



GEF REQUEST FOR PROJECT ENDORSEMENT/APPROVAL

PROJECT TYPE: FULL SIZED PROJECT

TYPE OF TRUST FUND: GEF TRUST FUND

PART I: PROJECT INFORMATION

Project Title:	Integrated Development for Increased Rural Climate Resilience in the Niger Basin		
Countries:	Guinea, Ivory Coast, Mali, Burkina Faso, Niger, Benin, Chad, Cameroon, Nigeria	GEF Project ID:	5487
GEF Agencies:	AfDB	GEF Agency Project ID	P-Z1-AAF-006
Other executing partner (s):	Niger Basin Authority (NBA)	Submission date:	
GEF focal area (s):	Multi-focal Areas	Project duration	60 ¹ months
Integrated Approach Pilot	NA		
Name of Parent Program	NA	Agencies fees (\$):	1,081,333

A. FOCAL AREA STRATEGY FRAMEWORK ²

Focal Area Objective	Focal Area Outcomes	Trust Fund	GEF Project Financing(\$)	Co-financing (\$)
IW³-1: Catalyze multi-state cooperation to balance conflicting water uses in transboundary surface and groundwater basins while considering climatic variability and change	<i>Outcome 1.1:</i> Implementation of agreed Strategic Action Programs (SAPs) incorporates transboundary IWRM principles (including environment and groundwater) and policy/legal/institutional reforms into national/local plans <i>Outcome 1.3:</i> Innovative solutions implemented for reduced pollution, improved water use efficiency, sustainable fisheries with rights-based management, IWRM, water supply protection in SIDS, and aquifer and catchment protection	GEFTF	5,860,142	40,000,000
IW-3: Support foundational capacity building, portfolio learning and targeted research needs for joint, ecosystem-based management of transboundary water systems	<i>Outcome 3.2:</i> On-the-ground modest actions implemented in water quality, quantity (including basins draining areas of melting ice), fisheries, and coastal habitat demonstrations for “blue forests” to protect carbon <i>Outcome 3.3:</i> IW portfolio performance enhanced from active learning/KM/ experience sharing	GEFTF	3,547,424	12,000,000
CCM⁴-5: Promote conservation and enhancement of carbon stocks through sustainable	<i>Outcome 5.1:</i> Good management practices in LULUCF adopted both within the forest land and in the wider landscape	GEFTF	1,144,286	5,000,000

¹Increased from 4 to 5 years in order to better align to the IPDACC project and in view of complexities of project implementation in the Niger Basin context

²Based on the GEF5 Focal Area Results Framework and LDCF/SCCF Framework (2010), similar to PIF (2014)

³ International Waters

⁴ CCM = Climate Change Mitigation

management of land use, land-use change, and forestry	<i>Outcome 5.2: Restoration and enhancement of carbon stocks in forests and non-forest lands, including peat land</i>			
LD⁵-2: Forest Landscapes: Generate sustainable flows of forest ecosystem services in drylands, including sustaining livelihoods of forest dependant people	<i>Outcome 2.2: Improved forest management in drylands</i>	GEFTF	811,140	3,000,000
SFM/REDD⁶ - 1⁷: Reduce pressures on forest resources and generate sustainable flows of forest ecosystem services	<i>Outcome 1.1: Enhanced enabling environment within the forest sector and across sectors</i> <i>Outcome 1.2: Good management practices applied in existing forests</i> <i>Outcome 1.3: Good management practices adopted by relevant economic actors</i>	GEFTF	651,808	1,000,000
	Total Project Cost		12,014,800	61,000,000

B. PROJECT DESCRIPTION SUMMARY⁸⁹

Project Development Objective (PDO): Increase water security and climate resilience in the Niger Basin, and enhance the management of natural resources at regional, sub-basin and community levels, by contributing to SAP/SDAP and CRIP¹⁰ implementation and outcomes of the NBA Strategic Plan.

Project Components	Financing Type ¹¹	Project Outcomes	Project Outputs	Trust Fund	GEF Project Financing (in US\$)	Confirmed Co-financing (in US\$)
Component 1 (IW) Building ¹² increased water security and climate resilience ¹³	TA	Project interventions produce sustainable benefits, and increased water security and climate	1.1: Transboundary threats of climate variability and change and potential impacts on SAP/SDAP investments are assessed 1.2: Tools and guidelines for building climate resilience at sub-	GEFTF	1,750,000	6,750,000

⁵ LD = Land degradation

⁶ SFM = Sustainable Forest Management; REDD = reducing emissions from deforestation and forest degradation

⁷ The PIF erroneously linked component 4 of the project to objective 2 of the GEF-5 SFM/REDD+ strategy

⁸ Components 1 – 3 are funded from the IW focal area; component 4 is funded from the CCM, LD and SFM/REDD+ focal areas

⁹ Since PIF there has been no significant change in the concept of the proposed GEF funded activities

¹⁰ CRIP = Climate Resilience Investment Program, adopted by NBA in preparation for COP21 (Paris, December 2015)

¹¹ Financing type can be Investment or Technical Assistance.

¹² The word 'Building' was added to make the name of the component consistent with the names of components 2 and 3

¹³ Resilience is defined as the ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a potentially hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions (Lavell, A., M. Oppenheimer, C. Diop, J. Hess, R. Lempert, J. Li, R. Muir-Wood, and S. Myeong, 2012: Climate change: New dimensions in disaster risk, exposure, vulnerability, and resilience. In: Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation [Field, C.B., V. Barros, T.F. Stocker, D. Qin, D.J. Dokken, K.L. Ebi, M.D. Mastrandrea, K.J. Mach, G.-K. Plattner, S.K. Allen, M. Tignor, and P.M. Midgley (eds.)]. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change (IPCC). Cambridge University Press, Cambridge, UK, and New York, NY, USA, pp. 25-64).

Project Components	Financing Type ¹¹	Project Outcomes	Project Outputs	Trust Fund	GEF Project Financing (in US\$)	Confirmed Co-financing (in US\$)
at regional level		resilience at regional level	<p>basin and community level are developed</p> <p>1.3: Lessons learned and disseminated for enhanced climate resilience of rainfed agriculture on pilot basis in five agro-climatic zones of the Niger Basin</p> <p>1.4: Lessons learned from watershed management interventions up-scaled to integrated watershed management plans for each member country</p>			
Component 2 (IW): Building climate resilience at sub-basin and watershed level in the Niger Basin	Inv	Project interventions produce sustainable benefits, and increased water security and climate resilience at sub-basin, watershed and community level	<p>2.1: Climate resilience of multiple communities in five selected watersheds (one per representative sub-basin) is increased and best practices are demonstrated</p> <p>2.2: Community-based integrated watershed management plans are prepared and implemented for selected watersheds in five representative sub-basins of the NRB; local capacities on land and soil conservation are strengthened</p>	GEFTF	5,450,472	34,700,000
Component 3 (IW): Capacity building at regional, national and community level	TA	Enhanced capacity of regional, national and community level stakeholders to sustainably manage natural resources, accounting for climate change and variability	<p>3.1: Capacities of NBA and the participating national agencies for coordination and implementation of climate resilience interventions are strengthened</p> <p>3.2: Capacities and ownership of communities for enhanced climate resilience at watershed level in selected sub-basins are strengthened</p> <p>3.3: Transboundary learning mechanisms, best practises, communications, and KM are established at community, national and regional levels, and experiences and lessons learned are shared through websites,</p>	GEFTF	1,500,000	6,750,000

Project Components	Financing Type ¹¹	Project Outcomes	Project Outputs	Trust Fund	GEF Project Financing (in US\$)	Confirmed Co-financing (in US\$)
			communication tools, technical forums, workshops, etc.			
Component 4 (STAR): Sustainable land and forest management for climate change mitigation and improved livelihoods in Burkina Faso	Inv	Conservation and enhancement of carbon stocks and other ecosystem services are promoted through sustainable forest management	4.1: Restoration and enhancement of carbon stocks in forests (CCM-5) 4.2: Forests are under good management practices (LD-2) 4.3: Enhanced capacities of local stakeholders and communities for sustainable forest management in the context of REDD+	GEFTF	2,411,269	8,300,000
Subtotal					11,111,741	56,500,000
Project Management Cost (PMC) ¹⁴				below	903,059	4,500,000
Total Project Cost					12,014,800	61,000,000

BREAKDOWN OF THE PROJECT MANAGEMENT COST (PMC) BY TF AND FOCAL AREAS:

GEF Agency	Type of Trust Fund	Focal Area	Grant Amount (\$)
AfDB	GEFTF	IW	707,094
AfDB	GEFTF	CCM	86,007
AfDB	GEFTF	LD	60,967
AfDB	GEFTF	SFM	48,991
Total (US\$)			903,059

C. CONFIRMED SOURCES OF CO- FINANCING FOR THE PROJECT BY NAME AND BY TYPE

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
GEF Agency	African Development Bank	Soft Loan	52,000,000
GEF Agency	African Development Bank-FIP	Soft Loan	9,000,000
Total Co-financing			61,000,000

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

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	GEF Financing (\$) (a)	Agency Fee (\$) (b) ¹⁵	Total (\$) c= a + b
AfDB	GEFTF	International Waters	Benin, Burkina Faso, Cameroon, Chad, Cote d'Ivoire, Guinea, Mali, Niger and Nigeria	9,407,565	846,681	10,254,246
AfDB	GEFTF	CCM	Burkina Faso	1,144,286	102,986	1,247,272

¹⁴ To be calculated as percent of subtotal. Cost of PMC is higher than normal due to the involvement of 9 countries and NBA in the project and its large geographical scope

¹⁵ Indicate fees related to this project

AfDB	GEFTF	LD	Burkina Faso	811,140	73,003	884,143
AfDB	GEFTF	SFM	Burkina Faso	651,808	58,663	710,471
Total Grant Resources				12,014,799	1,081,333	13,096,132

E. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	<i>16,000 hectares</i>
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	<i>100,000 hectares</i>
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	<i>1 Number of freshwater basins</i>
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	<i>Percent of fisheries, by volume</i>
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO ₂ eq. mitigated (includes both direct and indirect)	<i>1,500,000 metric tons</i>
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	<i>metric tons</i>
	Reduction of 1000 tons of Mercury	<i>metric tons</i>
	Phase-out of 303.44 tons of ODP (HCFC)	<i>ODP tons</i>
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	<i>Number of Countries:</i>
	Functional environmental information systems are established to support decision-making in at least 10 countries	<i>Number of Countries:</i>

F. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? No

Footnote Part II¹⁶

¹⁶ For questions A.1 –A.7 in Part II, if there are no changes since PIF and if not specifically requested in the review sheet at PIF stage, then no need to respond, please enter “NA” after the respective question.

PART II: PROJECT JUSTIFICATION

A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN OF THE ORIGINAL PIF

A.1 PROJECT DESCRIPTION

A.1.1: Global environmental problems, root causes and barriers

The Niger River Basin (NRB) is a fragile developing region in West Africa, where water resources are essential for achieving sustainable growth and welfare. The Niger River provides the economic mainstay for the approximately 115 million inhabitants (2016) of the nine riparian countries¹⁷ in its basin. In particular, the Niger River is strategically important for Mali, Niger and Nigeria, which account for 73% of the hydrological active surface area of the Basin. Since time immemorial, the Niger River - as one of the few perennial sources of water in the arid and semi-arid lands of the Sahel region - has supported communities of farmers, cattle grazers and fishermen. The majority (65% to 70%) of the Niger Basin population still relies on rainfed agriculture, pastoralism or other natural-resource based livelihoods, depending directly on the existing water resources and the Niger River. In Niger the river is the country's only reliable source of water, so a large concentration of people and its principal urban areas are concentrated along the river. The pressure on the already scarce water resources is bound to increase since the overall population of the nine riparian countries is projected to double over the next 25 years at an annual growth rate of 2.7%, varying between 2.3% in Ivory Coast and 3.9% in Niger (see Table 1 below). According to the Human Development Index (HDI) of UNDP (2013), seven of the nine basin countries rank among the world's poorest 23, Cameroon and Nigeria scoring only slightly better and Niger scoring the lowest of 187 countries. Gross National Income (GNI) ranged in 2013 from less than 400 USD/cap in Niger to about 2,700 USD/cap in Nigeria. Poverty stands at critical levels in several Niger Basin countries, especially those in the Sahelian and landlocked countries. Vulnerability to drought and poverty is high and most of the population lives without sustained access to basic services such as potable water, health and adequate food. The Basin's rural poor represent a significant population in the riparian countries, according to the World Bank (2007¹⁸) at least 64% in Mali, 40% in Cameroon, 40% in Guinea, 64% in Chad and 63% in Niger. Food security and social well-being in the Basin will thus remain dependent on unpredictable and extreme rainfall patterns, accompanied by community level conflicts over natural resources likely to be further intensified by climate change.

Table 1: Human Development Index (HDI) indicators

Country	Rank	GDP-2012 (billion/yr) ¹⁹		GNI - 2013 per capita		Population (million)		Population Growth (%)	Part country in the hydrological active basin 2005 (%)		2013 Basin population estimate (million)
		2011 PPP\$	USD	2011 PPP\$	USD	2013	2030		Area	Population	
Niger	187	15.2	6.6	873	379	17.8	34.5	3.9	7	63	11.3
Chad	184	24.9	12.9	1,622	840	12.8	20.9	3.0	2	8	1.0
Burkina Faso	181	25.1	10.7	1,602	683	16.9	26.6	2.8	33	13	2.2
Guinea	179	13.9	5.7	1,142	468	11.7	17.3	2.5	41	22	2.5
Mali	176	23.9	11	1,499	690	15.3	26	3.0	27	75	11.5
Ivory Coast	171	54.5	27.1	2,774	1,379	20.3	29.2	2.3	7	2	0.5
Benin	165	17	7.5	1,726	761	10.3	15.5	2.7	41	13	1.4
Nigeria	152	918.4	463	5,353	2,699	174	273	2.8	62	40	68.6
Cameroon	152	55.4	26.5	2,557	1,223	22.3	33.1	2.5	18	33	7.4
Total		1,148	571			301	476	2.7%			106

¹⁷ Benin, Burkina Faso, Cameroon, Chad, Guinea, Ivory Coast, Mali, Niger and Nigeria

¹⁸ World Bank, 2007: Project Appraisal document for the Niger Basin Water Resources Development and Sustainable Ecosystems Management Program (WRD-SEMP APL1)

¹⁹ PPP = Purchasing Power Parity; source for PPP\$ is UNDP-HDI (2012); GDP in USD sourced from the internet

More than 50% of the population is under the age of 15. About 60% of the population of the basin does not have access to potable drinking water and 75% of that fraction relies on groundwater. The Basin's population is highly impacted by extreme climate and rainfall variability, both of which may be exacerbated by climate change. The vulnerability of people in the Basin is further exacerbated by political instability (including the recent conflict in Mali), and sub-regional security threats remain. Economic growth, regional integration, reducing conflicts over water resources and improving access to remote areas could help to stabilize the region. As such, the Niger Basin has tremendous potential for infrastructure development, including i) hydropower (the presently installed capacity is about 2,100 MW – mostly in Nigeria - with an estimated potential of 30,000 GWh/year and a current exploitation of about 7,000 GWh/year); ii) a five-fold expansion of irrigation (to 1.25 million ha in the rainy season and 0.6 million ha in the dry season); iii) navigation; iv) fish farming (estimated at 7.5 tons per km of watercourse per year), and v) the potential to create 1.7 million jobs. However, this potential remains significantly under-tapped, which limits economic growth and the improvement of livelihoods in the Basin. This has contributed to chronic poverty in the region, including food-insecurity, malnutrition, social and economic impacts of HIV/AIDS and women's limited access to or control of productive resources despite gender equality legislation in many of the riparian countries.

The Niger River Basin (NRB) has a history of marked climate variability with significant socio-economic and environmental impacts. This is confirmed by historical flow records for the period 1900-2000 and other historical information on the Basin's climate. As recently as 500 years ago the climate of the arid and semi-arid parts of the basin was markedly different from what it is today. Although the evidence for such climatic shift is indirect, it is very persuasive. Scholars note that the major Sahelian empires as well as centers of military, economic and political power, such as Timbuktu and Gao, would never have risen to the prominence they did under current climatic conditions. It is unknown how often such major climatic shifts occur. Oral historical accounts predating instrumental measurements make frequent reference to occurrences of clusters of dry or wet years. Other evidence also supports the occurrence of such multi-year and even multi-decadal droughts, including multiple instances when Lake Chad dried up completely. Such context suggests that the period with droughts between 1970 to about 2000 may not be unusual, albeit of infrequent occurrence in the Niger Basin and West Africa.

Tarhule et al²⁰ (2013) have shown that an abrupt change occurred in the rainfall and streamflow records for all parts of the Niger basin during the late 1960s. Comparison of the pre-and post-change point means shows that the average annual precipitation after the abrupt change point is about 15% lower than the pre-change point in the Upper and Middle Niger Basins, and about 10% lower in the Lower Niger and Benue Basins. The commensurate differences in streamflow are about 2.0 to 2.5 times greater, i.e. 35% in the Upper and Middle Niger and 20% to 25% in the Benue Basin. In the Lower Niger, including the Benue Basin, rainfall has recovered to within about 5% of pre-1970 levels, to an extent ending the period of below average rainfall conditions that have persisted during the 1970s and 1980s. In contrast, annual rainfall is still well below the pre-1970 values in the Upper Niger Basin. This regional disparity is significant since the Upper Niger Basin is a major water source region (called "water tower") for the Niger River. The hydroclimatic variability observed since the late 1960s represents the conditions to which the Niger Basin must adapt. The impacts of climate change may add to and exacerbate this historical pattern. Therefore, learning lessons from managing the present impacts of intra-seasonal and inter-annual variability of the Basin's climate has the potential to better prepare water managers for dealing with long-term climate change impacts. Due to such adaptive learning, impacts of the more severe droughts of the 1980s were actually less devastating than the impacts of the less severe droughts of the 1970s.

In terms of biodiversity, the basin is home to a highly diversified fauna with about 36 fish families and more than 50,000 birds representing 56 species. Mammals such as the elephant, buffalo, western Buffon's kob, defassa waterbuck, bohor reedbuck, *Damaliscus* antelope, giraffe, hippopotamus, sable antelope, lion, cheetah and a wide range of monkeys have been recorded in Transboundary Reserves. The Niger Inner Delta in Mali is of

²⁰ Tarhule A., J. T. Zume and J.G. Grijzen, 2013: Exploring temporal hydroclimatic variability in the Niger Basin (1901-2006) using observed and reanalysis data, International Journal of Climatology.

considerable economic and ecological importance and is inhabited by about one million people. This number rises during drought periods as people take refuge in the Delta region. About 2 million cattle, and about as many sheep and goats, also frequent the delta annually. Annual fisheries production may exceed 100,000 tons during wet years.

Particularly since the onset of the droughts in the early 1970s, the Niger Basin has been under threat from desertification and unsustainable natural resource exploitation practices with alarming consequences. The transboundary diagnostic analysis (TDA), carried out under the previous Niger GEF project (2005 - 2011²¹) revealed that most of the environmental problems derive from: (i) land degradation (vegetal coverage and soils); (ii) water resource degradation (water shortage and pollution); (iii) loss of biodiversity (flora, fauna and biotope); and (iv) degradation of the living environment (pauperization of the populations, invading aquatic vegetal species, climate variability). The TDA led to the development and adoption of a Strategic Action Program (SAP) for the Niger Basin in 2010, which was integrated in 2012 with the Sustainable Development Action Plan (SDAP) for the Basin.

Barriers

Barrier #1: Limited knowledge and low institutional capacity: Water resources of transboundary river basins in this part of Africa are generally insufficiently known and increasingly threatened by rising demands for water, adverse effects of climate and hydrological variability and change and degradation of water quality due to pollution from various sources. The insufficiency of reliable information on past and present hydro-meteorological conditions and future climate changes makes it difficult for the governments, NBA and water managers to assess suitable adaptation options and to develop guidelines and standards for planning and water management purposes.

There are many legal instruments for water and environment management, but these are still insufficiently enforced at the national level (e.g. the Water Charter, UN Resolution 63/124, etc.). Moreover, the institutional frameworks, especially the National Focal Structures (NFS) of the NBA, are facing problems of limited technical capacity to manage their on-going or planned initiatives. For the NBA, the Environmental Observatory remains an essential tool for ecological and socio-economic monitoring. However, the level of monitoring (including availability of equipment) is still too limited to support decision making in basin management. Civil society remains weakly involved in the management of the basin and community initiatives.

Barrier #2: Insufficiency of sustainable financing mechanisms: The overall cost of SAP implementation in the basin is estimated at 1,600 million USD and implementation of the full (pre-2012 version of) SDAP at 8,000 million USD. The required financing of short-term SAP activities (2013-2017) is estimated at about 500 million USD, i.e. 35% of the total required funding. Mobilization of funding remains a challenge for SAP implementation, given the low levels of development of the basin countries and the poverty of the communities that depend on natural resources of the river.

Barrier #3: Poor transboundary natural resources management as impediment to development: Major environmental challenges faced by the Niger Basin are related to the degradation of natural resources in its catchment areas. Natural resources are the basis for rainfed agricultural production, on which a large part of the Basin population still depends for livelihood. Poverty and unsustainable practices of exploitation and management of natural resources are perpetuating, including poor agricultural practices such as overgrazing, bush fires, extensive agricultural production practices, clearing for firewood or construction, misuse of pesticides, etc. These practices are the main cause of the wide spread land, water and ecosystem degradation observed in the Basin, which in turn cause again higher levels of poverty and more pressure on the natural resources of the watersheds, thereby resulting in increased conflicts about the use of natural resources. The fragile natural eco-systems of the Basin are subject to intense wind and hydrologic erosion, siltation and

²¹ GEF grant for the project 'Reversing Land and Water degradation trends in the Niger River Basin (2005 – 2011)'

desertification. These processes threaten natural habitats and fauna, arable lands and pastures, as well as civil works such as bridges, roads, hydro-agricultural developments, etc., and may also have an impact on the hydrological cycle. The situation is further complicated by the region's vulnerability to climate variability, which has exacerbated these degradation phenomena due to the decrease in rainfall since the late 1960s. Priorities and issues differ depending on the sub-region, e.g. in the Sahel-Sahara zone of the basin, siltation combined with the reduction of runoff has several negative impacts, including (i) the decline of groundwater levels and available water resources, (ii) a considerable reduction of traditionally flooded areas as well as a loss of arable land or water for pasture, (iii) a greater competition for - and pressure on - the available resources required to satisfy the needs of the rural population such as fishing, agriculture, wood (forestry) and livestock farming, which in turn leads to numerous conflicts, (iv) a considerable reduction in navigation (siltation of the major river bed, extension of sand islets and sand benches), and (v) a gradual siltation of watering points, reservoirs, irrigation systems and other civil works. Thus, halting and reversing land degradation across the basin is a critical step towards improving the livelihoods of the population in the basin. Natural resources management investments and priorities as identified in the SAP are needed to support a sustainable development of the Basin. Implementation of a livelihood-based watershed management approach is a major priority in order to address environmental degradation and poverty.

The updated SDAP/SAP (2012) along with the Water Charter agreed by the member countries of NBA form the framework for transboundary natural resources management in the Niger Basin. At national levels numerous factors constrain progress, including centralized water resources management (WRM) systems and a multiplicity of actors, inadequate numbers of qualified personnel; inadequate environmental legislation, policy and regulatory frameworks; unavailability of basic environmental management information; low public awareness on environmental issues; and limited consultation with local communities, civil society organizations, private sector and the public. Given their transboundary nature with cross-cutting interests and impacts (e.g. impacts of increased water storage and irrigation upstream in the Basin on hydropower generation further downstream in the Basin), there is a critical need to ensure availability of adequate water in terms of quantity and quality for the achievement of all interventions proposed in SDAP/SAP. This requires a strong Integrated Water Resources Management approach in the Basin to ensure that water and other resources are equally shared and wisely used for the well-being of all peoples in the basin.

Barrier # 4: The need to address climate change impacts in SAP interventions: NBA stakeholders have identified climate change as one of the priority environmental problems to be addressed by the SAP. While the presently available ensemble of climate projections does on average not project a significant change in long-term average annual precipitation across the Niger Basin, some of the individual climate models project significant reductions in precipitation, while others project significant increases. It is also true that the presently available GCMs do not perform well for West and Central Africa and the hydro-meteorological variability of the Basin region may well increase in the future, including increased variability of the duration of the rainy season. Assessments in the TDA/SAP indicate that climate change will increase the vulnerability of ecosystems in the Niger Basin, due to temperature increases, changes in precipitation patterns, more frequent severe weather events and prolonged droughts. Due to the aridity prevailing over a large part of the basin, the availability of water and its distribution in time and space play a major role in the potential future changes to ecosystems and to the development of the basin. It is in response to this climate variability and the risk of regular droughts that the SDAP focused on the construction of large dams and reservoirs such as Fomi (Guinea), Taoussa (Mali) and Kandadji (Niger), in order to expand irrigated agriculture and hydropower generation, and to maintain minimum environmental river flows during the dry season throughout the Inner Delta and the Middle and Lower Niger. Sustainability of these infrastructures does not only require coordinated water and reservoir management between riparian countries, but also transboundary cooperation on erosion control in upstream catchments to avoid large sediment depositions in the reservoirs.

Despite these investments in large infrastructure, still about 70% of the Basin population will live in rural areas where food security and social well-being are directly dependent on local rainfall (rainfed agriculture) and existing small scale water infrastructure. This population is highly vulnerable to the present climate and hydrological variability, which may be exacerbated by the effects of climate change. Therefore, there is a need to invest locally at the community level to mobilize water for agriculture and livestock development (as proposed to be funded from GEF-IW resources under component 2) in order to increase the resilience of these vulnerable groups to the potential adverse effect of climate change. Similarly, deforestation and forest degradation are caused by agricultural expansion, overgrazing, bush fires, increasing droughts, and over-exploitation of forest resources. Thus, there is also a need to invest locally at the community level in reforestation (as proposed to be funded from GEF-STAR resources under component 4 for Burkina Faso). These proposed investments will increase the resilience of rural populations to the present climate variability. The SAP seeks to reduce the vulnerability of the rural population to the impacts of climatic variability and change with prioritized actions under LTEQO 8.

A.1.2: The Baseline projects

The previous and ongoing projects funded by the Niger Basin Authority's (NBA) Financial and Technical Partners (FTP) are summarized in Annex F, which includes an extensive list of potentially relevant national GEF-funded projects. The most important baseline projects are discussed below.

The AfDB IPDACC Baseline Project: The proposed GEF activities build primarily on the AfDB baseline project "Integrated Program for Development and Adaptation to Climate Change in the Niger Basin" (IPDACC). The IPDACC Project Appraisal Document is still under preparation²². A Project Summary Report prepared in April 2016 provides a revised and more detailed project design than available at PIF preparation. The revised IPDACC project design gives a sharper focus on strengthening the climate resilience of the Basin's natural resources and ecosystems on the one hand, and strengthening the resilience of its population on the other hand. This was achieved through a reallocation of previously planned activities between the project's two main components. Note however that there have been no significant changes in principle concepts and activities, but merely a logical restructuring. It is noted that all identified IPDACC activities are integrated in NBA's Investment Plan for the Strengthening of Resilience to Climate Change in the Niger Basin, completed in November 2015 for submission to the COP21 in Paris (December 2015). The Plan is known as the Climate Resilience Investment Plan (CRIP). IPDACC will represent the first implemented program under the CRIP.

On June 1st, 2016, a meeting was held in Abuja, Nigeria, between representatives of NBA, its member countries and Technical and Financial Partners, with the objective to mobilize the required funding for the IPDACC. During this meeting 78% of the required funding was assured, including 125.0 million USD from AfDB, 12.0 million USD from GEF (as per the present CEO Endorsement Request), 37.74 million USD from KfW, 27.0 million USD from member countries (10% of project cost) and 13.5 million USD from (non-specified) beneficiaries (5% of project cost), to total 215.24 million USD. Funding of the remaining program needs by other donors is being pursued.

The rationale of the IPDACC project stems from: i) the need to promote sustainable socio-economic development for the rural population in the Niger Basin, ii) the need to protect wetlands, ecosystems and large water and irrigation infrastructure, and iii) the importance of consolidating the significant gains of previous investments under the Sustainable Development Action Plan (SDAP), including the AfDB funded PLCE²³ Silt Control and World Bank funded Niger Basin WRDSEM²⁴ Projects. The sector goal of IPDACC is to contribute to poverty reduction and improved livelihoods for men and women and provide global environmental benefits through the sustainable and climate resilient management of natural resources. The project will contribute to

²²The IPDACC feasibility studies will be completed by July 2016 and the IPDACC appraisal mission is scheduled for February 2017; approval by the Board of the AfDB is planned for July 2017

²³ Programme de Lutte Contre l'Ensamblent

²⁴ Water Resources Development and Sustainable Ecosystems Management Program

broad-based poverty alleviation and improvement of livelihoods by supporting sustainable management of the shared natural resources of the Niger Basin, which many communities depend upon. In this context, the specific objective of IPDACC is to “Contribute to an improvement of the climate resilience of the population and ecosystems of the Niger basin through sustainable management of the Basin’s natural resources”. Specifically, the Project aims at: i) reducing siltation issues in the Niger River basin, ii) improving the capacity of the Basin’s population to adapt to climate change, iii) improving the integrated management of ecosystems and natural resources, the protection of biodiversity and the restoration of soil fertility in the Niger Basin, and through these interventions iv) contribute to the enhanced regional integration of the nine member countries of the Niger Basin Authority (NBA).

