



# PROJECT IDENTIFICATION FORM (PIF)

**PROJECT TYPE:** Full Sized Project

**TYPE OF TRUST FUND:** LDCF

## PART I: PROJECT INFORMATION

Project Title:	Enhancing the resilience of communities living in climate change vulnerable areas of Sudan using Ecosystem Based approaches to Adaptation (EbA)		
Country(ies):	Sudan	GEF Project ID:	
GEF Agency(ies):	UNEP	GEF Agency Project ID:	01257
Other Executing Partner(s):	Higher Council for Environment and Natural Resources (ExA), Ministry of Agriculture, Animal Resources, Irrigation and Forestry of the White Nile State.	Submission Date:	7 February 2014
		Resubmission	25 March 2014
GEF Focal Area(s):	Climate Change Adaptation	Project Duration(Months)	48
Name of parent programme:		Agency Fee (US\$):	406,980

### A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK:

Focal Area Objectives	Trust Fund	Indicative Grant Financing (\$)	Indicative Co-financing (\$)
CCA-1, Outcome 1.1. Mainstreamed adaptation in broader development frameworks at country level and in targeted vulnerable areas.	LDCF	1,000,000	1,400,000
CCA-1, Outcome 1.2. Reduced vulnerability in development sectors	LDCF	2,480,000	3,000,000
CCA-1, Outcome 1.3. Diversified and strengthened livelihoods and sources of income for vulnerable people in the target areas.	LDCF	500,000	6,600,000
CCA-2, Outcome 2.1. Increased knowledge and understanding of climate variability and climate induced risks at country level and in targeted vulnerable areas	LDCF	304,000	100,000
Total Project Cost		4,284,000	11,100,000

### B. INDICATIVE PROJECT FRAMEWORK

**Project Objective:** Increase the climate change resilience of livelihoods and integrated productive agricultural systems in the White Nile State through Ecosystem Based Adaptation approaches.

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
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1. Capacity development for EbA and policy mainstreaming	TA	1.1. Improved and strengthened technical capacity of local, state and national institutions to plan, implement and upscale EbA.	<p>1.1.1. A multi-disciplinary national committee established that facilitates cross cutting national dialogue on climate change adaptation and EbA in vulnerable sectors.</p> <p>1.1.2. A stocktaking exercise undertaken and revisions of existing policies and strategies produced to identify entry points for promoting EbA and up-scaling EbA into national strategies including budget allocations.</p> <p>1.1.3. Policy briefs and technical guidelines developed and distributed for policy – and decision makers on increasing the resilience of local community livelihoods to climate change using appropriate ecosystem based adaptation and knowledge gained from demonstration activities in Component 2</p> <p>1.1.4 Targeted CC adaptation and EbA planning/implementation training programmes for stakeholders completed, including field visits to learn from successful adaptation implementation.</p> <p>1.1.5. Facilitation of a local policy dialogue (based on vulnerability assessments and practical experiences from pilot implementation of EbA in component 2) on mainstreaming of adaptation into state and locality development plans.</p>	LDCF	500,000	1,600,000
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2. Implementation of EbA measures to build adaptive capacities of vulnerable communities.	TA/Inv	2.1. Reduced vulnerability of local communities to climate change impacts, in the White Nile State.	<p>2.1.1. Climate change vulnerability and risks for the selected vulnerable sites are identified to guide EbA interventions in pilot sites in the White Nile State.</p> <p>2.1.2. Regeneration of critical ecosystem services to restore degraded rangelands, increase water infiltration and improve resilience of rain fed agriculture under increasing drought conditions and dry seasons.</p> <p>2.1.3. A number of EBA support measures are piloted and integrated into existing local community livelihood activities, including <i>in situ</i> rainwater harvesting and drought/flood resilient eco-agriculture.</p> <p>2.1.4. Pilot implementation of alternative livelihood activities, including, inter alia, fish production, bee keeping, vegetable farming, and small scale irrigation, to enhance community resilience to climate change impacts.</p> <p>2.1.5. Local authorities, communities, committees and user groups trained on adapting community livelihoods to climate change through the use of EbA.</p>	LDCF	3,080,000	8,900,000
3. Knowledge management for appropriate EbA design.	TA	3.1 Strengthened information base and knowledge on EbA and climate change are readily available for various uses.	<p>3.1.1. Information, lessons learnt from project interventions and knowledge on Climate change adaptation and resilient livelihoods using EbA are captured, stored and widely disseminated among stakeholders at all levels.</p> <p>3.1.2. A central information</p>	LDCF	500,000	300,000

			base of data on EbA lessons learned and cost-effectiveness of interventions established in appropriate government entity.			
			3.1.3. An upscaling strategy for EbA across Sudan developed, based on business case models for both public and private sectors.			
Sub-Total					4,080,000	10,800,000
Project management cost (PMC)				LDCF	204,000	300,000
Total project costs					4,284,000	11,100,000

### C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, (\$)

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
Local Government	White Nile State's Water Corporation	Investment	5,600,000
Local Government	Animal wealth administration at the White Nile State	Investment	1,200,000
Local Government	Range and Pasture administration at the White Nile State	Investment	1,200,000
Local Government	Forest National Corporation at the White Nile State	Investment	400,000
National Government	Rainfed Agriculture Department	Investment	1,200,000
Bilateral	DFID through UNEP-Sudan	Investment/TA	1,500,000
<b>Total Co-financing</b>			<b>11,100,000</b>

### D. INDICATIVE TRUST FUND RESOURCES (\$) REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY<sup>1</sup>

GEF Agency	Type of Trust Fund	Focal area	Country Name/Global	Grant amount (\$) (a)	Agency Fee (\$) (b)	Total (\$) (a + b)
UNEP	LDCF	CC-Adaptation	Sudan	4,284,000	406,980	4,690,980
<b>Total Grant Resources</b>						

### E. PROJECT PREPARATION GRANT (PPG)

	<u>Amount Requested (\$)</u>	<u>Agency Fee for PPG (\$)</u>
• No PPG required	_____	_____
• (up to) \$50k for projects up to and including \$1 million	_____	_____
• (up to) \$100k for projects up to and including \$3 million	_____	_____
• (up to) \$150k for projects up to and including \$6 million	US\$100,000	US\$9,500
• (up to) \$200k for projects up to and including \$10 million	_____	_____
• (up to) \$300k for projects above \$10 million	_____	_____

### PPG AMOUNT REQUESTED BY AGENCY(IES), FOCAL AREA(S) AND COUNTRY(IES) FOR MFA AND/OR MTF PROJECT ONLY

GEF Agency	Type of Trust Fund	Focal area	Country Name/Global	(in \$)		
				PPG (a)	Agency Fee (b)	Total c = a + b

N/A						
<b>Total PPG Amount</b>						

MFA: Multi-focal area projects; Multi-Trust Fund projects.

