and at least 400 new Field Schools will be installed.	40 Field Schools strengthened	200 additional Field Schools strengthened 100 Field Schools installed	200 additional Field Schools strengthened 150 Field Schools installed	160 additional Field Schools strengthened 150 Field Schools installed		

<p>Output 2.3 Farmers/pastoralists trained on sustainable production and implementing new/adapted practices</p>	<p>About 5,400 producers, of which 18% women, have been trained on integrated pest management through the FAO/IPPM project; and other several thousand (to be defined at the beginning of the project) were trained by RUWANMU and IARBIC projects.</p> <p>The farmer-herders in most of the project intervention zones do not benefit from extension support and when they receive it, extension experts are not trained on CC events</p> <p>5 DFF already existing in the project areas</p>	<p>At least 14,000 farmer-herders (70% of 20,000 are trained by trained facilitators on the implementation of new/adapted, climate-resilient, integrated crop/livestock/tree system</p> <p>4 DFF installed</p>	<p>400 FFS_famers implementing CCA practices</p> <p>400 PFS herders implementing CCA practices</p> <p>CC-adapted local seeds are selected for testing and undertake the testing</p>	<p>2,200 additional FFS_famers implementing CCA practices</p> <p>2,200 additional PFS herders implementing CCA practices</p> <p>2 DFF: installed and famer-herders trained</p>	<p>2,200 additional FFS famers implementing CCA practices</p> <p>2,200 additional PFS herders implementing CCA practices</p> <p>2 additional DFF: installed and famer-herders trained</p>	<p>2,200 additional FFS famers implementing CCA practices</p> <p>2,200 additional PFS herders implementing CCA practices</p> <p>70% of FFS/PFS/DFF: community action plans validated and implemented</p>	<p>FFS/PFS/DFF community action plans</p> <p>Communes Development Plans</p> <p>Field School training material</p>	<p>FFS/PFS/DFF Specialists</p> <p>Regional Project Assistants</p> <p>MoA , MoL</p> <p>Implementing Partners (LoA)</p> <p>Project Coordination Unit (PCU)</p>
<p>Output 2.4 : Development and adoption of participatory decision-support tools for Climate Change analysis to reduce risks for farmers/herders and communities</p>	<p>Despite the existence of several institutions working on this topic (AGRHYMET, CRA, ACMAD, ABN, and FEWSNET etc.), access to climatic information still constitutes a challenge to different users. Reasons include instances where:</p> <ul style="list-style-type: none"> -Climate and weather data available do not allow making accurate events' predictions necessary for good decision-making; - Available data are not relevant; - Data do not cover appropriate space and time scales – in most cases they are not appropriate for use and do not reflect farmer-herders' needs; -Data do not exist or are incomplete. 	<p>Key institutions trained and receiving capacity building on forecasting tools (i.e AGRHYMET)</p> <p>Climate prediction tools validated and adopted by farmers-herders</p>	<p>Acquisition of past 30 years rainfall data and development of past and current Rain Calendars</p> <p>Gathering of local knowledge and perception of rainfall patterns</p> <p>Testing and selection of climate prediction tools</p> <p>3 workshops organized for NDM, MoA local meteorological services, and facilitators on integration of climate information into Field Schools</p>	<p>30 % of targeted farmers herders trained, adopted weather forecast tools</p> <p>3 additional workshops organized for NDM, MoA local meteorological services, and facilitators</p>	<p>60 % of targeted farmers herders trained, adopted weather forecast tools</p>	<p>100 % of targeted farmers herders trained, adopted weather forecast tools</p>	<p>Training material on weather forecast tools</p> <p>Needs assessment report of climate and weather data for farmer-herders.</p>	<p>NDM</p> <p>Anthropologist (int. consult.)</p> <p>MoA local meteorological services</p> <p>Project Coordinator, FAO</p>

Output 2.5 : Producer Organizations (POs) strengthened by adoption of CCA practices	POs are present in the project areas, even though they are often weak and insufficiently organized and operational. Several projects/programmes are supporting the government in implementing policies and measures that encourages the development of equitable and effective POs (including in the project targeted areas)	At least five POs (one per targeted region) are strengthened. \	Diagnostic and selection of POs to partner with in each of the five regions	3 POs strengthened on: - participation in policy platforms -service provision, transformation and marketing of food products, -access micro-credit facilities -expansion of warehouse receipt system -elaboration & assessing of action plans based on improving resilience through Field Schools	2 additional POs strengthened		Training manuals and material Action plans Training participation lists	Socio-institutional Assistant Microcredit specialist Marketing specialist Project coordinator
Output 2.6: Local Adaption Investment Fund (LAIF) established (operational and financially sustainable)	Farmer-herders in vulnerable areas do not have access to formal financial services for various reasons (including the weakness of individuals' saving capacity, the lack of collateral, perceived high risks, and low profitability of proposed activities). This prevents farmer-herders from implementing the small investments needed to increase their resilience.	Local Investment Fund for Adaptation to Climate Change established and operational in each Region (5).	Detailed approach to LAIF is designed Communities selected	LAIF based on FFS/PFS community action plans established in the five regions	Fund operational in 2 regions.	Fund operational in 3 additional regions	Assessment reports and draft proposals developed by international consultant Local financial institutions documentation related to LAIF	Micro-finance specialist Project Coordinator

Component 3: Mainstreaming climate change resilient agro-pastoral and agricultural systems into sectoral policies and into local development								
Outcome 3 : Increased institutional capacities and cross-sector coordination to the mainstream CCA strategies into policies, programs and planning of the agro-sylvo-pastoral sectors	Weak institutional capacity on mainstreaming CCA into policies and programmes Targeted local and national institutions have limited adaptive capacity to reduce risks and respond to climate variability [LDCF AMAT Indicator 2.2.1]	15 targeted Municipalities, 4 Government Ministries and 1 Research Institution have increased adaptive capacity to reduce risks and respond to climate variability. [LDCF AMAT Indicator 2.2.1]	Capacity of 5 Municipalities, 1 Government Ministry and 1 Research Institution strengthened	Capacity of 5 additional Municipalities and 2 additional Government Ministry strengthened	Capacity of 5 additional Municipalities and 1 additional Government Ministry strengthened		FFS/PFS/ DFF Action plans and Commune Development Plans Training attendance lists	Project Coordination Unit (PCU) Policy Specialist Investment Plan Specialist MoA, MoL
Output 3.1 Development of policy briefs based on analyses of resilience	No permanent mechanism links lessons learned from local experience with decisions taken at programme and policy levels. Ongoing programmes related to CC (ACCIC, PDIPC, PAC-RC) do not include evaluation tools allowing valorisation of previous experiences nor the improvement and design of CC-sensitive programmes and policies.	Main institutional partners (MAE, CNEDD, ME and SDR) are sensitized using the results of resilience baseline analysis, and data and information collected with CC resilience evaluation tools administered under national programmes such as I3N, ACCIC, PDIPC, PAC-RC. The process for identifying, adapting, and selecting suitable monitoring tools is established.	Proposals for mainstreaming CCA into local and national policies developed (based on surveys results) Policy briefs based on econometric analysis of a large data set, produced	2 regional workshops organised to strengthen the capacity of policy makers on tools (80% of which implementing CCA practices)	2 additional regional workshops organised	1 additional regional workshop organised	Training material Policy Briefs Workshop participation lists	Policy Specialist Project Coordinator Socio-Institutional Project Assistant

<p>Output 3.2: Reinforced institutional capacities for mainstreaming of CCA into programmes and policies based on the FFS approach</p>	<p>Despite the existence of programmes dealing with CC-induced threats, very few policies incorporate CC dimensions. Concrete mechanisms for the formulation of CCA-sensitive sectoral and cross-sectoral policies and of consultation platforms for the definition of agriculture policies on CC are also absent. Nevertheless, an interesting process aiming at creating synergies among communes with similar objectives is currently developing at the local level.</p> <p>The CNEDD/National Technical Commission on Climate Change and Variability (CTNCVC) does not appear to have the means and weight necessary to influence relevant policy-making processes.</p>	<p>Capacity of Ministerial institutional personnel and policy-makers to design policies which address CC issues reinforced, with a particular focus on cross-sectoral policies integrating agriculture and pastoral sectors.</p> <p>A Consultation Platform created within the CTNCVC with defined mechanisms and roles and including Memoranda of Understanding established with Ministry partners.</p>	<p>Capabilities & shortcomings CCA policies formulation, assessed</p> <p>Mechanisms, roles and MoU for a Consultation Platform within the CTNCVC, defined</p>	<p>2 regional workshops to strengthen decision-makers capacity's to mainstream CCA in sectoral and cross-sectoral policies</p> <p>Consultation Platform established</p>	<p>2 additional regional workshops to strengthen decision-makers capacity</p> <p>Proposals developed to mainstream CCA into national and municipal programmes and policies.</p>	<p>1 additional regional workshop to strengthen decision-makers capacity</p> <p>Proposals validated to mainstream CCA into national and municipal programmes and policies.</p>	<p>Sectorial strategy papers</p> <p>Municipal Development Plans</p> <p>Training material</p> <p>Consultation Platform minutes</p>	<p>Policy Specialist</p> <p>Socio-Institutional Project Assistant</p> <p>Project Coordinator</p>
<p>Output 3.3 National and Municipal investment plan on FFS-based CCA developed for programmes and policies related to agricultural and pastoral sectors</p>	<p>Although some programmes related to CC exist in the area; the existing investment plans do not include FFS- based CCA.</p> <p>No development frameworks include specific budgets for adaptation actions [LDCF AMAT Indicator 1.1.1.1]</p>	<p>An investment plan available in support to Field Schools-based CCA mainstreaming and up-scaling in the agricultural and pastoral sectors [LDCF AMAT Indicator 1.1.1.1]</p> <p>CCA mainstreamed in 15 Municipal action plans including specific budget allocation for adaptation action [LDCF AMAT</p>	<p>Investment needs to support the growing awareness on CCA through Field Schools identified</p> <p>A proposal of investment plan to support the inclusion of the CCA in political strategies and programming, developed</p>	<p>Investment plan mechanism discussed and defined using the Consultation Platform established in Output 3.2</p>	<p>Investment plan validated</p> <p>CCA mainstreamed in 7 Municipal action plans with approved budget allocation</p>	<p>Investment plan operational in project zones and other vulnerable regions</p> <p>CCA mainstreamed in 15 Municipal action plans with approved budget allocation</p>	<p>Sectorial policies financial plans</p> <p>National investment plan</p> <p>Municipal action plans</p>	<p>Investment Plan Specialist</p> <p>Project Coordinator</p>