The project is expected to contribute to food security, employment (including for youth and women), poverty alleviation in all NBA member countries, and the climate resilience of the Basin’s population and natural systems. Support to agriculture will target in particular the development of agro-forestry to protect watersheds and to improve agricultural performance. Agricultural production (rainfed and irrigated) from these activities will contribute to increased income of the population. Support for the livestock sector will be materialized through the integration of corridors and routes of transhumance between countries and their management in order to reduce conflicts and fight land degradation and loss of animal feed resources in used rangeland. These activities will contribute to increased income of pastoralists. The support to fisheries activities will be done by: i) restoring the fisheries potential through the development of spawning areas and flood plains; (ii) promotion of fish farming in multi-purpose infrastructures, such as reservoirs; (iii) construction and rehabilitation of infrastructure to support fish production (installations of fry production, landing wharfs); and (iv) the creation, strengthening and sensitivity of fishermen’s associations. These activities will contribute to increased incomes of fishermen.

The project will not engage in the creation of large infrastructure, but support socio-economic development in the Basin through other interventions. It is organized under three components: 1) Strengthening of the resilience of the Basin’s natural resources and ecosystems; 2) Strengthening of the resilience of the population and ecosystems; and 3) Program Coordination and Management. Gender issues and protection of the environment are cross-cutting and addressed under all three components.

Component 1²⁵ - Strengthening of the resilience of the Basin’s natural resources and ecosystems will be implemented “on-the-ground” under sub-component 1.1 by combating wind and water erosion and regenerating vegetation cover in the Basin.

Sub-component 1.1: Protection of natural resources and ecosystems

- i) protecting hydraulic infrastructure, the treatment of Koris, dune fixation, bank protection and watershed management (including: 17,000 ha stabilization of dunes, restoration of 121,500 ha of degraded lands, 72,000 m³ of mechanical and biological treatment works);
- ii) sustainable forest management and the protection of biodiversity and wetlands through forestry and agro-sylvo-forestry interventions and support to the sustainable management of Ramsar sites (including 26,750 ha improved agro-forestry; 94,400 ha forests improved in a participatory manner; 24,000 ha reserves of fauna and flora developed; 36 watersheds developed under participatory management; 24,000 ha of natural habitats improved and protected; 17,000 ha spawning areas and flood plains rehabilitated; 15 sustainable management plans for mining activities developed; and
- iii) Interventions (as yet unspecified) to reduce water pollution.

Sub-component 1.2: Strengthening of the shared management of natural resources

²⁵ Note that compared to the PIF stage, the titles of components 1 and 2 have changed and proposed interventions have been redistributed between these two components, to achieve a stronger focus on climate resilience of natural resources and ecosystems under component 1 and of the population under component 2. However, there have been no significant changes in the fundamental concepts and the totality of the proposed activities.

Sub-component 1.2 aims to reinforce the shared management of natural resources through the strengthening of adaptation capacities and interventions at community level by developing and disseminating guidelines and tools for good climate adaptation practices, the dissemination and practical application of agro-climatic information, and the introduction of local warning systems for floods and droughts. Moreover, this sub-component aims to develop plans for IWRM at sub-basin level or watershed level, implement a capacity building program for 320 cadres of water user associations and 50 representatives of professional organizations, as well as develop and pilot a community mechanism for the Payment of Environmental Services (PES) for the sustainable financing and maintenance of the infrastructure constructed under the Project for the protection of the Niger Basin's natural resources.

Component 2 - Strengthening the resilience of the Basin's population will support at national level under sub-component 2.1 the rehabilitation and/or construction of multi-purpose infrastructure for agriculture and irrigation, livestock, fisheries and navigation, and will also support under sub-component 2.2 complementary institutional and social protection measures.

Sub-component 2.1: Development of multi-purpose infrastructure

- *Hydro-agricultural infrastructure*: Small scale multi-purpose infrastructure may include e.g. i) 198 small dams and impoundment reservoirs for the mobilization of about 400 million m³ of water, ii) infrastructure (89) for controlled flooding of low lands and flood irrigation, iii) the construction of ponds for water supply and aquaculture, iv) the development of marsh lands for dry season cropping, v) the rehabilitation of small scale irrigation schemes (22,500 ha);
- *Livestock infrastructure*: rehabilitation of livestock stations, management of agro-sylvo-pastoral areas, and the creation of corridors (1,425 km) for the annual movements of cattle and people, in order to restore and create pastoral areas, promote grass growing and improve the management of transboundary movements of men and cattle.
- *Navigation infrastructure*: rehabilitation of navigation water ways (400 km) and small ports (71), including *inter alia* a navigation study to assess the basin's navigation potential and the management water hyacinth
- *Fisheries infrastructure*: floating cages (30), aquaculture centres (9), fishery stations and other investments for increasing fisheries in the large water bodies present in the Niger Basin (reservoirs, lakes, Inner Delta, etc.).

Country	# of small dams	Storage volume (in million m ³)
Cameroon	4	15
Ivory Coast	4	16
Guinea	15	16
Mali	139	90
Niger	6	6
Nigeria	8	40
Chad	2	4
Burkina Faso	13	194
Benin	7	15
Total	198	396

Table 2: Small dams to be created under IPDACC

The 198 multi-purpose mini dams with reservoirs to be built under IPDACC are of modest dimensions. Together they will mobilize 396 million m³ of surface water, and allow the creation and/or rehabilitation of 22,500 hectares of irrigated areas. The distribution in terms of the number of dams and the volume of water retained across the countries is shown in Table 2. Given their small size and wide distribution across the region, the negative (cumulative) environmental impact is not significant. Moreover, upstream of the reservoirs erosion control measures will be taken to avoid siltation of the reservoirs.

Sub-component 2.2: Complementary institutional measures and social protection

Management Committees will be formed and trained for the maintenance and operation of the new infrastructure (300 committees, including at least 30% female members), for the organization of fishermen (50), and for the fight against invasive species (particularly the water hyacinth); 200 sub-projects will exploit the economic potential of new infrastructure. Regarding social protection, the program will establish: (i) 18

community plans and 27 community infrastructures for adaptation to climate changes; (ii) access of 9,000 women and 3,000 young people to developed land; (iii) 100 sub-projects for employment of 100 youth including 30 women; and (iv) rehabilitation/construction of 90 km of protective dikes against flooding. Regarding capacity building, the achievements are: (i) one million producers affected by the extension of campaigns, among them 30,000 producers are affected by the use of climate information; (ii) 200 community associations and agents will be trained in REDD+; and (iii) operationalization of programs for the dissemination of agro-climatic information. Finally, this component will implement capacity building activities regarding: (a) community based technical services in member states for the implementation of IWRM, sustainable land management and coping techniques for resilience and adaptation to climate changes; (b) strengthening the organizational and technical capacities of natural resource users for the management and maintenance of water works, the implementation of IWRM, sustainable land management, adaptation and resilience to change climate; and (c) strengthening capacity in collection, centralization and sharing of information and the establishment and operationalization of a monitoring network of sediment transport and water quality .

Component 3: Program Coordination and Management aims to ensure effective and efficient management of the program at regional level by the NBA and in each country for their respective national component, in order to achieve the expected outcomes of the program. It includes the setting-up of regional and national coordination units of the program, technical and financial management, supervision activities, M&E and annual audits.

The Forest Investment Program (FIP) in Burkina Faso is the *baseline project* for component 4 proposed under Section A.1.3, and was established under the Strategic Climate Fund (SCF). It is one of the targeted programs under the Climate Investment Programs supporting measures and mobilizing investments to facilitate REDD and to promote sustainable forest management. Its goal is to reduce emissions, to foster carbon sequestration, and to bring substantial environmental and social co-benefits to the rural populations. The program is implemented through the WB and the AfDB. Consultations identified four main areas of intervention as strategic pillars of a national REDD+, aiming at addressing the drivers of deforestation/forest degradation, including *inter alia* direct drivers such as agriculture expansion, bush fire mismanagement, overgrazing, overconsumption of firewood and mining, but also indirect drivers such as the inefficiency of sectoral policies: land tenure insecurity, weakness of land use planning, insufficient capacity to implement/control and enforce policies and regulations, among others. These main areas of intervention are i) land use planning (targeting indirect drivers), ii) security of land tenure (targeting indirect drivers), iii) management of agro-sylvo-pastoral systems (targeting direct drivers), and iv) knowledge sharing and capacity-building (targeting indirect drivers). The FIP objectives are defined as: i) Improve forest policy governance, specifically the Legal/regulatory framework; ii) Limit net deforestation and degradation (a) in State/ Regional Forests and (b) in other forest-covered lands (community forests, fallow, private lands); and iii) Build capacities and improve the knowledge sharing (within and outside the Forest Sector) in order to promote similar investments within the country and worldwide. By investing in selected villages and ensuring that a more sustainable development path is followed, the FIP will demonstrate how sound investments following the REDD+ strategic pillars can conciliate a better natural resource management (with increased carbon stock), poverty reduction and economic development. The expected outcomes of FIP are:

Component 1 - Decentralized Forest and Woodland Management, financed through the WB:

- (i) Creation of necessary REDD+ implementation arrangements and development of a national REDD+ strategy;
- (ii) Reduction of key deforestation drivers within and outside the forest sector, with an impact on poverty reduction, by supporting a decentralized management system of natural resources in selected areas; those activities will include, *inter alia*, improving forest and land use management, implementing reforestation/agro-forestry activities, and promoting community forests.
- (iii) An increased participation of local stakeholders, including private sector, in the identification and the implementation of priority forest-related actions and in the valorization of forest products and services;

- (iv) The establishment of best practices in managing forests/woodlands to be replicated in other ecosystems;
- (v) The improvement of knowledge sharing in managing forests and woodlands and the products and services deriving from them.
- (vi) The reinforcement of technical and institutional capacities of SMFEs and local association networks and improved capacities knowledge management concerning the implementation of REDD+ at all levels.

The cost of component 1 is USD 26.3 million financed by the FIP and the Government, and project implementation started in *January 2014*.

Component 2 - Gazetted Forests Participatory Management Project for REDD+ (PGFC/REDD+), financed through the AfDB: The sector objective of the PGFC/REDD+ is to contribute to increasing gazetted forest carbon sequestration capacity and reducing poverty in rural areas. The main expected outcomes of the PGFC/REDD+ are: (i) the development of the Measurement, Reporting and Verification (MRV) system for REDD+ (with replication potential), (ii) the improvement of forest governance for REDD+, (iii) the securitization and management of 284,000 ha of gazetted forests, and (iv) the establishment of socio-economic support infrastructure for neighboring municipal councils. The cost of component 2 is USD 12.7 million financed by the FIP and the Government, and project implementation started in September 2014.

GEF funded projects that form part of the baseline scenario: The GEF funded project ‘Reversing Land and Water degradation trends in the Niger River Basin’, implemented through the World Bank and UNDP (2005 – 2012), has addressed transboundary environmental issues in the Niger Basin through an in-depth Transboundary Diagnostic Analysis (TDA). It established a sustainable development framework for the Basin and developed a Strategic Action Program (SAP) as a signature GEF product. The SAP was the final outcome of a regional consultation process involving the grassroots communities living in the national portions of the basin, the member countries and NBA’s Technical and Financial Partners. Its formulation was based on a participative and extended environmental diagnosis and registered the contributions of researchers, academics and members of many NGOs working in the region. This allowed the definition of the SAP Vision and the Long-Term Environmental Quality Objectives (LTEQO), as well as the elaboration of implementation activities required to effectively achieve the SAP vision. The scope of the proposed project draws substantially from the priorities and LTEQs identified in the SAP. The project also funded pilot programs that involved grass root communities and gave them the opportunity to develop multiple actions, through pilot demonstration projects and Small Grants funded projects, embedding the principles of bottom-up planning and communities driving the actions. The Small Grants program promoted a participatory integrated management of transboundary resources of the basin, fostering a positive dynamic of basic endogenous development. The financing and implementation of Small Grants projects relied on actions reconciling the local economic development needs of the users with those of environmental protection. A significant number of Small Grants projects were reportedly sustainable in terms of socio-economic and institutional impact. Components 1 to 3 of the GEF project aim to implement priority actions defined in the SAP of the Niger Basin (approved in Nov. 2010 by the NBA-COM).

The implementation of the proposed GEF project will be closely coordinated with the regional GEF funded project “Improving IWRM Knowledge based Management and Governance of the Niger Basin and the Iullemeden-Taoudeni/Tanezrouft Aquifer System (ITTAS)” in Burkina Faso, Benin, Cote d’Ivoire, Cameroon, Guinea, Mali, Mauritania, Niger, Nigeria and Chad (GEF grant: \$13.425 million), implemented by UNDP/UNEP (see under Section A.6). This baseline project will contribute to the financing of key elements related to ecosystem management and capacity building of the Niger Basin SDAP. It aims to improve knowledge-based management, governance and resources conservation of the Niger Basin and the ITTAS Aquifer System, to support IWRM for the benefit of communities and the resilience of ecosystems. The project is a follow-up to the GEF project “Managing Hydro-geological Risk in the Iullemeden Aquifer System” and will consolidate the efforts of the Niger Basin Authority and the countries in promoting conjunctive management of ground and surface waters, and promoting shared responsibilities with local communities and civil society in conserving and

managing water resources and ecosystem degradation of the Niger Basin. The project recognizes the threats of climate change and takes account of the important role of groundwater for drought management.

There are presently no other GEF-funded operations under preparation or implementation for the International Waters Focal Area in the Niger Basin countries. However, multiple national and regional potentially relevant projects are under implementation or preparation for other GEF Focal Areas such as Climate Change and Land Degradation, which have been listed in Annex F.

Alignment with SDAP, the Shared Vision for the Niger Basin and the Niger Basin's CRIP: The project will also contribute to the implementation of the Sustainable Development Action Plan (SDAP) and its Investment Program (IP) for the Niger Basin (updated in 2012), under the component "Protection of the resources and ecosystems", and to various strategic outcomes of NBA's Strategic Plan for 2013-2022. Clear priorities will be established for the interventions to be carried out in order to focus on priority problems identified in the TDA, SAP/SDAP and the Siltation Control Master Plan developed under the PLCE project. The project contributes to the Shared Vision for the Niger Basin, and is consistent with the Paris Declaration (April 2004), which lays down the "Principles of Management and Good governance for a sustainable and shared development of the Niger basin". The environmental principles of this strategy concern: i) the water resource sharing with sustainable development objectives, ii) the reasonable and equitable sharing of the water resources among the member States, iii) prior consultation of the States through the Executive Secretariat of the NBA for activities that have significant impact on the Basin's water regime, and iv) immediate mutual information by member States of any situation liable to have an impact on the riparian countries. This Declaration puts Integrated Water Resource Management (IWRM) at the centre of the development process. Finally, the identified IPDACC and related GEF activities are aligned and integrated with NBA's Climate Resilience Investment Plan (CRIP), submitted to the COP21 conference in Paris (December 2015). The CRIP includes 246 actions divided in 2 packages: (1) the Knowledge Package and (2) the Sectoral Investment Package (see Table 3).

Table 3: Knowledge and sectoral Investment Packages of NBA's Climate Resilience Investment Plan (CRIP)

Types of measures contributing to climate resilience building	# actions
Package of "Knowledge and Institutions"	54
1 – Measures to enhance knowledge and strengthen response to climate risks; generation of climatic and hydrological information. Weather-forecasting and decision-making tools	26
2 – Measures to assess vulnerability and enhance communication and awareness-raising	9
3 – Measures to integrate climate change adaptation into the capabilities, bodies and management instruments of the national and regional institutions of the Basin	19
Package of sectorial measures contributing to enhancing the resilience of the population and ecosystems of the basin to the impacts of climate change identified in the Niger River Basin	192
4 - Measures targeting vulnerability to water stress	77
5 – Measures targeting vulnerability to flooding	7
6 – Measures targeting vulnerability to soil degradation	30
7 - Measures targeting vulnerability to degradation of the grazing land	8
8 - Measures targeting vulnerability to degradation of the ecosystems	47
9 - Measures targeting vulnerability to deterioration of the water quality	5
10 - Measures targeting vulnerability linked to the rising sea-level	1
11 – Measures strengthening resilience (e.g. generation of jobs, revenues, etc.	17

The chosen CRIP actions were selected from NBA's Operational Plan, member countries' National Adaptation Programs of Action (NAPAs) and National Adaptation Plans (NAPs). The project activities proposed under the IPDACC project and the GEF funded interventions respond to many of the measures proposed under the CRIP.

A.1.3: Brief description of proposed alternative scenario, outcomes and components (The GEF project)

Since PIF approval in April 2014, there have been no major changes in the main concepts and envisaged outcomes of the proposed GEF Project “Integrated Development for increased rural climate resilience in the Niger Basin”. The objectives and issues that the proposed GEF project seeks to address remain unchanged from the PIF. The GEF funds will thus predominantly support and supplement the implementation of the IPDACC project, to an amount of 9.6 million USD (IW funding) for activities in all nine member states of NBA and 2.4 million USD (SFM, CCM et LD funding) to complement the Forest Investment Program (FIP) in Burkina Faso. The selection of project interventions and their locations has been guided by information provided in the previously prepared SAP and TDA for the Niger Basin. The regional TDA considered any form of human damage to the natural state of an environment concerning more than one country as a transboundary environmental problem. Transboundary environmental problems were put into the following major groups composed of more sectoral problems: i) land degradation (degradation of plant cover and degradation of soils), ii) water resources degradation (decrease in availability and quality of water/water pollution), iii) the loss of biological diversity (flora, fauna and wetlands) and iv) invasive aquatic plant species. The highest priority was assigned to land degradation at the basin scale as a cross-border environmental problem. Medium-priority transboundary environmental problems were defined as the degradation of water resources through the decline in the quality and availability of the hydrological regime, and the loss of biological diversity in land-dwelling plant life and wildlife. Climate variability and change was also identified as an important cross-cutting environmental problem. Important site-specific issues identified in the TDA were as follows:

- The loss of biological diversity: (1) wetlands of the Niger Inner Delta, the Middle Niger and the Maritime Delta, (2) protected areas of the Niger W, Chad and in North Cameroon;
- Deforestation of the mountain forest ecosystems in Upper Guinea, the Sikasso region and Bani basin in Mali, the Adamawa region in Cameroon and the North Benin;
- Silting of the river in the Niger Inner Delta in Mali, the Niger belt, the Middle Niger up to Kainji in Nigeria, and the Chad portion of the Benue basin.

The project is thus designed to promote sustainable solutions to climate change related problems and impacts identified in the TDA/SAP; it also aims to contribute to SDAP implementation and provide key lessons for up-scaling of the envisaged interventions to basin scale under SDAP and IPDACC. GEF funding will support foundational activities such as the assessment of transboundary threats of climate variability and change, the basin-wide impact of (potential) climate change and variability on rainfed agriculture (the main livelihood of around 70% of the Basin’s labor force), and pilot demonstration interventions contributing to improving the climate resilience of vulnerable communities at watershed scale. GEF resources will as such contribute to efforts of the NBA and its member countries in achieving water security under increasing climate uncertainty.

During the months of April - June 2016, project interventions earmarked for GEF funding have been detailed in close consultation with NBA and its Focal Points, the concerned national Technical Departments and other stakeholders in the nine member countries of NBA, including beneficiaries and women organizations/groups (detailed in Annex E; see also Section A.3 on Stakeholders). The proposed GEF project and sub-project components are briefly described in the following, consisting of four main components: 1) Building increased water security and climate resilience at regional level (IW), 2) Building climate resilience at sub-basin and watershed level (IW), 3) Capacity building at regional, national and community level (IW), and 4) Sustainable land and forest management for climate change mitigation and improved livelihoods in Burkina Faso (STAR). The project design is based on the general principle that analytical work (component 1) is conducted at the regional level, while implementation occurs at the sub-basin level, which in turn will feed the analytical work. Capacity building under component 3 is primarily promoted, guided and supported through Technical Assistance (TA) from the regional level, and is therefore defined as a separate regional component. Component 2 will be implemented in selected watersheds in five representative (and preferably transboundary) sub-basins of the NRB, which were selected based upon the prevailing representative physical and socio-economic conditions. Therefore, this component has a sub-regional character. The IPDACC project is expected to scale-up successful

pilot resilience activities financed by the GEF project. Component 4 (STAR) is a national component for Burkina Faso.

The project will be coordinated by the NBA and its national Focal Points through a Regional Coordination Unit, and will be implemented at the national level by the relevant national implementation agencies, in close consultation with user associations. The role of NBA will include *inter alia*: (i) producing analytical work to identify problems that would benefit from a regional approach and facilitating cross-country dialogue; (ii) providing Technical Assistance, know-how, and expertise; (iii) gathering and storing data, and sharing information on good practices through implementation of a coordinated ICT strategy; (iv) coordinating country-level operational activities and harmonizing policies and procedures; (v) monitoring and reporting on progress of interventions; and (vi) providing training, thematic workshops and exchange of information. Support will be provided to the development of an M&E system for SAP/SDAP implementation at the national and regional levels. Sub-basin/regional level activities will be implemented through national implementing agencies and mechanisms, coordinated through NBA's National Focal Structures in the member countries. Technical support to complement existing national capacities will be provided by the Project resources. In view of the substantial socio-economic interest generated by the planned project outcomes, NBA's member countries will assume responsibility for continued activities after the project ends.

Component 1 - Building increased water security and climate resilience at regional level (1.75 million USD)

Component 1 focuses at the regional level on analytical work, developing tools and guidelines for good adaptation practices, disseminating lessons learned and pursuing the upscaling of successful pilot interventions regarding climate resilience, aimed at supporting the national and local stakeholders in building enhanced climate resilience, adaptive capacity and increased water security. Project interventions are designed to “produce sustainable benefits, and increased water security and climate resilience at regional level” (Outcome 1).

Component 1 responds to LTEQOs 8 (for all countries) and 12 (mainly for the Niger Inner Delta, the Middle Niger and the Benue River in Chad) of the SAP, particularly to: i) action 8.1: evaluate the basin's vulnerability to climate variability and change, ii) action 8.2: review the existing situation in terms of the adopted forms of adaptation to climate variability/change, iii) action 8.3: develop and implement measures for adapting production systems to climate variability and change, iv) action 8.4: develop and implement programs to mitigate the effects of climate variability and change, and v) action 12.2: develop and implement a program for water and soil conservation and for reforestation of degraded zones. Component 1 also addresses strategic outcomes of NBA's Strategic Plan 2013 – 2022, including outcome 1 (“The basin populations have higher income from AFFF activities (agriculture, forestry, fishing and fish-farming) and increased access to affordable electricity”), its complementary and interdependent strategic outcome 2 (“Ecosystems are sustainably preserved”) and strategic outcome 4 (“The commitment and participation of the populations, Member States and Technical Partners are maximized”). Finally, the interventions funded under component 1 will address multiple interventions listed in the CRIP document, particularly the measures under the Knowledge and Institutions Package (see Table 3). Sub-components include:

Sub-component 1.1: Assessment of transboundary threats of climate variability and change and potential impacts on SDAP and CRIP investments - This sub-component will assess the basin's vulnerability to climate variability and change with a focus on SDAP and CRIP investments. SDAP, CRIP and IPDACC interventions as well as National Adaptation Programs of Action (NAPAs) will be reviewed and screened regarding issues of climate variability and change, based on the latest CMIP5 (GCM) climate projections for the region. This output will provide recommendations to NBA and the Niger-COM for future updating of the SDAP, CRIP and NAPAs (if any), to fully incorporate the potential future impacts of climate change and variability on the physical and socio-economic conditions in the Basin in the strategic outcomes and interventions of the various documents. It is noted that this activity will need to be closely coordinated with activity 1.2 of the UNDP/UNEP implemented GEF project for the Iullemeden aquifer system (see Annex F), to avoid duplication and ensure adequate integration

of various GEF funded interventions. The latter project intends to assess transboundary threats to the larger ITTAS region, including climate variability and change and also groundwater linkages to the Niger River Basin system. This will form the basis of a TDA for the larger ITTAS region that will be developed as an annex to the Niger Basin TDA. An ITTAS Strategic Action Programme (SAP), emphasizing conjunctive management of ground and surface waters, will also be elaborated in a complement to the Niger Basin SAP/SDAP and technically cleared by countries in preparation for ministerial endorsement.

Sub-component 1.2: *Development of tools and guidelines for good practices for building climate resilience at sub-basin and community level* - This sub-component will focus on the development of tools and guidelines for good adaptation practices, and will support NBA for the promotion and dissemination of these tools and guidelines throughout the Basin. It will i) review local and national experiences in terms of adaptation to recent climate variability and change (notably responses to the droughts of the 1970s and 1980s), climate proofing and increasing the climate resilience of rural populations as a major source of lessons learned, ii) develop tools and guidelines for adaptation practices aimed at building climate resilience at community level, such as local warning systems for floods and droughts, adaptation strategies, and the dissemination of hydrometeorological information to end users, iii) develop tools for strengthening the adaptation capacities of *inter alia* water user associations, and iv) identify (biophysical) indicators for assessing the impacts of interventions on water and soil conservation and land management under component 2 and on forest management under component 4, and their effects on climate resilience of water resources. NBA and national agencies will be supported in the development and dissemination of hydro/agro-climatic information useful to local communities.

Sub-component 1.3: *Learning lessons on pilot basis and dissemination of lessons learned regarding enhanced climate resilience of rainfed agriculture in five agro-climatic zones of the Niger Basin* - The 130 million strong population (2015) of the Niger Basin is predominantly rural (70%), and the livelihood of a large portion of the rural population is dependent on rainfed agriculture. It is expected that a significant majority of the labor force will remain tied to rainfed agriculture in the foreseeable future. Climate risks related to rainfed agriculture should thus be addressed with high priority. Food productivity in the SSA region has lagged prevailing trends in other developing parts of the world. Recurring explanations for this situation include SSA's high dependence on rainfed agriculture, low use of fertilizers, degraded soils, the lack of infrastructure and supporting institutions and unfavorable market conditions. There is thus a strong need for climate risk assessments and decision-making to support agricultural productivity. Approaches of *sustainable agricultural intensification* (Dile, Y. et al. 2013²⁶) will be explored, defined as "*agricultural activities which result in higher productivity while at the same time reducing the negative externalities on the environment and increasing the generation of other ecosystem services including water flow and quality*". The activity will start with an extensive inventory of relevant experiences in previous agricultural projects supported by international and bi-lateral agencies active in the agriculture sector of the SSA region, including several national GEF/LDCF funded projects in the member countries, such as e.g. "Enhancing adaptive capacity and resilience to climate change in the agriculture sector in Mali" (others are listed in Annex F). Lessons will be learned from international experiences, including a study tour to India to learn from experiences in South Asia. Lessons will also be learned from an inventory and case studies of adjustments made by SSA farmers during and after the regional droughts of the 1970s and 1980s.

Based on these general and local lessons and past experiences, low cost pilot interventions for the adaptation of rainfed agricultural practices to climate change and variability will be explored in five agro-climatic regions of the Niger Basin (in synergy with interventions in selected areas under component 2). Through local farmer associations and financial support through small grants, these pilot interventions will support local farmers in exploring coping mechanisms for dealing with climate variability and change, including *inter alia* the exploration of water harvesting, local water conservation and management, erosion control, changes in cropping patterns,

²⁶ Dile, Y. Karlberg, L., Temesgen, M., Rockstrom, J., 2013: The role of water harvesting to achieve sustainable agricultural intensification and resilience against water related shocks in sub-Saharan Africa; *Agriculture, Ecosystems and Environment*: 181: 69-79.

cropping schedules, fertilizer use and other agricultural inputs. As such, the project will contribute to appropriate agro-pastoral farming systems aimed at reducing risks from increased climate variability, and contribute to the adoption of climate-resilient alternative livelihoods strategies of rural populations. The project will also involve academicians in order to contribute scientific evidence of the climate resilience potential in the agricultural sector of the region. For example, the project can help to detect critical thresholds in a timely manner, while implementing positive feedback mechanisms between threshold states (e.g. for land and water management in rainfed agriculture, positive feedbacks include addressing biophysical processes, such as focusing on the amount of soil organic carbon which reinforces the process of rainfall infiltration and water holding capacity). Lessons learned will be disseminated basin-wide under component 3, and also feed into the implementation of sub-component 2.1.

Sub-component 1.4: Upscaling of lessons learned from watershed management interventions to integrated watershed management plans for each member country – By the early 2000s all member countries of NBA had adopted water policies and water laws. Most countries have also adopted national plans for Integrated Water Resources Management (IWRM/GIRE). Moreover, NBA supports through its Water Charter a strong, cooperative legal framework to govern water resources and foster collaboration on regional investments among riparian countries. Without transboundary agreements and cooperation pervasive transboundary impacts of upstream infrastructure developments on downstream flows, water quality and ecosystems have the potential to create political tensions between riparians, hamper the balanced and integrated development of the Basin’s water resources, and generally cause harm to the Basin’s population and environment. While IWRM is thus embedded in all national water policies, its implementation through watershed management plans is reportedly in most of NBA’s member countries still in an infant stage. Therefore, it is an area where the GEF and IPDACC projects can make a substantial contribution. The Regional Coordination Unit (RCU) or Project Implementation Unit (PIU) for the project will need to collect early on available national experiences related to the development and implementation of watershed management plans and develop the related sub-components 1.4 and 2.2 on the basis of such experiences and commensurate lessons learned. Under output 2.2 watershed management plans will be prepared to guide the implementation of relevant investments under the main IPDACC project, in five sub-basins representing the diversity of physical and socio-economic conditions occurring within the Niger Basin. Based on lessons learned from these sub-regional/sub-basin interventions under output 2.2 and under IPDACC, this regional project component 1.4 will assist interested national implementing agencies with the development of one prototype watershed management plan at national sub-basin scale, with a focus on water conservation, erosion and siltation control, ecosystem conservation and judicious natural resources management under conditions of climate change and increased climate variability. This will enable the upscaling of successful adaptation interventions under the IPDACC project or other future projects. These national sub-basins will be selected in close cooperation with the member countries, once the activities under component 2.2 have materialized sufficient relevant experience.