## **PART II: PROJECT JUSTIFICATION**

### **A. PROJECT OVERVIEW**

#### **A.1. Project Description**

##### *A.1.1 The Project problem, root causes and barriers that need to be addressed*

White Nile State is located in Southern Sudan and is delimited by the republic of South Sudan in the south and North Kordofan State in the west, Sinnar and Gezira States in the east and Khartoum State in the north. The total land area of the White Nile State is about 39,701 square kilometers, mostly flat areas traversed by the White Nile river from south to north. Administratively the State is divided into 8 localities. The total population is more than 1.7 million inhabitants, with almost 70% of the population living in the rural areas depending on traditional rainfed agriculture and livestock rearing for their livelihoods. The White Nile State’s animal resources are estimated at 7.9 million heads. Three different ecological zones share the land area of the White Nile State. The larger area falls within the semi-arid zone (semi dry and dry), which is also known as the Savannah zone (to the west on sandy soils and to the east on clay soils). The northern area of the State is part of the semi desert zone while a small area in southern boarder lie within the sub-humid zone. Accordingly the annual rainfall is ranging between 300 mm in the north and up to more than 600 mm in the south.

Sudan’s first and Second National Communication as well as the NAPA from 2007, has documented how climate change is amplifying and increasing the frequency of many of the climate related hazards already affecting Sudan. Most notably, increasing temperatures, decreasing trends of annual precipitation as well as increased variability, is causing a gradual shift of climate end ecological zones from north to south. E.g. formerly semiarid ecological zones, such as the majority of the White Nile State, is gradually moving southward as climate gets increasingly arid and hot, thus taking on characteristics similar to the arid zones found further north today. This in turn has significant implications for water availability and agricultural potential, through increased frequency of climate events such as droughts, dust storms and heat waves. Another impact of climate change is an increasing frequency of extreme flooding events caused by an increase in intensity of rainfall both during the rainy season (seasonal flooding) and in rainstorms (flash flooding). These climate trends and risks are exacerbated by a number of non-climate issues such as: decreased vegetation cover due to overgrazing and deforestation, and inefficient management of water resources – thus further increasing trends of ecological zone shift and desertification.

As outlined in Sudan’s NAPA (2007), the groups that are the most vulnerable to climate risks are traditional rain-fed farmers and pastoralists. During past droughts, there has been large-scale human suffering from hunger among these groups, including forced out migration from rural areas and the death of their livestock herds. Flooding also causes widespread damage in the form of destruction of property and the death of livestock herds. There is ample evidence of past climatic shocks generating a chain of events that led to the disintegration of community and the discontinuity of human habitation. In general, this has been due primarily to a combination of their extreme poverty levels and lack of alternative non-agricultural income-generating activities.

As one of Sudan’s most vulnerable regions, the White Nile State is severely impacted by the climate change induced droughts and floods described above. The White Nile State is currently involved in the preparation of Sudan’s National Adaptation Plan (NAP) and a team of experts has been established in the State with representatives from water resources, agriculture and food security, health sectors, research and civil society. The team, benefiting from the training and capacity building programme of the NAP project, has conducted V&A assessment of the three priority sectors in the White Nile State to the impacts of climate change. Almost all localities in the western side of White Nile River were found to be among the most vulnerable to droughts and other impacts of climate change (including localities of Um Rimmta, Al Dwaim, Kosti, Tandelti, Alsalam, and Algabalain, which will be the pilot communities of this project). These impacts have already been manifested in declining crop productivity, loss of grazing resources and rangeland valuable species, land degradation, increased

frequency of diseases crops, livestock and population, loss of livelihoods and human migration in search for jobs and alternative livelihoods. While climate impacts are severe across the state, the communities on the western bank of the White Nile River were identified by the NAP team as particularly vulnerable because of their low capacity for dealing with impacts due to the following factors: low general awareness of climate change, lack of knowledge about water harvesting, lack of access to improved seeds and other agriculture inputs, presence of overgrazing and severe deforestation, high poverty levels and lack of alternative livelihood systems, lack of technology and know-how for better agricultural practices, and high frequency of rangeland fires.

The State's NAP team have provided a number of adaptation options, for building adaptive capacities in the region. These include:

- Improved agricultural practices
- Promotion of fish farming as another source of income and food security
- Dissimination of improved seeds (drought resistant and early maturing)
- Introduction of effective water harvesting techniques
- Planting of 10% of the area of the agricultural land with forest trees
- Establishment of shelterbelts and promotion of social forestry
- Training of women and local people
- Provision of energy conservation and renewable energy technologies
- Promotion of vegetable production to improve nutrition
- Promotion of animal's fodder production
- Rehabilitation of rangelands
- Provision and access to micro financing
- Establishment of grazing enclosures and improved grazing management
- Provision of mobile veterinary services
- Building of micro dams in some water valleys to improve water supply in vulnerable areas
- Awareness and skills development
- Enforcement of natural resources legislation
- Construction of water wells and with solar pumps in water stressed areas for both human and animal use
- Dairy processing skills
- Biogas for domestic energy and lightning and for production of fertilizer
- Testing of animal driven ploughs

#### *A.1.2 The baseline scenario and associated baseline projects*

With very limited public resources for support of rural development at both national and state levels and with generally low investment capacity of local communities (due to widespread poverty), investments in agricultural development in the White Nile State remains chronically insufficient. This in turn makes sustaining livelihoods and keeping up agricultural productivity with a steadily rising population, a huge challenge even under current climate conditions. Also, there is generally very little awareness and understanding of climate impacts at the community level and the State authorities and agricultural extension services does not have sufficient human capacity to support local adaptation processes. In particular there is, both at institutional and farmer level, a clear lack of understanding and consideration of the interrelation between environmental degradation (soil degradation, deforestation, loss of grassland biodiversity etc.) and climate change vulnerability at both the national, regional and local level. There is also a general lack of good practical examples on how ecosystem services can provide adaptation benefits in a Sudanese context and how such approaches can be mainstreamed into a broader development agenda. To date the current national legislation, policies and development plans in the area of natural resources, such as Forest Act (2000), forest policy and the five years plans of the forest, rangeland, agriculture and water setors have not recognized or specifically integrated ecosystem-based adaptation approaches.

All activities of the White Nile State's most recent 5 year sector plan for the agriculture and water sector (see below) relate indirectly to maintenance of ecosystem services such as sufficient water for agriculture, productive rangelands for livestock etc., upon which the livelihoods of more than 70% of the state's population depend. As

such there is a growing understanding of the significant role ecosystem services play in maintaining and improving rural livelihoods in the state. However, the critical role of ecosystems, have yet to be comprehensively and consistently considered in national and state level planning and policies.

One promising research activity that has been implemented at the national level in Sudan in relation to linkages between environmental degradation and sustainable agriculture and livelihoods is the Agricultural Research Corporation's (ARC) ongoing piloting of agroforestry technologies, such as root pruning. The ARC has developed some highly innovative and productive systems producing cereals (e.g. wheat), vegetables, oil crops fruits and wood for fuel. However, in spite of promising results such systems have yet to receive widespread recognition as a viable (and potentially climate resilient) option for land use and has not been sufficiently promoted to farmers by existing schemes. The project will be able to build on this pool of in country knowledge and capacity as a baseline for development of agroforestry based EbA activities.