	0 sectoral strategies that include specific budget for adaptation actions [LDCF AMAT Indicator 1.1.1.2]	Indicator 1.1.1.1]. Budget allocation for adaptation actions in at least 50% of the agricultural and pastoral sector policies [LDCF AMAT Indicator 1.1.1.2]	Budget allocations proposed at national and municipal levels	Budget allocations approved in 10% of the agricultural and pastoral sector policies	Budget allocations approved in 30% of the agricultural and pastoral sector policies	Budget allocations approved, validated and operational in 50% of the agricultural and pastoral sector policies		
Component 4: Project monitoring and evaluation								
Outcome 4: Project implementation based on results based management and application of project lessons learned in future operations facilitated		Project outcomes achieved and showing sustainability		50% progress in achieving project outcomes		Project outcomes achieved and showing sustainability	PIRs Midterm and final evaluations	PCU M&E Specialist FAO
Output 4.1: System for systematic collection of field-based data to monitor project outcome indicators made operational	Project results framework with project output and outcome indicators, targets and baseline	Six six-monthly progress reports and four PIRs	Two six-monthly progress reports and one PIR	Two additional six-monthly progress reports and one additional PIR	Two additional six-monthly progress reports and one additional PIR	Two additional six-monthly progress reports and one additional PIR	PPRs PIRs	PCU FAO
Output 4.2: Midterm and final evaluation conducted		Mid-term and final reports completed		Midterm review report		Final evaluation report	Review and Evaluation reports	M&E Specialist PCU

Output 4.3: Communications strategy developed		Five publications on project-related “best-practices” and “lessons-learned” disseminated via publications, project website and others.	Project webpage established	Draft publications	Five publications issued on best practices and lessons learned, distributed through printed and electronic copies to local partners and government staff	Impact assessment report	Project website	Communication Specialist
		Communication strategy to promote project visibility, knowledge sharing, and “communication for development”.					Publications	Graphic Designer (consultant)
		Impact assessment					Impact assessment report	Impact assessment specialist (int. Consultant) FAO

APPENDIX 2: WORK PLAN (RESULTS BASED)

Outputs	Activities	Responsible institution/ entity	Year 1			Year 2			Year 3			Year 4		
			Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3
Component 1 Development and pilot-testing improved climate-resilient agro-pastoral practices														
1.1 Intervention zones, partners and partner-communities identified and awareness-raising undertaken related to the Project	Identification of the project sites	Project Coordination Unit (PCU) Project Regional Assistants MoA, MoL												
	Institutional analyses of potential partner institutes, projects and programmes	Socio- Institutional PA PCU												
	Development and signature of protocols/agreements	Socio- Institutional PA PCU												
	Updating the national atlas of projects and programmes involved in rural development	Socio- Institutional PA PCU Project Regional Assistants												
	Awareness-raising activities with decision-makers and managers at all levels	Socio- Institutional PA Agronomist PA Livestock/Pastoralist PA Capacity Building Specialist PCU												
	Development of communication documents on CCA approach based on Field School													
	Exchanges of good practices with neighbouring country experts from Mali, Burkina Faso, Senegal and East Africa (Kenya and Uganda for PFS)	Project Coordination Unit (PCU) Technical Working Groups (TWG)												
1.2 Tools for socio-economic and community self-assessment surveys selected and surveys undertaken	Establishment of a multi-stakeholder permanent working group	PCU Project Regional Assistants SHARP/Assessment Tools consultant.												
	Baseline community self-assessment and other surveys undertaken at each of the 15 municipalities	SHARP/Assessment Tools consultant Anthropologist M&E national												

Outputs	Activities	Responsible institution/ entity	Year 1			Year 2			Year 3			Year 4		
			Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3
	Development of a geo-referenced database of currently available varietal materials and farming practices employed target regions	Agronomist PA Agro-economist INRA DGPV MoA.												
	Data analyses, reports, and workshops with stakeholders and invited experts to determine the significance of the data in guiding development of specific, localized strategies for addressing CCA	PA's NPC Technical Working Groups (TWG)												
	Characterization of farming system typologies	Agro-economist Agronomist PA.												
	A stocktaking and compilation for use of promising materials and methods from national and regional research on CCA.	Policy Specialist NPC MEUSSD												
	Development of a communication strategy to include as well cross-cutting issues (gender, nutrition, revenue generating activities).	PA's Nutritionist and gender specialist												
1.3 Piloting on-farm tests of initial catalogue of crop varieties and farm/pastoralist practices	Joint research-farmer based field trials (Action Research) in 5 sites	Agronomist PA Anthropologist Project Regional Assistants Local NGO (LoA) INRA DGPV MoA												
	Output from initial studies discussed among partner agencies and techniques and technologies added to project database	FFS/PFS/DFP Specialists MoA												
1.4 Databases and catalogues developed or updated including region-specific plant and animal genetic resources and potential best practices for climate resilient agriculture	Collect existing information on climate-resilient agronomic varieties, cultivars and breeds appropriate to the five intervention zones (partially resulting from output 1.2)	Agronomist PA INRA Project Regional Assistants DGPV MoA.												

Outputs	Activities	Responsible institution/ entity	Year 1			Year 2			Year 3			Year 4		
			Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3
	Update regional catalogues of adopted varieties, and translate into main local languages, where feasible, and, when appropriate, into pictograph-based guidelines.	Agronomist PA INRA Project Regional Assistants DGPV MoA.												
	Include agro-forestry and pastoral best practices in database.	Agronomist PA Livestock/Pastoralist PA Agro- forestry specialist												
Component 2: Capacity building and promotion of improved agricultural practices through agro-pastoral Field Schools														
2.1 Curricula for FFS, PFS and DFF training of facilitators revised in light of CCA and other cross-cutting themes, such as gender and nutrition	Production of CCA-oriented FFS/PFS/DFF training materials.	FFS/PFS/DFF Specialists Project Regional Assistants Non-formal Education Specialist Capacity Building Specialist Local NGO (LoA) MoA, MoL												
	Testing and revision of materials in Training of Facilitator (ToF), refresher courses for existing facilitators (“recyclage”) and Field Schools	FFS/PFS/DFF Specialists Project Regional Assistants Non-formal Education Specialist Capacity Building Specialist MoA, MoL												
	Monitoring of acceptance and adoption of proposed methods and technologies	FFS/PFS/DFF Specialists Project Regional Assistants Non-formal Education Specialist Capacity Building Specialist MoA, MoL												

Outputs	Activities	Responsible institution/ entity	Year 1			Year 2			Year 3			Year 4		
			Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3
2.2 FFS/PFS/DFP Master Trainers and Facilitators trained based on CCA curricula	Training of 10 highly qualified Master Trainers on all aspects related to FFS, PFS, CLC and DFP	PFS/FFS/DFP Experts Agronomist Project Pastoralist Project Assistant TWG NPC												
	Additional training on CCA will be given to at least 300 facilitators	PFS/FFS/DFP Experts Agronomist Project Assistant Pastoralist Project Assistant TWG NPC												
	Selection of 25 Technical Focal Points (TFP) to receive specialized training	PFS/FFS/DFP Experts Socio-institutional PA Agronomist PA Pastoralist PA TWG NPC												
	Strengthening of at least 600 existing Field Schools and installation of at least 400 new Field Schools	PFS/FFS/DFP Experts Agronomist PA Pastoralist PA Socio-institutional PA; TWG NPC												
	Exchange of experiences among facilitators through “refresher courses”	FFS/PFS/DFP Specialists Project Regional Assistants Capacity Building Specialist MoA, MoL												
2.3 Farmers/pastoralists trained on sustainable production and implementing new/adapted practices	FFS: Field training of famers over a period of a full growing season (12 months), with follow-on activities during subsequent seasons.	FFS Specialist; Regional Project Assistants; MoA , MoL; Implementing Partners (TbC) ; National Coordination Unit (NCU)												

Outputs	Activities	Responsible institution/ entity	Year 1			Year 2			Year 3			Year 4		
			Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3
	<u>FFS</u> : Adoption of new/adapted CCA practices & adapted varieties	FFS Specialist Regional Project Assistants MoA , MoL Implementing Partners (TbC)												
	<u>FFS</u> : Training on agricultural product management, processing, storage and marketing	FFS Specialist Regional Project Assistants Marketing Specialist												
	<u>FFS</u> : Preparation of FFS community action plans	FFS Specialist Regional Project Assistants NPC PA's												
	<u>PFS</u> : Field training of pastoralists over a period of 18 months. In practice each group will be supported by at least one facilitator responsible for each PFS.	PFS Specialist; Regional Project Assistants MoL Implementing Partners (TbC)												
	<u>PFS</u> : Training and experimentation with adapting existing and new practices	PFS Specialist Regional Project Assistants MoL Implementing Partners (TbC)												
	<u>DFE</u> : Selection of CC-adapted local seeds for testing	DFE Specialist Regional Project Assistants; MoA Implementing Partners (TbC)												
	<u>DFE</u> : Identification and introduction of local varieties to be used in the FFS and in the PFS	DFE Specialist Regional Project Assistants MoA Implementing Partners (TbC)												
	<u>DFE</u> : Establishment of local community seed banks.	DFE Specialist; Regional Project Assistants; MoA; Implementing Partners (TbC)												

Outputs	Activities	Responsible institution/ entity	Year 1			Year 2			Year 3			Year 4		
			Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3
	<u>DFF</u> : Multiplication and dissemination of selected seeds.	DFF Specialist Regional Project Assistants MoA Implementing Partners (TbC) FAO												
	<u>FFS/PFS/DFF</u> : Exchange of good practices from farmer-to-farmer	DFF Specialist Regional Project Assistants MoA FAO												
2.4 Development of participatory decision-support tools for Climate Change analysis to reduce risks for farmers/herders and communities	Acquisition of past 30 years rainfall data and development of past and current Rain Calendars;	NDM MoA local meteorological services NPC FAO												
	Gathering of local knowledge and perception of rainfall patterns	Assessment Tools Expert Regional Project Assistants Project Assistants												
	Support farmers, herders and communities in understanding the causes and consequences of CC (rain calendars)	NDM MoA local meteorological services Agronomist PA												
	Training of participatory scenario development for translating impact of CC into adaptations	NDM MoA local meteorological services Agronomist PA												
	Capacity building of master trainers and facilitators on understanding seasonal climate forecasts at local and national level	NDM MoA local meteorological services; NPC												
	Specific training sessions for NDM, MoA local meteorological services, and facilitators on integration of climate information into Field Schools	Implementing Partners (TbC)												
	Dissemination and use of climate information	NDM MoA local meteorological services												