Component 2 - Building climate resilience at sub-basin and watershed level (5.45 million USD)

Component 2 will support pilot interventions to demonstrate best practices for enhancing the climate resilience of vulnerable communities and improved watershed management in five representative sub-basins, representing the diversity of physical and socio-economic conditions prevailing within the Niger Basin. Project interventions are designed to “produce sustainable benefits, and increased water security and climate resilience at sub-basin, watershed and community level” (Outcome 2). Through its Focal Points, NBA has broadly identified the following (transboundary) sub-basins of the Niger Basin for the selection of pilot demonstration areas: 1) the Upper Niger Basin in Guinea; 2) the Bani Basin in Ivory Coast; 3) the Niger Inner Delta in Mali; 4) the Middle Niger Basin in Benin, Burkina Faso, Mali and Niger, and 5) the Upper Benue Basin in Nigeria, Chad and Cameroon. Details on selected regions and locations are shown in the Table 4 and Figure 1.

Table 4: Regions of the Niger Basin with proposed GEF funded interventions

Niger Sub-Basins	Regions	Selected areas for local project interventions
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1. Upper Niger Basin	Guinea -Kankan	Morodou, Faralako and Dialakoro Department of Mandiana
2. Bani Basin	Ivory Coast - Folon	Kimbrilla Nord (Dep.Minignan adjacent to Kouban Dam)
3. Niger Inner Delta	Mali – Koulikoro and Mopti	Kamani; Djénné (260ha), Dialoubé (100ha), Fatoma (50ha), Sio (50ha), Kamani (100ha), Kénénkou (50ha)
4. Middle Niger	Burkina Faso	Pétel Gaoudi, Gonadaouri, Tin-Ediar (autour d'Oursi) ; Tinakoff, Massifigui (adjacent to Bambakari pond)
	Mali - Gao	Seyna (50ha), Bara (50ha), Commune Ouatagouna (100ha)
	Niger - Tillabéri	Méhana, Kokorou and Goroul
	Niger - Tahoua	Tama, Bouza, Garhanga and Allakaye
	Niger - Dosso	Dioundiou, Zabori, Yélou, Bana, Bengou, Bara, Gaya
	Benin - Karimama / Malanville	Sota Goungoun gazetted forest, Gouroubi Nikki, Kalale, Sinende, Bembereke
5. Upper Benue Basin	Nigeria - Upper Benue (RBDA)	Gombe Town and Kiri dam
	Cameroon - Guider - Mokolo - Hina - Mogodé	Guider Mokolo Hina Zamay Mayo Louti, Mogodé
	Chad – Kabbia Department	Béré-Lassia; Domon and Djodo Gassa; Torrock and Lamé

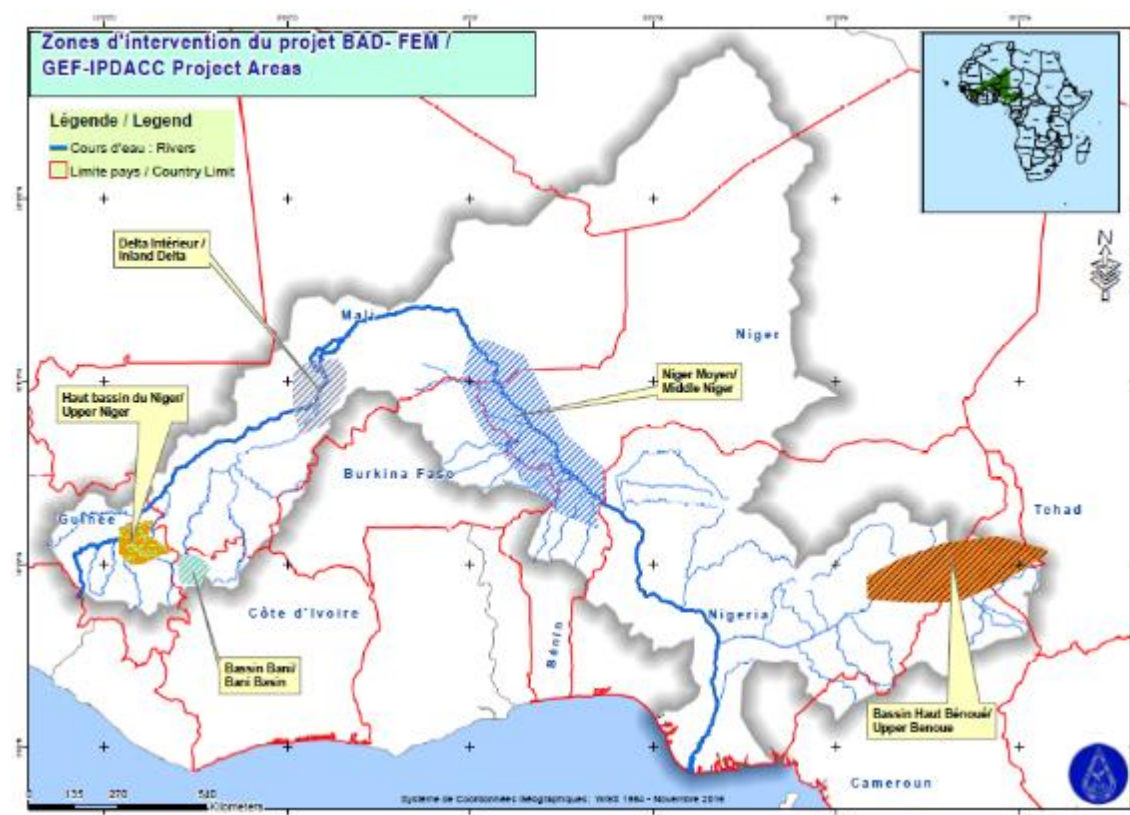


Figure 1:
Map of
Niger Basin
with the
regions of
GEF-funded

interventions

Component 2 responds to LTEQOs 2 (for all member countries), 8 (for all countries) and 12 (mainly for the Niger Inner Delta, the Middle Niger and the Benue River in Chad) of the SAP, particularly to: i) action 2.3: Capitalize on and promote the best practices, techniques and modern technology for water and soil restoration and conservation, ii) action 8.3: develop and implement measures for adapting production systems to climate

variability and change, iii) action 8.4: develop and implement programs to mitigate the effects of climate variability and change, iv) action 12.2: develop and implement a program for water and soil conservation and for reforestation of degraded zones (sub-basin treatment programs for degraded land recovery, erosion control, reforestation of the degraded zones, riverbanks protection, etc.), and v) action 12.3: develop and implement a demonstration program on the sustainable exploitation and management of the sub-basin's resources. Component 2 addresses strategic outcome 1 ("The basin populations have higher income from AFFF activities (agriculture, forestry, fishing and fish-farming) and increased access to affordable electricity") and its complementary and interdependent Strategic outcome 2 ("Ecosystems are sustainably preserved") of NBA's Strategic Plan 2013 – 2022, as well as multiple CRIP interventions (detailed in Table 5). The IPDACC project will capitalize on lessons learned by promoting the development of resilience activities across the basin.

In order to effectively achieve sustainable community development activities in a watershed, a watershed management plan has to be developed in consultation with the basin's stakeholders and communities. This plan will be the instrument available to basin stakeholders for the development and implementation of operational projects and programs in order to strengthen good water governance, socio-economic development, and the protection and sustainable management of the basin's natural resources and dependent ecosystems. The Plan shall be consistent with existing Local Development Plans (LDP), conceived around the needs and priorities expressed by local communities. It shall also be consistent with local management conventions between the project and its beneficiaries. Watershed management plans for selected sub-basins shall be developed under sub-component 2.2, while capacity building of local communities and administrations will be addressed under sub-component 3.2. External "agents" can be enlisted to prepare watershed management plans and/or implement planned interventions. Their role will be to assist local communities in participatory diagnosis, the development of planning documents, the realization of development plans consistent with the development management plans of sub-basins, etc.

As a starter, Table 5 below presents examples of local interventions under Components 2.1 and 2.2 as requested by the participants of numerous consultations conducted in the member countries of NBA; details on the consultations during project preparation are provided in Annex E. These requested activities would fit best under sub-component 2.2 on watershed management, and need to be reviewed (and possibly revised) from the perspective of their efficient and effective contribution to the aim of increasing the water security and climate resilience of rural populations in the Basin. The last column of Table 5 provides a reference to the commensurate category of CRIP measures, as shown in Table 3.

Two sub-components have been conceived, as follows:

Sub-component 2.1: Increase the climate resilience of multiple communities in five or more selected watersheds (at least one per representative sub-basin depicted in Figure 1) and demonstrate best practices - The project will support pilot interventions to demonstrate best practices for enhancing the climate resilience of vulnerable communities in at least five representative sub-basins of the Basin, in conjunction with the development and implementation of community-based integrated watershed management plans for the same selected basins under sub-component 2.2. The aim of these GEF funded interventions is to guide the implementation of relevant investments under the main IPDACC project, whereby successful GEF-funded interventions will be scaled-up under IPDACC. This sub-component will thus be implemented in close coordination with component 2 of the IPDACC project.

Country/Area	ACTIVITIES	SITES	CRIP#
Benin			
Karimama Malanville	Restoration of degraded land in soils and forests classified by agro-forestry and forestry; Soil Protection and Restoration	Near classified forest Sota Goungoun and Gouroubi	6
Nikki,Bembereke Kalale, Sinende	Realization of cross-border transhumance corridors with wells and water troughs	Classified forest Sota Goungoun and Gouroubi	4
Cameroon			
Guider, Mokolo, Hina	Water and soil conservation works in the cultivated plots of Mayo Louti	Guider, Mokolo, Hina	6
Mokolo Mogodé	Plantation in the forest reserves of Zamay and Mayo Louti and in the perimeter of reforestation of Mogodé.	Zamay; Mayo Louti; Mogodé	6
Chad			
Department of Kabbia	Pastoral management in livestock concentration areas	Béré-m-Lassia	7
	Water and soil conservation works in the cultivated plots	Domon and Djodo Gassa	6
Nigeria			
Upper Benue RBDA	Gullies Stabilization Using Engineering and Biological Structures (Stabilization of ravines by engineering and biological structures)	Gombe Town	4
	Restoration of Wetland Productivity	Kiri Dam	5
Burkina Faso			
Sahel	Biological and Mechanical fixation of dunes through (Water and Soil Conservation / Soil Protection and Restoration activities and adapted species plantations	Pétel Gaoudi, Gonadaouri, Tin-Ediar (around Oursi); Tinakoff, Massifigui (around swamp of Bambakari)	6
	Recovery of degraded lands		4
Ivory Coast			
Folon	Enrichment of the banks, dikes / levees and Establishment of management structure and operational resources	Kimbirilla-Nord (Minignan Dept.) around the dam of Kouban	5
	Planting, assisted natural regeneration, reforestation of grass banks and trees	Kimbirilla-Nord (Minignan Dept.) around Kouban dam	6
Guinea			
Kankan	Plantations in classified forests and village and community forests	Morodou, Faralako and Dialakoro	8
	Mechanical and biological treatment of ravines	Mandiana Dept.	4
	Bank protection by planting trees and grass planting	Mandiana Dept.	6
Mali			
Mopti	Bourgou plantation in the floodplains	Djénéné, Dialoubé, Fatoma, Sio, Kamani, Kénénkou, Kénénkou, Seyna , Bara,	6
Koulikoro	Deferred grazing and enrichment of village forests of Kamani	Kamani	8
	Classified forest enrichment of Kénénkou	Kénénkou	8
Gao	Water and Soil Conservation / Soil Protection and Restoration Reforestation	Seyna (50ha), Bara (50ha), Ouatagouna (100ha)	6
Niger			
Tilabéri TahouaDosso	Stabilizing dunes	Méhana, Kokorou and Goroul	6

	Water and soil conservation	Towns of Tama, Bouza, Garhanga and Allakaye	6
	Improved fallow agro-forestry	Dioundiou, Zabori, Yélou, Bana, Bengou, Bara, Gaya	6

Table 5: Local interventions proposed by stakeholders in member countries during consultations

Sub-component 2.1 aims to provide at least 50 grassroots communities with small grants for implementing eligible projects (at least 10 per sub-basin, and at least 50% of the beneficiaries should be women), for the benefit of the most vulnerable population and for the purpose of increasing the water security and climate resilience of rural populations in the Basin. Requirements for co-financing of the small grants by the communities will be agreed upon with NBA, but would likely be in the order of 10% to 20% of the cost of for example small infrastructure, to be paid through in-kind services (such as labor). The small grants program under this project would be implemented in agreement with the Operational Guidelines and Standard Practices of GEF's/UNDP's Small Grants Program (SGP).

Small Grants - up to a total of 3 million USD, with a maximum of 60,000 USD per recipient community - will be provided to at least 50 community-based organizations (CBOs) and non-government organizations (NGOs) within the selected representative sub-basins. The mechanism of micro-credits will not be explored.

A participatory and community-centered approach will be adopted, and the project management team (RCU/PIU) will provide overall guidance and technical and scientific support to the process. The pilot interventions will include *inter alia*: i) the preparation of community plans for increased climate resilience, ii) the promotion and introduction of alternative income generating activities for enhanced social protection, iii) the construction of flood defenses, iv) the introduction of improved (rainfed) agricultural practices and *sustainable agricultural intensification* approaches (in conjunction with sub-component 1.3), v) the dissemination of agro-climate information, and vi) the introduction of water harvesting and possibly renewable energy technologies. These pilot interventions will support the adaptation of rainfed agriculture to climate change and variability; associated activities are related to (i) water harvesting, (ii) local water conservation and management, (iii) erosion control, (iv) changes in cropping patterns, (v) fertilizer and other agricultural inputs. Income generating activities will include activities in the domains of: i) poultry, cattle and sheep breeding; ii) horticulture development; iii) agro-forestry-pastoral production processing units; iv) development of market places and related facilities; v) seed production and marketing; v) nurseries; vi) firewood production; vii) production and distribution of efficient stoves and bio-digesters; and viii) introduction of low-cost electrification options.

Sub-component 2.2: Preparation and implementation of community-based integrated watershed management plans for selected watersheds in five representative sub-basins of the NRB; strengthening of local capacities on land and soil conservation – Sub-component 2.2 is complementary to sub-component 2.1. Under sub-component 2.2 watershed management and treatment plans will be prepared and implemented to obtain experience and learn lessons for guiding the implementation of relevant investments under the main IPDACC project. These plans will be developed for the five sub-basins selected for sub-component 2.1, representing the diversity of physical and socio-economic conditions occurring within the Niger Basin. Interventions will include erosion and siltation control, ecosystem conservation, the protection of natural resources and the conservation of water resources under conditions of climate change and increased climate variability. The objective of these interventions is to demonstrate options and best practices for the effective treatment of catchments and the sustainable exploitation and management of natural resources in a sub-basin, and through this enhance the climate resilience of vulnerable communities in the selected sub-basins. Successful GEF-funded interventions will be scaled-up under IPDACC, and this sub-component will thus be implemented in close coordination with component 2 of the IPDACC project.

Previous vulnerability analyses for the sub-basins of the Niger Basin have identified the main problems which will be tackled by the GEF/IPDACC projects, i.e. i) maintaining minimum environmental flows to sustain biodiversity and ecosystems in the basin; ii) siltation of river beds, irrigation canals and other water courses; and iii) erosion, and natural and man-made soil degradation. The demonstration interventions will include such types of activities as: i) the fight against erosion in a watershed, the treatment of Koris, dunes fixing, the protection of river banks and catchment restoration, ii) sustainable forest management and the protection of biodiversity and wetland areas through the restoration of forests and agro-forestry, and iii) integration of climate information for the management of agro-pastoral activities. The activities selected for the GEF project will not only contribute to the resilience of the natural resources (water infiltration, carbon sequestration, fight against sand carried by water, etc.), but also to the resilience of the population to climate change, while ensuring the sustainability of the natural resources. Good environmental practices will be promoted in the livestock and agriculture sectors through recovering degraded lands, the biological or mechanical fixation of sand dunes, the development of bourgou fields (the dominant grass in the Niger Inner Delta) and restoration of pastoral areas, and the protection of the banks of streams and the fight against desertification.

Stakeholders in the five selected sub-basins have given priority to the following activities: i) river/stream bank protection works and the fight against erosion and sedimentation, ii) 'bourgoutières', iii) recovery of degraded lands; iv) flood protection; v) the restoration of wetland productivity; and vi) the protection of ecosystems and natural resources. The activities will be implemented through user associations, selected based on i) ease of mobilization; ii) presence of a majority of members being sensitive to water-related issues; and iii) availability of an adequate group facilitator. Local workforces will be mobilized for the implementation of interventions and maintenance. Labor can be provided as in-kind co-financing. In certain events, the establishment of cross-border commissions may be necessary to harmonize cross-border visions in the conduct of activities, assess the implementation of activities and resolve cross-border issues.

Component 3: Capacity building at regional, national and community level (1.5 million USD)

Component 3 responds to multiple actions of the SAP (for all member countries and NBA) under SALR-01, SAIR-02, SCBA-02 and SCBA-03, particularly to actions: i) J1.3: harmonize the legislative and regulatory texts on the protection of soils against degradation, ii) J1.18: define a legal and institutional framework for the harmonious exploitation and management of soils, iii) J1.20: experiment with local land conventions to promote investment in activities for the conservation, protection and sustainable improvement of soil productivity, iv) I2.4: conduct a capitalization study on silting control experience, v) I2.6: conduct a capitalization study on experience in recovering degraded land, vi) C2.2: develop and implement training and information programs on environmental issues intended for elected officials, administrative and traditional authorities, grassroots community organizations, NGOs, etc., vii) C2.8: encourage environmental awareness among administrative and traditional authorities, local elected officials, grassroots community organizations, NGOs and the general public, and viii) C3.1: Strengthening the capacities of the NFSs.

Component 3 also addresses strategic outcome 4 ("The commitment and participation of the populations, Member States and Technical Partners are maximized") and strategic outcome 5 ("NBA organizational capabilities are increased") of NBA's Strategic Plan 2013 – 2022, as well as multiple CRIP interventions. The support for capacity building under the GEF project will be aligned with the IPDACC project and complement/reinforce the ongoing institutional and capacity building support provided by multiple other Technical and Financial Partners (TFP) of NBA. Project interventions are designed to "enhance the capacity of regional, national and community level stakeholders to sustainably manage natural resources, accounting for climate change and variability" (Outcome 3). Approximately 40% of the budget would be used for regional capacity building interventions (3.1) and knowledge management related activities (3.3) and 60% for national capacity building interventions (3.2). Sub-components include:

Sub-component 3.1: *Strengthening of the capacities of NBA and the participating national agencies for coordination and implementation of climate resilience interventions* - The project will support capacity building in NBA and its National Focal Points and the national implementation entities towards coordinating, developing, monitoring, assessing and implementing tools and interventions aimed at enhancing climate resilience at community and sub-basin levels and sustainable management of natural resources. There is significant complementarity and potential for synergy between the proposed local interventions under the regional umbrella of NBA under this project and a large number of (mostly) national GEF projects (ongoing and/or under preparation) in NBA's member countries (as listed in Annex F), particularly with GEF projects aimed at *inter alia*: i) enhancing adaptive capacity and resilience to climate change in the agriculture sector; ii) integrating climate resilience into agricultural production for food security; iii) strengthening resilience to climate change through integrated agricultural and pastoral management; iv) Sustainable Land Management (SLM) and agro-forestry practices, etc. During the first six months of the project, the PIU/RCU shall review experiences and lessons learned in these national projects (and relevant regional projects), and assess successful modus operandi and institutional arrangements for the successful implementation of climate resilience interventions. An important contribution of this project is thus that it facilitates national agencies learning from each other's successes and failures in similar interventions. The project will as such establish and consolidate a large volume of baseline data and best management practices for climate resilience investments, and build a body of expertise to sustain the natural resource potential of the Basin. It will select capacity building activities from the CRIP menu which are not yet covered by other FTPs. A coordinated ICT strategy (possibly linked to NBA's Observatory) for all data and information produced in the project will also be explored early on in project implementation. Such ICT strategy will need to be aligned with NBA's overall strategy for data collection, including its Niger Basin Observatory, the Niger – HYCOS system, its GIS facilities and all its other data collection activities supported by multiple donors.

Sub-component 3.2: *Strengthening of the capacities and ownership of communities for enhanced climate resilience at watershed level in selected sub-basins* - The plans for watershed management and watershed treatment under output 2.2 will be developed and implemented in close cooperation with local communities in the selected sub-basins. Sub-component 2.2 will invest in the preparation and implementation of the watershed management plans; sub-component 3.2 will provide institutional support, training and other forms of capacity building at local and national levels, to promote sustainability and replicability of the interventions funded under sub-component 2.2. As such, the project will strengthen local capacities for integrated soil and water conservation in the catchment areas as well as afforestation efforts for sustainable community based wetland conservation where applicable. Public participation leading to sustainable development and improved ecosystem management will be supported.

Sub-component 3.3: *Establishment of transboundary learning mechanisms, best practices, communications, and Knowledge Management (KM) at community, national and regional levels, and sharing of experiences and lessons learned through websites, communication tools, technical forums, workshops, etc.* (including 1% of IW funding for IW:LEARN activities) - Transboundary learning mechanisms, Knowledge Management (KM), communication, consultations and awareness building activities will be undertaken at community, national and basin levels. Experiences will be shared through the establishment of a website, participation in GEF conferences, regional meetings, IW: LEARN, technical papers, videos, technical forums, WWF and other relevant forums. IW: Learn activities will include the participation of countries in the Biennial IW-learn conference, site visits, trainings, etc. The Project team will also explore options for partnering and sharing of experiences with other transboundary river basin agencies, including the African Network of Basin Organizations (ANBO), and the Senegal and Volta River Basin Organizations. Regarding interventions in Chad and Cameroon, a liaison will be established with the Lake Chad Basin Commission in N'Djamena, Chad. Training and consultative workshops will be organized to sensitize stakeholders on climate change issues and strategies to enhance climate resilience of communities. The project will invest in a comprehensive information management strategy by putting in place

mechanisms for the synthesis of information, information sharing and dissemination, structured learning among similar regional transboundary projects, etc.

The sub-component 3.4 “*Exploration and establishment on pilot basis of a Mechanism for Payment for Environmental Services (PES)*” has been deleted from the proposed GEF funded interventions, since its implementation has already been planned in detail under IPDACC. The limited budget for this rather small sub-component is now thus available to enhance the capacity building activities under sub-components 3.1 to 3.3. The scaling-up and sustainability of watershed treatments for the conservation of natural resources requires the exploration of sustainable future financing mechanisms, to allow NBA and member countries to continue these interventions on the medium to long-term without the support of Financial and Technical Partners. In the long-term, watershed management will not only benefit local communities, but also contribute to the sustainability of large infrastructure (by reducing watershed erosion and siltation in reservoirs). Therefore, ways and means must be explored for future financial contributions to watershed management derived e.g. from the common management of large infrastructure in the Basin (one of the mandates of NBA). In this context, the IPDACC project plans to assist the member countries in exploring a mechanism for Payment for Environmental Services (PES), to finance interventions towards sustainable and climate resilient management of the Niger Basin’s natural resources and ecosystems. The PES mechanism would become part of the Water Charter, and is now planned to be developed under IPDACC through a diagnostic study (covering legal, technical and institutional aspects), followed by a study and a process to elaborate and validate a PES mechanism for the Basin. The adoption, ratification and application of the PES mechanism would fall beyond the time scale of the IPDACC baseline and GEF projects. The principle of establishing a Regional Adaptation Fund for the Niger Basin to finance Natural Resources Management (NRM) activities in the future was adopted by NBA’s Head of State summit held in Cotonou in Benin, on the 8th of January 2016.

Component 4: Sustainable land and forest management for climate change mitigation and improved livelihoods in Burkina Faso (STAR): 2.41 million USD

Component 4 responds to serious environmental challenges in Burkina Faso. The country loses each year, because of human activities and climate variability or change, about 170,000 ha of forest, of which 50,000 ha disappear to meet energy needs. To these losses one can add the loss of biodiversity and loss of land areas for carbon sequestration by vegetation, but also the areas of land releasing large amounts of carbon into the atmosphere. To address this catastrophic situation, Burkina Faso developed its NAPA plan for adaptation to climate variability and change (2007), taking into account various national strategies and policies, such as the Poverty Reduction Strategy, the Strategy for Accelerated Growth of Development (2010), the National Program for the Rural sector (2013), the Strategy for Rural Development, the Environmental Plan for Sustainable Development, the Strategy for the Development of Agriculture, the National Forestry Policy (1995), the Action Plan for Integrated Water Resources Management (2003), the National Program for the Management of Forest and Fauna resources (2009), and the National Policy for the Management of Gazetted Forests (2006). The NAPA also takes into account various Conventions signed by Burkina Faso regarding the protection and conservation of the environment, wetlands and biodiversity. Moreover, Burkina Faso has adopted various laws with implications for forest management, including *inter alia*:

- Act No. 003-2011 / AN of April 5, 2011 on the Forest Code in Burkina Faso, revising the previous Code (Law No. 006/97 / ADP of 31 January 1997 on the Forest Code in Burkina Faso);
- Act No. 034-2009 / AN of 16 June 2009 on rural land tenure in Burkina Faso;
- Law No. 005/97 / ADP of 17 March 1997 on the Environmental Code of Burkina Faso;
- Law No. 055 / AN of 21 December 2004 on the General Code of Local Authorities in Burkina Faso;
- Decree No. 98-306 / PRES / PM / MEE / MEF / CEC of 15 July 1998 regulating the exploitation and marketing of wood products in Burkina Faso;

- Decree No. 98-310 / PRES / PM / MEE / MATS of 17 July 1998 on the use of fire in rural areas in Burkina Faso;
- Joint Order No. 01-048 / MEF / MATD / MEE of 8 November 2001, establishing a forest management fund in Burkina Faso.

The Government of Burkina Faso has also adopted environment, forestry, adaptation and mitigation sectoral strategies, alongside a comprehensive ten-year investment plan (2008-2018). This legal and regulatory context provides an opportunity for the project to initiate a real transformation of forest management geared towards satisfying the needs of the neighboring populations, generating income through Payments for Environmental Services (PES), and enhance carbon sequestration. In view of these achievements, Burkina Faso was admitted as one of eight Forest Investment Program (FIP) pilot beneficiary countries. FIP seeks to mobilize policies, measures and substantially increased financing to facilitate the reduction of deforestation and forest degradation and promote sustainable forest management, which should lead to the reduction of greenhouse gas emissions, an increase in forest carbon stocks and poverty reduction (REDD+). The implementation of FIP interventions also supports the Vision 2010 of the Ministry of Environment and Sustainable Development, which aims to address environmental issues through scaled-up actions and coordination of all partners (Ministère de l'Environnement et du Cadre de Vie, Plan d'Action 2011-2015).

The objective of Burkina Faso's FIP is thus to contribute to a reduction of deforestation and forest degradation in order to reinforce the carbon sequestration capacity of its forests, thanks to improved governance, environment-friendly local socio-economic development and sustainable management of forest resources and wooded areas. This objective is being achieved through two complementary projects, namely the Project for the Decentralized Management of Forests and Wooded Areas (Projet de Gestion Durable Décentralisée des Forêts – PGDDF, World Bank), and the Gazetted Forests Participatory Management Project for REDD+ (Projet de Gestion Participative des Forêts Classées pour la REDD+; GPGFC/REDD+, AfDB). The AfDB funded PGFC/REDD+ project is in line with the first and fourth thrusts of Burkina Faso's Accelerated Growth and Sustainable Development Strategy (SCADD; 2011-2015). Its activities are also in line with sub-programs 3.1 and 3.4 of thrust 3 of the National Rural Sector Program (PNSR), which is the framework for the operationalization of SCADD in the rural sector for the period 2011-2015.

The objective of the PGFC/REDD+ project is to contribute to increasing the carbon sequestration capacity of gazetted forests of Burkina Faso and the reduction of poverty in rural areas. Specifically, the project aims at i) improving forest governance for better utilization of forest resources; ii) reducing deforestation and degradation of gazetted forests; and iii) improving the resilience of communities by increasing revenues derived from gazetted forests. The project consists of three components: (i) Reinforcement of forest governance for REDD +; (ii) Participatory development and management of gazetted forests; and (iii) project management. The PGFC/REDD+ will contribute to reduced timber harvesting through the improvement of participatory forest planning and management in gazetted forests by local communities through the formation and capacity building of forest management groups, which will exploit timber and non-timber forest products, but also will ensure forest maintenance and conservation. In parallel, the project will reduce the demand for firewood through the dissemination of improved stoves. Improved harvesting practices of non-timber forest products (NTFPs) will also be promoted to mitigate any reduction in livelihoods. Whereas budget limitations prohibited the PGFC/REDD+ project to cover all initially planned forests in Burkina Faso, the IPDACC project has included the development of the forests which could not be included in PGFC/REDD+, which is the reason that GEF funding has also been requested for this component.