While underfunded, a number of development initiatives are currently ongoing in the White Nile State and in the six target localities of Um Rimmta, Al Dwaim, Kosti, Tandelti, Alsalam, and Algabalain addressing a number of development issues for the agriculture and pastoral sector. These include investments in water supply infrastructure, improved livestock and crop management programmes, rangeland rehabilitation, dissemination of improved seeds and more. None, however, are taking account of longer term climate change impacts and potential adaptation options. With a general lack of presence and funding from bilateral and multilateral institutions in the White Nile State (due to the long standing political sanctions on Sudan, which has also affected the contributions and support programmes of UN organizations such as UNDP, and greatly reduced the opportunities for Sudan to access development support from bilateral sources), the majority of development activities in the water and agriculture sector are funded through regular national and state funding.

The White Nile State development planning follows the national approach, which is based on 25 years strategic plan to be implemented through 5-year sectoral plans, with the current sector plan covering the period 2012-2016. The total annual financing allocation to these 2 sectors is in the order of 800,000 USD, divided into regular budget (e.g. in 2012 this is around 580,000 USD) for maintaining ongoing activities and services, and an additional small allocation for meeting some of the new and urgent development needs within these sectors (e.g. in 2012 this figure was around 300,000 USD). The regular budget covers the implementation of the ongoing programmes such as the support to rainfed agriculture, plant protection, animal wealth, seeds production, infrastructure, administration, etc. The small development component, on the other hand, includes activities such as infrastructure for water harvesting, range gages, opening and demarcation of animal routes, nurseries, extension centres, seeds storage etc. In addition in 2008 the national government also initiated the Action Plan for Agriculture Revival (APAR), which is a national programme aimed at developing the agricultural sector and improving its contribution to national income, especially after the separation of South Sudan and loss of the oil revenue, through increasing crop and livestock productivity, reducing poverty, sustainable management of natural resources etc. However, this programme is now facing financial difficulties in its implementation from year to year. At the state level, the APAR is integrated in the 5-year development plan for the agriculture and water sector, which include state specific activities that contribute to the overall of objectives of APAR. The 5-year plan include activities such as establishment of 8 agricultural service centres, raising the percentage of the use of improved seeds by 80% for a number of crops, establishment of centres for training of rural women, establishment of grazing allotments, water harvesting, demarcation of animal routes, marketing, veterinary services etc.

The following ongoing and planned activities have been identified as relevant development baselines to which LDCF adaptation investments can be tied:

**Programme for Construction of Water Stations, Ponds (hafirs) and Wells funded by the White Nile State Water Cooperation** (total annual budget 2012-2016, \$2.8 million). The purpose of this programme is to provide water supply (from the Nile river) to remote communities facing severe water stress. This is done through investments in basic water supply infrastructure, what is called comact water stations which have a capacity ranging from 1500 m<sup>3</sup> up to 11000 m<sup>3</sup>. This programme has started in 2011 and continues to be under implementation to date, however lack of the required financial resources and know-how have limited the annual

average achievement of the programme to 40-50% of annual planned targets. The main sources of the available finance are from national and state contributions. The project can build on these ongoing activities by providing top up funding to increase climate resilience of water infrastructure in the communities, and by creating awareness and knowledge that will enable more efficient management of water resources.

**Project for promotion of animal wealth and management funded by the Animal Wealth Administration at the White Nile State** (total annual budget 2012-2016, \$0.3 million). This programme also receives support from the Federal Ministry of Animal Wealth. The objective of this project is to promote a shift from traditional grazing systems to more economic livestock production models, including rangeland rehabilitation through establishment of grazing enclosures, to improve meat and milk production, to promote fish production, to improve veterinary and extension services to lessen the impacts of animal diseases and to generally improve capacity and awareness of livestock producers. This is a continuous programme, however, lack of adequate financial resources limit the implementation of the programme to less than 50% of its annual targets. While underfunded, activities currently ongoing under this project can be used as a foundation from which to scale up and address climate risks in the livestock production sector through the LDCF project.

**Improved Rangeland management programme funded by the Range and Pasture Administration at the White Nile State.** (total annual budget 2012-2016, \$0.2 million). This programme represents core activities implemented by the State's Range and Pasture administration in support of the 5 year development plan. It will include a number of activities and investments focused on improving rangeland and pasture management in the State, including: rangeland rehabilitation, conservation and promotion (through seed collection and reseeded) of valuable grazing species, measures to prevent rangeland fires, sand dune fixation, facilitation of animal movements to prevent conflicts with farmers etc. These investments, though insufficient, provide a valuable baseline on which to build to LDCF activities, not least in terms of implementing and scaling up EbA approaches for livestock and pasture management.

**Women Development Programme funded by the Range and Pasture Administration at the White Nile State.** (total annual budget 2012-2016, \$0.1 million). This programme supports a number of small initiatives implemented with local woman community groups. The programme is implemented in collaboration between line ministries and Women Union and Howdja Society (an NGO). These small initiatives include revolving funding, training and awareness building and some other small initiative implemented with WFP. As women will play a critical role in the implementation of the adaptation measures in component 2, networks and activities set up through this programme will be an important foundation for the LDCF project's activities.

**Programme for protection of forest resources in White Nile State funded by the Forest National Corporation (FNC) at the White Nile State** (total annual budget 2012-2016, \$0.1 million). This programme is focused on maintaining forest resources, improving forest management and land conservation and includes activities such as establishment shelter belts to protect agricultural land, improved extension services, establishment of village woodlots, implementation of agroforestry on 5% of the irrigated lands and 10% of rainfed agricultural lands, creation of 'women forests' (i.e. woodlots established and managed by women with support by FNC), rehabilitation of Gum Arabic belt and awareness raising. The programme also has components on village woodlots, agroforestry on 5% of the irrigated lands and 10% of rainfed agricultural lands, women forests and rehabilitation of Gum Arabic belt. The programme lacks adequate funding because it is mainly financed through the National Forest Corporation which is self-financed institution with limited resources. While the programme has limited funding, the activities implemented will provide an important baseline from which LDCF EbA activities related to forests can be scaled up in the target communities..

**Programme for provision of improved seeds, water harvesting and improved extension services funded by the Rainfed Agriculture Department** (total annual budget 2012-2016, \$0.3 million). The objective of this programme is to improve food security, increase farmer income and promote better utilization of water resources in the agriculture sector. Activities include dissemination of improved seeds, investments in water harvesting and improvements in extension services. While not specifically targeted to adaptation, there is a high degree of overlap between adaptation priorities and the basic sustainable development interventions promoted by this



programme in poor rural communities. This is a continuing programmes for this department, but the level of annual activities being implemented and coverage in terms of areas and number beneficiaries is very much dependent on the actual budget allocations, which in general is inadequate to reduce the vulnerability of all the affected communities specially in the 5 localities of the western side of the While Nile river. It is expected, that the LDCF will be able to build on and scale up successful activities implemented in this programme while incorporating additional climate change resilience measures.