Outputs	Activities	Responsible institution/ entity	Year 1			Year 2			Year 3			Year 4		
			Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3
2.5 Producer Organizations (POs) strengthened by adoption of CCA practices	Diagnostic and selection of POs to partner with in each of the five regions	Implementing Partners (tbc); Regional Project Assistants; Project Coordinator.												
	Institutional strengthening of POs in terms of governance and gender equity	Implementing Partners (tbc); Socio- Institutional PA; Project Coordinator; Gender Specialist.												
	Raising the awareness of communities and POs on CCA practices for adoption of CCA practices.	Implementing Partners (tbc); Regional Project Assistants; Project Coordinator.												
	Training PO members or management as facilitators for FFS/PFS/DFP	Implementing Partners (tbc); FFS/PFS/DFP Specialists												
	Participation of POs in the identification of farmers to participate in FFS/PFS/DFP	Implementing Partners (tbc); FFS/PFS/DFP Specialists												
	Analysis of the business model of POs & training for commercialization/ transformation of food products.	Marketing Specialist												
	Strengthening capacity building of farmers-herders to access micro-credit facilities established under Output 2.6	Micro-finance Specialist Project Coordinator												
	Support expansion of warehouse receipt system	Implementing Partners (tbc) Regional Project Assistants Project Coordinator												
	Training in elaboration and assessing of action plans	FFS/PFS/DFP specialists Regional Project Assistants												
	Support PO participation in policy Platform and dialogue activities undertaken under component 3	Socio-Institutional PA Policy Specialist												
2.6 Local Adaption Fund (LAIF) established (operational and financially sustainable)	Detailed design of approach to LAIF	Micro-finance specialist												
	Selection of concerned communities	Regional Project Assistants PA's												

Outputs	Activities	Responsible institution/ entity	Year 1			Year 2			Year 3			Year 4		
			Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3
	Establishment of LAIF based on FFS/PFS community action plans	Regional Project Assistants PA's												
	Operationalization of the Fund	Implementing Partners (TbC)												
Component 3: mainstreaming climate change resilient agro-pastoral and agricultural systems into sectoral policies and into local development														
3.1 Development of policy briefs based on analyses of resilience	Develop proposals for mainstreaming CCA into local and national policies.	Policy Specialist Project Coordinator Socio-Institutional PA												
	Joint activities with the EC Global Governance project to finalize econometric analysis	Project Coordinator Socio-Institutional PA												
	Regional workshops to strengthen the capacity of stakeholders and decision makers on tools for monitoring and evaluation of resilience.	Policy Specialist Assessment Tools specialist M&E national specialist Project Coordinator Capacity Building Specialist												
3.2 Reinforced institutional capacities for mainstreaming of CCA into programmes and policies based on the FFS approach	Identify gaps and inconsistencies in inter-institutional competencies and assess the capabilities and shortcomings in the formulation of CC adaptation policies	Policy Specialist Socio-Institutional PA Project Coordinator												
	Establish a Consultation Platform within the CTNCVC	Project Coordinator Socio-Institutional PA												
	Multi-stakeholder workshops for sharing the community needs and identify key CCA measures to be included into policies	Policy Specialist; Socio-Institutional PA Project Coordinator												
	Develop and carry out training courses to strengthen decision makers capacities to mainstream CCA in sectoral and cross-sectoral policies on the basis of patterns of resilience analysis developed by the CNEDD and the FAO	Policy Specialist; Socio-Institutional PA Project Coordinator												

Outputs	Activities	Responsible institution/ entity	Year 1			Year 2			Year 3			Year 4		
			Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3
	Develop proposals for mainstreaming of CCA into national and municipal programmes and policies	Policy Specialist; Socio-Institutional PA ; Project Coordinator												
3.3 National and Municipal investment plan on FFS-based CCA developed for programmes and policies related to agricultural and pastoral sectors	Identify investment needs to support the growing awareness on CCA through FS.	Investment Plan Specialist; Project Coordinator												
	Develop an investment plan to support the inclusion of the CCA in political strategies and programming.	Investment Plan Specialist; Project Coordinator												
	Raising awareness of national institutions to take into account the CCA investment plans within their budget frameworks.	Investment Plan Specialist; Project Coordinator												
Component 4: M&E and information dissemination														
4.1 System for systematic collection of field-based data to monitor project outcome indicators made operational	Inception workshop	M&E specialist, NPC PCU MoA and MoL												
	Preparation and validation of the AWP/B	PCU FAO PSC												
	Preparation & validation of the M&E plan	M&E specialist, NPC PCU												
	Regular monitoring and reporting requirements (PPRs)	NPC PCU												
	PIRs	LTU NPC PA's												
4.2 Midterm review and final evaluation reports	Mid-Term Review	FAO												
	Final Evaluation	FAO												

Outputs	Activities	Responsible institution/ entity	Year 1			Year 2			Year 3			Year 4		
			Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3
4.3 Communication strategy developed	Identification of best practices and lessons arising from project activities	PCU Communications Specialist FAO												
	Preparation of technical reports on best practices and lessons learnt for dissemination	PCU Communications Specialist FAO												
	Project website design and update	Graphic Designer Communications Specialist												
Project Management	Contracting of project management staff	FAO												
	PSC bi-annual meetings	PSC Chairperson Project Coordinator PCU												

APPENDIX 3: RESULTS BUDGET



Budget FSP
NIGER.xlsx

APPENDIX 4: RISKS MATRIX

Risk Description	Risk level	Mitigation Measure
Limited partnership-building constrains project implementation	M	<p>The project includes many activities to develop partnerships, including participatory assessments, workshops, multi-stakeholder consultations, awareness raising (Outcome 1) and joint institutional activities on mainstreaming FFS into policies and programmes (Outcome 3). Project activities will mainly take place at the local/community level involving local stakeholders and local institutions.</p> <p>Specific cooperation agreements and letters of understanding detailing responsibilities and defining joint work plans will be endorsed by implementing partners.</p>
Seed shortages owing to climate variability shock, prolonged droughts, and/ or pest and disease outbreaks with risk of project crop/grassland failure	M	<p>Pest and disease outbreaks related to climate variability may cause crop/grassland failure.</p> <p>The project will address this risk by supporting the implementation of CCA measures, as well as building community-level field observation capacities to monitor and reduce seed multiplication failures, particularly with specialized seed multiplying farmers through DFF approach.</p>
Worsening security crisis in the country or in the neighbour countries (e.g. Nigeria, Mali) leads to insecurity and/or to a greater influx of migratory herds and/or displaced populations	M	<p>Increased influx of migratory herds may increase pressures on rangelands and lead to conflicts in some of the project areas.</p> <p>The same may occur in case of increased pressure due to increased movements of the displaced population to Niger's northern or southern borders.</p> <p>Conflict sensitive programming will be mainstreamed into the PFS to address natural resource management and sharing of natural resources. Efforts will be made with all stakeholders to establish secure mobility corridors and pasture belts as to reduce the impact on natural resources within protected areas.</p> <p>The situation will be monitored. If necessary, emergency/contingency plans will be developed by the project stakeholders, including the FAO and the responsible ministries. Coordination mechanisms will be established from the outset with similar projects in Mali and north Nigeria's federal states, to facilitate communications.</p>
Lack of participation by direct beneficiaries.	L	<p>Farmers and herders may be hesitant to participate in project activities. This risk is considered low, as Field Schools are widely distributed and well-grounded in the territory. Awareness raising campaigns and workshops on CC negative impacts will be conducted involving local institutions and local stakeholders. The Field School bottom-up approach will stimulate local participation. Direct adaptation benefits will increase and stimulate the participation of the project's direct beneficiaries.</p>
Certain project interventions (e.g. provision of agro-meteorological information) are not implemented on a financially sustainable basis.	L	<p>Accurate agro-meteorological information is expensive to produce. Moreover, it is often prepared in a top-down, supply driven manner and not adapted to needs of key users.</p> <p>The project will seek collaboration with key national actors,</p>

		such the National Directorate of Meteorology, ACMAD and Agrhymet Centres who will be fully involved in project activities and will receive specific training sessions on integration of climate information into Field Schools and dissemination, and use of climate information. Activities will include cost-efficient methodologies of gathering meteorological information such as; gathering indigenous/local knowledge and perception of rainfall patterns, understanding the causes and consequences of climate change through Rain calendars).
Local institutions are slow to agree on project initiatives.	L	Local departments may hesitate to participate due to the innovative nature of the project and/or the need to cooperate with a broad range of partners. Specific cooperation agreements and letters of understanding detailing responsibilities and defining joint work plans will be endorsed by implementing partners

APPENDIX 5: TERMS OF REFERENCE (TORS) FOR INTERNATIONAL AND NATIONAL CONSULTANTS

Integrating climate resilience into agricultural and pastoral production for food security in vulnerable rural areas through the Farmer Field School Approach

N.1: Draft Terms of Reference: NATIONAL PROJECT COORDINATOR

Under the direct supervision of the FAO Representative in Niger (Budget Holder) and the technical guidance of the Plant Production and Protection Division of the Department of Agriculture Pesticide Management team (AGPMC/LTU), the National Project Coordinator (NPC) will lead the Project Coordination Unit (PCU) that acts as Secretary to the Project Steering Committee (PSC). He/she will work in close collaboration with the FAO Representation in Niger and all PCU staff and be responsible for the overall planning, daily management, technical supervision and coordination of all project activities. Specifically this will include the following tasks:

- a) Serve as the FAO's point of contact with the Project and project partners and be responsible for overall functioning and performance of the project;
- b) Manage and supervise human resources allocated to the PCU including: providing technical supervision/guidance in implementing project activities and day-to-day coordination and communication with the Project Executing Partners;
- c) In coordination with the PCU, act as the Secretary for all PSC meetings and activities, including preparation of documents and the reports;
- d) Participate in the inception workshop, annual project progress review and planning workshops with local stakeholders and Project Executing Partners to prepare the Annual Work Plan and Budget (AWP/B) in collaboration with the PCU;
- e) Prepare six-monthly Project Progress Reports (PPRs) in coordination with the PCU, reporting on the implementation of activities, and monitoring the achievement of project outcomes and output targets;
- f) Support the LTO in preparation of the annual Project Implementation Review (PIR) report;
- g) Ensure preparation and submission of Annual Work Plans as well as the project's financial and technical reports as required;
- h) Establish working relations with appropriate national and local institutions (government and grass-roots organizations) to ensure effective implementation of project supported activities at national and local level;
- i) Coordinate the design of participatory project monitoring system and exercise overall management responsibility of the regular monitoring and review of the execution of the components and subcomponents including: 1) conducting regularly field M&E visits to project sites, which information will be included into the six-monthly Project Progress Reports (PPRs); 2) monthly monitoring progress in achieving all project outputs and outcome indicators; 3) providing technical and operational guidance to executing partners staff; and 4) proposing eventual shifts in project implementation strategies if the project is not performing as planned.
- j) Monitor project risks according to the risk matrix (see Appendix 4) and ensure that mitigation measures are being applied or alternative mitigation measures are in place;
- k) Prepare ToRs and LoAs for all inputs.

Minimal Requirements:

1. University degree in Sustainable development, Social Science, Public Administration, International Development, or related field;
2. At least 10 years professional experience in agricultural production and/or project management as well as participatory planning of field activities;
3. Knowledge and experience on the results-based management approach including outputs-based budget execution, reporting and monitoring;
4. A minimum of 5 years of demonstrated experience in the management of internationally funded projects.
5. Proven capacity to work with and establish working relationships with medium to high-level government and non-government representatives;
6. Proven capacity as a team leader and team builder in developed and developing countries;
7. Experience in working with international donors including bilateral donors;
8. Experience in preparing project technical and financial reports for international donors;
9. Excellent oral and written communication skills;
10. Experience in the implementation of GEF/SCCF project would be desirable.