This GEF project component will support the projects funded under the FIP of the Climate Investment Funds project by contributing to the reforestation of degraded areas of forests under management by the FIP project. The project area covers 6 (six) classified forests located in 31 municipal councils belonging to 4 administrative regions: the Boucle du Mouhoun, the Centre-West, the South-West and the East. The classified forests selected for development cover a total surface area of nearly 285,000 ha, and the project will directly affect 5,400 producers. Indirectly, it will benefit the entire population of the 31 neighboring municipal councils, representing

848,000 people, 52% of whom are women. The project's direct beneficiaries are smallholders and vulnerable women who depend on forest products for their livelihood.

The intervention areas of the PGFC/REDD+ are: i) the-sylvo pastoral zone of Tapoa Boopo in the Eastern Region; ii) the classified forests of Tiogo and Nazinon in the Central West region; iii) a chain of six forest reserves in the region of the Mouhoun; and iv) the classified forest of Koulbi and the partially and total reserves of Bontioli. The classified forests of Tiogo and Nazinon are part of pilot projects in forest management in Burkina Faso, where planning and management is especially oriented to the exploitation of wood energy for the supply of large urban centers like Ouagadougou and Koudougou. The GEF funded and UNDP supported Country Partnership Program (CCP) on sustainable land management in Burkina Faso operates in the same regions of the Central-West and Boucle du Mouhoun as the PGFC/REDD+ project.

Component 4 also responds to LTEQO 1 and 8 of the SAP, particularly to i) action 1.2: develop and implement programs and projects to restore degraded ecosystems, ii) action 1.4: develop and implement reforestation programs and projects, and iii) action 8.4: develop and implement programs to mitigate the effects of climate variability and change. The component is specifically aligned with Action 134 of the Niger Basin SAP, which promotes the development of agro-forestry in the Burkina Faso portion of the Niger Basin. The GEF project interventions are designed to "promote conservation and enhancement of carbon stocks and other ecosystem services through sustainable forest management" (Output 4).

The interventions financed by IPDACC and GEF will be implemented complementary to the PGDF and PGFC/REDD+ projects, in coordination with other projects already under implementation in the same areas:

- Access to energy services (Projet d'Accès aux Services Énergétiques - PASE);
- NATCOM (National communications on climate change);
- Assistance to Agricultural Productivity and Food Security (Programme d'Appui à la Productivité Agricole et à la Sécurité Alimentaire - PAPSA);
- Support Program for the Agro-Sylvo-Pastoral Sectors (Programme d'Appui aux Filières Agro-Sylvo- Pastorales - PAFASP);
- Country Partnership Program (CPP) for Sustainable Land Management, which is focused on the sustainable land management in the provinces of Ziro and Sissili.

Sub-component 4.1: *Restoration and enhancement of carbon stocks in forests - Reforestation and maintenance of targeted forests are key activities of PMCF/REDD+. The aim is to rehabilitate these forests to increase their carbon sequestration capacity and provide other environmental services, including timber and non-timber for local communities. The proposed GEF funded interventions will support restoration of degraded soils of about 1,000 ha and reforestation activities on about 11,000 ha in forest reserves, as well as row plantation around forest reserves on about 500 km, contributing for 644,800²⁷ tons of CO₂-eq. sequestered. It will pay for the restoration of degraded land, the buying of tree plants and the work provided by local communities for these activities* (see also conservation activities in output 4.2), enhance communities' productive assets and strengthen their resilience against climate change through increased flows of ecosystem services (water, soil conservation, etc.). Reforestation will be made with resilient and fast-growing species that can adapt to climate change and variability in the region.

The GEF interventions complement investment arrangements already underway, ensuring good management of lot maintenance (production and fight against bush fires) and by improving access to forest resources. Methods used for forest restoration include *inter alia*: i) Restoration by mechanical actions for the recovery of

²⁷ The calculation of the carbon sequestration is based on 53 tons CO₂ eq./ha, a constant parameter, used in the REVISED FOREST INVESTMENT PROGRAM -Burkina Faso, dated October 09th, 2012 (see READINESS PREPARATION PLAN FOR REDD -Burkina Faso, dated May 29, 2012, page 77). The estimate for hedgerows is based on 200 stems/ km versus 625 stems/ha, i.e. 3 km of hedgerows equals 1 ha in terms of CO₂ sequestration.

degraded land (making bunds, stone bunds, filtering dikes, grassed or supported by trees), and ii) biological restoration through reforestation with seedlings or sowing seeds. Ongoing projects use methods such as: i) direct sowing or transplanting, usually online for species that thrive in the forest; ii) direct sowing seeds after pre-treatment with acid or heat for nuts, generally having fairly long dormancy; and iii) assisted natural regeneration, through saving selected species in maintenance work.

The purpose of row plantations is the delineation of protected forests, such that stakeholders (livestock farmers, illegal resource users, abusers of agricultural lands) quickly realize that they are bound to cross the boundaries of protected areas. Tree species such as *Pterocarpus erinaceus* and sometimes *Eucalyptus* are frequently used for delineation. The farmers produce in nurseries forage species (herbaceous and aerial) that have a proven value such as *Cenchrus ciliaris*, *Leuceana leucocephala* and *siratro* (a semi perennial legume). The soils are quite varied in forests, from lateritic soils to loamy soils. For enrichment work, the operator takes into account existing strata. In shrublands the species produced in nurseries are preferred (e.g. *Balanites aegyptiaca*), while in wooded grassland *Vitellaria paradoxa* and *Pterocarpus erinaceus* are preferred. *Ficus* (*Ficus gnanfolocarpus*) may be planted in wet areas and along river banks.

The entire reforestation process is participatory, involving all riparian villages and all categories of forest users, from the identification of reforestation sites to maintenance through the selection of species, the acquisition of seedlings and planting. Specifically, the choice of species for planting is made collaboratively by riparian communities represented by Village Development Councils (VDC), Forest Management Groups (FMG) and Forest Management Committees (FMC), with advisory support from government technicians. It appears that their choices have focused so far on local species, representative of the forest vegetation, and adapted to the soil and climatic conditions of the local environment, while providing both non-timber or timber products and avoiding invasiveness. These species are specific to each forest, as per the following Table 6. Research is envisaged to integrate a carbon sequestration capacity dimension in the selection of species. In the classified forest of Koulbi in the South-West, natural regeneration is expected to occur, since the soil there is rich and favorable. Reforestation is implemented by local communities, under the guidance of technical services, according to the financing agreements signed with the FMCs and construction contracts signed with VDCs.

Table 6: Overview of local forest species

Region	Forest region	Species
East	Tapoa Boopo	<i>Khaya senegalensis</i> , <i>A. senegal</i> , <i>A. nilotica</i>
Center-West	Nazinon	<i>Detarium microcarpum</i> , <i>Khaya senegalensis</i> , <i>Azizelia africana</i>
	Tiogo	<i>Parkia Biglobosa</i> , <i>Adansonia digitata</i> , <i>Khaya senegalensis</i>
Boucle du Mouhoun	6 classified forests	<i>Parkia Biglobosa</i> , <i>Adansonia digitata</i> , <i>Khaya senegalensis</i> , <i>Sclerocarya birrea</i>
South-West	Bontioli	<i>Parkia Biglobosa</i> , <i>Adansonia digitata</i> , <i>Khaya senegalensis</i> , <i>Anacardium occidentale</i> , <i>A. nilotica</i>

Forest protection includes *inter alia* the following activities: i) activities towards creating awareness and strengthening responsibility of riparian communities; ii) involvement of traditional leaders of riparian villages; iii) establishing Villager Committees for Fire Management; iv) the formation of FMGs for fire control and the staffing of maintenance equipment; and v) the creation of firewalls. Forest fire prevention and control is practiced through various strategies, including *inter alia*: i) firewalls around blocks/plots; ii) cleaning of roads (“pistes” and tracks); iii) lighting of early fires in November to prevent wildfires; iv) sensitizing and educating the population for prevention of wildfires; and v) establishment of anti-fire brigades around forests (in the villages) to participate in the extinction of bushfires. Forest protection is provided by local communities, under the guidance of technical services, according to the financing agreements signed with the FMCs and construction contracts signed with FMCs. All activities adopt a sustainable approach for investments in forests and based on community demand; activities are identified and planned in a participatory manner. The FMCs provide

coordination and supervision of activities at the scale of the forests. For management purposes, each forest is divided into blocks, each placed under the responsibility of a team comprising representative of the VDC block leader, women's representatives, representatives of the FMG, etc.

Community demands, in terms of investment in forests for their sustainable management are huge and the GEF funding will strengthen PMCF/REDD+ capacity to meet these needs.

Sub-component 4.2: Placing forests under good management practices - The FIP supports the National Forest Seed Centre (NFSC) to provide communities with good quality seeds. Actions focus on: i) research on forest seeds to determine their ability to germinate given the different methods of planting and natural regeneration; ii) selection of seed companies in the concerned areas for the harvesting of forest fruits and seeds; iii) producing quality seedlings or seeds (high germination, resistance to termites and insects) by various treatment methods (acids, heat, etc); and iv) delivering quality and well-conditioned seeds to the FIP projects.

Since 1985 the forest development model in Burkina Faso is based on the participation and empowerment of local stakeholders organized in Forest Management Groups (FMG), with the objective to produce wood for the supply of large urban centers. At the time, the timber harvest quota, which refers to the number of stems of trees cut for wood energy in plots, was set at 50% of the potential of the exploited land. In general the entire existing dead wood in forests is harvested for sale. For green wood, the quota provided for cutting is often 50% of the standing wood between 20 and 40 cm in diameter, focusing on sick trees and partly dry or malformed trees. A management plan must specify the amounts that can be harvested after a forest inventory. In the context of REDD+ it is necessary to revise the harvest quota, to take carbon sequestration into account as well as other environmental services. It is for this purpose that FIP has signed an agreement with the NFSC to conduct research work for the definition of new operating standards for forests, including acceptable harvest quota within the REDD+ context, in order to ensure sustainability in the exploitation of forests in the context of a changing climate and a reducing forest regeneration rate. The activities to be undertaken include *inter alia*: definition of the methodology, the establishment of various types of regeneration test plots in each agro-ecological zone, and the establishment of plots for the monitoring of the dynamics of woody vegetation.

The sustainability of co-management of forests by local communities, under supervision of the forestry administration, is supported by the fact that communities gain sustainable income from: i) the exploitation of timber and non-timber forest products, ii) the Payments for Environmental Services (PES) for the maintenance and conservation of forests, and iii) income diversification activities. To support the sustainability of project investments, the IPDACC and PGFC/REDD+ projects will support forest maintenance and conservation and reforestation by local communities through the use of PES funds. Promoting PES is an important deliverable of PGFC/REDD+, providing financial support to local communities to support their sustainable forest management efforts. As part of PGFC/REDD+, PES interventions are realized through financial support for the implementation of reforestation and forest maintenance²⁸. The aim is to involve Forest Management Groups (FMG) and the communities as major players in the management, maintenance and conservation of forests instead of simply allowing them to exploit the forests. This requires a change in behavior and practices of FMGs in order for them to adopt self-discipline in forest management, in addition to assuming responsibility for its maintenance and conservation.

Project support in the form of PES takes place through: i) financing agreements signed between the project represented by the Regional Coordinating Bodies (Regional Directorates of Environment, Green Economy and Climate Change) and 12 Forest Management Committees (FMC) set up for the 12 concerned forests; and ii) work contracts signed between the projects represented by the Regional Coordinating Bodies and Village Development Councils (VDC), representing the villages surrounding forests in case of reforestation and contracts signed with Forest Management Groups (FMG), including Women's Groups, in the case of maintenance of

²⁸ Financial support is typically 150 FCFA for each hole, 25 FCFA per seedling planted, 50 FCFA per protected plant and 15,000 FCFA per kilometer of firewall created; community contributions are realized by providing labor.

forests and plantations. Under the contract the communities commit to: i) comply with the terms of operating forest management including the rate of forest biomass removal; ii) ensure forest restoration including reforestation, rehabilitation and periodic maintenance; and iii) ensure the adoption of best management practices of forests by other members of the community through education. Compensation by the PES will be based in particular on the number of hectares of forest meeting the evaluation criteria (tree density, mean diameter, etc.), which will be defined in the PES contracts. Payments will be provided by project resources from the budget for the maintenance and conservation of forests. At the end of the project, the Forest Management Fund (FMF), which will be implemented in each forest under the Forest Code, takes over. The resources of the Fund for Environment Intervention (FIE) will also contribute to the consolidation of PES, to sustain the management approach initiated by the projects. In the long-term after operationalization of REDD+ in Burkina Faso, financial resources will come from the sale of carbon, which will reinforce the funding for community management of forests under PES.

Benefits from forest developments include i) benefits for direct resource developers such as forage and honey producers, producers of firewood and charcoal, and collectors of forest seeds, organized by village (Forest Management Group); and ii) wages paid for rendered services (forest supervisors, maintenance staff, horticulturists, etc.). **Presently, almost all forests suffer from the lack of updated development and management plans: consequently, there is no sound basis for discussions on PES.**

The GEF funded interventions will help to successfully develop the concerned forests, and facilitate the implementation of the development and management plans of these forests. These development and management plans include the exploitation of plots, revenue generation from the sale of products and revenue distribution between the different actors. The plans also include protocols and administrative and financial management procedures, in which different incomes, payments for environmental services, taxes and their assignments are taken into account. The GEF contribution will accelerate the development and implementation of PES (development of national and local procedures, protocol development, quantification of actors and revenues, cost of services). Finally, the GEF funded project will also finance an Information Education and Communication Campaign to sensitize local populations to this new model for sustainable forest management.

Sub-component 4.3: Enhancing the capacities of local stakeholders and communities for sustainable forest management in the context of REDD+. The baseline project will cover the development of the necessary policies and tools for REDD+, the training of the central and regional forestry administration and awareness building of local stakeholders to the REDD+ approach. The GEF component aims at building the capacity of local technicians and communities for the operationalization of REDD+ for sustainable forest management. For administration services, technical training is required on new themes such as REDD+, climate change and the equipment necessary for their operation; and to enable them to ensure proper supervision of grassroots actors. For local communities that bear primary responsibility and are project beneficiaries, it is important to strengthen their organizational capacity and technologies and make their equipment operational in sustainable forest management. This component will strengthen the capacity of the local technicians and communities through short term courses at the Nazinon training center. The activities will include : i) the elaboration of training and extension modules, and ii) the preparation and implementation of a training and extension plan for local technicians and communities (forest management groups, village development committees, associations, women groups, etc.) on sustainable forest management in the context of REDD+.

The sustainability of co-management of forests by local communities, under supervision of the forestry administration, is supported by the fact that communities gain sustainable income from: i) the exploitation of timber and non-timber forest products, ii) payments for environmental services (PES) for the maintenance and conservation of forests, and iii) income diversification in riparian municipalities. There is a key to revenue allocation from the sale of forest products, providing for i) the remuneration of labor provided; ii) contribution to the financing of community projects; iii) payments of forest tax and other taxes; and iv) contributions to the Forest Management Fund for the funding of forest management. The Forest Management Fund bears the costs

of technical coordination, forestry work, maintenance of infrastructure and equipment. The project intends to reduce the amount of wood used, improve the amount of non-timber forest products to exploit as part of the restoration and management of forests, in order to enhance carbon sequestration rates.

Promoting income-generating activities for communities is of paramount importance for the project. It will not only allow achieving the objective of the fight against poverty in rural areas, but also motivate the stakeholders and ensure sustainable forest management. Currently communities do not have consistent and sustainable income from the illegal exploitation of gazetted forests. By advocating co-management, PGFC/REDD+ and IPDACC provide opportunities for communities to earn income from sustainable forest reserves over a period of at least 20 years, which is the rotation period of the operating cycle. In this context the project will support for example improved beekeeping for honey production, the production of Baobab and Shea fruits, the exploitation, processing and marketing of Non Timber Forest Products (NTFP), the exploitation of wood energy, the mowing, conservation and sale of fodder, etc. It is noteworthy that women are main targets of the project, which will benefit from 12 multifunctional platforms for the processing of NTFPs, 8 NTFP warehouses, 900 improved hives, etc. The sustainability of these sources of income for communities will be ensured through the strengthening of organizational and technical capacities of stakeholders, and through the establishment of self-financing mechanisms with working capital. It is noted that the reduction in fuel-wood harvesting and control of deforestation may as such decrease the income of communities. However, this will be replaced by the valuation of non-timber products (NTFP) in the short-term and also by additional revenues coming from the sale of carbon in the long-term. Communities will therefore not have a shortfall with the kind of forest management as advocated in the project approach. However, there is need to ensure a better distribution of income between Forest Management Groups (FMG) and other members of the riparian communities of the gazetted forests.

As mentioned under sub-component 4.2, the future sustainability of project investments in forests will be ensured by the establishment of a mechanism of PES in each forest. The aim is to enlist FMGs, with the supervision of the forestry administration, as major players for the management, maintenance and conservation of forests instead of them simply exploiting forests. This requires a change in behavior and practices of FMGs, since they will have to adopt self-discipline in forest management in addition to assuming responsibility for the maintenance and conservation. For these services to forest conservation, they will receive payments through a PES contract they will sign with the Ministry of Environment and Sustainable Development. Under this contract the communities will commit to: i) comply with the terms of operating forest management including the rate of forest biomass removal, ii) ensure forest restoration including reforestation, rehabilitation and periodic maintenance; and iii) ensure the adoption of best management practices of forests by other members of the community through education and protection of forests.

In summary, the GEF will provide additional funding for *inter alia* i) various research activities, including research of the carbon sequestering capacity of (new) tree varieties, allowing more in-depth research than possible under the FIP program, ii) developing new PES schemes through new reforestation contracts negotiated with local residents, iii) raising awareness of local communities in forest protection through Information Education and Communication Campaigns, iv) establishing effective participatory management processes for the maintenance of forests, etc.

A.1.4: Incremental/additional cost reasoning

The overall objective of the IPDACC project is to enhance sustainable rural livelihoods in the Niger Basin and promote ecosystem and water resources conservation and wise natural resources management at sub-basin level throughout the Niger Basin. Water, hydro-energy, irrigated agriculture, fisheries, ecosystems and bio-diversity are regional resources, which necessitate a regional approach to their sustainable management, utilization and development. The SAP/SDAP and CRIP investment plans include the construction of many small dams for the development of agro-pastoral activities for poverty reduction in the basin, and the IPDACC program is in line with NBA's vision of mobilizing water resources by the construction of small dams to promote the

development of agro-forestry and pastoral activities. However, the viability of these small infrastructures depends on appropriate land management to maintain soil productivity and the reduction of river siltation. For this, it is essential to develop complementary interventions against land degradation and siltation through erosion control. This requires significant financial resources that cannot be mobilized only by the countries or by one partner or one project.

The goal of the International Waters (IW) focal area of GEF is the promotion of collective management for transboundary water systems and subsequent implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services. In this context, GEF funding will support regional coordination and the implementation of important SAP interventions aimed at the protection of production systems, ecosystems and vulnerable groups throughout the Basin – with the aim to increase the climate resilience of populations and ecosystems - through *inter alia*: i) capacity building at various levels, including community levels; ii) piloting various methods and approaches for improved watershed and ecosystem management in sub-basins facing climate change, iii) piloting improved rainfed agricultural practices and sustainable agricultural intensification approaches, iv) piloting climate change adaptation interventions at community level, v) developing tools and guidelines of best practices for adaptation to climate change in rural areas, and vi) supporting sustainable forest management and enhanced CO₂ sequestration in the forests of Burkina Faso. The cost of these pilot demonstration interventions and capacity building activities at multiple levels are incremental. The need to build capacity and increase knowledge and commitment at transboundary, national, sub-basin and community levels regarding the strengthening of climate resilience of the rural poor and the ecosystems they live in and exploit, is a significant additional cost imposed by the transboundary nature of the Niger Basin, consistent with the GEF principles and strategic objectives. On the other hand, the ability to enable cross-border learning and dissemination of lessons learned is a huge benefit of regional scale project interventions. Success in the current project will lay the foundations for longer term national and regional benefits for the nine countries concerned.

Generally, incremental cost and benefits will be at different levels:

- Ecosystems of global significance are restored and conserved: The richness of the Basin's floodplains support a wide range of natural habitats and economic activities which provide means of livelihood to riparian communities. The restoration and conservation of these habitats is key in the provision of various environmental goods and services to local, regional and global communities.
- Sustainable livelihood "investments" and poverty reduction: Current depletion trends of natural resources - despite national and regional efforts to preserve them while promoting economic development - suggest that none of the individual countries can independently afford the revitalization of the associated ecosystems and their goods and services. This project will deliver sustainable investments at community and sub-basin cum watershed level to protect production bases and maintain socio-economic activities. These investments will take into consideration current and future climate change and variability and by doing so improve the climate resilience of the rural communities.
- Sustainable exploitation of infrastructure: Erosion control by reducing sediment transport will ensure sustainable use of water storage infrastructure.
- Improved availability of shared water resources: Water scarcity and mismanagement has impacted the Basin's economic activities, caused conflicts and recurrent food insecurity. The need for a better coordination between national and regional bodies and a common understanding of shared challenges such as climate change and climate variability will be addressed.
- Improved local and regional food security: Local investments will seek to improve the prevailing social conditions through the conservation of water, biodiversity and land, and thereby increase food and energy security by stabilizing crop yields and increasing fuel-wood availability.

The incremental benefits of this project will accrue to the international waters of West Africa; there will be lessons learned on international water issues that are relevant to all of SSA, especially regarding the impacts of climate change on the livelihoods of the rural poor and on ecosystem goods and services across national boundaries, and consequently on the interests of vulnerable rural people, which form the majority of the inhabitants of the Niger Basin and SSA. Ecosystem and water resources conservation and wise use of water in Africa constitute an incremental benefit.

Cumulatively, the enhanced environment will enhance the ecosystem goods and services, including globally significant biodiversity and the maintained capacity of natural systems to sequester carbon. However, there are significant transaction costs which act as barriers to achieving these benefits. Examples of the barriers are inadequate institutional capacity, information and scientific understanding. The costs of overcoming these barriers are therefore truly incremental. Each project component also involves significant regional capacity-building costs. These costs are clearly incremental in that they are not in the national baselines and address transboundary environmental issues.

In summary, GEF resources provide an excellent portal for influencing a significant baseline investment program (IPDACC) in a range of critical ecosystems throughout the Niger Basin, particularly a project which allocates high priority to addressing the Basin's watershed degradation and climate resilience (in terms of natural resources and population). Successful IPDACC and GEF interventions at regional and sub-basin level will likely trigger additional investments by multi-lateral partners to ensure that NBA and its member countries will be able to implement climate resilience and adaptation strategies beyond the initial IPDACC and GEF funding. The project will strengthen the foundations of knowledge and capacity, and the cooperative institutional framework for the long-term program of climate adaptation investments under the SAP/SDAP and Climate Resilience Investment (CRIP) Programs for the Niger Basin.

A.1.5: Global Environmental Benefits and need for transboundary cooperation

In the area of water resources management, this project will promote a coordinated and integrated approach to prevent environmental degradation from overexploitation of water resources. As such, the project clearly supports Global Environmental Benefits (<http://www.thegef.org/gef/GEb>) in multiple focal areas, *inter alia*: A) in the International Waters (IW) focal area, including: i) multi-state cooperation to reduce threats to international waters, ii) restored and sustained freshwater ecosystems goods and services, and iii) reduced vulnerability to climate variability and climate-related risks, and increased ecosystem resilience; B) in the Land Degradation (LD) focal area, including: i) improved provision of agro- and forest ecosystem goods and services, ii) Reduced vulnerability of agro-ecosystems and forest ecosystems to climate change and other human-induced impacts, and iii) reduced pollution and siltation of international waters; C) in the Climate Change Mitigation (CCM) focal area, including: i) enhanced carbon stocks and CO₂ sequestration under sustainable management of land use, land use change, and forestry, and D) in the Sustainable Forest Management/REDD+ focal area, including: i) reduction in forest loss and forest degradation, and ii) enhanced sustainable livelihoods for local communities and forest-dependent people. The estimation of the amount of carbon sequestered by the project is based on the Carbon Measurement and Monitoring Guide for the soil-plant system of forest formations and agro-forestry in West Africa (CILSS and AGRHYMET)²⁹. It will result in an additional 1.5 million tons CO₂-eq sequestered over 25 years (areas of habitat and wetlands treated: 2,500 ha restored - 132,500 tons eq CO₂; 6400 ha forests and wetlands under improved watershed management - 339,200 tons eq CO₂; 7,800 ha of arable land to be regenerated for sustainable rainfed agriculture - 413 400 tons eq CO₂; 12,000 ha restoration and enhancement of carbon stocks in forests in Burkina Faso - 636,000 tons eq CO₂; 500 km of hedgerows – 8,800 tons eq CO₂, for a total of 1,529,900 tons eq CO₂, rounded to 1.5 million tons eq CO₂), enhance communities'

²⁹ See Footnote 27

productive assets and strengthen their resilience against climate change through increased flows of ecosystem services (water, soil conservation, etc.)

Poor land and water management practices and biodiversity loss coupled with hydro-climatic variability and large scale deforestation for domestic energy supply, contribute to severe ecosystem degradation in an already poverty-stricken environment, and reduce land productivity and the capacity of watersheds to act as a natural buffer against weather shocks. Environmental flows are often not maintained due to over-abstractions for irrigation during the dry season, thereby contributing to the deterioration of water quality and inflicting damage on ecosystem services, fisheries and the human well-being of riverine people. There is thus an urgent need to protect the Basin's natural resources and ecosystems and reduce environmental degradation. Improving the Basin's resilience to climate variability and change is equally critical to avoid future water and food crises and calls for investments in storage reservoirs and other water infrastructure. None of these large-scale interventions can be implemented unilaterally and in isolation, requiring the fostering of *transboundary cooperation* between the riparian countries through a solid legal, institutional and regulatory framework.

Within the context of the SAP, SDAP and CRIP, this project seeks to increase the socio-economic and climate resilience of the largely rural population in the Niger Basin, mainly through the implementation of numerous small-scale interventions at local levels. However, the large-scale application of small-scale interventions, such as the construction of small dams and water harvesting structures to enhance water availability upstream, will ultimately have a significant impact on downstream river flows, and therefore require a *regional approach*. There is broad agreement that addressing water-challenges is central to building climate resilience, and that adapting to climate change through water-related interventions is essential to ending poverty and reducing inequality. There is equal broad agreement on the importance of *transboundary cooperation* in the Niger Basin in the face of the present and possibly increasing hydro-meteorological variability and change in the region. Water is central to many sectors relying on its availability in sufficient quantity and quality, and is as such the primary channel through which the impacts of climate change will be felt across key growth drivers of the global economy. Changing precipitation patterns and temperatures along with extreme events can significantly alter agronomic productivity and irrigation potential. The consequences of climate change can mediate through the water sector such as effects on human health and changes in natural habitats and biodiversity. Informed, coordinated water management is thus needed to predict and secure water availability in the face of increasing hydrological variability and long-term climate change. Adaptation to climate change is also essential to addressing inequality as the poor are often most vulnerable to the effects of climate variability. Interventions will be developed to minimize the potential impacts of variability in water resources availability resulting from extreme climate events (drought, floods) or long-term climate changes. The project aims to halt the deterioration of natural resources and strengthen the process that supports the trend towards sustainable natural resource management, protection of the environment, promotion of alternative income sources and diversification of welfare.

A.1.6: Innovativeness, sustainability and potential for scaling-up

Environmental sustainability: Project activities will directly address major sustainability issues related to the management and conservation of forests, ecosystem management and biodiversity in order to sustain their role in the continued production of environmental services. Furthermore, methods and technology for sustainable use will be extended to rural areas and will be providing substantial environmental benefits in terms of forest protection, water conservation, soil erosion prevention, wildlife and flora protection and the preservation of fragile ecosystems. The project will demonstrate that the adoption of good practices for the management of water, soil and forests through participatory approaches can deliver tangible benefits to the concerned communities, in terms of environmental goods and services. This will in turn contribute to the protection of natural resources and the introduction of better methods for the cultivation and grazing (forage production) in the buffer zones of protected areas and forest reserves.

Financial sustainability: When communities support themselves that will push them to start new businesses and to increase their demand for public and private services; it may also promote new industries (such as ecotourism) in villages. These investments will strengthen local financial institutions, including credit institutions and micro-credit, because they will effectively secure disbursements and financial services that will be needed in the flow of investment from public and private sources.

Institutional sustainability: The project was prepared in close consultation with the government authorities of NBA's member countries and the national Focal Points of NBA and GEF, which are all committed to its success.

Social sustainability: Engaging community groups in the implementation of this project will reinforce their role as stakeholders in the development of their environment. Participating communities are strong and cohesive. During project planning and design (workshops and field visits), national consultants discussed with the local people their opinions on the proposed activities, and they generally expressed their desire to participate. This provides a good foundation for social sustainability. The positive effects of capacity development will be felt in all concerned communities and will contribute to more effective participatory practices, to improved independent governance, and to a commitment to decision-making beyond the simple management of natural resources.

Replicability and scaling-up: Pilot projects planned to be undertaken with the participation of communities in five representative watersheds will broadcast a telling message, and will serve to remind the participating communities to take their own future in their hands in order to better manage their natural resources and better adapt to the adverse effects of climate change at community level. Such message translates to a renewed attention on the part of local and national authorities for the preservation of natural resources and will give a boost to initiatives regarding the conservation and sustainable management of natural resources. This project will specifically test a number of community-based solutions, which can be extrapolated and scaled-up elsewhere. Since many of the proposed initiatives will be implemented by local communities through participatory action and with the involvement of local authorities, user associations and community organizations, other community groups may be motivated in launching their own initiatives regarding conservation actions and sustainable management of natural resources.