**Sudan Integrated Environment Programme phase 2 (SEIP 2)** (total estimated budget for 2014-2018 is \$1.5 million). This programme, which has been approved for further development of UNEP-Sudan by the donor DFID, will among other climate change related activities include dedicated financing and activities for following up on the NAP process implemented through SEIP 1 (please refer to section B below). This will likely include capacity building trainings (such as managerial skills, report and proposal writing and institutional development trainings and consultations meetings) to the all 18 States' NAP technical committee and focal points (including the White Nile State) as well as other activities yet to be defined. The specific scale and scope of the programme will be settled during the PPG phase, but it is expected that the project will be able to build on the capacity building activities implemented through the SEIP 2, not least for component 1 activities.

#### *A.1.3 The proposed alternative scenario*

As outlined in the section above, there is a growing understanding of the role ecosystem services play in maintaining and improving rural livelihoods in the state, and state authorities are implementing investments that are helping local communities improve farming and water management practices under current climate variability. However, with limited funding, such efforts are unlikely to be sufficient to adapt to the climatic zone shifts anticipated in the coming decades. Furthermore, Ecosystems based Adaptation (EbA) approaches, which are likely to be a very cost-effective and multibeneficial strategy for adaptation in Sudan and the White Nile State, are currently poorly understood and recognized at both the national, regional and community level. The proposed project thus aims ***to increase the climate change resilience of livelihoods and integrated productive agricultural systems in the White Nile State through Ecosystem Based Adaptation approaches***. The project will be implemented at multiple levels aiming to mainstream EbA approaches at both national, regional (state) and local (community) levels. The project will be executed through the Higher Council for Environment and Natural Resources (HCENR) and implemented in cooperation with the Ministry of Agriculture, Animal Resources, Irrigation and Forestry of the White Nile State and a number of critical stakeholders on climate change, agriculture, water management and natural resource management, including White Nile States' climate change technical team . Research Centres and Universities also need to be involved in problem solving research. The project will strengthen government awareness and capacity for implementation of EbA at the national, State and individual levels. This will be achieved through the following components:

Component 1: Capacity Development for Ecosystems based Adaptation (EbA) and policy mainstreaming.

Component 2: Implementation of EbA measures to build adaptive capacities of vulnerable communities

Component 3: Knowledge management for appropriate EbA design.

#### *A.1.4 Incremental cost reasoning and expected contributions from the baseline the LDCF and co-financing*

The proposed LDCF project will build the climate resilience of ecosystems and local communities in the White Nile State by improving their access to ecosystem services, such as agriculture, food, water, and fishery. Moreover, climate-resilient ecosystems can increase the adaptive capacity of local communities by providing an

important buffer against extreme weather events. The project will also facilitate the upscaling of such benefits to the national level through the policy support and codification and dissemination of project lessons.

UNEP has secured baseline co-financing commitments of US\$ 9,700,000. (see Table C ). This includes primarily co-financing from White Nile State's 5 year sector plan as implemented through a number of projects and programmes in the water and agriculture sector, but also co-financing from the UNEP-Sudan implemented SEIP2, (see section 1.2. above). The proposed project will ensure that these investments are made resilient under future climate change conditions and that successful activities are scaled up to provide adaptation benefits to an increased number of vulnerable communities and farmers. A brief summary of the additional cost reasoning for each component is presented below.

### **Component 1: Capacity Development for Ecosystems based Adaptation (EbA) and policy mainstreaming.**

#### **Business as usual scenario:**

All activities of the State's most recent 5 year sector plan for the agriculture and water sector (see below) relate indirectly to maintenance of ecosystem services such as sufficient water for agriculture, productive rangelands for livestock etc., upon which the livelihoods of more than 70% of the state's population depend. As such there is a growing understanding of the significant role ecosystem services play in maintaining and improving rural livelihoods in the state. However, the critical role of ecosystems, have yet to be comprehensively and consistently considered in national and state level planning.

While not currently aligned with adaptation needs and priorities, a number of non-climate focused planning frameworks and policies for environmental protection are currently active in Sudan including: Forest Act (2000), forest policy and the five years plans of the forest, rangeland, agriculture and water sectors. Similarly, Sudan is implementing policies/frameworks for sustainable rural development through its 25 years strategic plan, which is being implemented through the five year sector plans. Furthermore, Sudan is in the process of mainstreaming adaptation into its general planning and policy making at both the national and state level through initiatives such as those implemented through the NAPA project and the NAP process as described in section A.4 below. However, the synergies between ecosystem protection, sustainable development and adaptation needs have yet to be fully explored, or indeed mainstreamed into general thinking of neither regular ecosystem protection and sustainable development policy and planning nor in on-going adaptation planning.

SEIP 2 activities related to NAP follow up mentioned above, will be implemented by UNEP-Sudan from 2014-2018 with activities at both state and national level, and will be a valuable foundation for further mainstreaming EbA into adaptation planning.

#### **Alternative scenario:**

Through LDCF resources, the project will support the creation of policy frameworks, capacity and awareness on the benefits and practical possibilities for EbA at the national, state and community levels. At the national level this will include facilitation of a national dialogue process (to investigate the potential for EbA as a strategy for climate change adaptation in Sudan), with participation of broad range of stakeholders including government institutions, community based organisations (CBOs) and Non Governmental Organisations (NGOs). Furthermore the project will facilitate a review of existing policies for entry points of EbA in practical legislation and planning, and will provide technical support such as policy briefs, guidelines etc. Finally, LDCF funds will be spent to provide targeted training of stakeholders, including, when relevant, study missions to pilot implementation sites of component 2. On the state/locality level (based on vulnerability assessments and practical experiences from pilot implementation of EbA in component 2) LDCF funds will be used to facilitate a policy process to mainstream adaptation into regular state/locality planning and budgeting.

These activities will build upon baseline activities whose costs are estimated at USD 1,600,000 USD for this component. The additional costs sought from LDCF resources are estimated at USD 500,000.

## **Component 2: Implementation of EbA measures to build adaptive capacities of vulnerable communities**

### **Business as usual scenario:**

Farmers and pastoralists in the White Nile State will likely continue to be badly affected by climate hazards, in particular related to increasing frequency and severity of droughts which may in turn cause crop failure, low productivity and death of livestock, and abandonment of pastures and fields due to desertification. This in turn will exacerbate already existing social and environmental stressors in the state, and therefore affect general socio-economic development in the area. While some limited public support is available from the Sudanese government and White Nile State 5 year sector plans (see section 1.2), these programmes are chronically underfunded and only barely able to help communities overcome current climate variability, let alone deal with future climate change. Furthermore, with limited awareness among state and community decision makers and extension staff on the potential benefits and cost-effectiveness of EbA, ecosystems and their crucial role in providing ecosystem services and adaptation benefits to agriculture and water are rarely considered in ongoing investments. Without LDCF support this situation is likely to remain unchanged.