Location: Niamey with regular field visits to project targeted areas

Duration: 48 months

Language: French (English language skills preferential)

N.2: Draft Terms of Reference: SOCIO-INSTITUTIONAL ASSISTANT

Under the overall supervision of the Project Coordination Unit (PCU) and the direct supervision of the NPC, the Socio-Institutional Assistant (SIA) will be part of the PCU and will work across Project Components providing overall support and guidance to the project team on social issues related to the project's implementation especially on safeguards and social inclusion. He/she will work in close collaboration with all PCU staff and will be developing the following tasks:

Technical duties:

- a) Provide guidance to the PCU in addressing social issues;
- b) Support the project team in undertaking an institutional analyses of potential partner institutes, projects and programmes;
- c) Be responsible for the development and signature of protocols/agreements with implementing partner;
- d) Undertake a gender sensitive analysis of social/indigenous approval of crops/livestock/tree integration strategies; new soil and crop management practices; and new crop varieties chosen from existing climate stress-tolerant cultivars/species of cereals, legumes and fodder;
- e) Review and assess relevant socio-economic policies, acts and regulations and other legislative issues of the Government of Niger concerning the project implementation;
- f) Monitor and develop potential collaboration with specific key stakeholders, such as agencies dealing with cultural, religious, gender and ethnic issues;
- g) Assess potential impacts in cultural sites, cultural resources and religious areas;
- h) Carry out consultations with community leaders and beneficiaries to identify impacts if any and mitigation measures and community's feedback on the project.
- i) Provide additional inputs to the preparation of project documents (i.e PPRs; PIRs, etc) as required;
- j) In close consultation with the Anthropologist support the formation of a permanent working group for the implementation of activities related to RAAKS aimed at knowledge building and communication strategy implementation, which will take into account gender and nutrition dimensions.

Management duties:

- a) Support the development of a coordination mechanism to oversee the development of coherent, well-coordinated extension approached in the 5 regions of intervention;
- b) Support the NPC in developing, liaising and maintaining regular contacts and partnerships with governmental bodies and implementing partners to ensure effective implementation of project supported activities;
- c) Support the NPC in guiding and backstopping project partners, regional assistants and staff of their technical duties of the project's components and sub components;
- d) Be responsible for ongoing monitoring of project partners' technical performance;
- e) Assist as required project committees, working parties and working groups of concerned with project technical components and sub components;
- f) Provide support to the NPC in gathering inputs from the Technical Working Groups (TWG), local stakeholders, and Project Executing Partners for the preparation of the PIRs and PPRs;

- g) Provide support to the NPC in the six-monthly monitoring of progress in achieving project outcomes and outputs targets;
- h) Support the preparation of the English version of PPRs and PIRs complying with GEF/SCCF and FAO requirements;
- i) Participate in the inception workshop, annual project progress review and planning workshops;
- j) Perform other related duties as required.

Minimal requirements:

1. University degree in social sciences, sustainable development or related subjects.
2. At least 5 years work experience, particularly in the field of participatory approaches (FFSs), methodology development, facilitation and implementation.
3. General background institutional rural development.
4. Experience in supporting partnerships with government, civil society, and NGOs stakeholders.
5. 3 years of experience in supporting the design of project ideas, project documents and/or report documents, including outputs-based budget.
6. Excellent oral and written communication skills in French.

Duration: 48 months

Location: Niamey based with regular field visits to project intervention areas.

Languages: French and English

N.3: Draft Terms of Reference: AGRONOMIST ASSISTANT

Under the overall supervision of the FAO Representation in Niger, the AGPMC/LTU team and the direct supervision of the National Project Coordinator (NPC), the Agronomist Assistant will directly assist the NPC in the daily management, technical supervision and coordination of all project activities related to crop management, sustainable land management, and in gathering inputs from the Regional Assistants, Technical Working Groups (TWG) for the preparation of Project Progress Reports (PPRs) and the Annual Project Implementation Reviews (PIRs). Specifically this will include the following main tasks:

Technical duties:

- a) Coordinate with FFS/PFS/DFS experts on identification, development and adaptation of the curriculum, trainings and communication materials;
- b) Supervise and contribute to the FFS training activities in the project area and organize farmer exchange visits;
- c) Support the coordination of CLC events in the project area;
- d) Actively foster the active participation of women in PFS/FFS/DFF groups;
- e) Ensure that training materials are timely available (locally produced or through national level);
- f) Liaise with NGOs and line Ministries on participation of their staff in FFS/PFS/DFF training courses and implementation of FFS/PFS/DFF methodology in their organization. Provide advice on follow-up activities of established Field Schools and Field School network and curriculum;
- g) Supervise and provide technical inputs in the analysis of farming system typologies for the five target regions, based on the socio-economic and agro-ecological surveys;
- h) In consultation with the Technical Working Groups (TWGs), support the mapping of existing climate resilient agronomic practices, varieties, cultivars, breeds that are effective in the project intervention sites and develop alternatives for multi-stakeholder and gender sensitive FFS- and DFF-based knowledge building strategies;
- i) Support the selection and testing of CCA techniques, technologies and varieties for the introduction into the project selected sites and Field schools in targeted municipalities (agricultural and fodder varieties, soil, water, etc.);
- j) Participate in the establishment of mechanisms to collect appropriate information of the monitoring and evaluation system of activities under outcome one of the project;
- k) Prepare reports and other documents as required;
- l) Undertake any other related duties arising within the context of the project.

Management duties:

- a) Support the NPC in developing, liaising and maintaining regular contacts and partnerships with governmental bodies and implementing partners to ensure effective implementation of project supported activities;
- b) Support the NPC in guiding and backstopping project partners, regional assistants and staff of their technical duties of the project's components and sub components;
- c) Conduct regular monitoring and support visits to the project area to ensure maximum impact of the interventions;
- d) Assist as required project committees, working parties and working groups of concerned with project technical components and sub components;
- e) Provide support to the NPC in gathering inputs from the PCU, local stakeholders, and Project Executing Partners for the preparation of the PIRs and PPRs;

- f) Provide support to the NPC in the six-monthly monitoring of progress in achieving project outcomes and outputs targets;
- g) Support the preparation of the English version of PPRs and PIRs complying with GEF/SCCF and FAO requirements;
- h) Participate in the inception workshop, annual project progress review and planning workshops;
- i) Perform other related duties as required.

Minimal requirements:

1. University degree in Agronomy, rural extension or related subjects;
2. At least 5 years work experience, particularly in the field of participatory approaches (FFSs), methodology development, facilitation and implementation;
3. General background in agricultural production;
4. Experience in supporting partnerships with government, civil society, and NGOs stakeholders;
5. 3 years of experience in supporting the design of project ideas, project documents and/or report documents, including outputs-based budget;
6. Excellent oral and written communication skills in French.

Duration: 48 months

Location: Niamey based with regular field visits to project intervention areas.

Languages: French and English

N.4: Draft Terms of Reference: LIVESTOCK/PASTORALIST ASSISTANT

Under the overall supervision of the FAO Representation in Niger, the AGPMC/LTU team and the direct supervision of the National Project Coordinator (NPC), the Livestock/Pastoralist Assistant will be part of the Project Coordination Unit (PCU) and will directly assist the NPC in the daily management, technical supervision and coordination of all project activities related to livestock management and pastoralist production and in gathering inputs from the Regional Coordinators and the Technical Working Groups (TWG) for the preparation of Project Progress Reports (PPRs) and the Annual Project Implementation Reviews (PIRs). Specifically this will include the following main tasks:

Technical duties:

- a) Coordinate with PFS experts on identification, development and adaptation of the curriculum, trainings and communication materials;
- b) Supervise and contribute to the PFS training activities in the project area and organize farmer exchange visits;
- c) Support the coordination of CLC events in the project area;
- d) Actively foster the active participation of women in PFS groups;
- e) Ensure that training materials are timely available (locally produced or through national level);
- f) Liaise with NGOs and line Ministries on participation of their staff in PFS training courses and implementation of PFS methodology in their organization. Provide advice on follow-up activities of established Field Schools and Field School network and curriculum;
- g) Supervise and provide technical inputs in the analysis of pastoralist production for the five target regions, based on the socio-economic and agro-ecological surveys;
- h) Support the selection and testing of CCA techniques, technologies and varieties for the introduction into the project selected sites and Field Schools in targeted municipalities (agricultural and fodder varieties, soil, water, etc.);
- i) Participate in the establishment of mechanisms to collect appropriate information of the monitoring and evaluation system of activities under outcome one of the project;
- j) Prepare reports and other documents as required;
- k) Undertake any other related duties arising within the context of the project.

Management duties:

- a) Support the NPC in developing, liaising and maintaining regular contacts and partnerships with governmental bodies and implementing partners to ensure effective implementation of project supported activities;
- b) Support the NPC in guiding and backstopping project partners, regional assistants and staff of their technical duties of the project's components and sub components;
- c) Conduct regular monitoring and support visits to the project area to ensure maximum impact of the interventions;
- d) Assist as required project committees, working parties and working groups of concerned with project technical components and sub components;
- e) Provide support to the NPC in gathering inputs from the PCU, local stakeholders, and Project Executing Partners for the preparation of the PIRs and PPRs;
- f) Provide support to the NPC in the six-monthly monitoring of progress in achieving project outcomes and outputs targets;

- g) Support the preparation of the English version of PPRs and PIRs complying with GEF/SCCF and FAO requirements;
- h) Participate in the inception workshop, annual project progress review and planning workshops
- i) Perform other related duties as required.

Minimal requirements:

1. University degree in animal health, rural extension or in related technical discipline.
2. At least 5 years work experience, particularly in the field of participatory approaches (PFS), methodology development, facilitation and implementation;
3. Five years of relevant experience in Livestock based programmes at national or international level;
4. Experience in supporting partnerships with government, civil society, and NGOs stakeholders.
5. 3 years of experience in supporting the design of project ideas, project documents and/or report documents, including outputs-based budget.
6. Excellent oral and written communication skills in French.

Duration: 48 months

Location: Niamey based with regular field visits to project intervention areas.

Languages: French and English

N.5: Draft Terms of Reference:
REGIONAL PROJECT ASSISTANTS (5 assistants)

Under the overall supervision of the FAO Representation in Niger, the AGPMC/LTU team and the direct supervision of the National Project Coordinator (NPC), the Regional Assistants will be part of the Project Coordination Unit (PCU) and will directly assist the NPC in the daily management, technical supervision and coordination of all project activities related to livestock management and pastoralist production. Specifically this will include the following main tasks:

Management duties:

- a) Coordinate and ensure appropriate collaborative arrangements are in place with local communities in pilot sites;
- b) Coordinate technical inputs and interventions at pilot sites including planning, implementation and monitoring of results;
- c) Supervise the technical work in the region;
- d) Coordinate data collection and preparation of documentation of pilot site results and outputs;
- e) Organize training, events and logistics to ensure communities' participation to activities implementation;
- f) Maintain and ensure relationships with stakeholders and local and national institutions;
- g) Maintain a permanent communication flow with the PCU and NPC;
- h) Travel within the country for visits to other regions in the project.