A.2 Child Project: N/A

A.3 Stakeholders: Consultation mechanisms will be developed to promote appropriate allocations among competing uses, equitable distribution of benefits and burdens, adequate involvement of both women and men and community participation in addressing sustainability in water resources management. Community participation in conservation will increase sustainable practices and better protection of natural resources. Women will be particularly encouraged to take their role in project implementation as well as being part of various committees. The project will additionally promote gender equity in the areas of management, governance and policy development. The project will emphasize cross-sectoral, inter-ministerial, integrated ecosystem approaches that rely on consultative processes and equity in gender participation.

A genuine commitment to stakeholder involvement is imperative for ensuring co-operation in project implementation at all relevant levels, involving the private sector and locally elected organizations in seeking negotiated solutions to environmental degradation in Basin. A guiding principle of the project design is therefore the participatory approach and empowerment of people and decentralized communities for the preservation and management of natural resources and for the adoption of interventions to combat climate change and variability. The GEF funded activities will thus be implemented in partnership with decentralized communities, technical government departments and an array of other stakeholders. NBA recognizes the importance of involving a wide range of stakeholders and beneficiaries in the preparation of projects, in order to improve the effectiveness, relevance and sustainability of development programs, and to contribute to good governance, inclusion and empowerment of disadvantaged groups.

The preparation of the GEF project was initiated by early 2016, building on the interventions retained in the revised IPDACC project design, and information obtained from NBA and GEF Focal Points and Technical Departments in the member countries. Even though a stakeholder analysis has not yet been completed, extensive engagement with stakeholders was undertaken during project preparation. The GEF preparation missions held in each member country consultation meetings with relevant stakeholders involved in the sector and/or in the project (see Annex E for a summary of the consultations and a list of participants for each member country). The participatory and inclusive approach followed for the identification, conception and design of the IPDACC project and the related GEF project, implied many actors in all member countries of NBA, including a.o. relevant government agencies, decentralized technical structures, Focal Points of NBA and GEF, water user associations, women's groups, fishermen and farmers, and river quarry operators and brick makers.

The consultation process documented critical areas of concern from both governments and the local communities. In essence, the erosion of the natural resource base due to *inter alia* the growing population, land degradation, over-fishing, point- and non-point pollution, and climate variability (particularly droughts) have caused ecological imbalances which are impacting the Basin's ecosystems, consequently posing a threat to the livelihoods depending on the Basin's natural resources. Stakeholders thus identified important outputs of the project as: i) contributions to food security and poverty reduction, ii) contributions to climate resilience of population and ecosystems, iii) adaptation measures for rainfed agriculture, constituting the main source of income for a large part of the Basin's population, iv) the timely diffusion of agro-climatic and flood related information and forecasts, v) the introduction of good practices for water and ecosystem management, vi) the development of agro-forestry as a source of income and for the protection of watersheds, vii) local development programs to generate income for the population, and viii) capacity building at various levels.

The national consultations reviewed and validated information collected, and provided proposals for activities to be financed by the GEF funds. National consultants were put in charge of additional data collection and field visits to consult with the project beneficiaries. Many technical meetings were held on the design of the project, the choice of intervention areas, site selections and the definition of the main activities, during which meetings state officials, technical experts and potential project beneficiaries could voice their opinions. Women's groups were involved as well in these meetings to better understand their specific problems and address their needs. The opinions and suggestions of all stakeholders were duly taken into account in the final design of the program. For its implementation, the IPDACC and GEF projects plan to work with local NGOs, youth organizations and socio-professional organizations in various domains to facilitate ownership and ensure sustainability of project interventions. NBA will ensure that such consultations will also be held frequently at regional, national and local levels during project implementation. The main stakeholders involved with GEF project implementation are listed in Table 7.

Table 7: Summary of stakeholders involved with project implementation

Main interveners	Expected roles in Project implementation
NBA and its Focal points GEF Focal points	Coordination of the implementation process Facilitate involvement of countries and stakeholders participation in implementation of project activities and institutional arrangement; Facilitate organisation of workshops and meetings, including M&E, for project implementation and supervision at national and local levels Provide technical input in the Project Documents
Ministries of Water Resources, Agriculture and Environment	Participate in meetings regarding key project activities; Facilitate the involvement of national partners
Research institutes	Identification and design of project interventions Contribute to the elaboration of project documents, guidelines, designs and watershed management plans
Local government, water user associations	Validation of project activities, locations and institutional arrangements Facilitate the participation of local communities, specifically women

Main interveners	Expected roles in Project implementation
Community organisations, NGOs, Civil Society, Women groups, farmers and fishermen associations	Participation in stakeholders consultations Contribute to implementation of community based interventions Ensure that gender issues in the intervention areas are adequately addressed
Technical & Financial Partners, regional programs and projects	Create a synergy among their on-going programs and co-financing of the project
Private sector	Contract based implementation of project interventions

The RCU/PIU will develop the Stakeholders Participation Plan (SPP) for the project by bringing onboard the key stakeholders that are important for the realization of the goals of the project. The SPP plan will be presented to the Project Steering Committee for approval. During the implementation of the project, the aim will be to ensure full participation by a diverse range of stakeholders in order to consolidate partnerships for the implementation of the project through targeted on the ground activities and governance processes. The project will engage with partners in the Niger Basin region that are already addressing issues that are relevant to the attainment of the main objective of this project. Local communities and authorities, NGOs, private sector and technical services from various other ministries besides those responsible for environment and water resources, will be involved in the development and implementation of on the ground interventions and the implementation of specific activities. To ensure ownership, local communities and CSOs/CBOs³⁰ will be involved in the design, implementation and monitoring of the relevant on the ground interventions. The project adopts a 'bottom-up approach' so that the experiences gained at the local level during the implementation of on the ground interventions, can inform to national and regional management and policy.

Stakeholders responsible for water and natural resources management in NBA's member countries are expected to play an important role in the coordination of project activities at the national level. They would support national and regional decision making processes and monitor project progress at national level. The project will provide support to resource managers so that they can most effectively ensure linkages with the national coordination committees (NCU) and national inter-ministerial committees. The development of tools and implementation of on the ground interventions will not only benefit the resource managers and resource users, but also other partners who are concerned with management of the region's land and water resources.

The preliminary design of the IPDACC project was completed in April 2014, and revised in April 2016 as reflected under sub-section A.1.2 above, in consultation with multiple stakeholders. IPDACC will involve many local communities and recruit participation from NGOs, fishermen, herders, representatives from the agricultural sector, and representatives from the private sector. The project will seek stakeholder participation during its full duration and in the development and implementation of all project elements. During project implementation, it will be important for the stakeholders to understand the close connection between the condition of the basin's resources and their quality of life, including economic opportunities, health, heritage, and aesthetics, and for them to be involved from the beginning of the planning process so that they may have a greater acceptance of the policies and actions developed, and a greater willingness to form partnerships to work toward implementation. Being involved from the outset will allow the setting of common priorities, mutual understanding in the approaches to be applied, and the prevention of duplication and overlapping activities. Project activities at the onset of implementation will include: (i) Updating the stakeholder analysis, mapping the stakeholders based on interest in, influence over and importance to the project, identification of potential risks and conflicts that may jeopardize the project, possible relationships that can be built upon during implementation, and design of an appropriate stakeholder consultation/participation strategy and plan; (ii) Development of criteria for selecting target areas and beneficiary communities taking into consideration the objectives of the project, needs, locations as well as taking into account vulnerable and disadvantaged groups; and (iii) Adoption of participatory processes in the planning and execution of specific project components. These

³⁰ Civil Society Organization (CSO) and Community Based Organization (CBO)

processes should be as inclusive as is applicable to the outputs by embracing civil society, community based organizations, women and youth organizations, self-help enterprises/ cooperatives, local interest groups and consultation and involvement of both men and women in the decision making processes.

A.4 Gender equality and women's empowerment

Reducing inequalities based on gender and empowering women to participate more fully in social-economic growth are recognized as essential to reducing poverty and achieving development goals within the NBA countries (see Table 8). Under its Gender Strategy, NBA has committed to mainstream gender considerations in all its operations and support gender-specific activities, especially in areas where gender disparities are most severe. The natural resources of the Basin provide a key entry point not only for poverty alleviation but also for gender empowerment. Production systems in the Niger Basin have been particularly affected by the impacts of climate variability and change that have resulted in increased vulnerability of ecosystems and declining yields and agro-forestry-pastoral production. These climatic events combined with bad practices have led to recurrent food crises and the deterioration of living conditions of the population (famine, insecurity, instability, migration etc.). Rural women, mainly active in the primary sector and dependent on weather conditions and natural hazards, would thus be most affected by the effects and impacts of climate change. It is thus perceived that the improved management of the Niger Basin's natural resources – to be brought about by the Project - will be particularly beneficial to poor rural women. IPDACC will thus establish a large number of Management Committees to be trained for the maintenance and operation of new infrastructure established under the project, and ensures that at least 30% of Management Committee members shall be female.

The GEF activities adopt gender-sensitive approaches, whereby women's participation in training workshops, on-the-ground interventions, multi-stakeholder forums and user groups will be strongly promoted. While the main IPDACC project has yet to develop its strategy for gender mainstreaming, the gender-sensitive approach under the GEF project aims at: (i) contributing as much as possible to the reduction of gender based inequalities that exist in the project area, (ii) encouraging both men and women to participate in project activities and ensuring that their specific needs are taken into account, and that they all benefit from the project; (iii) creating conditions for equitable access by men and women to project resources and benefits; and, (iv) creating conditions for equitable participation in project implementation and decision making processes. The project's gender mainstreaming strategy must ensure that the various socio-economic benefits generated under the project are felt equally by both women and men.

Table 8: Gender data for the Niger Basin countries

Country	Literacy rate Female (F)-Male (M), CIA (2015)	Ratio of women (15-64 yrs) in labor market	Number of women in Parliament	SIGI ³¹ and GII Indexes	Gender Policy
Cameroon	M: 81.2% F: 68.9%	65.3%	56 (31.1%)	SIGI: 0.2803 GII: 0.587	National Gender Policy
Ivory Coast	M: 53.1% F: 32.5%	53%	23 (9.2%)	SIGI: 0.2537 GII: 0.679	National Policy for Gender Equality, Equity and Gender (2009);
Niger	M: 27.3% F: 11%	40%	25 (14.6%)	SIGI: 0.4415 GII: 0.713	National Policy for Equity and Gender (2008);
Benin	M: 49.9% F: 27.3%	68%	6 (7.2%)	SIGI : 0.278 GII : 0.614	Gender National Policy Promotion (PNPG, 2009)
Guinea	M: 38.1% F: 22.8%	66%	25 (21.9%)	SIGI: 0.3206 GII : NA	National Gender Policy (2011)
Nigeria	M: 69.2% F: 49.7%	48%	20 (5.6%)	SIGI 0.3911 GII : NA	National Gender Policy (2007)

³¹ SIGI = Social Institutions and Gender Index; GII = Gender Inequality Index

Chad	M : 48.5% F: 31.9%	64%	28 (14.9%)	SIGI: 0.4665 GII : 0.706	National Gender Policy (2011)
Burkina Faso	M: 43% F: 29.3%	77%	12 (9.5%)	SIGI 0.2819 GII: 0.631	National Gender Policy (2009)
Mali	M: 48.2% F: 29.2%	51%	13 (8.8%)	SIGI: 0.5164 GII: 0.677	National Gender Policy (2011)

Sources of gender data: <http://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS/countries>
http://www.genderindex.org/ranking?order=field_sigi_value14_value&sort=asc
<http://hdr.undp.org/en/composite/GII> for Gender Inequality Index (2014)

At the onset of the project, a gender analysis will identify (i) gender disparities that may affect the feasibility and success of the project; (ii) opportunities within the project to improve women's access to basic services, economic opportunities or decision making; and (iii) specific components or other mechanisms to ensure that both women and men participate in and benefit from the project. Women will be particularly encouraged to take their role in project implementation as well as being part of various committees, while the project will promote gender equity in the areas of management of project implementation. The resources available for capacity building can provide the necessary support and training to women in the technical, organizational and leadership domains. The project endeavours to benefit an equal number of men and women, as shown – where relevant – in the Project Results Framework.

Different actors (NGOs, women's groups, youth associations, user associations, technical services, etc.) have been widely consulted and their views and concerns regarding gender issues were taken into account during project formulation. The project also took into account the specific needs of women through the implementation of local development programs of actions and measures aimed at women (establishment of multifunctional platforms, improved stoves, revolving credit, etc). During implementation, the program will ensure that women are represented in all decision-making bodies.

A.5. Risks

The Niger Basin countries have agreed, and are committed, to achieving the Project's development objectives. They are also committed to sustaining its activities and implementing the lessons learned after Project completion. Annex A, the Results and Monitoring Framework, outlines the critical assumptions to be heeded during Project implementation to minimize risks as they correspond to the outcome indicators. Emergent risks are listed in the Table 9 below, and for each potential risk a mitigation strategy is indicated. Key risks to the program are rated medium.

Table 9: Risk Table (Risks: L= Low; M=Medium; S=Significant)

Risks	Risk Level	Mitigation
<i>Institutional risks</i> regarding the large number of countries	L	Under the NBA, efficient coordination mechanisms (Steering Committee, Technical Department, Regional PIU, National Focal Structures and Coordination Units) are established to allow good management of the project; national GEF Focal Points will also contribute to risk mitigation. Risk mitigation lies also in realistic scheduling of process, timetable and budget.
Member countries are recently confronted by <i>socio-political instabilities and security issues/crises</i> . An unstable political situation in one member country and insurgencies in the region can block the implementation of the entire regional program.	M	Political risks are considered limited as there is broad political support for the mandate and activities of the Niger Basin Authority amongst its member countries, including continued financing by all riparian states. The design of the project with one regional and nine national components facilitates country ownership and allows suspension of activities of one national component in case of socio-political turmoil or sub-regional insurgencies, without affecting the overall program. The available resources can then be reallocated to support activities in other secure sub-basins.
<i>Lack of ownership</i> - The project is not owned by the countries because the project is at the regional level		
<i>A difference in approach and strategy of intervention</i> in the countries may compromise the objectives of the program across the basin	L	Tools, approaches and intervention strategies of project implementation will be developed by the regional component and consequently disseminated within countries. This will ensure harmonization of project interventions.
<i>Climate change impacts</i> are larger/smaller than anticipated levels	M	The project is flexible enough to function under changing climate conditions. Relevant tools will be developed and used to guide integration of climate dimensions into project implementation.
<i>Different pace of project implementation</i> among the countries (one country falling behind and dragging efforts of others) due to varying capacity	L	A flexible project design allows countries and implementing agencies of components to move at different pace depending on their capacity. Budgets are allocated for capacity building of national institutions. Delays to be highlighted in implementation progress reports.
<i>Weak adhesion to regional governance structures</i> or national contributions fail to materialize	L	All member countries of NBA have already adopted the Water Charter for the Niger Basin and have endorsed the IPDACC project. Annual Council of Minister meetings provide an effective forum to re-enforce the commitment of individual countries to the Project.
<i>Conflicts</i> between pastoral and agricultural communities	M	The project shall support pastoral developments, and establish frameworks on land ownership and mechanisms for collective agreement.
Countries lack the <i>national capacity</i> to adequately contribute to ecosystem based watershed management <i>Inadequate technical and institutional capacities</i> of Steering Committees and National sub-basin agencies to participate in project activities, affecting project oversight.	M	The project will receive technical support and back-stopping by NBA, TA and AfDB, building capacity and ownership of national technicians and partners. Targeted capacity building will create critical mass of experts in the national institutions and will support training of national partners and local communities. The project will improve the efficiency and sustainability of community actions through targeted trainings for Users Associations and National NGO's engaged on basin resources management and conservation.

<i>Community involvement:</i> There are several complexities and risks of failure involved with work at the community level: livelihoods-based catchment management at the community level is often unsustainable if designed without taking into account socio-economic conditions and making sufficient investments in local capacities and institutions. Participatory management of natural habitats may fail if sustainable uses which are promoted (e.g. community agro-forestry) do not provide sufficient incentives or income to overcome short term resource depletion incentives. Community NRM objectives may not be met if activities are not suitably gender-targeted, or may not be sustained if youth groups are not involved.	M	Strong community leadership and building interest are key determinants of success. The IPDACC approach is to develop sub-basin management plans and community action plans to climate adaptation after extensive consultation with beneficiaries and others stakeholders. Thus, micro-catchment investments will follow an in-depth social analysis and participatory planning conducted with local leaders and stakeholders representing the range of needs and priorities of the targeted population. Catchment management will be pragmatic, exploring a range of options and emphasizing multiple revenue streams where possible, including ongoing government support and global conservation funding. Community engagement will emphasize the participation of women along with enhancing opportunities of other vulnerable groups. The project will promote women's active participation in local institutions. The project will involve local and international NGOs with experience in community development, community natural resources management and sustainable livelihood activities.
Authorized municipalities and community organizations receive only <i>limited financial assistance</i> to initiate and sustain the efforts initiated under the Project	M	Project Implementation guidelines should ensure that sufficient financial resources will be allocated to initiate and maintain the process of delegation of responsibilities to local authorities and communities.
<i>Catchment management:</i> Investments in catchment management are long term by nature, and their impact is difficult to monitor and dependent on a critical mass of activity being achieved	M	The program is designed to show early on demonstrable impact in selected hotspot catchment areas and other targeted areas critical for maintenance of ecological infrastructure. This approach will allow local experience to be gained and lessons learned to guide scaled-up operations later on.

A.6 Institutional, implementation and coordination arrangements

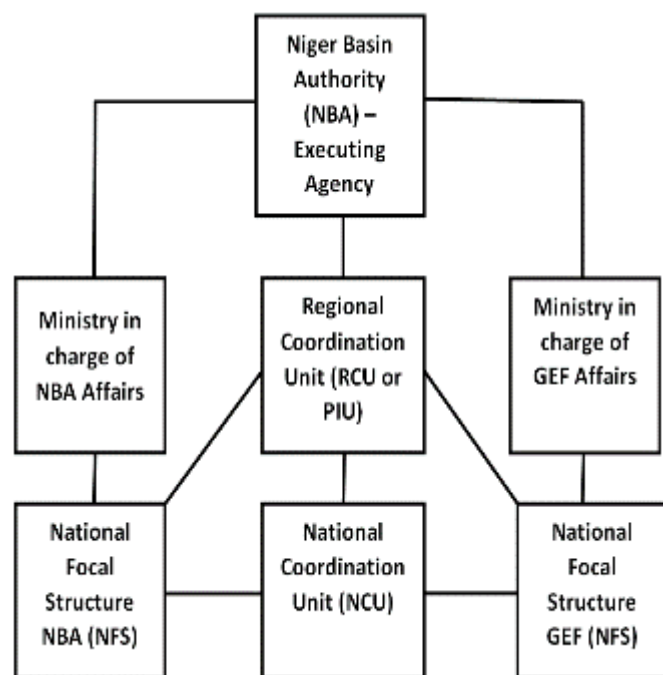
Institutional and implementation arrangements: The overall financial responsibility for the GEF funds will be under the supervision of AfDB. The management and administrative structure for the project shall consist of the following elements: Executing Agency, Project Steering Committee (PSC), and Project Implementation Unit (PIU) or regional Coordination Unit (RCU). The Executive Secretariat of the NBA is the Executing Agency (see Figure 2) for the project through its Technical Department of Operations, which will delegate the project implementation to the PIU/RCU, based at the Executive Secretariat of NBA in Niamey. In addition to budget management and expenditures control, NBA's responsibilities will include hiring and administration of international and local personnel, procurement of goods and services, travel arrangements and other miscellaneous support as required by the PIU/RCU. The PSC will be established to provide strategic guidance on the implementation of the project. Members of the PSC will include *inter alia* representatives of NBA, the National Focal Points of NBA and GEF, national Ministries involved with the project, and others to be decided upon by NBA and AfDB. Representatives of AfDB and other donor organizations may attend the PSC meetings as observers. The Steering Committee will meet regularly to review annual work plans and facilitate coordination between the various implementing partners and stakeholders. Representatives of the private sector and civil society may also participate in the PSC meetings as observers. Terms of Reference for the PSC shall be prepared by NBA prior to the project becoming effective. The PSC will have the mandate and flexibility to establish technical working groups to review specific implementation issues and other relevant topics in greater detail, and advise the PSC accordingly. Specific responsibilities of the PSC include:

- Providing guidance to the PIU/RCU to ensure that project implementation is in accordance with the project document;

- Reviewing and approving any proposed revisions to the Project Results Framework and implementation arrangements;
- Review, amend and endorse Annual Work Plans and Budgets;
- Review project progress and achievement of planned results as presented in the semi-annual progress reports, Project Implementation Reviews (PIR) and Financial Reports;
- Facilitating timely availability of co-financing support;
- Advising on issues and problems arising during project implementation;
- Facilitating cooperation between all project partners and facilitating collaboration between the Project and other relevant programs, projects and initiatives in the member countries and region;
- Reviewing and endorsing Terms of Reference for mid-term and final project evaluations.

Figure 2: Tentative organizational diagram of project implementation

The Project Manager shall be responsible for presenting reports on project implementation to the PSC as well as to NBA's Executive Secretariat. The progress reports including annual work plan and budget shall be approved by the PSC during its formal sessions. The reports shall be circulated to participating countries and posted on a project website.



In each country, the Executing Agency is the Ministry in charge of NBA affairs through which the Department in charge of the National Focal Structure (NFS) will establish a National Coordination Unit (NCU), to manage the implementation of the project in each country. The RCU/PIU will coordinate the institutional and regional components, while the national interventions (mainly component 2) will be implemented by the NCUs in each country. International and national NGOs and GEF's Small Grants Program (implemented by the UNDP) will be requested to support the implementation of actions under Component 2 and 4.

The Implementation of Community Driven Development (CDD) type Projects will involve a host of agencies and partners, including local government entities, NGOs, universities and

research institutions, and private sector agencies. Memoranda of Understanding and/or other contractual arrangements will be entered into between the Accounting Officer of the National Focal Point Ministry through the National Project Coordinator, and the implementing institutions and partners. The institutional implementation framework at local level will be harmonized with the prevailing local authority administrative set-up and organizational practices, which to some extent differ from country to country. At the national level, the overall coordination, supervision and monitoring of the activities and progress in implementation rest with the respective National Project Coordination Team (NCU).

Generally, project activities will be carried out by national and international consultants, national and international organizations, including educational, research, governmental and non-governmental organizations (NGOs) and community-based organizations, among others. This network will work closely through the National Focal Points to ensure that the governments of participating countries will endorse their work products, but NBA

and the PIU/RCU will retain some independence in naming these institutions to assure a broad representation across the stakeholders. International consultants will be involved in specific activities where capacity in the region is lacking. During the implementation, governments will be directly involved in the regionally coordinated activities through the participation of national institutions and experts in activities planned under this project. The private sector will also be actively involved in the project where necessary.

The project will establish close linkages with the Niger Basin Observatory (NBO) regarding, for example, biophysical and socio-economic basin-wide datasets. The NBO is expected to serve as the final and main custodian of the data generated under the proposed project.

General Coordination arrangements - NBA performs its coordination roles at several levels, as follows:

- At the political level, NBA organizes the Heads of State (HOS) and Council of Ministers (COM) meetings.
- At the IPDACC project level, the AfDB and NBA have organized identification and preparation missions in the period 2012 - 2016 during which potential donors for the program have been identified, including *inter alia* the West African Development Bank, the West African Economic and Monetary Union, European Union, Germany cooperation (KFW) and GCF.
- At the interventions/portfolio level, NBA adopted in 2015 its Climate Resilience Investment Plan (CRIP) for presentation at the COP21 in December 2015 in Paris. The CRIP includes 246 actions divided in 2 packages: (1) the Knowledge Package and (2) the Sectoral Investment Package, as per Table 3. Actions were selected from NBA's Operational Plan, member countries' National Adaptation Programs of Action (NAPAs) and National Adaptation Plans (NAPs). Full implementation of the plan is estimated to cost USD \$3.1 billion. The CRIP brings together adaptation measures already planned in the Niger River Basin and helps to mobilize complementary adaptation financing, including from specialized climate funds. This proposed GEF project addresses many of the Knowledge and Investment components of the CRIP, and its implementation must therefore be closely coordinated with CRIP implementation.
- Financial and Technical Partners (FTP) of NBA with active/ongoing project interventions include *inter alia* AfDB, CIDA, GIZ, AFD, AWF, UNDP, WMO, GEF and the World Bank. During the Inception Phase of the project implementation, the RCU/PIU shall prepare a detailed overview of the relevant interventions which are ongoing at the regional and national levels in the Niger Basin related to water resources, environment management, climate resilience, agriculture and under CRIP (see Table 3), to ensure that the GEF-funded interventions are well coordinated with the relevant ongoing initiatives.
- **Coordination at project level:** Annex F provides an overview of significant programs and projects at regional and national level, which are underway in the basin related to water resources, environment management and the agricultural sector of the Basin. These interventions are funded by NBA's Financial and Technical Partners (barring national contributions). Coordination with these programs and projects will be the responsibility of the PIU/RCU at NBA, supported by National Coordination Units for the project. At the GEF intervention level, the proposed project is complementary with a host of GEF-financed interventions at national level, which are summarized in Annex F. At the regional level there will be significant synergy – requiring significant coordination to avoid overlaps in project implementation - with the GEF project under preparation by UNEP/UNDP: “Improving IWRM, knowledge-based management and governance of the Niger Basin and the Iullemeden-Taoudeni/Tanezrouft Aquifer System (ITTAS)”. This project will support the sound understanding and mainstreaming of ground water resources and their linkages with surface water systems, improving groundwater governance arrangements and linkages to surface waters governance processes, providing relevant knowledge and information guiding the management of basin resources. The project is mainly focused on community-based management aiming to reduce stress and preserve the integrity of ecosystems while increasing livelihoods. Main actions are: sustainable water management, forest & land restoration, community catchment management, biodiversity conservation and pollution

control activities. Synergy is expected in terms of sharing tools, experiences and knowledge. The IPDACC/GEF project will collaborate with the above GEF financed operation through identifying opportunities and mechanisms for benefitting from synergies. The collaboration will include *inter alia* informal communications between the GEF agencies and implementation partners, and the exchange of information and outreach materials between the projects. The collaboration would primarily focus on the coordination of the small scale interventions planned to be implemented under component 2.

During the first four months of the project implementation the PIU/RCU will evaluate the relevant experiences achieved under the various projects, particularly the GEF funded projects, summarized in Annex F, and design the detailed implementation structure for the project, building on proven implementation structures at the national level of the member countries. Locations for project interventions under component 2 shall also be selected such that synergies with other projects can be exploited and overlaps can be avoided.

A.7 *Benefits (socio-economic benefits at regional, national and local level, and how they support GEBs)*

In addition to positive ecological impacts, the implementation of project activities will generate significant socio-economic benefits and impacts on the welfare of large populations, in terms of revenue improvement, poverty reduction and the improvement of food security, improved incomes and the empowerment of women, and local development. The multiple dynamic ecosystems of the Niger basin provide the livelihood and food security for the large population (over 100 million people) residing in the basin, and support a large range of biodiversity goods and services. The Basin plays a major economic role in its nine riparian countries.

The estimated number of direct beneficiaries of the project is about 80,000 people (at least 50% of which are women), consisting mainly of the communities where components 2 and 4 of the project will be implemented. Regional benefits are more dispersed and difficult to assess at this stage. The natural and water resources of the Basin are a key entry point for poverty reduction and women's empowerment.

Strengthening transboundary management of the Niger Basin will lead to improved benefit-sharing of water-related goods and services between the member countries, and serves as a means to enhance regional development and economic integration. Improved and integrated management of surface water resources will also contribute to local and regional sustainable development, improve natural risk prevention and reduce vulnerability to climate change. National benefits will be realized from improved surface water and natural resources management, increased capacities of local/regional authorities and stakeholders to sustainably manage and use natural and water resources, and improved coordination. Locally, the capacities will be strengthened to sustainably manage land and water resources, with increased community and ecosystem resilience to climate change.

In Burkina Faso, Component 4 will directly affect 5,400 producers. Indirectly, it will benefit the entire population of the 31 neighboring municipal councils, representing 848,000 people, 52% of which are women. There, the direct beneficiaries of the project are small farmers and vulnerable women who depend on forest products for their livelihoods. The project will improve people's resilience to climate change through diversification of income sources. Women dominate the exploitation of non-timber products; especially in the processing of Shea nuts, beekeeping, harvesting gum, fruit and edible wild leaves, etc.

The above defined socio-economic activities within the project will contribute to the overall global benefits by directly impacting food security, safeguarding ecosystem services, improving water quality and supporting long-term climate adaptation measures. Global environmental benefits will result from improved agricultural and fish production, integrated ecosystem management, sustainable forest management, water management and catchment protection that will lead to improvement in the resource base of the Niger Basin population as a whole, and respond to the global emerging challenge of climate change. Please also refer to Section A.1.5 for an elaboration of the GEBs.

Individual national programs do not address transboundary issues nor benefit from the sharing of experiences and a systematic data and knowledge exchange regarding land and water management in the Basin. Preparation of nine separate national programs would be costly and result in duplication and inconsistencies. As a result, the option of developing IPDACC as a regional program was chosen, also because it provides a platform for dialogue and harmonization of policy, legislations and regulatory frameworks for transboundary natural resources. In addition, a regional project provides opportunities for adopting cooperative management frameworks for the shared transboundary natural resources (land, water and fisheries), and equitable benefit sharing.