### **Alternative scenario:**

This component will provide targeted investments for EbA in six pilot localities on the western side of the White Nile River (all identified through the Sudan NAP process as particularly vulnerable to climate change): Um Rimmta, Al Dwaim, Kosti, Tandelti, Alsalam and Algalalain (specific localities and communities to benefit from pilot investments will be determined in the PPG phase), and will be implemented in three phases. First a comprehensive participatory assessment of specific climate change vulnerabilities in each of the target communities will be conducted to identify entry points and guide identification of specific priority EbA measures to be pursued. This assessment will also analyse existing indigenous practices for dealing with current drought risks and how these can be considered in the development of local adaptation measures. Second the project will fund at least 5-10 concrete adaptation investments for the agriculture and water sectors in each community based on EbA approaches (the exact number of investments to be implemented depends on the participatory assessments mentioned above and available funding). These investments will provide both real benefits, in terms of reduced vulnerability in the beneficiary communities, but also a large number of good practical examples that can scaled up and used for inspiration in other communities across the White Nile State and the country. The final list of pilot investments to be made will be selected based on the participatory assessment from phase one, and be informed by the NAPA and ongoing NAP processes (see below) as well as best practices and other ongoing adaptation projects in Sudan (see section A.4) and careful consideration of gender implications. While it is too early to predict specifically what such pilot investments will comprise, some examples of activities to be considered include:

- Sand dune fixation through tree planting
- Strategic targeted reforestation to improve local water cycle and replenishment/protection of key drinking water sources
- Piloting of appropriate agroforestry systems to provide shade and nutrients and to retain moisture in fields – in particular this could also build on the experiences of ARC mentioned above.
- Pilot implementation of alternative livelihoods nurturing ecosystem services and integrated production systems such as fish production, bee keeping, and vegetable farming
- Restoration of degraded pastures and dryland with drought resilient productive grass species to improve livestock productivity and increase water infiltration
- Strategic planting of shelterbelts to protect agriculture fields from wind erosion and sand drifting

- EbA support measures such as installation of climate resilient water supply measures (small scale rainwater harvesting, deepening of wells and reservoirs etc.) and demonstration testing, dissemination and set up of local multiplication programmes for drought resistant/early maturing crop varieties.
- Fire prevention management measures to prevent wild fires.
- Piloting of CC resilient livestock and pasture management practices with local participation.
- Pilot testing of innovative, integrated systems utilizing synergies between livestock and crop farming to improve ecosystem services.

The third phase will consist of targeted training of local authorities, communities (farmer level, user groups and/or CBOs (including woman groups)), committees and NGOs on appropriate adaptation strategies for making community livelihoods more resilient to climate change impacts. Implemented pilot interventions will form a natural foundation, as well as practical examples, for this training.

The related activities will build upon baseline activities which are estimated to cost USD 8,900,000 for this component. The additional costs sought from LDCF resources are estimated to cost USD 3,080,000.

### **Component 3: Knowledge management for appropriate EbA design.**

#### **Business as usual scenario:**

Knowledge and awareness of appropriate EbA strategies would remain weak at both national, state and community levels and a system for compiling, storing and communicating best practices would not exist. Without such knowledge and availability of practical data and lessons mainstreaming of EbA approaches at the policy level would be impossible.

#### **Alternative scenario:**

Component 3 will be based on outputs from components 1 and 2, strengthen the information base and knowledge on EbA and climate change, and ensure that it is readily available for various stakeholders at the national, state and local levels. A primary objective of this component will be to ensure that lessons and outputs generated through the project (as well as any other adaptation projects currently ongoing in Sudan) are captured, stored and made available to the stakeholders that have the power and capacity to replicate and learn from them. This may also involve 'translating' the same data to different stakeholders (e.g. national policy makers, local councils and farmers) through targeted communication products. A central information base on the EbA lessons learned and cost-effectiveness of interventions will be established in the appropriate government entity. Finally, LDCF funding will support the development of an upscaling strategy for EbA across the Sudan based on business case models for both public and private sectors.

The related activities will build upon baseline activities which are estimated to cost USD 300,000 for this component. Additional costs sought from LDCF resources are estimated at US\$ 500,000.

#### *A.1.5 Global environmental benefits (GEFTF, NPIF) and adaptation benefits (LDCF/SCCF)*

The project aims to increase resilience among some of the most vulnerable rural communities in Sudan and the White Nile state. As outlined above, in the absence of such interventions, farmers and herders in the targeted communities, many of whom are already struggling to provide livelihoods under current climate change and variability, will find themselves increasingly under pressure from climatic shifts and without the knowledge and resources that would allow them to adapt their livelihoods. The project investments will provide multiple adaptation benefits. First and foremost, direct investments in the targeted communities will give immediate and tangible adaptation benefits to individual vulnerable farmers and herders, e.g. through securing them access to climate change resilient grassing, reducing loss of land to desertification, providing access to improved and more resilient water sources, and more diversified and less climate sensitive livelihood opportunities. Furthermore, the project will facilitate mainstreaming and scaling up of successful EbA strategies in other communities as well as at the state and national level thereby, hopefully, creating a self-reinforcing process that will lead to adaptation

benefits for a much larger group of stakeholders than those reached by direct investments. This will include support to policy frameworks and general promotion of EbA as a sensible adaptation strategy in community, state and national planning, targeted training of stakeholders, and creation of codified good practice communication documentation tailored to the needs and interest of different stakeholders.

Furthermore, by putting the EbA approach at the center of the project approach, it is expected that it will generate not only adaptation benefits but also mitigation benefits e.g. through carbon sequestration, sustainable consumption of natural resources etc.

#### *A.1.6 Innovativeness, sustainability and potential for scaling up*

Considering the scale of the foreseen climate zone shifts predicted for the White Nile State, establishment of a sustainable livelihood system is unlikely to be successful without the consideration of an innovative approach and solution such as EbA. If implemented appropriately, EbA, working with nature, can be self-sustaining and replicating without the need for external input or technology, thus increasing the chances of locals taking ownership and sustaining activities beyond the life of the project. Key factors in achieving this will be: 1. That pilots are carefully selected to take local needs, priorities and culture into consideration, 2. That selected pilots will be able to show clear and demonstrable benefits (both adaptation and general livelihood improvements) within the project lifetime, 3. Successful awareness raising on CC issues and training on the benefits of EbA, 4. Provision of access to a large and expanding knowledge base of good practices, not only in their own communities but also between communities. At the national level, beyond the measures included in component 1 and 3 which are directly targeted at mainstreaming EbA into future development and investment planning and facilitating upscaling through creation of a national knowledge base, successful practical examples from communities (1 and 2 of above) are in fact equally critical factors for the successful replication and long term sustainability of EbA at the national level.