Minimal Requirements:

1. University degree in Sustainable development, Social Science, Public Administration, International Development, or related field;
2. At least 3 years professional experience in agricultural production and/or project management as well as participatory planning of field activities;
3. Knowledge and experience on the results-based management approach including outputs-based budget execution, reporting and monitoring;
4. A minimum of 5 years of demonstrated experience in the management of nationally funded projects.
5. Proven capacity to work with and establish working relationships with medium to high-level government and non-government representatives;
6. Excellent oral and written communication skills in French.

Location: TBD with regular field visits to project targeted areas

Duration: 36 months

Language: French

**N.6: Draft Terms of Reference:
PROCUREMENT AND FINANCE OFFICER**

Under the general supervision of the FAO Representative in Niger (Budget Holder) and the Project Coordinator, and in close collaboration with the project executing partners, the Finance and Operations Assistant will take the operational responsibility for timely delivery of the project outcomes and outputs. In particular, he/she will perform the following main tasks:

- a) Ensure smooth and timely implementation of project activities in support of the results-based workplan, through operational and administrative procedures according to FAO rules and standards;
- b) Coordinate the project operational arrangements through contractual agreements with key project partners;
- c) Arrange the operations needed for signing and executing Letters of Agreement (LoA) and Government Cooperation Programme (GCP) agreement with relevant project partners;
- d) Maintain inter-departmental linkages with FAO units for donor liaison, Finance, Human Resources, and other units as required;
- e) Day-to-day manage the project budget, including the monitoring of cash availability, budget preparation and budget revisions to be reviewed by the Project Coordinator;
- f) Ensure the accurate recording of all data relevant for operational, financial and results-based monitoring;
- g) Ensure that relevant reports on expenditures, forecasts, progress against workplans, project closure, are prepared and submitted in accordance with FAO and GEF defined procedures and reporting formats, schedules and communications channels, as required;
- h) Execute accurate and timely actions on all operational requirements for personnel-related matters, equipment and material procurement, and field disbursements;
- i) Participate and represent the project in collaborative meetings with project partners and the Project Steering Committee, as required;
- j) Undertake missions to monitor the outputs-based budget, and to resolve outstanding operational problems, as appropriate;
- k) Be responsible for results achieved within her/his area of work and ensure issues affecting project delivery and success are brought to the attention of higher level authorities through the BH in a timely manner,
- l) In consultation with the FAO Evaluation Office, the LTU, and the FAO-GEF Coordination Unit, support the organization of the mid-term and final evaluations, and provide inputs regarding project budgetary matters.

Minimal requirements:

- 1. University Degree in Economics, Business Administration, or related fields.
- 2. Five years of experience in project operation and management related to natural resources management, including field experience in developing countries.
- 3. Knowledge of FAO's project management systems.

Location: Niamey with regular field visits to project targeted areas

Duration: 48 months

Language: French

**N.7: Draft Terms of Reference:
FINANCE AND OPERATIONS ASSISTANT**

Under the general supervision of the FAO Representative in Niger (Budget Holder) and the Project Coordinator, and in close collaboration with the Procurement and Finance Officer, the Finance and Operations Assistant will have the following responsibilities and functions:

- a) Initiate travel authorizations for staff and non-staff, prepare travel expense claims and secondment reports using the Organization's computerized travel system;
- b) Verify accuracy of coding, appropriate budget line and conformity with financial rules and regulations of transactions to be initiated;
- c) Maintain records of expenditure, verify conformity with administrative rules and availability of funds prior to review by the supervisors; enter forecast data in the BMM;
- d) Review Data Warehouse transaction monthly listings following each BMM refreshment to reconcile projects accounts and prepare requests for adjustment through journal vouchers;
- e) Draft routine correspondence with regard to budgetary, administrative, financial and accounting matters;
- f) Assist in the preparation of meetings, workshop and seminars, book meeting rooms and assure that all necessary arrangements are made;
- g) Create, maintain and update office files and reference systems; and
- h) Perform other related duties as required.

Minimal Requirements:

1. The FAO Administrative Assistant must have undertaken courses in general administration or related training and demonstrate four years of clerical experience of which at least two years related to the implementation of larger program or projects. He/she should be able to demonstrate: (i) good knowledge of project operations procedures; (ii) initiative, good judgment and ability to organize office work; (iii) willingness to work as a team member; and (iv) ability to use PC, word processors and other related technology;
2. Knowledge of FAO's project management systems.

Location: Niamey

Duration: 48 months

Language: French

**N.8: Draft Terms of Reference:
SHORT-TERM NUTRITIONIST AND GENDER SPECIALIST**

Under the overall supervision of the Project Coordination Unit (PCU) and the direct supervision of the National Project Coordinator (NPC), the short-term Nutrition and Gender Specialist will support Project Component 2 in the provision of technical inputs and assistance for the implementation of output 2.1, 2.2 and 2.3. He/she will work in coordination with PCU staff. The consultant will develop the following tasks:

- a) In PY 1 provide technical inputs in designing training material/modules, introducing nutrition and mainstreaming gender into the FFS and PFS curricula; inputs will integrate lessons learnt from previous experiences developed in Kenya and Malawi which produced guidelines for introducing nutrition into FFS;
- b) In PY 1-2 support the NPC, the Socio-Institutional Assistant and the Agronomist Assistant in delivering technical training to the PFS and FFS Master Trainers who in turn will use the material from Output 2.1 to train FS Facilitators.
- c) In PY 3-4 provide inputs on diet and on the nutrition-sensitive-agriculture approach in preparation of sensitizing events, Communitarian Listening Clubs (CLCs) and workshops involving potential FFS leaders and representatives of PO.
- d) Participate in the NPC meetings providing technical advice to the PCU on on-going and planned activities towards the achievement of outcome 2;
- e) Provide additional inputs to the preparation of project documents (i.e PPRs; PIRs, etc) as required.

Minimal Requirements:

1. University Degree in Nutrition, Public Health, or other field closely related to food and nutrition security;
2. Knowledge and experience in nutrition education/behaviour change approaches and gender mainstreaming;
3. At least three years of professional experience in the field of nutrition. Solid and demonstrated skills in capacity development and participatory methodologies, including gender-sensitive approaches;
4. Proven capacity to conduct field work and ability to work in teams and establish working relationships with local governments, community-based organizations, women networks, and rural households.

Duration: 14 months (5 months in PY1, 5 months in PY2, 2 months in PY3, 2 months in PY4)

Location: Niamey with regular field visits to project targeted areas

Languages: French

N.9: Draft Terms of Reference:
POLICY SPECIALIST: INSTITUTIONAL AND REGULATORY FRAMEWORK

Under the overall supervision of the PCU and the direct supervision of the NPC, the Part-Time Policy Specialist will support the NPC to achieve and monitor outputs 3.1 and 3.2, related to the strengthening of institutional capacities to mainstream climate resilient agro-pastoral and agricultural systems into sectoral policies and into local development based on the FFS approach. He/she will work in close coordination with the NPC, the PCU, the Departmental Coordinators, the MoA, MoL, MEUSSD and MPLMCD and the Departmental Governments. In particular, he/she will perform the following main tasks:

- a) In PY1 conduct a capacity/gaps assessment of rural development policies as to establish and strengthen concrete mechanisms for the formulation of sectoral and inter-sectoral policies which incorporate CCA;
- b) Support the CCA Specialist and PCU staff in preparing targeted capacity building and training materials aimed at strengthening the capacity of Ministerial Institutional Personal and policy makers to design policies which address CC issues with a focus on cross sectoral policies integrating agricultural and pastoral sectors;
- c) Support the establishment of a consultation platform within the National Technical Commission on Climate Change and Variability (TNCVC), providing technical advice in defining mechanisms and roles at both national and municipal level;
- d) Every six months, support the Project Coordinator in the monitoring of Outcome 3 indicators;
- e) Participate in the TWGs on issues related to the strengthening of institutional arrangements and coordination mechanisms, providing advice to the PCU on relevant actions and measures to be taken in relation to institutionalizing the enhanced Field School approach - across national/sub-national policies, programmes, institutions, budgets and coordination mechanisms- to mainstream CCA into sectoral and inter-sectoral policies.
- f) Provide technical inputs on the institutional and political risks that may appear during project implementation, and design targeted mitigation measures as needed.
- g) Support the preparation of PPRs; PIRs, and other project documents as required.

Minimal requirements:

1. University Degree in Social Sciences, Sustainable development, development studies, or related fields;
2. 5 years of relevant field experience in local participatory planning processes, including gender mainstreaming;
3. Highly developed communication (spoken, and presentation) skills, to effectively communicate with partners and multiple target audiences, including ability to present sensitive issues/positions;
4. Proven capacity of writing technical/academic documents. Research experience would be an asset.

Location: Niamey with regular field visits to project targeted areas

Duration: 15 months

Language: French

N.10: Draft Terms of Reference: MICRO-CREDIT SPECIALIST

Under the overall supervision of the PCU and the direct supervision of the NPC, the Part-Time Micro-credit Specialist will support Project Component 2 providing technical advice for the implementation of output 2.6. He/she will work in close coordination with the PCU staff. The consultants will develop the following tasks:

- a) In PY 2 provide technical inputs in designing training material/modules on micro-credit operating mechanisms and access conditions to the Local Adaption Investment Fund (LAIF) fund established under output 2.6;
- b) Conduct capacity building training workshops for farmers-herders Producer's Organizations (POs) to access micro-credit facilities established under Output 2.5;
- c) Provide technical support and inputs to the PCU and design a detailed approach to the LAIF (output 2.6);
- d) Support the selection of concerned communities based on: (i) investment needs as identified in FFS/PFS community action plans (output 2.3) and (ii) community capacity to save and borrow;
- e) Participate in TWG meetings providing technical advice to the PCU on on-going and planned activities related to outputs 2.6;
- f) Provide additional inputs to the preparation of project documents (i.e PPRs; PIRs, etc) as required.

Minimal requirements:

1. University Degree in development economics, finance or relevant field;
2. A minimum of 5 years of documented relevant work experience in the Micro-finance sector and knowledge of the financial services system in Niger;
3. Proven experience in participatory capacity building techniques;
4. Highly developed communication (spoken, and presentation) skills, to effectively communicate with partners and multiple target audiences.