As a blended operation, the GEF project will benefit from the strengthened RCU/PIU instituted for the implementation of the IPDACC baseline project, to manage longer-term local, national and global environmental issues that contribute to the perpetuation of rural poverty in the Niger Basin. Cost-effectiveness is ensured by the fully-blended design approach of the project. This allows use of GEF resources exclusively for value-added investments and TA which generate Global Environmental Benefits related to the management and utilization of the shared natural resources of the Niger Basin. Global Environmental Benefits are manifest in multiple GEF focal areas, as already outlined above under Section A.1.5.

The project will promote catalytic and transformational investments, as well as co-management measures at strategic locations with a view to achieving the greatest impacts (both social and environmental), whilst using the least inputs possible. The Project will conduct a rigorous monetary and non-monetary cost-benefit analysis of different catchment management measures and will undertake proper mapping of impacts on land quality and water resources, to ensure that outcomes are achieved in the most efficient way. Planning and pilot implementations will be financed using GEF funds, while the upscaling of interventions will be undertaken through IPDACC at the national level. The project will invest in activities that incrementally improve the living conditions of communities, and develop their understanding of the rationale underlying basin regulations. This should contribute to improved compliance, which in turn will reduce the recurrent costs of monitoring and managing illegal natural resources use.

A.8 *Knowledge Management*

An estimated 6% of the GEF IW allocation (for components 1 to 3) will be used to strengthen the technical and administrative capacity of local and national institutions across the natural resources management spectrum, to ensure that their capacity and effectiveness is improved. This will contribute to increasing the impacts of other aspects of the project as the resources will be more effectively deployed as institutional capacity deficits are reduced. The project will build social capital by working, wherever possible through existing local structures that have established norms and procedures for cooperation, and through local champions who can serve as ‘multipliers’ in the community. The project will work through partnerships that recognize different skills and comparative advantages. This will make it possible to capitalize on the synergistic benefits that can be realized by pooling resources and working towards trans-national wetlands management, reducing land degradation on a catchment-wide scale, and sustainable natural resources management.

Transboundary learning mechanisms, Knowledge Management (KM), communication, consultations and awareness building activities will be undertaken at community, national and basin levels. Experiences will be shared through the establishment of websites, bi-annual GEF conferences, regional meetings, IW: LEARN, technical papers, video, technical forums, WWF, AMCOW and other relevant forums. Training and consultative workshops will be organized to sensitize stakeholders on climate change issues and the strategies to enhance climate resilience of communities. Overall 3% to 5% of the GEF grant will be dedicated to Knowledge Management, communication, consultations, outreach/awareness efforts, IW: Learn related activities, drawing of lessons and dissemination of lessons learned and experiences gained by the project. At least 1% of the IW budget will be spent on IW: Learn activities, which will include the participation of countries to the Biennial IW: Learn conferences, site visits, trainings, etc. The project will invest in a comprehensive information management

strategy by putting in place mechanisms for quick synthesis of information, information sharing and dissemination, structured learning among similar regional transboundary projects etc.

B1. CONSISTENCY OF THE PROJECT WITH NATIONAL AND REGIONAL PRIORITIES

Alignment with Poverty Reduction Strategy Papers (PRSP): The project is aligned with PRSPs for NBA's member countries. These strategies generally emphasize healthy ecosystems, poverty reduction and sustainable economic growth. They also identify degradation of natural resources as a key impediment to attainment of results. The project will contribute towards addressing these concerns.

Alignment to National Adaptation Programs of Action (NAPA) and CRIP (2015): The project is fully aligned with the riparian NAPAs and NBA's Climate Resilience Investment Program (CRIP), adopted in 2015 in preparation for COP21. NBA member countries own the project and have agreed on prioritized project activities. At the country level, these include the National Action Plan for the Environment of Chad, the National Environmental Plan for Sustainable Development (Agenda 21 of the Niger) of Niger, National Water Policy of Burkina Faso, National Wetlands Policy of Mali, the Environmental Action Plan (EAP) Benin, the Environmental National Action Plan (ENAP) of Guinea, the National Action Plan for Integrated Management of Water Resources Management (NAIWRM) of Cameroon and the Master Plan for Silting Control in the Niger Basin of Nigeria. Burkina Faso developed its NAPA plan for adaptation to climate variability and change (2007), taking into account various national strategies and policies, such as: the Poverty Reduction Strategy; the Strategy for Accelerated Growth of Development (2010); the National Program for the Rural sector (2013); the Strategy for Rural Development; the Environmental Plan for Sustainable Development; the Strategy for the Development of Agriculture; the National Forestry Policy (1995); the Action Plan for Integrated Water Resources Management (2003); the National Program for the Management of Forest and Fauna resources (2009); and the National Policy for the Management of Gazetted Forests (2006). The NAPA also takes into account various Conventions signed by Burkina Faso regarding the protection and conservation of the environment, wetlands and biodiversity. Moreover, Burkina Faso has adopted various laws with implications for forest management. The alignment of component 4 to national policies, strategies, NAPA and laws of Burkina Faso is elaborated in more detail under the description of component 4 (section A.1.3).

Alignment with other treaties: NBA and its member countries are party to a number of regional and international conventions and protocols that promote sustainable natural resources, such as the Ramsar Convention, UNFCCC, UNCCD and UNCBD. The project also conforms to the policies and regional strategies regarding the protection of the environment, climate change adaptation and sustainable development of the ECOWAS, WAEMU and ECCAS. The project will contribute to the achievement of these commitments and compliance with international treaties.

Alignment with SDAP/SAP for the Niger Basin: The proposed project aims to contribute to the implementation of priority actions defined in the Strategic Action Program (SAP) for the Niger River Basin, adopted in 2010 by the Council of Ministers of the Niger Basin countries. The project will also contribute to the implementation of the Sustainable Development Action Plan (SDAP) and its Investment Program (IP) for the Niger Basin (updated in 2012), under the component "Protection and preservation of the basin's ecosystems and natural resources", and to various strategic outcomes of NBA's Strategic Plan for 2013-2022.

The SAP is the main product of the GEF project implemented with support of the UNDP and World Bank, entitled "Reversing Land and Water Degradation Trends in the river Niger Basin". It is the final outcome of a regional consultation process involving the grassroots communities living in the national portions of the basin, the member countries and NBA's Technical and Financial Partners (FTP). The scope of the proposed project draws substantially from the priorities identified in the SAP. While the TDA identified priority transboundary environmental problems and site-specific issues, the SAP formulated a long-term vision for the basin's environment, consistent with the Paris Declaration (April 2004), the Shared Vision and the SDAP (2008). The Paris Declaration places Integrated Management of Water Resources at the heart of the development process,

while the Shared Vision describes the Niger basin as “*a common space for sustainable development through the integrated management of water resources and the associated ecosystems, to improve the living conditions and prosperity of populations by 2025*”.

To implement the Shared Vision, NBA developed the Sustainable Development Action Plan (SDAP). SDAP focuses on three priority areas for sustainable development, i.e.: (i) the development of socio-economic infrastructure; (ii) the protection and preservation of the basin’s ecosystems and natural resources; and (iii) capacity building and participation of stakeholders in IWRM, and as such aims to provide new social and economic opportunities for the more than 100 million people living in the Niger Basin. A major part of SDAP’s Investment Program focuses on the construction of three new dams on the Upper and Middle Niger with associated irrigated agriculture and hydro-energy generation, along with the rehabilitation of existing dams, and improved navigation and water supply. The investment program encompasses a broad based mix of large scale transboundary infrastructure investments, small scale infrastructure investments in all 9 countries (rehabilitation and valorization of small dams, development of lowlands, agro-forestry); ecosystem protection (regulatory systems, information tools including modeling of low flows, and investments in erosion and siltation control); and institutional capacity building (legal systems and tools, strengthening the NBA hydrological Observatory and sub-basin committees; and basin stakeholder mobilization). The SAP aims to complement and expand the environmental plan of the SDAP, and was therefore made consistent with the Shared Vision process by adopting the vision that: “*By 2027, the countries of the Basin will use and manage their natural resources in a coordinated and sustainable manner in an environment conducive to human development*”. Whilst the SAP focuses on the environment, it identified a series of long-term environmental quality objectives (LTEQO) and commensurate priority actions, often derived from the proposals of the NAPs.

Alignment with the water Charter for the Niger Basin: The Water Charter adopted by NBA’s member countries provides a strong political, institutional and legal framework for transboundary cooperation in the Niger Basin and for addressing regional development issues through the SAP/SDAP investment framework. In force since July 2010, it encourages transboundary cooperation based on solidarity and reciprocity for a sustainable, equitable and coordinated use of the Niger Basin resources. The treaty expresses that the Niger Basin countries are convinced of the necessity to strengthen close cooperation based on a policy of joining their means for a sustainable and coordinated development and management of the natural resources of the Niger Basin. The treaty expresses necessarily high level and rather abstract objectives, principles and procedures for the equitable sharing, allocation and integrated management of the available water resources, for the protection and preservation of the Basin’s environment and for the prevention and settlement of disputes regarding the use of the Niger Basin’s water resources. To give the Charter substantive teeth, a series of binding technical-administrative annexes serve to concretize the treaty regarding the protection of the environment, the coordinated management of major infrastructure, and the notification of planned interventions with transboundary impacts. The Annex relevant to this project is Annex 1 to the Water Charter, adopted in October 2011, on the ‘Environmental Protection of the Niger Basin’, which aims to ensure adequate protection of the environment of the Basin on the basis of sustainable, collaborative and participatory management in accordance with the goals of sustainable development. It applies to all sectors of the Basin’s environment and all its natural resources, addressing in great detail the environmental challenges facing the basin, including siltation and desertification, pollution of surface water and groundwater, water-borne diseases, loss of biodiversity, the spread of invasive aquatic plants, and the effects of climate variability and changes. It declares all interventions likely to have a significant negative impact on the environment, water resources and human health in the basin subject to environmental and social impact assessment.

Bank - GEF partnership in promoting climate resilience: With inclusive growth and the transition to green growth at the heart of the AfDB’s Ten Year Strategy (2013-2022), the Bank is working to build resilience into investments to ensure the sustainability of development achievements, even in the face of increasing climatic variability. The goal is to reduce the vulnerability of people and communities to the negative impacts of climate

change. In order to achieve these objectives, the AfDB has placed an emphasis on building resilience in physical infrastructure and communities, sustainable management of natural resources, capacity building, implication of youth and women, and creating sustainable rural infrastructure.

Alignment with AfDB's Country Strategies: The Project supports relevant pillars of the respective Country Strategies (CS) for NBA's member countries, which generally support: i) resilient infrastructure development with a focus on development and rehabilitation of critical economic and social infrastructure (roads, railways, energy, water, health facilities), ii) increased agricultural productivity, and iii) improved governance of natural resources management.

Regional Climate Strategies: In view of the high vulnerability of the region to the impacts of climate change, with the associated challenges especially for food security (which is the highest priority for water allocation under NBA's Water Charter), adaptation to climate change is a priority in the region. At the regional level, NBA's Climate Resilience Investment Program (CRIP, 2015) provides a new framework for addressing the effects of climate change and variability. Collectively the member countries pledged to advocate for technical support and financing to implement the CRIP's 246 resilience-focused priority actions and to quickly put its components into motion. The Plan builds on a history of strong riparian cooperation in the Niger Basin and represents an important opportunity to take a coordinated approach in building regional climate resilience.

Alignment with regional and global treaties: These include the Regional Action Plan for Integrated Water Management Resources in West Africa (RAP-IWRM / WA) (2001), the Water Resources Policy in West Africa ECOWAS, Environmental and Natural Resource Management General Policy, ECCAS (2007) and the Strategy for Risk Prevention, Disaster Management and Climate Change Adaptation, ECCAS (2012). NBA countries have endorsed most of international initiatives for sustainable natural resource management. They include without limitation the RAMSAR Convention on Wetlands, the Convention No. 26-96 of 25 June 1996 on Biodiversity, the Convention No. 27-96 of 25 June 1996 on Climate Change and the Kyoto Protocol, the African Convention of 21 April 1980 on Nature Conservation and Natural Resources, the Commitment of IWRM Development and the MDGs in the 2008 Conferences, Sirte, Tunis and Sharm El-Sheikh, the Convention on Biological Diversity (UNCBD -1995) and the United Nations Framework Convention on Climate Change (UNFCCC – 1995).

Summary of Intended Nationally Determined Contributions (INDCs) - All member states are signatories to the UN Framework Convention on Climate Change (UNFCCC), and several member states belong to the Least Developed Countries (LDC). The INDCs of the member countries are summarized in Table 10, demonstrating a firm commitment of the countries to contribute their share to the achievements of the COP21 targets and objectives. The IPDACC and GEF projects assist the countries towards attainment of their COP21 targets.

Table 10: Intended Nationally Determined Contributions of NBA's member countries

Country	Reference Million tons CO ₂ eq.	Target (Business As Usual = BAU).	Agriculture, Forestry and Other Land Uses	Climate change adaptation measures
Cameroon	40 M Tons CO ₂ eq. (2010) Agric.: 62.5%	71 M Tons CO ₂ eq. (2035); Reduction of 32% (BAU, 2035)	46.5 M Tons CO ₂ eq. (2035)	<ul style="list-style-type: none"> • 20 available programs described in a Preliminary five-year (2016-2020) Action Plan
Côte d'Ivoire	15.96 M Tons CO ₂ eq. (2012) (Agriculture: 6.14 M Tons CO ₂ eq.)	24.58 M Tons CO ₂ eq. Reduction of 28% (BAU, 2030)	4.72 M Tons CO ₂ eq. (2030)	<ul style="list-style-type: none"> • Agricultural development without an extension on the remaining forest land; • Intensification of agricultural, animal and fish production; • Promoting sustainable and integrated practices;

Country	Reference Million tons CO ₂ eq.	Target (Business As Usual = BAU).	Agriculture, Forestry and Other Land Uses	Climate change adaptation measures
				<ul style="list-style-type: none"> • Sustainable management of forests and enhanced forest governance; • Reforestation with fast-growing species • Sustainable water resources management.
Niger	0,031 (SCN), 2000)	Unconditional reduction of 2.5% (BAU, 2020) and 3.5% (2030) - Conditional reduction of 25% (BAU, 2020) and 34.6% (2030, or a reduction of 33,400 GgCO ₂ eq.).	89% of the total GHG emissions.	<ul style="list-style-type: none"> • Restoration of agricultural, forestry, and pastoral lands: 1,030 000 ha • Assisted natural regeneration: 1,1 Mha • Fixation of dunes: 550,000 ha • Management of natural forests: 2.2Mha • Hedgerows: 145,000 km • Planting of multiuse species: 750,000 ha • Planting of Moringa oleifera: 125000 ha • Seeding of roadways: 304,500 ha. • Private forestry: 75,000 ha.
Benin	6.3 (2000) Agriculture : 68%	Conditional reduction of 21.4 % (BAU 2021-2030)	9.5 (2030)	<ul style="list-style-type: none"> • Promoting the improved farming techniques as part of crop production; • Laying out 15,000 hectares of forest plantations per year; • Reducing and maintaining the rate of deforestation of 35 000 ha/year instead of 60,000 ha/year today.
Guinea	15.12 (1994) Agriculture: 62%	-13% greenhouse gas (GHG) emissions in 2030, excluding land use and forestry	-----	<ul style="list-style-type: none"> • Preserving the quality and quantity of water resources, for the benefit of the people of Guinea and West Africa • Protecting, conserving and managing ecosystems, reviving economic activities and boosting the resilience of communities in its coastal zone • Supporting adaptation efforts of rural communities to develop sustainable agro-sylvo-pastoral techniques
Nigeria	2 Tons CO ₂ eq. per capita 214.21 (2000) 263 (2010)	2030 BAU: around 3.4 Tons CO ₂ eq. 2030 Conditional: around 2 Tons CO ₂ eq.	-----	<ul style="list-style-type: none"> • Economy-wide energy efficiency • Climate smart agriculture
Chad	8,380 Gg CO ₂ eq. (2010), including lands and forests Agriculture: 18 448,00 Gg CO ₂ eq. (2010),	Unconditional reduction of 18.2% (BAU 2030, 23,449 GgCO ₂ eq.). Conditional reduction of 71%	30,399 Gg CO ₂ eq. (2030).	<ul style="list-style-type: none"> • Expanding access to water while ensuring a better use efficiency • Promoting the intensified and efficient water agriculture • Promoting user associations • Supporting the exploitation of fishery resources
Burkina Faso	75,633 Gg CO ₂ eq. (2015)	BAU: 118,323 Gg CO ₂ eq. (2030) Conditional reduction: 13,766 Gg CO ₂ eq. (2030)	Reduction 7,236 Gg CO ₂ eq. (2030)	<ul style="list-style-type: none"> • Promotion of sustainable land management (SLM) – Improving access to climate information • Implementation of water and soil conservation techniques (stone barriers, levees, filtering levees, terraces, half-

Country	Reference Million tons CO ₂ eq.	Target (Business As Usual = BAU).	Agriculture, Forestry and Other Land Uses	Climate change adaptation measures
				moons, agro-forestry, dune stabilization, etc.) <ul style="list-style-type: none"> • Development of water reservoirs: construction of modern wells, high-flow boreholes, dams; development of ponds; stream diversion • Implementation of good forestry and agro-forestry practices (selective cutting of firewood, assisted natural regeneration, controlled land clearing)
Mali	-192 M Tons CO ₂ eq. (2010) Agriculture : 48.5 (2010) Forestry and Land use : - 245	-85 M Tons CO ₂ eq.	Agriculture 59.5 (2030) Forestry and Land use : -153 M Tons CO ₂ eq. (2030)	<ul style="list-style-type: none"> • Reforesting 325,000 hectares; • Promoting natural regeneration and fighting against desertification to reinforce the protection of 9 million hectares of gazette areas; • Laying out 92,000 ha for hydro-agricultural development, for sustainable land management systems; • Laying out of 3.300 km of transhumance routes and 400,000 ha pastoral areas distributed over 21 sites; • Rainwater harvesting and storage to contribute to universal access to safe drinking water and for other uses to benefit 75,000 rural households.

C. DESCRIBE THE BUDGETED M & E PLAN

Monitoring and evaluation includes a series of linked activities, including annual project reports, mid-term evaluation and terminal evaluation. The Monitoring & Evaluation (M&E) Plan recognizes the need for the PIU/RCU to finalize during the initial stage of project implementation a robust monitoring and evaluation program to support accountability and learning. The aim of M&E is to assist the NBA and the project stakeholders in the member states to assess project performance based on the baseline data, progress indicators, targets and means of verification outlined in the Results Framework of the project (Annex A). Planning and M&E of the GEF/IPDACC shall be closely integrated with the planning and M&E system for the baseline IPDACC project. The M&E system shall aim at conducting a periodic collection, processing and dissemination of information on the implementation of planned project activities (*inputs*), the physical and financial performance (*outputs*) and *results* achieved in terms of impacts and sustainability of project achievements. It is thus pivotal that NBA and the RCU/PIU³² agree at the initial stage of project implementation with all national and local stakeholders on the detailed Results Framework for the GEF-funded project interventions, including the indicators serving as progress markers toward the intended results. The Results Framework shall be well aligned with the Results Framework for the IPDACC baseline project (yet to be finalized). The tentative Results Framework included under Annex A would serve as a starting point for these stakeholder consultations. The RCU/PIU shall be responsible for the overall development and implementation of the M&E system.

The M&E Plan for the project shall be finalized during the project launch/inception workshop(s) in the third month of project implementation, along with the finalization of the results Framework, including outcomes and

³² RCU/PIU = Regional Coordination Unit/Project Implementation Unit

outputs, performance indicators, verification methods, and the definition of responsibilities for M&E. The participants in the inception workshop will include partners and agencies that are assigned roles in the project organizational structure, representatives of the participating countries, and NGOs. The inception workshop will consolidate the regional ownership of the project and approve the first year annual work plan, the draft of which will be prepared by the PIU/RCU. The inception workshop report is a key reference document which will be prepared and shared with participants within two weeks of the workshop to formalize various agreements and plans agreed upon during the meeting.

The first Project Steering Committee (PSC) meeting will be held back-to-back with the Inception Workshop. An important function of the PSC is to discuss and approve the roles and responsibilities of all project organizational structures and the Annual Work Plans and Budget. The PSC will receive periodic reports on progress made by the project and, as needed, can make recommendations to AfDB concerning the need to revise any aspects of the Results Framework or the M&E plan.

Project oversight to ensure that the project meets AfDB and GEF policies, standards and procedures is the responsibility of AfDB's Project Task Manager. The Task Manager will also review the quality of draft project outputs, provide feedback to the project partners, and establish peer review procedures to ensure adequate quality of scientific and technical outputs. Project supervision will take an adaptive management approach. The Task Manager will develop a project supervision plan at the inception of the project, which will be communicated to the project partners during the inception workshop. The project supervision plan will focus on outcome monitoring and financial management of the Project. Project risks and assumptions will be regularly monitored both by project partners and AfDB, since risk assessment shall be an integral part of the Project Implementation Review (PIR). The quality of project monitoring and evaluation will also be reviewed and rated as part of the PIR. Key financial parameters will be monitored quarterly to ensure cost-effective use of financial resources.

The M&E information system shall build upon GEF monitoring tools and requirements, NBA's standard procedures for work planning, reporting and M&E, and the tools mandated by the AfDB for project monitoring. The M&E system will be based on four interdependent pillars to track progress against core and component-wise performance indicators, viz.:

1. Planning through detailed Annual Review Reports and Annual Work Plans and Budgets (AWPB);
2. Assessment of implementation progress and performance through the monitoring of activities and semi-annual supervision of project implementation, combined with supervision of the baseline IPDACC project;
3. Monitoring of results to assess progress in achieving the intermediate and strategic outcomes, based on the detailed Results Framework to be agreed with stakeholders during the Inception Phase of the Project;
4. Annual audits and specific evaluations to be conducted by independent consultancy firms, to ensure that the financial resources made available to NBA, NFSs and national institutions and local communities are used for the intended purposes. Special evaluations include a mid-term evaluation three years after project effectiveness and the final evaluation at project completion.

A web-based Project Management Information System (MIS)³³ shall be established by the RCU/PIU to serve as a tracking tool of the project's implementation progress and to enhance transparency, standardization, supervision, auditing and accountability. The first modules to be developed will address input-output monitoring related to the various activities proposed under the various components and sub-components of the project, as a means of tracking the initial implementation progress. Modules for results monitoring will be developed once the input-output monitoring module(s) are online and the Results Framework for the project has been finalized. The MIS will link the PDO/Global Environmental Objective, the project outcomes, outputs, activities, and inputs.

³³ The baseline IPDACC and GEF-funded project activities will also conduct other monitoring activities, such as for example: (a) water and climate monitoring systems; (b) vegetative cover and land-use monitoring systems; (c) capacity of community groups in terms of sustainable land and water management; and (d) vulnerability levels of target populations. These monitoring systems would involve a combination of field-based data collection and remote sensing/GIS.

Baseline data gaps for M&E will be addressed during the first year of project implementation. A plan for collecting the necessary baseline data will be developed by the PIU/RCU at project inception to assess the baseline conditions for the selected performance indicators, including both national as well as regional assessments.

The main modules of the MIS will be installed at the RCU/PIU office at NBA, with sub-modules at the National Offices of NBA's Focal Points in the member countries and the Ministries/Departments responsible for the implementation of the baseline IPDACC project. Each National office will ensure that each implementing agency or community is linked to its sub-modules, as needed. Community-based M&E will regularly track the performance and impact of the CDD type catchment and watershed management sub-projects. Community-based M&E may be enhanced through integration of social accountability mechanisms, such as community scorecards, social audits, participatory budgeting and expenditure reviews, as well as conducting participatory poverty assessments.

Important M&E milestones in the Project calendar are:

- *Regional and national Project launch/inception workshops* with all concerned stakeholders, including *inter alia* NBA and its national Focal Structures, GEF Focal Points, AfDB representatives, national Technical Departments, representatives of NGOs and beneficiary local communities, etc. These workshops shall finalize amongst others the Results Framework; the work plans and budgets for the first year; the M&E Plan; the role and responsibilities of each stakeholder and actor in the project for project implementation and M&E; fiduciary and procurement arrangements; communication and decision-making procedures, and the establishment of coordination committees and/or mechanisms.
- *Semi-annual Progress Reports*: These will be prepared by the PIU/RCU (with input from NCUs) and will be assessed based on the Project Results Framework. The detailed semi-annual reports will be prepared by the Project Manager and submitted to the PSC and the AfDB, covering the periods January – June and July – December. The reports will include *inter alia* physical progress on inputs and target outputs, progress indicators, impacts and lessons learned, updates of work programs, risk management and adaptation of work plan to identified risks, GEF focal area indicators, details of any unforeseen impediments to project implementation and remedial measures proposed and/or taken. The report will include up-to-date financial information on the expenditure of project funds. The reports will be reviewed, amended as required and approved by the PSC as part of the minutes of their meetings.
- *Annual Project Implementation Review (PIR)*: The PIR will be prepared by the Project Manager to monitor the progress made since the commencement of project implementation and in particular for the previous reporting period of 12 months. The annual PIR will combine both AfDB and GEF reporting requirements. The PIR report will include details on the progress made towards realization of project objectives and project outcomes, project outputs delivered per project outcome, lessons learned in the implementation of the project, financial expenditure reports, risk and adaptive management, etc.
- *Annual Project Report (APR)*: This report will be prepared by the Project Manager in consultation with the relevant Stakeholders and will be submitted to AfDB and GEF. The report shall enable project partners to obtain information on the performance of the project regarding the implementation of agreed activities. The APR will also provide details on project achievements, initial evidence of success, including constraints in the implementation of agreed activities and how such constraints and/or shortcomings will be addressed in subsequent years. The report will also include a compilation of lessons learned and financial expenditure statements.
- *Mid-Term Evaluation (MTE)*: The project will undergo an independent Mid-Term Evaluation at the mid-point of project implementation (2019), in order to i) assist the recipient Governments, AfDB, and the beneficiaries and stakeholders to improve the efficiency, effectiveness, relevance and impact of the project; ii) take

corrective action to improve the planning, project formulation and implementation phases; and iii) ensure accountability for results to the financial donors (GEF and AfDB), stakeholders and beneficiaries. The mid-term project evaluation shall thus focus on relevance, performance (effectiveness, efficiency and timeliness), issues requiring decisions, and actions and lessons learned on the project design, implementation and management. The evaluation will also include all parameters recommended by the GEF Evaluation Office for mid-term evaluations and will verify information gathered through the GEF tracking tools, as relevant. The evaluation will be carried out using a participatory approach - parties that benefit or are affected by the project will be consulted. Such parties will be identified during a detailed stakeholder analysis to be undertaken during the first six months of project implementation. The project Steering Committee, National Focal Points and other stakeholders will participate in the MTE of the project. The PIU/RCU will prepare a management response to the mid-term evaluation recommendations along with a plan for implementing the required changes in project implementation. The AfDB Task Manager will have the responsibility of monitoring the implementation of agreed recommendations. The Terms of Reference for the MTE and recruitment of consultants will be handled by the AfDB Task Manager in consultation with the GEF coordinator.

- *Final Evaluation (FE):* An independent final evaluation will take place six (6) months prior to the final Project Steering Committee meeting or the scheduled Project closure date. This final evaluation will be undertaken in accordance with AfDB and GEF procedures and will focus on the same issues as the MTE. In addition, it will also examine the early evidence of project impact and sustainability of results, including the project's contribution to capacity building and the achievement of global environmental benefits (GEBs). GEF Tracking Tools will also be compiled before the final evaluation and entries shall be verified by the consultant. The final evaluation will focus on the delivery of the project's outputs and outcomes detailed in the project document and as amended following the MTE, as the case may be. The final evaluation will assess the impact and sustainability of results, including contribution to capacity building in the Niger River Basin region, including also the achievement of GEBs. The Terms of Reference for the FE and recruitment of consultants will be handled by the AfDB Task Manager. The final evaluation will also provide recommendations for follow-up activities. The management response to issues raised in the final evaluation report will be prepared by the RCU/PIU in consultation with the National Focal Points and NCUs. The final evaluation report shall be submitted to the GEF Evaluation Office not later than 6 months after the completion of the Final Evaluation.
- *Final Project Report:* This report will be prepared by the PIU/RCU during the last three months of the project. The report will provide details on the achieved results (outcomes and outputs), lessons learnt, problems and constraints experienced and specific areas where results may not have been achieved. It will also provide recommendations on measures that should be put in place to ensure sustainability and replication of the project's results. The recommended follow-up actions will be the responsibility of the NBA, to ensure long-term sustainability of project results.
- *Project Implementation Review (PIR):* The GEF/IPDACC project will need to participate in the GEF Project Implementation Review (PIR) process. The PIR is mandatory for all GEF projects that have been under implementation for at least a year at the time that the exercise is conducted. The PIR will be carried out between June and September of each year of implementation. It will contain sections on basic project data, financial status, procurement data, impact achievement and progress in project implementation. The basic outline will follow the structure of the Results Framework with indicators assigned to objectives, means of verification, and assumptions. The PIR questionnaire is sent to the Project Manager, usually around the beginning of June of each year, who will have on average 1.5- 2 months to collect the necessary information, and submit the PIR to the AfDB.
- *Periodic supervision missions:* Supervision and monitoring of project progress at field level by the RCU/PIU, NFS of NBA and GEF, NBA staff, Steering Committee members and AfDB supervision missions.