Use of the EbA approach to build resilience of agricultural production and water management is in itself innovative and still a relatively untested concept in Sudan. The proposed project is grounded in the principles of EbA, of which a rapidly growing body of studies suggests that EbA projects deliver favourable cost/benefit ratios when compared to hard adaptation strategies. This is because EbA can help support governments to meet not only their adaptation needs but also their mitigation commitments and broader development goals. EbA reduces climate change vulnerability, but simultaneously provides a range of co-benefits such as carbon storage and sequestration, biodiversity conservation, alternative livelihoods, and poverty reduction opportunities. Furthermore, restoring or protecting the extent of ecosystems, improves ecosystem resilience, which reduces the risk of ecosystems reaching tipping points and shifting to unmanageable or unrecoverable states as climate change proceeds.

## **A.2. Stakeholder Engagement**

The project will build upon a thorough participatory approach. Stakeholder participation and validation of key processes is expected for all activities. Key stakeholders in this project include local communities, White Nile climate change technical team (created through the NAP process) as well as other State government agencies. In particular, it is anticipated that the NAP climate change technical team established in White Nile State through the ongoing NAP process, who have already been involved in the preparation of this proposal, will be a key coordinating partner locally, working with HCENR in planning and implementing activities in the State hence ensuring local ownership of the project. Furthermore, the capacity building and institutional support for this committee is expected to continue through NAP follow up activities and HCENR will also continue to support these committees in becoming their State's environment institutions (in the case where such an institution does not yet exist, as is the case for the White Nile State). The project will also create active partnerships with NGOs at the local and national level, as well as private sector partners in the project sites. Active partnerships with scientific and research organizations and academia, as well as close coordination with other ongoing initiatives and projects (to be further defined during the PPG phase) will also be sought. A preliminary list of stakeholders consists of: State's Range and Pasture Administration, Animal Wealth Administration, Water Corp, Forest

National Corp (state office), Rainfed and Irrigated Agriculture Administration, State’s environment institution, representatives of Research, Academia at the state level in addition to civil society organizations such Unions of the Farmers, Pastoralists, Women, etc. At the federal level key stakeholders include: HCNER, and Ministries of Agriculture, Animal Wealth, Water Resources and Electricity. Private sector stakeholders include companies investing in agriculture and livestock. This project will especially target the most vulnerable groups living in rural areas, with a strong emphasis on addressing vulnerabilities faced by women, who are highly vulnerable to climate hazards and climate change, in order to support adaptation to current climate impacts and increase future resilience. Moreover, in accordance with finding of recent NAP assessment reports, women will be considered as one of the most vulnerable groups to climate change impacts and will be involved in stakeholder consultations during project development and especially in the implementation of project outcomes. A key objective of the PPG phase will thus be to assure, through community level consultations, that the needs and priorities of all vulnerable community members, and in particular women, are fully considered in the selection of pilot EbA activities.

Stakeholder consultations (with participation from both local stakeholders and relevant state officials and experts) will be organized around the community vulnerability assessments and selection of pilot activities to be implemented (activity 2.1.1). Furthermore, at the national level a key output will be the creation and facilitation of multi-disciplinary committee (activity 1.1.1) to foster national dialogue on EbA and mainstreaming the concept into national and state development plans and adaptation strategies, including NAPs (the NAP state focal points will play an important role here). Consultations with partners will take place on an ongoing basis throughout the preparation phase to build partnerships and identify co-financing arrangements.

An inception workshop will be held at the start of the PPG implementation phase, and will include main stakeholders. During the inception workshop, a project development team and steering mechanism/ committee, will be established.

### A.3 Risk

A number of risks to the successful implementation of the project are assessed and summarized in Table 1 below, along with appropriate countermeasures and management responses to minimize the potential threat posed by the specific risk. Risks will be validated and re-assessed during the PPG implementation.

**Table 1:** Risks, rating and mitigation measures

Identified Risks	Risk rating	Mitigation Measures
Local stakeholders are not supportive of proposed EbA measures, and instead are in favour of hard infrastructure protection measures.	Medium	The project will put specific emphasis on raising awareness on EbA benefits as opposed to hard engineering measures. Stakeholder consultation, community mobilization and participation in design, implementation and impact monitoring of on-the ground adaptation measures. An awareness raising campaign targeted at increasing the ecosystem resilience to CC to flood-prone communities.
Given the long-term nature of the adaptation and in particular of EbA , there is always a risk that current and future administrations may not be supportive	Medium/Low	Strong involvement of government ministries, White Nile State administration and local communities in the adaptation implementation will strengthen the long term project goals.
The government will not have funds to sustain the national arrangements, once the project ends	Medium	Development and institutionalization of a strategy to up-scale, sustain and replicate resilient agriculture practices using the EbA approach institutionalised (component 1). Awareness-raising among the decision-makers and outreaching to potential donors.
Conflicts among stakeholders regarding roles in the project may result in lack of commitment/buy-in from local communities and therefore may result in failure of demonstration projects.	Medium/Low	A stakeholder engagement plan will be drawn up during the PPG phase. Community stakeholders will be engaged with from the PPG phase to ensure their buy-in into the LDCF project. Actively engage local communities during implementation

		of interventions. Raise awareness through communication campaigns, via radio and television programmes.
Volatile political situation in Sudan could lead to government shifts or disruption of project activities.	Medium	White Nile State, which will be the focus of pilot activities in this project, is generally peaceful and not considered a zone of conflict. The central project administration will be set up in a way that will limit the impact of government shifts. Finally, the presence of a UNEP country office in Sudan will enable close supervision and quick intervention in case of any disruptions.
Lack of institutional coordination and capacity on EbA could lead to inappropriate or deficient implementation of EbA measures and policy frameworks.	Medium	The project design includes a number of mechanisms to assure that the cross-cutting nature of EbA is fully considered in the implementation of the project. In particular, the project aims to establish a national dialogue process, which will invite a broad range of stakeholders, including government institutions across relevant sectors, research institutions and universities with mandates on climate change, community based organisations (CBOs) and non-government organisations (NGOs) (activity 1.1.1). This dialogue group will facilitate project activities in relation to policy review, but is also planned to grow into a more permanent body for coordination of adaptation and EbA planning and mainstreaming in Sudan. Additional details, including recommendations on specific institutions to include in the dialogues, will be included by CEO endorsement.

#### A.4. Coordination with other relevant GEF financed and other initiatives

The project will also build on and coordinate with the following ongoing projects which have an adaptation related focus. Collaboration will be achieved through a project coordinators committee which will be set up by this LDCF project, comprising of key stakeholders and various project coordinators from the below list of ongoing initiatives. The project coordinators committee will meet every three months, to receive updates on the ongoing progress of the project and to coordinate efforts. Further details of its operation will be determined during the PPG. Furthermore, members from this group will be invited to PSC meetings of this project as observers.