Location: Niamey with regular field visits to project targeted areas

Duration: 15 months for the national consultant and 7 weeks for the international consultant

Language: French

N.11: Draft Terms of Reference: MARKETING SPECIALIST

Under the overall supervision of the PCU and the direct supervision of the NPC, the Marketing Specialist will support Project Component 2 providing technical advice for the implementation of output 2.5, related to strengthening Producer Organizations (POs), reinforcing links to markets, increasing income generation and transferring knowledge on value chain concepts, tools and techniques. He/she will work in close coordination with the FAO Representation in Niger, and PCU staff. The consultant will develop the following tasks:

- a) Support the PCU in the process of selecting, strengthening, revitalizing and conceiving new and already established POs in the areas of intervention;
- b) Take a lead role in the process of establishing agricultural and livestock input shops and designing training modules for their management in each of the five regions;
- c) In PY 2-3 conduct training on techniques for commercialization of food products and other products as to support livelihood diversification, based on regionally-differentiated local/national marketing strategies;
- d) Identify value chain opportunities, notably by mapping and evaluating existing supply chains, and recommend additional priority opportunities for value chain development;
- e) Outline value chain opportunities by developing market analysis reports;
- f) Assist in the formation of value chain partnerships and networks, notably by assessing and reviewing existing value chain priorities, stakeholders and projects;
- g) Develop a database of stakeholders involved in supply chains and value chain activities;
- h) Support the marketing specialist in providing training on techniques for commercialization of food products and other products as to support livelihood diversification, based on regionally-differentiated local/national marketing strategies;
- i) Assist, support and actively participate in TWGs and meetings related to providing long term support to Producer Organizations.
- j) Provide additional inputs to the preparation of project documents (i.e PPRs; PIRs, etc) as required.

Minimal requirements:

1. University Degree in development economics, finance, marketing/ social development/ international development or relevant field;
2. Proven work experience in marketing, sales and strong knowledge of localized marketing strategies for Producers Organizations in Niger;
3. Proven experience in participatory capacity building techniques;
4. Highly developed communication (spoken, and presentation) skills, to effectively communicate with partners and multiple target audiences.

Location: Niamey with regular field visits to project targeted areas

Duration: 12 months (5 months PY2, 5 months PY3, 2 months PY4)

Language: French

N.12: Draft Terms of Reference:

SHARP /ASSESSMENT TOLLS SPECIALIST (1 National and 1 International consultant)

Under the overall supervision of the FAO AGPMC team, the general supervision of FAO Representation in Niger and directly under the supervision of the PCU, the SHARP/Assessment Tools specialist will be responsible for undertaking multi-stakeholder and participatory assessments on knowledge systems and on adaptive capacities, such as, SHARP or Climate proofing assessments towards the achievement of Outcome 1, Outcome 2 and Outcome 3.

- a) In relation to Output 1.2 , the consultants will support the PCU and the agro-economist (see TORs n.13) in developing an initial inventory of local knowledge related to CCA;
- b) undertake SHARP (Self- evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists) related exercises in close collaboration with the FFS, PFS, DDF and CLCs experts and PCU staff during capacity building activities in component 1 and component 2.
- c) Provide additional inputs to the preparation of project documents (i.e PPRs; PIRs, etc) as required.

Minimal Requirements:

- 1. Graduate degree in sustainable development, rural development, environmental studies;
- 2. At least 5 years experience in knowledge systems management and participatory assessments;
- 3. Experience with SHARP is desirable for national consultant and mandatory for international consultant.

Language: French

Location: Niamey, with regular field visits to project targeted areas

Duration: 28 months for the national consultant and 10 weeks for the international consultant

N.13: Draft Terms of Reference: CAPACITY BUILDING SPECIALIST

Under the overall supervision of the PCU and the direct supervision of the NPC, the part-time Capacity Building Specialist will support all Project Components by providing technical advice in preparing guidelines, strategies for participatory capacity development and conducting Training of Trainers designed to build the capacity of participating multi-stakeholder involved in Field School activities. The Capacity Building Specialist will work in close collaboration with all PCU staff and executing partners. He/She will develop the following tasks:

- a) Determine the training and capacity building needs of participating government institutions, NGOs/CBOs/Field School groups and other stakeholders involved in the implementation of project activities at all levels;
- b) Identify specific capacity building requirements and define the skills needed for the different participating stakeholders;
- c) Provide guidance and support production of CCA-oriented FFS/PFS/DFP training materials;
- d) Support the Policy Specialist and PCU staff in identifying and organizing collaborative partnerships with national extension agents and other implementing partners;
- e) Ensure coherence and synergies of capacity building activities in the project areas of interventions;
- f) Conduct training of Master Trainers workshops;
- g) Support PCU staff in the preparation of training material and FS curricula.

Minimal Requirements:

1. University degree in Sustainable Development, Social Sciences, Community Development or related field;
2. Minimum, 5 years of relevant experience in training, management of development projects on CCA and agricultural development;
3. Proven practical experience on capacity development;
4. Proven capacity for analysis and synthesis

Language: French

Location: Niamey with regular field visits to project targeted areas

Duration: 14 months (4 months in PY1, 4 months in PY2, 4 months in PY3, 2 months in PY4)

N.14: Draft Terms of Reference: M&E SPECIALIST

Under the overall supervision of the PCU and the direct supervision of the National Project Coordinator and two Technical Assistants (Socio-Institutional Assistant and the Agronomist Assistant), the M&E Specialist will support the PCU in designing and establishing the M&E system of the Project. The M&E system will be used by the Project Coordinator when complying M&E tasks, as detailed: i) conducting regularly field M&E visits to project sites, which information will be included into the six-monthly Project Progress Reports; ii) monitoring progress in achieving project outputs and outcome indicators; iii) providing technical and operational guidance to executing partners and; iv) proposing eventual shifts in project implementation strategies if the project is not performing as planned.

The M&E Specialist will perform the following main tasks:

- a) In collaboration with the National Project Coordinator, the PCU staff and the main executing partners, he/she will facilitate the M&E related tasks during the inception workshop, including: (i) presentation and clarification (if needed) of the Project Results framework with all project stakeholders; (ii) review of the M&E indicators and their baseline values; (iii) drafting the required clauses to include in consultants' contracts to ensure they complete their M&E reporting functions (if relevant); (iv) updated project risks matrix and mitigation measures, and (v) clarification of the respective M&E tasks and responsibilities, including mitigation measures, among the different Project stakeholders;
- b) Design the M&E monitoring plan, agreed with all stakeholders based on the outcomes of the inception workshop and the project M&E plan summary;
- c) In coordination with the PCU, support the development of mechanisms and methodologies for systematic data collection and recording in support of outcome and output indicators monitoring and evaluation.
- d) In close consultation with the SHARP specialist support the formation of a permanent working group for the implementation of activities related to SHARP.

Minimal Requirements:

1. University degree in a relevant field such as Social Sciences, Environmental Studies or Project Management. Relevant specialized courses in M+E would be an advantage;
2. Demonstrated knowledge of climate change adaptation; natural resources management; and sustainable agriculture;
3. A minimum of five years experience in general programme/project related work;
4. Proven writing and communication skills;
5. Ability to take initiatives and to work with minimum supervision.

Duration: 24 months (6 months per project implementation year)

Location: Niamey with regular field visits to project targeted areas

Language: French

N.15: Draft Terms of Reference:
PARTICIPATORY APPROACH SPECIALISTS (3 specialists: FFS, PFS, DFF)

Under the overall supervision of the FAO Representation in Niger, the AGPM team in Rome, Project Coordination Unit (PCU) and the direct supervision of the two Technical Assistants, the FFS, PFS and DFF Participatory Approach Specialists will support activities under Component 1 and Component 2 related to the strengthening of at least 600 existing Field Schools and installation of at least 400 new Field Schools in the different target sites of the 5 selected regions. The three consultants will work in close coordination with the FAO Representation in Niger and other key implementing partners with whom coordination will be sought during implementation. The consultants will develop the following tasks:

- a) Support PCU staff and the Policy Specialist in identifying collaboration points with other project coordinators and local authorities (services) in order to define the collaborative/partnership work plan - possibilities for joint inputs, joint activities or joint outputs – and secure collaboration agreements with each of the partner projects;
- b) Support the preparation of technical and academic guidance documents and training material (under Outputs 2.2 and 2.3) to be disseminated during Field School events (output 2.4);
- c) Support the PCU staff in preparing and disseminating training material on integrated FFS/PFS approaches suitable for agro-sylvo-pastoral communities to key decision-makers and managers (100 national, regional, and district programme managers from the agriculture and livestock sectors and 50 local authority representatives) (output 1.2);
- d) Take a lead role in consolidating Field Schools curricula and communication systems including inputs from PCU staff;
- e) Support the establishment of ten Master Trainers fully capable of training Facilitators on all aspects of FFS, PFS, CLC and DFF;
- f) Provide support to the PFS, PFS and DFF Trainers in training 300 Facilitators on all aspects related to FFS, PFS, CLC and DFF;
- g) Support the PFS, PFS and DFF Trainers in preparing FFS /PFS/DFF community action plans: setting out targets, planned activities and resource needs of the Field Schools. These plans will be linked to existing Commune Development Plans (CPD) as they exist (output 2.4);
- h) Provide additional inputs to the preparation of project documents (i.e PPRs; PIRs, etc) as required.

Minimal Requirements:

1. University degree in Rural development, social sciences, or relevant field;
2. A minimum of 5 years experience in implementing participatory planning instruments including field schools;
3. Proven capacity to conduct field work and ability to work in teams and establish working relationships with local governments, community-based organizations, women networks, and rural households.

Duration: 15 months x consultant (12 months in PY1, PY2 and PY3 and 9 months in PY4)

Location: Project targeted areas

Language: French

N.16: Draft Terms of Reference:
AGRO-ECONOMIST (International consultant)

Under the overall supervision of the AGPM team in Rome and the Project Coordination Unit (PCU) and the direct supervision of the NPC and FAO Representation in Niger, the Agro-economist will support the activities of Project Components 1 and 2. He/she will develop the following tasks:

- a) Undertake an analysis of farming system typologies for the five target regions, based on the socio-economic and agro-ecological survey results;
- b) In consultation with the SHARP/Climate Resilience Assessment Tools Specialist (see ToRs n.11), conduct a mapping of existing climate resilient agronomic practices, varieties, cultivars, breeds that are effective in the project intervention sites and develop alternatives for multi-stakeholder and gender sensitive FFS- and DFF-based knowledge building strategies;
- c) Support the PCU and the climate resilience assessment tools specialist in developing an inventory of relevant endogenous know-how on CCA;
- d) Selection and testing of CCA techniques, technologies and varieties for the introduction into the project selected sites and Field schools in targeted municipalities (agricultural and fodder varieties, soil, water, etc.);
- e) Assist, support and actively participate in PCU working group and meetings related to the introduction and revival of CCA techniques, technologies and varieties;
- f) Provide additional inputs to the preparation of project documents (i.e PPRs; PIRs, etc) as required.

Minimal Requirements:

1. University degree in Rural development, social sciences, or relevant field;
2. A minimum of five years experience in implementing participatory planning instruments including field schools;
3. Proven capacity to conduct field work and ability to work in teams and establish working relationships with local governments, community-based organizations, women networks, and rural households;
4. Highly developed communication (spoken, and presentation) skills, to effectively communicate with partners and multiple target audiences.