- *Periodic Site Visits (PSV) to support project implementation:* NBA and PIU/RCU staff will conduct periodic field visits to project sites in the participating countries based on a schedule to be agreed during the Project's inception workshop and subsequent PSC meetings. These visits will be factored in the annual Work Plans of the project. The purpose of site visits will be to assess the progress in the implementation of specific project interventions in the field. Members of the Project Steering Committee may be invited to join these visits as deemed appropriate. A field visit report will be prepared by the mission team within a period of one month after the visit to the field. The CPA Service to be contracted for annual audits may also undertake ad hoc site visits.

M&E budget: In view of the large geographical spread of the project over 9 countries, the budget required for M&E (including project launch workshops in each country) is substantial. The total budget for the M&E component of the baseline IPDACC and GEF projects is estimated at US\$ 750,000, primarily supported by the baseline IPDACC project (see Table 11). The GEF support to M&E is estimated at US\$ 300,000, directed towards i) the project's launch/inception workshops, ii) harmonizing data gathering and analyses procedures, methods, standards, tools and protocols among countries, and developing information sharing protocols, linked to the web-based Management Information System (MIS), (iii) part of the cost of external audits, and (iv) M & E missions to the project area by the RCU/PIU; see Table 11.

Table 11: Cost estimate for the M&E component of the IPDACC and GEF/IPDACC projects (300 K\$ to be charged to the GEF project and \$450 K\$ to the IPDACC project)

M & E Activity (covering the baseline IPDACC and GEF projects)	Timing/ Frequency	Responsibility	Budget in US\$
Regional and national project launch cum inception workshops; agreement on detailed Results Framework and baseline surveys	Months 2	NBA and RCU/PIU	125,000
Harmonizing data collection and analyses procedures, methods, standards, tools and protocols among countries; and developing a regional M&E system, through a web-based MIS	Months 2 - 4	RCU/PIU and national Focal Points of NBA Consultant	75,000
External Audit Reports (annual or every other year)	Annually (6)	NBA, Accountant Firm	120,000
Periodic M&E Reports and visits to project area	Semi-annually	NBA, RCU/PIU	230,000
Mid-Term Review	Year 3 (2019)	Consultants	50,000
Final Evaluation – Final Report	Year 6 (2022)	Consultant	100,000
Miscellaneous/unforeseen cost			50,000
		TOTAL cost (US\$)	750,000

PART III: CERTIFICATION BY GEF PARTNER AGENCY

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for CEO Endorsement					
Agency Coordinator, Agency Name	Signature	Date	Project contact person	Telephone	E-mail address
Mahamat ASSOUYOUTI		02.02.2017	GARBA, Laouali	+216-71101990	l.garba@afdb.org

ANNEX A: PROJECT RESULTS FRAMEWORK GEF/IPDACC Project

Countries and Project Title: Guinea, Côte d'Ivoire, Mali, Burkina Faso, Niger, Benin, Chad, Cameroon, Nigeria: Integrated Development for Increased Rural Climate Resilience in the Niger Basin

Project Development Objective: Increase the water security, climate resilience and management of natural resources at regional, sub-basin and community levels in the Niger Basin by contributing to SAP/SDAP and CRIP implementation and outcomes of NBA's Strategic Plan

	RESULTS CHAIN	PERFORMANCE INDICATORS			MEANS OF VERIFICATION	RISKS AND MITIGATION MEASURES ³⁴
		INDICATORS	BASELINE (2015)	TARGETS 2021		
IMPACTS	Poverty reduction, enhanced climate resilience of local communities and global environmental benefits achieved through increased agricultural production and sustainable management of the Niger Basin's natural resources	Poverty rates in the Niger Basin in the areas impacted by the IPDACC project and by the GEF interventions Areas of degraded land restored	Poverty and food security rates: Benin: 50,9%/22% Burkina Faso: 46,4%/38% Cameroon: 37.5%/18% Chad: 60%/25% Guinea: 55,2%/30.5% Ivory Coast: 38,4%/yy% Mali: 43.6%/25.4% Niger: 63%/yy% Nigeria: 67%/8.5% 41,500 ha (2011)	The poverty rates in the IPDACC project area is reduced with 10% 80,000 ha	National Poverty Assessment Reports; UNDP Human Development Index; Environmental data collected by the Niger Basin Observatory	
OUTCOMES	Increased water security and climate resilience at regional, watershed and community levels	Area (ha) of ecosystems and arable land under sustainable management by local communities Access of women to the benefits of natural resources increased	IWRM processes are to a degree active in all member countries	100,000 ha under sustainable management financed by IPDACC (7,825 ha financed by GEF) Target for access of women to the benefits of natural resources : 45%	Project reports M&E reports PCR ³⁵ Report NBA	

³⁴ See section A.5 for elaboration of risks and mitigation measures

³⁵ PCR = Project Completion Report

	RESULTS CHAIN	PERFORMANCE INDICATORS			MEANS OF VERIFICATION	RISKS AND MITIGATION MEASURES ³⁴
		INDICATORS	BASELINE (2015)	TARGETS 2021		
	Enhanced capacity of regional, national, sub-basin and community level stakeholders to sustainably and adaptively manage natural resources, accounting for climate change and variability	Improved adaptive capacity of the population in project areas	NA	70,000 persons are affected	Project reports M&E reports PCR	
		Number of training programs implemented	NA	10,000 persons to be trained		
		Number of women participating in training programs	NA	at least 50% of trained persons are women		
	Conservation and enhancement of carbon stocks and other ecosystem services are promoted through sustainable forest management	Area (ha) conserved and/or reforested	NA	12,000 ha conserved and/or reforested PES mechanism in place to support sustainability and replicability of interventions (by IPDACC)	Project reports M&E reports PCR	
OUTPUTS	Component 1 : Building increased water security and climate resilience at regional level (1.75 million USD)					
	1.1 Transboundary threats of climate variability and change and potential impacts on SP/SDAP investments are assessed.	Assessment of the Niger basin's vulnerability to climate change and recommendations for strengthening the climate resilience of SP/SDAP, CRIP and national NAPAs are adopted by NBA-COM.	In 2015 the NBA-COM has adopted in preparation for the COP21 a Climate Resilience Investment Program (CRIP), which also includes many national climate change adaptation initiatives.	a) NBA has revised its regional strategy, addressing desertification, erosion, land degradation, floods, forest degradation, degradation of ecosystems and biodiversity, etc. b) At least five national NAPAs have been updated with support of NBA.	NBA reports M&E reports PCR	<i>Risk:</i> Countries lack the national technical capacity to revise their NAPA and lack ownership of the project. <i>Measure:</i> The project will receive technical support and back-stopping by NBA and Technical Assistance, which will build capacity and ownership of/by national technicians and partners. Targeted training is planned to support capacity building of national partners.

	RESULTS CHAIN	PERFORMANCE INDICATORS			MEANS OF VERIFICATION	RISKS AND MITIGATION MEASURES ³⁴
		INDICATORS	BASELINE (2015)	TARGETS 2021		
	1.2 Tools and guidelines for building climate resilience at sub-basin and community level are developed	Guidelines for good adaptation practices and tools for building climate resilience of rural communities are prepared and adopted by countries and local communities. Improved dissemination of hydro/agro-climatic info to local communities	Local knowledge about adaptation to climate and hydrological variability, particularly to droughts such as experienced during the 1970s and 1980s droughts.	Guidelines and tools are practiced by 75% of the communities impacted directly by the project. Guidelines and tools for good adaptation practices are distributed by the national governments at community level in 6 of NBA's 9 member countries	Project reports M&E reports PCR	<i>Risk:</i> Investments in catchment management are long term by nature <i>Measures:</i> Program is designed to show early on demonstrable impact; lessons learned will guide to scale-up operations.
	1.3 Lessons learned and disseminated for enhanced climate resilience of rain fed agriculture on pilot basis in five agro-climatic zones of the Niger Basin	Pilot projects to improve sustainable rainfed agricultural practices completed in 5 agro-climatic regions Lessons learned disseminated and integrated in national agricultural development plans	Local knowledge about adaptation to climate and hydrological variability, particularly to droughts such as experienced during the 1970s and 1980s droughts.	Studies on the adaptation of rainfed agriculture to climate change completed At least 5 sustainable agricultural intensification pilot projects completed (1 in 5 agro-climatic zones) Lessons learned are disseminated basin-wide under component 3	Site visits Pilot Project reports M&E reports PCR National Agricultural Development Plans	<i>Risk:</i> Lack of the national technical and institutional capacity to adequately contribute to ecosystem based watershed management. <i>Measures:</i> Targeted capacity building will create critical mass of experts in the national institutions and will support training of national partners, local communities, User Associations and national NGO's engaged on basin resources management and conservation.
	1.4 Lessons learned from watershed management interventions up-scaled to integrated watershed management plans for each member country	Number of watershed management plans developed in each NBA member country	All member countries have a Water Policy, a strategy for IWRM and NAPA strategies/plans for adaptation to climate change.	At least one (sub-basin) watershed management plan developed under the project in each NBA member country	Site visits Technical Reports NBA M&E reports PCR	
	Component 2 : Building climate resilience at sub-basin and watershed level (5.45 million USD)					
	2.1 Climate resilience of multiple communities in five selected watersheds (one per representative sub-basin) is	Number of community plans for increased climate resilience prepared and implemented in selected	0	At least 50 plans at cost not exceeding 60,000 US\$ Improved rainfed agricultural practices	Site visits Technical reports	See also Section A.5 <i>Risk:</i> Failure of community involvement

	RESULTS CHAIN	PERFORMANCE INDICATORS			MEANS OF VERIFICATION	RISKS AND MITIGATION MEASURES ³⁴
		INDICATORS	BASELINE (2015)	TARGETS 2021		
	increased and best practices are demonstrated	areas of five representative sub-basins		introduced in each selected area	Community Bulletins M&E reports PCR	<i>Measures:</i> Encouraging community leadership and building interest on social analysis and participatory planning conducted with local stakeholders representing needs of the targeted population. Catchment management will explore a range of options and multiple revenue streams, including government support and global conservation funding. Community engagement will emphasize the participation of women and other vulnerable groups, incl. promoting women’s participation in local institutions. The project will involve NGOs with experience in community development and natural resources management, and sustainable livelihood activities.
		Number of beneficiaries for which alternative employment and livelihoods are introduced	0	>50,000 persons (at least 50% of these are women)		
		Impacted communities have access to regular agro-climatic information	NA	At least weekly dissemination of agro-climatic information		
	2.2 Community-based integrated watershed management plans are prepared and implemented for selected watersheds in five representative sub-basins of the NRB; local capacities on land and soil conservation are strengthened.	Number of watershed management plans prepared and implemented for representative sub-basins	NA	Plans implemented for at least one watershed each in 5 representative sub-basins; Approach has been scaled-up under IPDACC	Reports NBA Observatory Project Reports Technical Reports M&E reports PCR	
		Areas of habitat and wetlands restored	Degraded area in NRB: 136,500 ha	2,500 ha restored under GEF; 16,000 ha restored under IPDACC		
		Areas of forests and wetlands under improved watershed management	Degraded area in NRB: 176,650 ha	6,400 ha treated under GEF; 44,000 ha is treated under IPDACC		
		Area of arable land to be regenerated for sustainable rainfed agriculture	Degraded area in NRB: 144,000 ha	7,800 ha treated under GEF; 94,400 ha is treated under IPDACC		
Component 3: Capacity building at regional, national and community level (1.5 million USD)						
OUTPU	3.1 Capacities of NBA and the participating national agencies for coordination	Mechanisms and M&E indicators are in place to monitor project impacts	NA	Results Framework, performance indicators, M&E Plan, baseline		See also section A.5

	RESULTS CHAIN	PERFORMANCE INDICATORS			MEANS OF VERIFICATION	RISKS AND MITIGATION MEASURES ³⁴
		INDICATORS	BASELINE (2015)	TARGETS 2021		
	and implementation of climate resilience interventions are strengthened			surveys and ITC strategy completed by month 4.	M&E Validation Workshop M&E system in place M&E reports Training reports PCR	<i>Risk:</i> Lack of national technical and institutional capacity to adequately contribute to ecosystem based watershed management. <i>Measures:</i> Targeted capacity building will create critical mass of experts in the national institutions and will support training of national partners, local communities, User Associations and national NGO’s engaged on basin resources management and conservation. As such, the project will improve the efficiency and sustainability of community actions trough targeted trainings.
		Training and capacity building regarding the project’s M&E system	NA	100 staff of NBA, national agencies and national focal structure (NFS) are trained in M&E		
		Resilience activities are mainstreamed by NBA and national agencies	NA	Data base of baseline data and best management and adaptation practices is maintained; mainstreaming workshops and PR activities organized in all countries.		
	3.2 Capacities and ownership of communities for enhanced climate resilience at watershed level in selected sub-basins are strengthened.	Number of people covered by the extension campaigns of best practices of Natural Resources Management	NA	At least 10,000 persons are exposed to best practices for enhanced climate resilience (incl. 50% women); 7,500 participate actively in CDD activities	Project reports M&E reports PCR	
	3.3 Transboundary learning mechanisms, best practises, communications, and KM are established at community, national and regional levels, and experiences and lessons learned are shared through websites, communication	Number and type of IW events (GEF-IWC, COP, technical forums, IW: Learn) organized	NA	4 events organized	Website Brochures PR materials M&E reports PCR	
		Website to showcase achievements and best practices for climate adaptation at community level	NA	Website is regularly updated		

	RESULTS CHAIN	PERFORMANCE INDICATORS			MEANS OF VERIFICATION	RISKS AND MITIGATION MEASURES ³⁴
		INDICATORS	BASELINE (2015)	TARGETS 2021		
	tools, technical forums, workshops, etc.	Organization of awareness and sensitization workshops for stakeholders in each member country	NA	5 workshops organized in each member country		
		Availability of a repertoire of knowledge products	NA	Multiple knowledge products developed and disseminated		
		Integration of information on adaptation investments, climate variability and change into a Knowledge Management (KM) system	Lack of access to information on ongoing initiatives	Mechanisms for the synthesis, sharing and dissemination of information put in place	Recognition and use of the KM system as a good source for access to reliable info.	
	Component 4: Sustainable land and forest management for climate change mitigation and improved livelihoods in Burkina Faso (2.41 million USD)					
	4.1 Restoration and enhancement of carbon stocks in forests	Number of ha reforested		12,167 ha reforested	Project reports M&E reports PCR	See also section A.5 <i>Risk:</i> Community organizations receive only limited financial assistance to sustain the efforts initiated under the Project. <i>Measure:</i> Implementation guidelines should ensure that sufficient financial resources will be allocated to initiate and maintain the process of delegation of responsibilities to local
		Number of climate vulnerable persons positively impacted by project interventions.	NA	Climate resilience of 1,000 members of vulnerable groups enhanced through increased ecosystem and forestry services		
	4.2 Forests are under good management practices	Sustainable harvesting quotas have been assessed and disseminated	??	Studies completed and plans developed and disseminated	Technical reports Project reports M&E reports PCR	
		Payment for Environmental Services (PES) enhances forest maintenance and conservation	No experience regarding PES	PES mechanism adapted and introduced to forest exploitation (by IPDACC baseline project)		
		Number of people in local communities sensitized	NA	60,000 persons (at least 50% women) are		

	RESULTS CHAIN	PERFORMANCE INDICATORS			MEANS OF VERIFICATION	RISKS AND MITIGATION MEASURES ³⁴
		INDICATORS	BASELINE (2015)	TARGETS 2021		
		regarding sustainable forest management		sensitized in 6 forested areas		authorities and communities.
	4.3 Enhanced capacities of local stakeholders and communities for sustainable forest management in the context of REDD+	Forestry administration at central and decentralized levels is familiar with the concepts of REDD+	NA	Implementation of a training plan regarding the sustainable management of forests within the context of REDD+.	Training reports Project reports M&E reports PCR	

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).

COMMENTS AND RECOMMENDATIONS FROM STAP (April 16, 2014)	RESPONSES
<p>1. STAP is pleased with the integrated nature of the project linking water, land and forest management to achieve water security and climate resilience in the targeted communities. The project has the ability to contribute to multiple global benefits through its integrated nature and focus on improved water management, sustainable agriculture, and sustainable forest management as a means to strengthen ecosystem resilience amidst climate variability in SSA. It also has the potential to contribute to sustainable development by improving food security and livelihoods in SSA, a region dependent on rainfall agriculture and vulnerable to climate risks. Thus, there are tangible possibilities for the project to generate environmentally sustainable development.</p> <p>In this regard, STAP recommends for the AfDB to consider <i>sustainable agricultural intensification</i> as an approach to addressing the barriers hampering the delivery of global environmental benefits and sustainable development in the Niger Basin (e.g. components 1 and 2). <i>Sustainable agricultural intensification</i> is defined as "agricultural activities which result in higher productivity while at the same time reducing the negative externalities on the environment and increasing the generation of other ecosystem services including water flow (or quality). (Dile, Y. et al. 2013). The sustainability of water management and <i>sustainable agricultural intensification</i> are significantly intertwined, and share many of the same criteria such as: "1) improving water availability during droughts and dry periods; 2) improving agricultural yield for food security; 3) rehabilitating degraded lands to restore biodiversity; 4) minimize use of external inputs that has adverse effects on the environment; 5) sequestering carbon in terrestrial landscape to mitigate climate change; 6) reduce downstream pollution of nutrients from upstream agricultural lands"; among other traits.</p> <p>Dile, Y. Karlberg, L., Temesgen, M., Rockstrom, J. 2013. The role of water harvesting to achieve sustainable agricultural intensification and resilience against water related shocks in sub-Saharan Africa. <i>Agriculture, Ecosystems and Environment</i>: 181: 69-79.</p>	<p>Comments noted with thanks.</p> <p>The recommendation to adopt a "<i>sustainable agricultural intensification</i>" approach is perfectly aligned with the objectives of the interventions planned under sub-components 1.3 and 2.1. This has now been highlighted in the description of these two sub-components (pages 11 and 13)</p>
<p>2. The proposal indicates it is responding to the SAP's request to "develop and implement measures for adapting production systems to climate variability and change (agro-forestry, land</p>	<p>The comment is duly noted, and has been incorporated in the project design under the regional sub-component 1.2 "<i>Development of tools and guidelines for good practices for building climate resilience at sub-basin and community level</i>".</p>

<p>management and fisheries)". Thus, STAP recommends identifying biophysical indicators for component 1 and 2 to assess the impact of the intervention on water and soil conservation (or water and land management), and its effects on climate resilience of water resources.</p> <p>For component 4, indicators on fisheries will be useful. Identifying impact indicators will assist the project monitor and track the global environmental benefits.</p>	<p>Selected biophysical and a-biotic performance indicators shall be included in the project's M&E Plan, as well as in the baseline conditions to be finalized and assessed early on in the project.</p> <p>Regarding the previous/deleted component 4 (fishery development in Chad): please see response to point 3 below.</p>
<p>3. In component 4, STAP recommends identifying policies and institutional changes that inform and support adaptation planning in the fisheries communities. For example, developing alternative income generating activities may require policies that support its implementation in order to reduce the risk of an inadequate adaptation measure. Furthermore, the AfDB may consider distinguishing between the fishing communities that are affected by the impacts of climate variability, and the fishing communities that will be less impacted, or may even benefit from climate change. As a result, this will assist the project identify policies that enhance adaptation and support opportunities brought by climate change. The following paper may be useful in developing component 4: Badjeck, M.C. Allison, E.H., Halls, A.S., Dulvy, N.K., 2010: Impacts of climate variability and change on fishery-based livelihoods. <i>Marine Policy</i>: 34: 375-383.</p>	<p>This comment of STAP refers to a previous component 4 on fishery development in Chad, which was later cancelled from the project. Component 4 now concerns "Sustainable land and forest management for climate change mitigation and improved livelihoods in Burkina Faso". Component 4 focuses on sustainable forest management in BF, and does not involve fishing communities. This comment has, therefore, not been addressed.</p>
<p>4. Given the integrated nature between water and land resources and the scale of the interventions (e.g. community, sub-basin and basin levels), STAP recommends for the project to contribute to the scientific evidence of resilience in agricultural and fisheries sectors. In particular, the project can strengthen the ability to detect critical thresholds in a timely manner, while implementing positive feedback mechanisms between threshold states (e.g. for land and water management in rainfed agriculture, positive feedbacks include addressing biophysical processes, such as focusing on the amount of soil organic carbon which reinforces the process of rainfall infiltration and water holding capacity).</p> <p>Y. Dile et al. (2013) and M.C. Badjeck et al. (2010) raise the need for empirical evidence to determine the thresholds between different states of social-ecological systems in water, agricultural, and fisheries sectors.</p>	<p>The comment has been duly noted and integrated in the description of component 1.3 regarding the enhancement of the climate resilience of rainfed agriculture in five agro-climatic zones of the Niger Basin.</p>
<p>COMMENTS AND RECOMMENDATIONS FROM GEFSEC (03-20/21- 2014)</p>	<p>RESPONSES</p>
<p>5. <i>Question 6: CCM Comments on baseline description (for forestry component 4):</i> Given that</p>	<p>a) The consultant has organized several consultation meetings with stakeholders to discuss and ensure the validity</p>

<p>the CCM component was added later in the project design phase, we seek:</p> <p>a) Thorough studies and consultations with stakeholders during PPG to prioritize the identified drivers, and to provide adequate support to demonstrate that the proposed approach of tackling deforestation through reforestation of degraded areas is sufficient;</p> <p>b) Given that it is a MFA project and strives to be integrated in its approach, the project must describe the climate change risks regarding reforestation in the area especially given the project's focus on water availability in the region. An analysis and integration of such a study in project design is expected by CEO Endorsement;</p> <p>c) A working plan that shows the role of different local communities in direct project activities;</p> <p>d) For output 4.2, studies on revising harvest quotas is appreciated, however the GEFSEC expects full implementation of such studies in the target areas;</p> <p>e) PES mechanism for the proposed project does not establish a clear linkage with its purpose of supporting REDD+. Please clarify. Please refocus this output to include elements that would be directly contributing to the gaps in the FIP and/or FCPF programs in the country. For example: carbon assessment and monitoring in accordance with REDD+ methodologies would be an option.</p>	<p>of the approach. The consulted parties confirmed that reforestation, using selected plants and appropriate local species, is an effective way to fight against drought and desertification. It increases resource wood and non-wood residues, exploited mainly for the purpose of domestic energy in the Niger Basin by local communities and the most vulnerable populations. Note that the conditions for component 4 are favourable, since the investments will be made in protected classified forests.</p> <p>b) The fact that climate change may exacerbate the degradation of natural resources (and thus slow down the effects of reforestation) is addressed in the risk analysis. Several activities are planned in the PGFC/REDD+ project to address the risks posed by climate change. Reforestation will have favourable impacts on the management of water resources. The increasing consumption of wood increases the deforestation that is a major cause of erosion in the basin. Reforestation will thus also control siltation through improved soil conservation.</p> <p>Typical variations in the future long-term average annual rainfall due to climate change could be in the range of -15% to +15%. The FIP program has recognized the high risk of recurrent droughts and chosen to mitigate such risks through reforestation with climate change (drought) resilient species.</p> <p>c) Local communities will be involved at several levels: first by organizing the local population in Forest Exploitation Groups, allowing them to directly participate in reforestation activities and benefit from Payment for Environmental Services mechanisms (PES) already in place and subsequently by awareness campaigns on sustainable forest management techniques.</p> <p>d) Comment noted. In the REDD + context, the harvest quota, now set at 50%, may be adjusted downwards in order to meet the objective of strengthening the potential of forests, taking into account also Non Timber Forest Products (NTFP), the preservation of biodiversity and increasing the carbon sequestration capacity. Such reduction in the harvest rate will be offset by promoting alternative income generating activities for local people (improved beekeeping, exploitation, processing and marketing of NTFPs, etc.). An agreement was signed between the PGFC/REDD+ project and the National Forest Seed Centre (NTSC) to research new sustainable forest operation standards, including the definition of new wood-energy harvest quota in forests managed in the context of REDD +.</p> <p>e) This has been clarified in the main text, based on information received from the FIP/PGFC project; see also point 8b) below.</p>
<p>6. Question 7: Comments on project framework:</p> <p>a) The PIF does a very good job to describe related regional finance by GEF and others and stresses the need for collaboration and coordination. It also mentions that a mapping exercise of funded activities on national scale will be carried out early</p>	<p>a) The PIF refers to a mapping exercise of stakeholders, donors, partners and activities to be undertaken during Project preparation, in order to facilitate the consultation processes. The stakeholders consulted during project preparation are listed in Annex E, while Annex F provides an</p>

<p>during the PPG phase. This is important. Please assure that this will include all relevant GEF co-financed activities. We recommend attaching such "mapping" as an annex to the project document/PAD at endorsement stage (or as separate document for information).</p> <p>b) Please provide a copy of the EIA for us to rest assured that the sustainability of water uses has been assessed for the overall IPDACC project financed by AfDB and that the GEF finance is part of. There are quite a number of reservoirs and irrigation expansions part of the finance and assessment to assure sustainable use of the surface and groundwater resources needs to be part of project design.</p>	<p>updated overview of main programs and projects funded by NBA's Technical and Financial Partners.</p> <p>b) The draft ESIA for the GEF funded interactions is included in the draft Project Appraisal Document, included under Annex G.</p> <p>The ESIA for the IPDACC project, which follows as well the Integrated Safeguards system of the African Development Bank, will be submitted separately by the Bank.</p>
<p>7. Component 2/3:</p> <p>a) Please take on board lessons in design & implementation of watershed management plans e.g. from other GEF finance (e.g. with SIP such as Lake Tana watershed and others successful large watershed management interventions) to address specific, local relevant drivers of watershed degradation and emphasizing the need for a livelihoods based approach in watershed management.</p> <p>b) There is a seemingly strange division between components 2 and 3, e.g. 2.2 finances the development of watershed management plans while 3.2 fund their implementation. It may be worth to evaluate during project design if this division/cut of the components will prove viable/else revise.</p> <p>c) Output 2.1.: USD 3 million to be distributed among up to 30 communities implies average grants sizes of > or equal 100K. By experience from SGP and other, these are large envelopes on level of CSOs. Please consider to increase # of communities/decrease size of average grant commensurate with capacities of CSOs to implement such finance.</p>	<p>a) Comment noted. Relevant lessons from successful large watershed management interventions will be included in the community plans for increased climate resilience to support the distribution of small grants.</p> <p>b) Sub-component 2.2 finances the preparation as well as the implementation of community-based integrated watershed management plans; sub-component 3.2 finances capacity building activities enabling local communities to take active part in and ownership of sub-component 2.2.</p> <p>c) There are many complementarities between sub-components 2.1 (climate resilience of communities) and 2.2 (community-based watershed management), both working in the same five selected sub-basins/watersheds. In case the average grant size is too large, reallocations can be made during the first year of project implementation to a larger number of beneficiaries/communities/NGOs or between sub-components 2.1 and 2.2.</p>
<p>8. Component 4: The component 4 for Burkina Faso (forestry) is aligned with the SAP and in continuity of current efforts financed by the government and the FIP (PGFC/REDD+). The GEF part will finance six gazetted forests covering nearly 285,000 ha. The number of beneficiaries is estimated at 5,400. The Burkina Faso component mainly focuses on restoration of degraded soils and reforestation activities in forest reserves, as well as row plantation around forests reserves for a benefit of around 644,800 tons of CO2 eq. sequestered or maintained over 25 years.</p>	<p>a) The intervention areas of the PMCF/REDD+ are: i) the-sylvo pastoral zone of Tapoa Boopo in the Eastern Region; ii) the classified forests of Tiogo and Nazinon in the Central West region; iii) a chain of six forest reserves in the region of the Mouhoun; and iv) the classified forest of Koulbi and the partially and total reserves of Bontioli. The GEF funded and UNDP supported Country Partnership Program (CCP) on sustainable land management in Burkina Faso operates in the same regions of the Central-West and Boucle du Mouhoun as the PMCF/REDD+ project. The PGFC/REDD+ activities are well coordinated with the CPP funded interventions.</p> <p>b) Promoting PES is an important deliverable of PMCF/REDD+ project, providing financial support to local communities to</p>

<p>a) During PPG, please take stock of existing or recently closed projects in the targeted areas. Some of the sites were included in the Country Partnership Program (CPP) implemented by UNDP and IFAD. Some capacity building activities may also be linked to other programs and initiatives (SAWAP for instance). Please, complete at CEO endorsement.</p> <p>b) Mechanism of PES? Please include in the PPG a feasibility study for a PES mechanism for forests.</p> <p>c) If the incremental reasoning aims to target sustainable rural livelihoods in implementing REDD+ policies in complement to the FIP and the government, we are not sure it is relevant to use GEF resources to elaborate a training plan and implement training modules for central and decentralized forest administration staff on SFM in the context of REDD+. The complementarities with other REDD+ activities should be better developed. It seems to us that these activities should be financed by the baseline. However, the training and awareness of local communities and local partners to materialize REDD+ on the ground may be a better use of GEF resources.</p>	<p>support their sustainable forest management efforts. See also additional information provided under the description of sub-component 4.2 of the proposed project.</p> <p>c) Comment noted. The strengthening of capacities of project stakeholders is essential for the success of its implementation. For administration services, technical training is required on new themes such as REDD+, climate change and the equipment necessary for their operations; and to enable them to ensure proper supervision of grassroots actors. For local communities that bear primary responsibility and are project beneficiaries, it is important to strengthen their organizational capacity and technologies and make their equipment operational in sustainable forest management.</p>
<p>9. At CEO Endorsement: Please address during the PPG:</p> <p>a) include a feasibility study on a PES mechanism</p> <p>b) Include a comprehensive risk analysis</p> <p>c) Provide an accurate analysis of local governance and stakeholders, including CSO and traditional authorities</p> <p>d) Complete the baseline with active or recently closed GEF projects; see synergies, coordination, and how to avoid duplication</p> <p>e) Develop a Monitoring and Evaluation system; the baseline must be available before the project starts.</p>	<p>a) Component 3.4 on exploring a mechanism for PES has been deleted from the GEF-funded project interventions since this would have been a duplication of work under the baseline IPDACC project. While PES is also adopted under sub-component 4.2, promoting PES is an important deliverable of the PMCF/REDD+ project, providing financial support to local communities to support their sustainable forest management efforts. Therefore, its feasibility will be assessed under PMCF/REDD+.</p> <p>b) Comment noted and risk assessment included in Section A.5.</p> <p>c) Stakeholder mapping: During the preparation of the project, the consultants organized a participatory consultation with relevant stakeholders in each member country (see Annex E). This national consultation reviewed and validated information collected so far, provided important contributions to this analysis and submitted an action plan of activities to be financed by GEF funds. The stakeholder analysis will be updated early on in the project.</p> <p>d) and e): Due to the distribution of the project over many communities spread over a large geographical area in 9 countries, it was impossible as well as impractical attempting to assess the baseline conditions in each area of intervention (including 30 communities not yet precisely selected) at this stage of project preparation. Therefore, the assessment of the baseline conditions will be carried out by the RCU/PIU as part of the detailed design of the M&E system, described under Section C.</p>

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS³⁶

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

PPG Grant Approved at PIF: \$400,000			
<i>Project Preparation Activities Implemented</i>	<i>GEF/LDCF/SCCF/NPIF Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>
Institutional Analysis	50,000	50,000	50,000
Stakeholder Consultations	25,000	25,000	25,000
Consulting firm contract	250,000	180,000	250,000
Site visits (Guinea, Ivory Coast, Mali, Burkina Faso, Niger, Benin, Chad, Cameroun, Nigeria)	50,000	75,000	50,000
Validation meeting	25,000	20,000	25,000
Total	400,000	350,000	400,000

ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used): NA

³⁶ If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue undertake 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 the activities.