**Implementing NAPA Priority Interventions to Build Resilience in the Agriculture and Water Sectors to the Adverse Impacts of Climate Change in Sudan**, supported by the LDCF and implemented by UNDP (US\$3.3 million). This project is currently implementing a number of adaptation pilot measures aimed at improving the climate change resilience and food insecurity of small-scale farmers and pastoralists in 5 regions across the Sudan (River Nile State, Northern Kordofan State, Gedarf State, Southern Darfur State and Central Equatoria State (now part of South Sudan). While there are some degree of overlaps in the target groups and types of measures implemented, this project is implemented in different states and does not have EbA as a guiding principle. Nevertheless, close links will be sought with this project, in particular during the PPG phase, to benefit from good practice examples and to make sure that successful interventions are fully considered and replicated in the White Nile State.

**Climate risk finance for sustainable and climate resilient rainfed farming and pastoral systems** (US\$ 5.7million), funded by the LDCF and implemented by UNDP. This project, which is currently in its PPG phase, is aimed at increasing climate resilience of rainfed farmer and pastoral communities in regions of high rainfall variability through climate risk financing. The White Nile State is one of the beneficiaries of this project and it is expected that the present project will be able to benefit from the improved modelling and forecasting capacity the project will support at Sudan Meteorological Authority in the development of local and state level climate risk assessments. Since this project will address residual effects of climate change after adaptation measures are implemented, experiences with climate risk insurance pilots will be closely monitored and potentially integrated

into overall strategies developed for adaptation and EbA in the White Nile State and targeted communities.

**Development of Sudan's NAP** (US\$0.79 million). The Sudanese NAP process, which is funded by DFID through the Sudan Integrated Environmental Project (SIEP) and implemented by UNEP-Sudan, started in February 2011 and was completed in September 2013. The NAP process aims to enable broader and deeper exploration of the vulnerability of key livelihoods and development sectors to climate change in Sudan, together with developing a better understanding of potential adaptation strategies for integration into national development framework. The project covers all the States of Sudan including the White Nile State. The NAP process established institutions (focal points and technical committees) in each state to deal with climate change adaptation and provided training and capacity building to these institutions. The White Nile State team consists of 7 experts from Ministry of Agriculture, Ministry of Physical Planning, Ministry of Health, Agricultural Research Corporation, a Women NGO, and two CBOs of Famers Union and Pastoralist Union. The project undertook, in collaboration with this team, assessments of vulnerability and adaptation of water, agriculture & food security and health sector to the impacts of climate change and variability. The technical committee established by the NAP process is now collaborating with HCENR on the preparation of this PIF and provided information on vulnerable areas and possible adaptation options to be consider in the formulation of this project and will continue to play key role in the coordination and implementation of this project after its approval. Also, as mentioned in the co-financing section, UNEP-Sudan office is planning over the coming four years (2014-2018) to provide more capacity building trainings (as managerial skills, report and proposal writing and institutional development trainings and consultations meetings) to the state's NAP technical committee and focal points, which will further benefit this project.

## **B. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:**

### **B.1. National strategies and plans or reports and assessments under relevant conventions**

The project is consistent with the following strategies plans and assessments:

**Technology Needs Assessment (TNA).** The TNA is a national programme funded by GEF, UNEP and UNEP Risoe Centre that identifies technology priorities to promote mitigation and adaptation activities in line with the country's sustainable development goals and strategies. The TNA includes Technology Action Plans outlining technology barriers and developing plans to facilitate the transfer, adoption and diffusion of the selected priority technologies. Most activities focus on 'engineering type' adaptation measures, and to a less extent on ecosystem based adaptation (EbA). The advantages of EbA are increasingly recognised in the TNA process though such measures as environmental protection, biodiversity conservation and cost-effectiveness.

**National Adaptation Programme of Action (NAPA).** The Sudanese NAPA, submitted in 2007, was implemented by the HCENR and identified, through a broad national process, urgent and immediate adaptation needs in the sectors of agriculture, water and health in 5 representative ecological zones of Sudan (the Southern Sudan zone is no longer applicable due to the separation of South Sudan). The specific target areas of River Nile State, North Kordofan, Gedarif, and South Darfur were chosen to represent the zones of Desert, Semi-desert, Savanna on Clayey Soil and Savanna on Sandy Soil respectively. However, this did not imply that these were necessarily the most vulnerable regions within each ecological zone. Consistent with the NAPA, the proposed project will implement a programme of adaptation-focused interventions that will reduce vulnerability of rural communities, in particular the rainfed farmers and pastoralists communities which in the NAPA have identified as the most vulnerable groups in Sudan (see also section B.2. below).

**National Adaptation Plan (NAP).** The NAP process, funded by DFID and implemented by UNEP Sudan through its Sudan Integrated Environment Project (SIEP), identified mid- and long term adaptation needs in the sectors of agriculture, water and health in all 18 states of Sudan. The assessments were made in line with



UNFCCC Technical Guidelines for National Adaptation Plans, with clear priorities, actions, and directions for further investment and implementation modalities. The ultimate objective of the NAP process, as defined in COP 17, is to integrate climate change adaptation into new and existing state and national strategies, policies and programmes.

In the White Nile State, the NAP process have established an institution to deal with climate change adaptation issues at the state level and provided it with technical and institution capacity support. The NAP process, in collaboration with this new institution (focal point and technical committee) conducted vulnerability and adaptation assessments of the water, agriculture and food security, and health sectors in the White Nile State, including data collection and consultation with all relevant stakeholders at the state level. The NAP process at the state level also involved identification of adaptation programmes and projects interventions, recommendations on polices and institutional reforms for implementation and integration of adaptation into the development planning at the State level. The results of the V&A assessment and consultations at the state level is now being compiled into a State Adaptation Plan which will be formally endorsed by the State Government.

This project is fully consistent with the NAP process in Sudan in terms of both reducing vulnerability of most affected communities and also defining options and modalities for integration of adaptation into national development planning for water, agriculture and food security. Furthermore, the proposed project, being built on the outcome of consultations and vulnerability assessments in White Nile State (i.e. the draft State Adaptation Plan), is fully consistent with NAP process at State level. The project also complement the NAP in the sense that, being a NAPA project, it focuses on addressing urgent and immediate adaptation needs while the NAP is also covering medium and long term adaptation needs.

**National Communications.** This PIF is in line with Sudan’s Initial National Communication (INC) to the UNFCCC, which provided an assessment of likely impacts of climate change on water, agriculture and human health. These sectors have been defined by the stakeholders during the preparation of the INC as the main priority sectors for adaptation as they are essential for sustainable development in the country. The proposed project is also consistent with the second national communiton which also addressed the water sector with more focus on the Nile system and came up with a number of important recommendations such strengthening the capacity of water planners in to implement modern concepts of Integrated and Adaptive Water Resources Management (IWRM/AWRM), introduction of new water harvesting/irrigation techniques, and improved access to groundwater for both rural household and animal consumption through the installation of pumps.

**25 Year Strategic National Development Plan.** As mentioned in above sections, the proposed project is consistent with the 25 years Strategic National Development Plan, which is being implemented through 5-year state, and sectoral plans. The current 5 year plan is for the period (2012-2016) and includes activities on water, agriculture and food security consistent with this PIF as described in the baseline section above.