Duration: 10 weeks

Location: Niamey and project targeted areas

Language: French

N.17: Draft Terms of Reference:
AGRO-FORESTRY MANAGEMENT SPECIALIST

Under the overall supervision of the Project Coordination Unit (PCU) and FAO Representation in Niger and the direct supervision of the NPC and the two Technical Assistants, the agro-forestry specialist will support the achievement of project Outcome 1 by identifying technically, economically and socially viable options for agroforestry that will support sustainable land management within the project intervention areas. He/she will work in close collaboration with PCU staff and will be developing the following tasks:

- a) In close collaboration and consultation with the Climate Resilience Assessment Tools Specialist and the Agro-economist, provide and facilitate research, development and improvement of agro forestry practices, forestry and nursery systems;
- b) Design and implement research to enhance farmers' agro forestry, forestry and nursery systems;
- c) Design and implement: i) training on priority topics to enhance farmers' agro-forestry, forestry and nursery management skills; and ii) training to Field School trainers on agro-forestry practices;
- d) Serve as technical resource person during training and FS activities;
- e) Supervise the development and production of training materials and related technical Documents;
- f) Assist with the forming and strengthening of Producers Organizations;
- g) Participate in all NPC meetings providing technical advice to the PCU on activities related to piloting and mainstreaming of feasible agro-forestry practices;
- h) Provide additional inputs to the preparation of project documents (i.e PPRs; PIRs, etc) as required.

Minimal Requirements:

1. Hold at least master's degree in Agroforestry, forestry, Natural Resources management or any related field;
2. At least 5 years' relevant experience of working on forest restoration/conservation and natural resource management projects;
3. Practical experience within Niger is expected, additional regional experience would be an added benefit;
4. Demonstrated skills in participatory methodologies on information gathering, analysis and presentation.

Duration: 7 weeks

Location: various locations in Dosso, Tillabery, Maradi, Tahoua, and Zinder regions.

Language: French

**N.18: Draft Terms of Reference:
ANTHROPOLOGIST**

Under the overall supervision of the Project Coordination Unit (PCU) and the direct supervision of the Socio-Institutional Assistant (SIA) and the NPC, the Anthropologist will provide support and guidance to the project team on social-cultural issues related to the project's implementation especially on safeguards and social inclusion. He/she will work in close collaboration with all PCU staff and will be developing the following tasks:

- a) Develop a multi-stakeholder analysis for undertaking multi-stakeholder and participatory assessments on knowledge systems and on adaptive capacities based on RAAKS (Rapid Appraisal of Agricultural Knowledge Systems) (output 1.2);
- b) Assess the roles of traditional village institutions and authorities with respect to decision-making on land and resources management and use;
- c) Provide technical inputs in designing a strategy of knowledge management that integrates local knowledge and scientific knowledge to be diffused and integrated in Field School curricula and capacity building activities, based on the Field Schools approach and CLC (output 1.3);
- d) Support the PCU in the identification of farmer's needs and social/indigenous acceptance of new CC adopted cereal varieties (millet, maize, rice).

Minimal Requirements:

1. Hold at least master's degree in Masters Degree in social sciences or equivalent;
2. At least 5 years of relevant experience;
3. Practical experience within Niger is expected, additional regional experience would be an added benefit;
4. Demonstrated skills in participatory methodologies on information gathering, analysis and presentation;
5. Proven capacity to conduct field work and ability to work in teams and establish working relationships with local governments, community-based organizations, women networks, and rural households;
6. Highly developed communication (spoken, and presentation) skills, to effectively communicate with partners and multiple target audiences.

Duration: 10 weeks

Location: various locations in Dosso, Tillabery, Maradi, Tahoua, and Zinder regions.

Language: French

**N.19: Draft Terms of Reference:
COMMUNICATION SPECIALIST**

Under the overall supervision of the FAO Representation in Niger, the LTU AGPM, the PCU and the direct supervision of the two Technical Assistants and the NPC, the communication specialist will support Project components 1 and 4 by preparing the communication strategy and communication plan to disseminate project information through various communication tools. He/she will work in close collaboration with all PCU staff and will be developing the following tasks:

- a) Develop an overall Project communications strategy to include as well cross-cutting issues (gender, nutrition, revenue generating activities) (output 1.2);
- b) Assist the PCU in implementing the project communication plan;
- c) Provide strategic guidance on communications related needs to Project technical, coordination and steering committees;
- d) Craft and tailor messages for media and other audiences and develop, maintain and update media relations contact list/database;
- e) Identify, develop, distribute and evaluate variety of media materials in multiple, appropriate formats (Press releases, feature stories etc). Ensure or enhance the quality, appropriateness of country specific communication materials, activities, processes and messages transmitted to the press, partners and public;
- f) Collaborate with mass media through activities such as organizing project site visits, facilitating photo coverage and TV footage and utilizing both web-based and traditional media as appropriate;
- g) Support the PCU in developing good practice notes and prepare briefs on specific contributions that the project is making;
- h) In consultation with the NPC and PCU staff, prepare lessons learnt of the project and be responsible for coordinating communications with members of the project committees;
- i) Provide guidance to the graphic designer on the establishment of the project website and ensure it is maintained and updated by Project staff during Project implementation.

Minimal Requirements:

1. Hold a university degree in Communication, Journalism, Public Relations;
2. At least 5 years of demonstrated professional experience in the field of journalism, communications, external relations, public relations or corporate communications;
3. Practical experience within Niger is expected, additional regional experience would be an added benefit;
4. Highly developed communication (spoken, and presentation) skills, to effectively communicate with partners and multiple target audiences.

Duration: 5 weeks

Location: Niamey and various locations in Dosso, Tillabery, Maradi, Tahoua, and Zinder

Language: French

**N.20: Draft Terms of Reference:
MICROFINANCE AND INVESTMENT SPECIALIST**

Under the overall supervision of the Project Coordination Unit PCU and the direct supervision of the National Project Coordinator (NPC), the strategic planning and investment national investment specialist will support the establishment of a national investment plan on FFS-based CCA developed for programmes and policies related to agricultural and pastoral sectors (output 3.3). He/she will work in close coordination with line ministries, regional, departmental and local governments, PCU staff. The consultant will develop the following tasks:

- a) Identify the investment needs for integrating CCA measures into programmes and policies as well as available institutional project partners' financial resources;
- b) In PY 2 provide technical inputs in designing training material/modules on micro-credit operating mechanisms and access conditions to the Local Adaption Investment Fund (LAIF) fund established under output 2.6;
- c) Develop a proposal for an Investment Plan to support the inclusion of the CCA in political strategies and programming, which will include: operational mechanisms, responsible units and their tasks, and criteria for ensuring the sustainability of the investment plan (output 3.3);
- d) Take a lead in discussing and defining the investment plan's operational mechanism using the consultation platform established in output 3.3;
- e) Support and take a lead in awareness raising activities involving national institutions, to take into account the CCA investment plans within their budget frameworks;
- f) Provide additional inputs to the preparation of project documents (i.e PPRs; PIRs, etc) as required.

Minimal Requirements:

1. University degree in Finance, Economics or relevant field;
2. A minimum of five years' experience in planning and administration of investment plans at national and local level;
3. Ability to take initiatives and to work with minimum supervision;
4. Proven capacity to conduct field work and ability to work in teams and establish working relationships with local governments, community-based organizations, women networks, and rural households;
5. Highly developed communication (spoken, and presentation) skills, to effectively communicate with partners and multiple target audiences.

Duration: 7 weeks

Location: Niamey with regular field visits to project targeted areas

Language: French

Nr 21: Draft Terms of Reference PROJECT STEERING COMMITTEE (TORS)

Role of the Project Steering Committee (PSC)

The PSC will be the policy setting body for the project. As and when required, the PSC will be the ultimate decision-making body with regard to policy and other issues that may affect the achievement of project objectives. The PSC will be responsible for providing general oversight of project execution, and will ensure that all activities in the GEF project document are adequately prepared and carried out. In particular, the PSC will:

1. Take decisions in the course of the practical organization, coordination and implementation of the project, and provide overall guidance to the Project Coordination Unit (PCU);
2. Facilitate that co-financing support is provided in a timely and effective manner;
3. Review six-monthly Project Progress Reports (PPRs), and provide overall oversight of project progress and achievement of planned results as presented in the PPRs;
4. Ensure all project outputs are in accordance with the GEF project document;
5. Review, amend if appropriate, and approve the draft Annual Work Plan and Budget (AWP/B) for submission to FAO;
6. Provide inputs to the mid-term and final evaluations, review findings, and provide comments for the Management Response;
7. Ensure the dissemination of project information, lessons learnt, and best practices.
8. Facilitate cooperation between MoA, MoL, MEUSSD, MPLMCD, NDM, EU, FAO and project participating partners at the local level.

Meetings of the PSC

1. The PSC meetings will be normally be held bi-annually. Nevertheless, the PSC Chairperson will have the discretion to call additional meetings, if this is considered necessary. PSC meetings would not necessarily require a physical presence, and could be also undertaken electronically. No more than 7 months may elapse between PSC meetings;
2. Invitations to a regular PSC meeting shall be issued not less than 90 days in advance of the date fixed for the meeting. Invitations to special meetings shall be issued not less than 40 days in advance of the meeting date.

Agenda

1. A provisional agenda will be drawn up by the Project Coordinator and sent to PSC members following the approval of the Chairperson. The provisional agenda will be sent not less than 30 days before the meeting date;
2. A revised agenda including comments received from PSC members will be circulated 5 working days before the meeting date;
3. The agenda of each regular meeting shall include:
 - a. A report of the Project Coordinator on project activities during the inter-sessional period;
 - b. A report and recommendations from the Project Coordinator on the proposed AWP/B and the proposed budget for the ensuing period;
 - c. Reports that need PSC intervention;
 - d. Consideration of time and place of the next meeting;

- e. Any other matters as approved by the Chairperson.
4. The agenda of a special meeting shall consist only of items related to the purpose for which the meeting was called.

The PSC Secretariat

The PCU will act as Secretariat to the PSC, and be responsible for providing PSC members with all required documents in advance of PSC meetings, including the draft AWP/B, and independent scientific reviews of significant technical proposals or analyses. The PCU will prepare written report of all PSC meetings and be responsible for logistical arrangements regarding the holding of those meetings.

Election of Chairperson and Vice-Chairperson

The PSC will be chaired by the Minister of Agriculture (or his representative). A Vice-Chairperson for PY1 will be nominated by PSC members at their first PSC meeting. The Vice-Chairperson will serve up to the PSC meeting in PY2, finishing her/his term upon the completion of the PSC meeting held closest to one year after selection. At this point, a successor Vice-Chairperson shall be chosen by the PSC members in similar manner.