Annex E: Summary of stakeholder consultations during project preparation

As part of the formulation of the Integrated Development Program and Adaptation to Climate Change in the Niger basin, a series of consultations with stakeholders were held from April 24 to May 25, 2016 with the NBA and all the countries of the Niger basin. The consultations started with working sessions with NBA teams tasked to formulate the GEF project which aims to support 4 components including 3 regional (1,2 and 3) to be financed by the GEF/IW (International Waters) and a component in Burkina Faso (component 4) to be financed by the country allocation (SFM, CCM and LD). This meeting enabled extensive discussions with NBA management and professionals and to proceed with collecting numerous and quality data and information about the project and its environment. A workshop was held in NBA which helped to redefine the objectives of the mission and guide the team of experts in the preparation of the Project.

Subsequently, the team experts visited each member country where they held workshops that brought together different actors (NBA National Focal Structures, technical services involved, GEF Focal Points; user associations, etc.). These participatory consultations had the following objectives: (i) to inform stakeholders about the project; (ii) to involve the various stakeholders in the project formulation process; (iii) to identify activities to perform and sites to accommodate them; (iv) to characterize the project intervention areas and identify the environmental and social issues targeted areas; (v) to collect suggestions and recommendations from stakeholders to optimize the preparation and implementation of the GEF project. These meetings allowed collecting a significant amount of data and information on:

- The perception and expectations of the actors in the project;
- The evolution of operating and production systems in a context of climate change at the sites;
- Good adaptation practices developed in the project impact areas;
- Practices to improve climate resilience and livelihoods of the populations targeted by the project;
- Capacity building needs of different stakeholders;
- Measures and recommendations proposed by stakeholders to improve the setting in implementing the project.

According to the different actors met, the project should contribute to food security, poverty reduction and climate resilience of the population and natural systems of the basin. The consultations found that despite the importance of water resources with the presence of the Niger River and tributaries, rainfed agriculture is still the main activity conducted by the population and is the one that gives them the most revenues. An overwhelming majority of the rural population of the Niger Basin is still heavily dependent on rainfed agriculture which remains heavily dependent on the risk and climatic hazards. The implementation of adaptation measures and actions for adaptation of rainfed farming practices were recommended.

The establishment of warning systems and information on the weather forecast, the dissemination of agro-climatic information, the dissemination of good water and ecosystem management practices in general were also suggested during the consultations. The fight against wind and water erosion and the regeneration of the vegetation cover in the basin have been reported as priorities in the areas targeted by the project. It was also recommended to implement agro-forestry development and resource management programs to generate income for producers and also protect watersheds and ecosystems.

To sustainably support the activities of the project, the establishment of a local development program and income generating activities for the population and a program of capacity-building of regional, national and community level actors on the sustainable management of natural resources, taking into account climate change and variability are highly recommended.

The project aims to provide beneficiaries, particularly women, with small grants to achieve eligible projects in at least 30 grassroots communities to be selected in the first year of implementation of project. The following table presents activities of Component 2 of the project to improve climate resilience in the Niger basin as requested by the participants in these consultations. The realization of these activities, with the financial support of GEF, will more effectively help achieve the expected results of the IPDACC project being prepared by the African Development Bank and NBA.

Country/Area	Activities	Sites
Benin		
Karimama / Malanville	Restoration of degraded land in soils and forests classified by agro-forestry, forestry and work of water and soil conservation /soil protection and restoration	Around the classified forest Sota Goungoun and Gouroubi
Nikki, Kalale, Sinende, Bembereke	Realization of cross-border transhumance corridors with wells and water troughs	Classified forest Sota Goungoun and Gouroubi
Cameroon		
Guider, Mokolo, Hina	Water and soil conservation works in the cultivated plots of Mayo Louti	Guider, Mokolo, Hina
Mokolo Mogodé	Plantation in the forest reserves of Zamay and Mayo Louti and in the perimeter of reforestation of Mogodé.	Zamay; Mayo Louti; Mogodé
Chad		
Department of Kabbia	Pastoral management in livestock concentration areas	Béré-m-Lassia
	Water and soil conservation works in the cultivated plots (Soil protection and restauration)	Domon and Djodo Gassa
Nigeria		
Upper Benue RBDA	Gullies Stabilization Using Engineering and Biological Structures (Stabilization of ravines by engineering and biological structures)	GOMBE TOWN
	Restoration of Wetland Productivity	KIRI DAM
BURKINA FASO		
Sahel	Biological and Mechanical fixation of dunes through water and soil conservation /soil protection and restoration activities and adapted species plantations	Pétel Gaoudi, Gonadaouri, Tin-Ediar (around Oursi)
		Tinakoff, Massifigui (around swamp of Bambakari)
	Land recovery (scarification and plantations)	Pétel Gaoudi, Gonadaouri, Tin-Ediar (around Oursi)
Ivory Coast		
Folon	Enrichment of the banks, dikes / levees and Establishment of management structure and operational resources	Kimbirilla-Nord (Minignan Dept.) around the dam of Kouban
	Planting, assisted natural regeneration, reforestation of grass banks and trees	Kimbirilla-Nord (Minignan Dept.) around the dam of Kouban
Guinea		
Kankan Kankan	Plantations in classified forests and village and community forests	Morodou, Faralako and Dialakoro
	Mechanical and biological treatment of ravines	Mandiana Dept.
	Bank protection by planting trees and grass planting	Mandiana Dept.
Mali		
Mopti	Bourgou plantation in the floodplains	Djénne, Dialoubé, Fatoma, Sio, Kamani, Kénénkou, Kénénkou, Seyna , Bara,
Koulikoro	Deferred grazing and enrichment of village forests of Kamani	Kamani
	Classified forest enrichment of Kénénkou	Kénénkou

Country/Area	Activities	Sites
Gao	Water and Soil Conservation / Soil Protection and Restoration Reforestation	Seyna (50ha), Bara (50ha), Ouatagouna (100ha)
Niger		
Tilabéri/TahouaDo sso	Stabilizing dunes	Méhana, Kokorou and Goroul
	Conservation works of water and soil	Towns of Tama, Bouza, Garhanga and Allakaye
	Improved fallow agro-forestry	Towns of Dioundiou, Zabori, Yélou, Bana, Bengou, Bara and Gaya

Table 12: Local interventions proposed by stakeholders in member countries during consultations

Consultations with NBA at Niamey, Niger on April 29, 2016

(List of participants already submitted in the previous version)

Burkina Faso Stakeholders Consultations at Ouagadougou, Burkina Faso, on May 6 and 19, 2016

(List of participants already submitted in the previous version)

Guinea Stakeholders Consultations at Conakry, Guinea on May 13, 2016

(List of participants already submitted in the previous version)

Mali Stakeholder Consultations at Bamako on May 16, 2016

(List of participants already submitted in the previous version)

Benin Stakeholder Consultations at Cotonou on May 6, 2016

(List of participants already submitted in the previous version)

CAMEROON Stakeholder Consultations at Yaoundé on May 12 and 13, 2016

(List of participants already submitted in the previous version)

Chad Stakeholder Consultations at N'Djamena on May 16, 2016

(List of participants already submitted in the previous version)

Nigeria Stakeholder Consultations at Abuja on May 18, 2016

(List of participants already submitted in the previous version)

Niger Stakeholder Consultations at Niamey on May 19, 2016

(List of participants already submitted in the previous version)

Annex F: Relevant past and ongoing programs and projects funded by NBA Partners

The main partners of NBA are WB, AfDB, KfW, GIZ, AFD, CIDA, UNDP, EU, AWF and GEF. Chaired by the World Bank, these and other Financial and Technical Partners (FTP) meet regularly with NBA to coordinate their interventions in the Basin. The proposed project builds on and/or is linked to a number of ongoing or already completed projects financed in the framework of the SDAP or otherwise, as described in the following.

Multilateral Financial and Technical Partners

- i. **World Bank:** Key investments from the World Bank funded “Water Resources Development and Sustainable Ecosystem Management Project” (WRDSEM) will improve the regional coordination and the development and sustainability of water resources management in the Niger Basin, as well as provide funding for the rehabilitation of large dams in the Basin. The first phase (186 million USD from 2007-2014) targeted the main stem countries Guinea, Mali, Niger, Benin and Nigeria, and completed many studies on the rehabilitation of small dams combined with the identification of income generating activities, small irrigation schemes, environmental impacts assessments, etc. Training and sensitization of stakeholders were undertaken on the management of biodiversity and of land in support to the sustainable management of lands, etc. Under its APL-II phase (250 million USD), the World Bank, along with AfDB, IDB and multiple other donors/financiers are funding more than 850 million USD for the Kandadji Program (for hydro-power and irrigation development, RAP and LDP), including a 3 million USD grant for institutional strengthening of NBA. The purpose of the latter grant is to (i) provide support to project management and supervision by NBA, (ii) update the 2004 institutional and organizational audit of the NBA, and (iii) support the implementation of the Niger Basin’s Water Charter. A third loan is also planned, which would expand in-country investments to all nine riparian countries.
- ii. **African Development Bank (AfDB):** The AfDB has funded the “Silt control in the Niger River Basin” program (PLCE), with the objective to contribute to safeguarding water and land resources of the Basin on a participatory and sustainable basis, and to arrest silt erosion in the Niger River considered to be detrimental to agricultural production and hydraulic infrastructure (2005 – 2011). The project supported NBA in elaborating a Master Plan for Silt Control in the Niger Basin, provided capacity building to NBA structures at regional and national levels, and implemented urgent measures to control erosion and siltation in three riparian countries (Mali, Burkina and Niger). AfDB is presently preparing the IPDACC follow-up project, with co-financing by KfW, GEF, NBA’s member countries and beneficiaries.
- iii. In Burkina Faso **AfDB** is funding the Participatory Management of Classified (‘Gazetted’) Forests project for REDD+ financing (PMCF/REDD+), which is the baseline project for component 4 of the interventions proposed in this request for CEO endorsement. The sector objective of the PMCF/REDD+ is to contribute to increasing gazetted forest carbon sequestration capacity and reducing poverty in rural areas. The main expected outcomes of the PMCF/REDD+ project are (i) the development the MRV system for REDD+, (ii) the improvement of forest governance for REDD+, (iii) the securitization and management of 284,000 ha of gazetted forests, and (iv) the establishment of socio-economic support infrastructure for neighboring municipal councils. The cost of the project is USD 12.7 million financed by the FIP and the Government. It will be implemented over a five-year period.
- iv. **United Nations Development Program (UNDP):** The main interventions by the UNDP (2.8 million USD), with additional activities funded by GEF, focus on improving climate risk management to achieve water security and on capacity building and stakeholder involvement in ecosystem based management of the Niger Basin. The Cap-Net Program of UNDP supports national and NBA capacity building by contributing to capacity building of national stakeholders in the use of IWRM tools and tools related to climate change. UNDP country offices support governments and communities on the implementation of ecosystem restoration actions, setting up funding mobilization mechanisms, poverty reduction actions and promoting the participation of stakeholders. Other on-going UNDP initiatives include the strengthening

of national capacities regarding climate change risks and vulnerability management (e.g. BCPR Niger, PAGEDD Mali).

- v. **The European Union (EU)** has supported NBA in i) setting-up legal frameworks and stakeholder consultations for its investment programs, ii) environmental impact assessments for the Fomi dam in Guinea (under the Water Charter), and iii) hydrological forecasts based on earth observation. In its 10th EDF, the EU is supporting the Mekrou transboundary river basin (Burkina Faso, Benin and Niger), a tributary basin of the Niger River.

Global Environmental Fund (GEF)

- vi. The GEF funded project 'Reversing Land and Water degradation trends in the Niger River Basin, implemented through the World Bank and UNDP (2005 – 2012), has addressed transboundary environmental issues in the Niger Basin through an in-depth Transboundary Diagnostic Analysis (TDA); it established a sustainable development framework for the Basin and developed a Strategic Action Program (SAP) as a signature GEF product. The project also funded pilot programs that involved grass root communities and gave them the opportunity to develop multiple actions, through pilot demonstration projects and projects funded by Small Grants, embedding the principles of bottom-up planning and communities driving the actions. The Small Grants Program promoted a participatory integrated management of transboundary resources of the basin, fostering a positive dynamic of basic endogenous development. The financing and implementation of Small Grants projects relied on actions reconciling the local economic development needs of the users with those of environmental protection. A significant number of Small Grants projects were reportedly sustainable in terms of socio-economic and institutional impact.
- vii. Funded by the GEF, the Government of Burkina Faso embarked in 2009 with support of UNDP on the establishment of a Country Partnership Program (CPP) on sustainable land management, to be implemented over a period of 15 years in 3 phases. The CPP is a pilot partnership for sustainable land management with the global objective of combating land degradation. The specific objectives are to: (a) develop and implement a sustainable partnership for an enhanced coordination and an equitable and integrated approach to sustainable land management; (b) promote an institutional and political enabling environment to better tackle and implement sustainable land management in Burkina Faso; and (c) foster the promotion of an equitable and integrated approach to sustainable land management including indigenous and innovative practices. The program aims at creating a less poor rural world while ensuring ecosystem integrity, functions and services for long term food security. The goal of CPP Burkina Faso is to combat land degradation and contribute to poverty reduction efforts through sustainable and equitable land management by preserving the ecosystem functions and integrity. The CCP program is relevant with respect to component 4 (forestry in Burkina Faso) of the current proposal.
- viii. UNDP/UNEP are preparing the regional GEF funded project "Improving IWRM Knowledge based Management and Governance of the Niger Basin and the Iullemeden Taoudeni Tanezrouft Aquifer System (ITTAS)" in Burkina Faso, Benin, Cote d'Ivoire, Cameroon, Guinea, Mali, Mauritania, Niger, Nigeria and Chad (GEF grant: \$13.425 million), which will contribute to the financing of key elements related to ecosystem management and capacity building of the Niger Basin SDAP. It is a follow-up to the GEF project "Managing Hydro-geological Risk in the Iullemeden Aquifer System" and will consolidate the efforts of the Niger Basin Authority and the countries in promoting conjunctive management of ground and surface waters, and promoting shared responsibilities with local communities and civil society in conserving and managing water resources and ecosystem degradation of the Niger Basin. It will also engage with the private sector on pollution control measures (e.g. from extractive industries). The project recognizes the threats of climate change and takes account of the important role of groundwater for drought management.

- ix. **Relevant GEF funded projects in NBA member countries:** The following table provides a non-exhaustive overview of potentially relevant recent GEF-funded projects (closed, under implementation or under preparation). Budgets, Implementing Agencies (IA), project titles and Project Development Objectives are listed, as provided by https://www.thegef.org/gef/gef_projects_funding.

Country	IA	Budget& Source	Project title	Project Objective
Benin	UNDP	LDCF 3.1 M\$	Integrated Adaptation Program to Combat the Effects of Climate Change on Agricultural Production and Food Security	To strengthen capacities of agricultural demonstration communities in selected Communes to adapt to extreme events and climate change in 4 vulnerable agro-ecological zones in Benin.
	UNDP	LDCF 4.0 M\$	Strengthening Climate Information and Early Warning Systems in Western and Central Africa for Climate Resilient Development and Adaptation to Climate Change	To strengthen the weather, climate and hydrological monitoring capabilities, early warning systems and available information for responding to extreme weather and planning adaptation to climate change in Benin.
	UNDP	LDCF 4.45 M\$	Strengthening the Resilience of Rural Livelihoods and Sub-national Government System to Climate Risks and Variability in Benin	To strengthen the resilience of rural livelihoods and sub-national government system to climate risks and variability in Benin.
Burkina Faso	UNDP	LDCF 2.9 M\$	Strengthening Adaptation Capacities and Reducing the Vulnerability to Climate Change in Burkina Faso	To enhance Burkina Faso's resilience and adaptation capacity to climate change risks in the agro-sylvo-pastoral sector.
	UNDP	GEF-TF 2.5 M\$	CPP: Sub-Program for Sustainable Land Management in Boucle de Mouhoun region.	To establish coordinated and decentralized sustainable agro-sylvo-pastoral land management systems in the Boucle de Mouhoun region
	UNDP	LDCF 7 M\$	Adapting Natural Resource Dependent Livelihoods to Climate induced Risks in Selected Landscapes in Burkina Faso: the Boucle du Mouhoun Forest Corridor and the Mare d'Oursi Wetlands Basin	To reduce local communities' vulnerability to the additional risks posed by climate change and build their resilience with focus on the natural resource management sectors in the Boucle du Mouhoun Forest Corridor and the Mare d'Oursi Wetlands Basin.
	UNDP	LDCF 4 M\$	Strengthening Climate Information and Early Warning Systems in Africa for Climate Resilient Development and Adaptation to Climate Change - Burkina Faso	To strengthen the weather, climate and hydrological monitoring capabilities, early warning systems and available information for responding to extreme weather and planning adaptation to climate change in Burkina Faso.
	FAO	LDCF 3.8 M\$	Integrating Climate Resilience into Agricultural and Pastoral Production for Food Security in Vulnerable Rural Areas Through the Farmers Field School Approach.	To enhance the capacity of Burkina Faso's agricultural and pastoral sectors to cope with climate change, by mainstreaming Climate Change Adaptation (CCA) practices and strategies into on-going agricultural development initiatives and agricultural policies and programming and upscaling of farmers adoption of CCA technologies and practices through a network of already established farmer field schools.
	WB	GEF-TF 7.4 M\$	GGW ³⁷ : Community based Rural Development Project 3rd Phase with Sustainable Land and Forestry Management	To enhance the capacity of rural communities and decentralized institutions for the implementation of local development plans that promote sustainable land and natural resources management and productive investments at commune level.
Chad	IFAD	LDCF 7.3 M\$	Enhancing the Resilience of the Agricultural Ecosystems	Strengthen the resilience of smallholder farmers and improve food security

³⁷ Great Green Wall of the Sahara and the Sahel Initiative

	AfDB	GEF-TF 5.3 M\$	Building Resilience For Food Security and Nutrition in Chad's Rural Communities	To enhance food security and nutrition through sustainable and resilient agro-sylvo-pastoral systems in the Sahelian regions of Chad.
Guinea	UNDP	LDCF 3.7 M\$	Strengthening Resilience of Farming Communities' Livelihoods against Climate Changes in the Guinean Prefectures of Gaoual, Koundara and Mali	To strengthen adaptive capacities of vulnerable populations in the prefectures of Gaoual, Koundara and Mali (GKM) to the additional risks posed by the increased intensity and frequency of drought.
Mali	UNDP	LDCF 3.0 M\$	Enhancing adaptive capacity and resilience to climate change in the agriculture sector in Mali	To enhance adaptive capacities of vulnerable rural populations to the additional risks posed by climate change on agricultural production and food security in Mali.
	FAO	LDCF 2.1 M\$	Integrating Climate Resilience into Agricultural Production for Food Security in Rural Areas	To enhance the capacity of Mali's agricultural sector to cope successfully with climate change (CC), by incorporating CC Adaptation (CCA) concerns and strategies into ongoing agricultural development initiatives and mainstreaming CCA issues into agricultural policies and programming.
	FAO	LDCF 2.2 M\$	Strengthening Resilience to Climate Change through Integrated Agricultural and Pastoral Management in the Sahelian zone in the Framework of the Sustainable Land Management Approach	To enhance the capacity of Mali's agro-pastoral sectors to cope with climate change (CC), by mainstreaming Climate Change Adaptation (CCA) strategies, practices, and technologies adoption into on-going agro-pastoral and agricultural development initiatives in the framework of the national Sustainable Land Management (SLM) approach and program (CSI-GDT).
	WB	Multi TF 8.4 M\$	GGW Natural Resources Management in a Changing Climate in Mali	To expand the adoption of sustainable land and water management practices in targeted climate vulnerable communes in Mali.
	UNEP	GEF TF 1.54 M\$	Scaling up and Replicating Successful Sustainable Land Management (SLM) and Agro-forestry Practices in the Koulikoro Region of Mali	To upscale sustainable land management to combat land degradation and biodiversity loss while strengthening the capacity of local communities for replicating the SLM and good agro-forestry practices in the semi-arid areas of Koulikoro region, Mali
	UNDP	LDCF 8.9 M\$	Flood Hazard and Climate Risk Management to Secure Lives and Assets in Mali	Preparing municipalities and local governments to manage flood hazards and climate risks and secure lives and assets in Mali
Niger	IFAD	GEF-TF 4.2 M\$	SIP: Agricultural and Rural Rehabilitation and Development Initiative (ARRDI)	To overcome the causes and negative impacts of land degradation on the structure and functional integrity of the Maradi region's ecosystem resources through addressing the barriers and bottlenecks to scaling up successful sustainable land management technologies.
	UNDP	LDCF 3.5 M\$	Implementing NAPA Priority Interventions to Build Resilience and Adaptive Capacity of the Agriculture Sector to Climate Change	To implement urgent and priority interventions that will promote enhanced adaptive capacity of the agricultural sector to address the additional risks posed by climate change.
	UNDP	LDCF 3.75 M\$	Scaling up Community-Based Adaptation (CBA) in Niger	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, Republic of Niger
	UNDP	LDCF 3.8 M\$	Integrating Climate Resilience into Agricultural and Pastoral Production for Food Security in Vulnerable Rural Areas through the Farmers Field School Approach	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 programs.
	WB	GEF-TF 4.5 M\$	GGW: Third Phase of the Community Action Program	Strengthen the Recipient's local development planning and implementation capacities, including the capacity to respond promptly and effectively to an eligible crisis of emergency, and

				to improve the access of the targeted population to socio-economic services, Global Environment Objective (GEO): Promote sustainable land management and productive investments at the commune level in selected areas of Niger.
Nigeria	WB	Multi TF 8.6 M\$	GGW: Nigeria Erosion and Watershed Management Project (NEWMAP)	To reduce vulnerability to soil erosion in targeted sub-watersheds.
	WB	Multi-TF 4.8 M\$	Regional project: GGW Sahel and West Africa Program in Support of the Great Green Wall Initiative	To contribute to improved and more climate resilient natural resource based livelihoods and ecosystem functions in West African and Sahelian countries.
	FAO	GEF-TF 6.1 M\$	Global project: Decision Support for Mainstreaming and Scaling up of Sustainable Land Management	Contribute to combating desertification land degradation and drought (DLDD) worldwide through scaling up sustainable land management best practices based on evidence based and informed decision making.
	IFAD	GEF-TF 86.4 M\$	Regional Project: Food-IAP - Fostering Sustainability and Resilience for Food Security in Sub-Saharan Africa - An Integrated Approach (IAP-PROGRAM)	Support countries in target geographies for integrating priorities to safeguard and maintain ecosystem services into investments improving smallholder agriculture and food value chains (Target 10-12 countries; 10 million ha of production landscapes; 2-3 million beneficiary households)

Bilateral Financial and Technical Partners

- x. The **Agence Française de Développement (AFD)** and the **African Water Facility (AWF)** established in 2006 the ongoing Niger-HYCOS Project, which enables NBA and the National Hydrological Services (NHS) of the member states to operate appropriate and sustainable hydrological information services, thus contributing to knowledge-based water management. In its second phase, commonly known as 'GIRE 2', the project is establishing an internet-based comprehensive water resources information system at Basin scale, including both historic and up-to-date hydro-meteorological data of good quality, which will be easily accessible to all types of users. The Niger-HYCOS is part of the world-wide WHYCOS of WMO. AFD and NBA signed the convention for GIRE 2 in October 2010 for an amount of 3.4 million Euros. In April 2016 AFD signed a convention with NBA for two years for a 1 million Euro fund (FERC), for the financing of stakeholder consultations, hydrological studies and monitoring, and capacity building. The French GEF program **FFEM** has supported NBA's Observatory of the Environment.
- xi. The **African Water Facility (AWF)** has recently granted €960,000 to the NBA in support of a program for the preparation of infrastructure projects aimed at reducing natural resources depletion caused by climate change, and improving their management in order to increase agricultural production and community resilience. The AWF grant is specifically targeted to the financing of preliminary studies for infrastructure projects and is intended to catalyze the necessary investment for their implementation through technical, economic, financial, and environmental and social studies. The cost of implementing the projects to be prepared by these studies is estimated at over €200 million. The program will provide NBA and its member countries with a portfolio of bankable projects aiming to, *inter alia*: reverse the trend of land, water and ecosystem degradation; reduce river bank erosion; reduce loss of biodiversity and arable land; and promote hydro-energy use.
- xii. **German Economic and Development Cooperation (BMZ)** is engaged through BGR in sustainable development issues related to groundwater through the Project: "Support to ground water management in the Niger basin" project. **GIZ** focuses mainly on capacity building in NBA regarding the shared management of water resources, and has assisted NBA with the development of the Water Charter, which has since been approved by all member countries. **KfW/ BMZ** has made €21 million available to NBA for two projects, i.e. €10 million for a project "Protection of the Niger River", and €11 million for "Sustainable irrigation for small holders in Niger".

- xiii. The **Canadian International Development Agency (CIDA)** is funding the “Capacity Building Program of NBA” for an amount of 7.75 million CAD during the period 2009-2014 with the objective to improve NBA’s administrative and financial systems and human resources management, and strengthen NBA’s information and communication system, public participation, its technical expertise, its intervention and M&E capacity, and its focal structures in the member countries. The Program would also establish a suitable legal framework for NBA’s role in the development of the Basin’s shared water resources.
- xiv. **International Union for Conservation of Nature and Natural Resources (IUCN)**: IUCN launched the program “Integrated Management of the Niger River Basin” for the identification, establishment and support of a basin network of important inland waters, including Ramsar sites and other protected areas, as a functionally connected and more effectively managed portfolio of priority locations for securing freshwater, ecological integrity, assets and service. In cooperation with the Ramsar Secretariat, IUCN prepared a development plan of the Niger basin wetlands. The "Partnership for Environmental Governance in West Africa (PAGE)" is a regional initiative implemented by IUCN in collaboration with its partners. Funded by SIDA, it provides support to environmental policies in West Africa over a period of five years (2014-2018), including for the Niger Basin, for a better implementation of environmental policies, capacity building of stakeholders and a more open governance of natural resources.
- xv. **The Government of the Netherlands (ORION financing program)** is funding the implementation of a Meteosat satellite based water resources monitoring and flow forecasting system for the Niger River Basin.
- xvi. **Wetlands International (WI)** maintains since 1998 an office in Mali which focuses its work on the Niger Inner Delta. Wetlands International delivers *inter alia* the Ramsar Sites Information Service for the Ramsar Convention on Wetlands of International importance, an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources, including the Niger Inner Delta. Wetlands International is working to safeguard seasonal water flows that sustain the floodplains and local communities in the Upper Niger River and the Inner Delta. The sustainable management of these waters is essential to ensuring long term benefits to 1.5 million people and the environment, and addressing some of the key challenges in Mali such as food and water security, reducing conflict, combating desertification, building resilience to climate change and reducing disaster risks.
- xvii. **World Wide Fund for Nature (also known as World Wildlife Fund)**: WWF International's Living Waters Program has also worked with member state governments and NBA to designate a significant number of valuable wetland areas along the Niger River for the Ramsar List of Wetlands of International Importance.

Annex G:**Integrated Development for Increased Rural Climate Resilience in the Niger Basin Project Document**

See attached PRODOC document