**Action Plan for Agricultural Revival (APAR).** The proposed project is also consistent with the national Action Plan for Agriculture Revival (APAR) which aims to develop the agricultural sector and improve its contribution to state and national income, especially after the separation of South Sudan and loss of the oil revenue, through increasing crop and livestock productivity, reducing poverty, sustainable management of natural resources

## **B.2. GEF Focal area and/or fund(s) strategies, eligibility criteria and priorities**

The project meets the eligibility criteria and programming priorities of the LDCF. It fits with the strategic objective of the LDCF to “meet the urgent and immediate adaptation needs of the Least Developed Countries, as identified in their NAPAs” (Decision 7/CP.7), by focusing on: i) integrating climate change into land-use planning and development strategies; ii) demonstrating the implementation of adaptation measures; and iii) building institutional capacity to deal with climate change risks.

The Sudanese NAPA, submitted in 2007, was implemented by the HCENR and identified, through a broad national process, urgent and immediate adaptation needs in the sectors of agriculture, water and health in 5

representative ecological zones of Sudan (the Southern Sudan zone is no longer applicable due to the separation of South Sudan). The specific target States of River Nile State, North Kordofan, Gedarif, and South Darfur were chosen to represent the zones of Desert, Semi-desert, Savannah on Clayey Soil and Savannah on Sandy Soil respectively. However, these specific States were selected merely as representatives of the most vulnerable areas in each ecological zones, thus ensuring that resulting NAPA priorities and implementation activities can be applied in other, equally vulnerable, States and localities within each ecological zone across the country . As confirmed in the recent NAP, the White Nile State is among the most vulnerable regions of Sudan and transects both the semi desert (North), Savannah on Clayey Soils (East), and Savannah on Sandy Soils (West). Furthermore, the NAPA identified water and agriculture as priority sectors and rainfed farmers and pastoralists as the most vulnerable groups, which are also the priorities of this project. Finally, considering that White Nile State is representative of 3 of the 4 ecological zones in the country, lessons learned and good practices on implementation of EbA gained here, would have immediate replication potential in a large part of the country.

The project aims to implement climate change adaptation measures that will protect and enhance the resilience of natural ecosystems and vulnerable human populations in Sudan and in particular the White Nile State. It will also build capacity within Sudan to improve governance and facilitate the upscaling of appropriate measures to increase the resilience of local communities. Consequently, the LDCF project will contribute to the following climate change adaptation objectives and outcomes: CCA-1, Outcome 1.1. Mainstreamed adaptation in broader development frameworks at country level and in targeted vulnerable areas; CCA-1, Outcome 1.2. Reduced vulnerability in development sectors; CCA-1, Outcome 1.3. Diversified and strengthened livelihoods and sources of income for vulnerable people in the target areas.; CCA-2, Outcome 2.1. Increased knowledge and understanding of climate variability and climate induced risks at country level and in targeted vulnerable areas.

### **B.3. The GEF Agency's comparative advantage for implementing this project**

The LDCF project is consistent with UNEP's comparative advantage in structuring investments in climate change adaptation around best practices. UNEP has a proven international track record in providing strong technical and scientific assistance for enhancing adaptive capacity within LDCs. This is in line with UNEP's core business of providing technical advice on ecosystem management. The project builds on UNEP's expertise in ecosystem management and adaptation technology as demonstrated in UNEP's flagship Ecosystem-based Adaptation Programme, which has been commended by the Conference of the Parties to the UNFCCC for its ground-breaking approach to climate change adaptation.

Since completing a major environmental assessment of Sudan in 2007, UNEP has established an active country presence in Sudan. UNEP-Sudan is a programme established under the disaster and conflict department in Geneva as one of six major UNEP regional pillars. UNEP-Sudan has since developed into the Sudan Integrated Environment Programme (SEIP). Through the SEIP, UNEP is working with Sudanese national and state government, local leaders, civil society and the international community to encourage the sustainable development of the country's natural resources – with the ultimate aim of assisting the people of Sudan to achieve peace, recovery and development on an environmentally sustainable basis. Sudan's Ministry of Environment, Forestry and Physical Development is UNEP's government counterpart. The principal UNEP Sudan donor is UKaid from the Department for International Development<sup>1</sup>. UNEP also has a presence in the country implementing various programmes as: environmental governance, climate change, water resources management, environmental mainstreaming, Community Environmental action plan, environment and population, disaster risk reduction, market and trade, these programmes implemented with various governmental and nongovernmental partners. UNEP-Sudan completed its SEIP1 in 2013 and SEIP2 starts in March 2014 for a duration of four years (2014-2018), and

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<sup>1</sup> See web site

:<http://www.unep.org/disastersandconflicts/CountryOperations/Sudan/SudanIntegratedEnvironmentProgramme/tabid/54259/Default.aspx>

with capacity of more than 16 advisers and professional staff, UNEP-Sudan will continue its support for the implementation of NAP's capacity building and consultations in 18 states (White Nile will be part of these activities). SEIP2 will constitute UNEP co-financing for the project as outlined in section A1.2 and table C.

UNEP is well-positioned to execute environmental work through the evidence-based implementation of applied scientific research to inform policies and guide project activities. The focus of the LDCF project to increase rangeland productivity and support community livelihoods is dependent on managing agro ecological systems in a sustainable manner. This technical advisory is UNEP's core business giving it a significant comparative advantage. In particular, UNEP will ensure that scientifically rigorous data and information is generated from the project through a long-term monitoring programme that will provide valuable lessons learned for information sharing and dissemination. UNEP's experience in revising policy will ensure that this information is translated into appropriate policy, strategy and planning documents.

UNEP's Division of Environmental Policy and Implementation is also in the process of developing its strategy on sustainable pastoralism, and creating networks and encouraging innovation in this area, in collaboration with the IUCN coordinated World Initiative on Sustainable Pastoralism (WISP). The LDCF project will draw upon this and lessons from several other developing or ongoing UNEP projects and activities on sustainable pastoralism.


GEF Council paper C.31/15 outlines the comparative advantages of UNEP through: i) providing GEF with the best available science and knowledge upon which to base investments; ii) expertise on environmental and climate change matters; and iii) considerable experience in the piloting of successful innovative approaches and implementation of adaptive learning. The project builds upon this comparative advantage. In addition, GEF Council paper C.28/18 also details UNEP's comparative advantage areas as including "developing and using climate information to effect changes in relevant sectoral policies based on climate science", an area which is addressed by the LDCF project.

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

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

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Dr. Babiker Abdalla Ibrahim	Undersecretary	Ministry of Environment, Forestry and physical Development	17 JUNE 2013

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

<b>This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for project identification and preparation.</b>					
Agency Coordinator, Agency name	Signature	DATE (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Brennan VanDyke, Director, GEF Coordination Office, UNEP		March 25, 2014	Ermira Fida, Head- GEF Adaptation Unit, UNEP	+(254)20 7623113	ermira.fida@unep.org