Functions of Chairperson and Vice-Chairperson

The Chairperson shall exercise the functions conferred on him/her in these TORs, and in particular shall:

1. Declare the opening and closing of each PSC meeting;
2. Lead the PSC meeting discussions, ensuring the observance of these TORs, accord the right to speak, enounce questions, and announce decisions;
3. Rule on point of order;
4. Subject to these TORs, manage the proceedings of the meetings;
5. Ensure circulation of all relevant documents to PSC members through the PSC Secretariat;
6. Sign approved AWP/B and any subsequent proposed amendments submitted to FAO;
7. In liaison with the PSC Secretariat, the Chairperson shall be responsible for determining the date, site, and agenda of the PSC meeting(s), and chairing these meetings;
8. The Vice-Chairperson shall exercise the functions of the Chairperson in the Chairperson's absence or at the Chairperson's request.

Participation

The PSC will include the Minister of Agriculture, the Minister of Livestock, representatives from the MEUSSD, MPLMCD and NDM, the FAO Representative in Niger, a representative of the EU Delegation in Niger, Representatives of Producers Organizations (POs) and CSOs. The Project Coordinator and an official from the FAO GEF Coordination Unit shall be represented on the PSC, in ex-officio capacity. The Project Coordinator will also be the Secretary to the PSC.

Decision-making

All decisions of the PSC shall be taken by consensus.

Reports and recommendations

1. At each meeting, the PSC shall approve a report text that embodies its views and decisions, including, when requested, a statement of minority views;

2. A draft report shall be circulated to the PSC Members after the meeting for comments. Comments shall be accepted over a period of 20 days. Following its approval by the Chairperson, the final report will be distributed among PSC members and shall be uploaded to the MAG website.

Official language

The official language of the PSC will be French.

APPENDIX 6 – PROJECT INTERVENTION ZONES

The **Region of Maradi** is located in south-center Niger, east of the Region of Tahoua, west of Zinder, and north of Nigeria's city of Kano. The administrative center is at Maradi. Most of the 35,100 km² of land is classified as "Sahel", though the northern parts head toward desert, and the very southern edges along the border with Nigeria get almost 600 mm a year in average rainfall, with some areas receiving as much as 650–700 mm in better years. The Maradi (Niger)-Nigeria border dips south below the region's capital, forming an area sometimes called the "breadbasket" of Niger. While Tobacco, mangoes, wheat, soy beans and even cotton are cultivated in some areas, most crops are groundnuts grown as a commercial crop, and the national subsistence of millet, sorghum and cowpeas. The region of Maradi is divided into 6 Departments (Aguié, Dakoro, Guidan Roumdji, Madarounfa, Mayahi and Tessaoua). The Urban Community of Maradi is the third largest city in Niger and the administrative centre of Maradi Region. More than 80% of the population is composed of farmers practicing a rain fed agriculture. However, because of climate variability and changes, rainfall has become uncertain, either coming too early, too late, too much or too little. On the other hand, seasons are becoming shorter and annual temperatures more extreme. During previous field visits and surveys in January 2007 to Maradi district communities (Tibiri, Maradawa and Gabi), an alarming report stated the following: over 50% of interviewed farmers said that they consume their entire harvest just after three months. During the remaining nine months of the year and before the next harvest, these communities used to develop small irrigation and income generating activities from fruit and vegetables that they produced. But because of climate variability and change, these farmers are facing a tremendous challenge in fetching surface and ground water for irrigation. As a result, any adaptation strategy via irrigation became so costly (mainly because of high oil prices and difficult access to energy services) that it is out of reach of many small farmers. In order to ensure their food security, these communities generally settle for some coping mechanisms, including social networking, solidarity and alternative livelihoods, small scale irrigation or migration. However, irrigation has become less productive because of water scarcity and higher minimum annual temperatures. The only one river (Goulbi) flowing across Maradi urban community and which used to flow for at least six months after the rain season, is now flowing for only one to two months because of reduction in annual regional rainfall and also because of a dam set upstream in Nigeria, a neighbouring country of Niger. A combination of all these stressors makes Maradi region frequently exposed to food insecurity. In this case, communities tend to implement several coping mechanisms to ensure their food security.

The **Region of Zinder** covers 155,778 km², which represents more than 12% of the total area of Niger; its total population is estimated around 2,024,898 inhabitants (56.2% are poor persons). The urban commune of Zinder is the second largest city in Niger; it is situated 861 km east of the capital Niamey and 240 km north of the Nigerian city of Kano. The region of Zinder is divided into 5 departments: Goure, Magaria, Kantché (Matameye), Mirriah, and Tanout. The urban city of Zinder has a population of 2,824,468 citizens (in 2010), with an average density of 13 persons/km². The departments of Magaria, Kantché (Matameye) and Mirriah have the highest population density respectively 52, 57 and 100 people/km². Zinder rainfall records show that the seasonal distribution of rainfall remains poor, despite a slight recovery in absolute seasonal rainfall amounts since the 1980s when the great droughts occurred. The average rainfall during 2013 was 329 mm per season. The observed rainfall data shows a decrease in decadal rainfall since 1960 with the lowest decadal values being in the 1980s. Despite a slight recovery in decadal rainfall, the amounts are still 80–100 mm lower per season than in the 1960s. The dry-spell analysis shows a continuous increase in dry

spells of 14 days, or longer. Thus, despite a slight recovery in absolute seasonal rainfall amounts since the 1960s, the seasonal distribution of rainfall remains poor. Average temperatures, minimum and maximum are respectively 22.8°C and 36.4°C. Several studies have argued that the current inherent high variability of rainfall must be urgently addressed to enable smallholder farmers shift productivity domains of their system in the Sahelian zone. Through the natural variability of rainfall, biomass growth/production in landscapes, both on and off-farm, is restricted. However, there are several ways for a smallholder farmer to deal with this variability of rainfall. Adding more water alone does not always increase yields, nor improve water productivity. Rainfed cereal production and pastoralism support the region's economy. In Zinder, agriculture and livestock are still contributing to the generation of household income. The regions of Zinder and Maradi have the largest agricultural production potentialities, with an increase of 30% of production areas and 40% of productions. Zinder is facing the same threats of Maradi, and its agricultural production is based on the following main crops; peanuts (most important crop), cowpeas, pepper, sesame seeds and tigernut. Most peanuts and groundnuts are grown as a commercial crop.

The **Region of Tahoua**, covers 106.677 km² representing 8.4% of Niger, with an estimated population of nearly two million. The capital of the region is the Commune of Tahoua. The region is divided into eight departments: Keita, Birni, N'Konni, Bouza, Illela, Abalak, Madoua, Tahoua, and Tchín-Tabaraden. Tahoua borders on the sub-saharan zone to the north and the savanna to the south, between the Tillabéri and Agadez regions. The northern area of the region is most prone to drought and is where both nomads and semi-nomads are present, where they make their primary living by herding cattle and camel. Tahoua region shares similar challenges with Agadez and Tillabéri, such as low literacy rates, especially for girls, exodus of youth and men in search of work, and food insecurity. Both the infrastructure and development of industry are very minimal. Since the big drought of 1984, the department of Tahoua is very vulnerable to structural and temporal disruptions. The food vulnerability is defined as “the analysis of coping strategies and reactions faced by the structural or/and temporary shocks, if the coping strategies are not effective, the people are in a temporary or structural situation of food vulnerability”. The environment is much degraded by the wind and water erosion. Despite many opportunities to develop the rural sector, the region of Tahoua has a structural problem because the income is not very high and a major part of the population is poor. The annual growth rate of the population of the region of Tahoua is equal to 3.4%. The major sectors of activities are the agriculture and the livestock. Furthermore, the principal constraints are the weak precipitation, the wind and water erosion, and the weak soil fertility. The characteristics of the rural and agricultural population are defined by the agricultural and livestock census realized in 2008. This census has determined that the farmers of Tahoua are estimated at 1,863,601 and the distribution of this population is six members per household. The farming population represents 75% of the population. The major practice of the heads of household is the agro-pastoralism (90% of the households).

The region of Tillabéry is an administrative region in Niger; and its capital is Tillabéry. Tillabéry region was created in 1992, when Niamey Region was split, with the area immediately outside Niamey renamed as the *capital district*. Tillabéry is divided into 6 departments: Filingué, Kollo, Ouallam, Say, Téra and Tillabéri Department. The region is crossed by the river Niger. It is a plateau with an altitude of 250m, traversed by temporary (Gorouol, Sirba) or permanent (Mékrou, Tapoa) watercourses. To the east, in the department of Filingué, it includes a part of the valley of Dallol Bosso, footprint of the fossil water Azawak. The region is characterized by a Sahelian climate; it is hot and relatively humid, with 540 mm of rainfall in Niamey. The region covers an area of 97.251 km²; its population is

estimated at 2.572.125 inhabitants (2010). In 2011, the poor population was estimated around 67.3% of the total. Nevertheless, the average temperatures that range between 24.4°C and 37.8°C, the level of precipitations and the presence of the Niger River and other affluents, make the region suitable for productive agriculture, especially in its southwest part. The region produces 75% of the country's rice, 18% of its Millet, sorghum and vegetable crops. Livestock in the region covers 21% of the country's cattle, 19% of its donkeys, 14% of its sheep and 13% of its goats. Fishing is carried out on the Niger River. The region is the largest producer of fish in the country, but production is irregular.

The Region of Dosso has an area of 31,000 km², that is 2,7% of the national territory. Most of Dosso's population lives in rural areas and only 10% resides in urban cities. Dosso is divided into 5 departments: Boboye, Dogondoutchi, Dosso, Gaya and Loga. It also has 5 urban administrative divisions (*communes urbaines*) and 38 rural administrative divisions (*communes rurales*), 1 province, 15 cantons and 3 nomadic groups. A recent census (2010) estimates the population to be 2,016,690, of which 61,3% is considered poor. The population depends largely on subsistence farming, small-scale herding and small commerce. The region is characterized by three different productive (agricultural) areas; the band situated in the extreme north where the soil lacks nutritive elements, which makes cash crop production unfavourable. Access to water is difficult. The average annual precipitation is between 350 - 500 mm, and rangelands are used to maintain a limited number of herds. Such conditions affect local farmers and herders, where the majority of households are generally heavily dependent on income generated in other areas, including migration outside the country. The southern band, qualified as the river area, is much wetter (annual average: 900 mm/year) and the presence of the river allows for irrigation. In the areas that are dependent of rainfed agriculture, the risks related to climate conditions, however, remain. The transition between this area and the central agricultural zone of the region is gradual, and new cultures appear (fonio, sorghum, rice and other crops) and land cover changes, including some bush trees that become more frequent and enable people to achieve some income generation activities by harvesting and commercialising forest products (e.g. palm trees, shea trees and Carob). The central part of the region is the most extensive one in terms of surface; its average annual rainfall is between 500 - 600 mm, which is sufficient to carry out rainfed agriculture despite the large inter-annual rainfall variations. The dominant culture is based on the cultivation of millet often in association with cowpeas. Sorghum and maize are less cropped, while the main cash crops are peanuts and wandzou. Regarding livestock production, the Peul ethnic group is mainly involved in extensive livestock production system, while the Djerma people rely on a more intensive production system including herds of cattle and donkeys, which numbers remain relatively small even for the wealthiest households.