

United Nations Development Programme
Government of Guinea
Global Environment Facility – Least Developed Countries Fund

PROJECT DOCUMENT
English version

Ecosystem-Based Adaptation targeting vulnerable communities of the Upper Guinea Region

Link to UNDP Strategic Plan (2014-2017)

Primary Outcome: (1.3) Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste [\[Link\]](#)

Secondary Outcome: [From UNDP's *Biodiversity and Ecosystems Global Framework 2012-2020*:] (**Signature Programme #3**): Managing and rehabilitating ecosystems for adaptation to and mitigation of climate change. [\[Link\]](#)

UNDAF 2013-2017 Outcome(s):

Outcome 4: By 2017, the public and private sectors, local authorities and communities adopt new techniques and behaviours that promote environmental sustainability and that ensure and an improved management and prevention of risk and natural disasters in a context of climate change adaptation (2nd outcome under pillar #2).

Expected CP 2013-2017 Outcome(s): [same as UNDAF's and stated above]

CP Component #2: Growth and Sustainable Development, under the '**Sustainable management of the environment**'

Expected CPAP Outputs:

Output #5) The tools for planning the sustainable management of the environment, natural resource and livelihoods are developed or revised and they integrate aspects of climate change.

Output #7) The living conditions and livelihood in vulnerable areas (coastal zones, the North and in transition areas) are resilient to climate change and communities adapt to climate-induced conditions

Output #8) Management and operational plans for 2013-2017 aiming the improvement in the conservation of biodiversity, protected areas and forests are developed and implemented.

[Project Objective]: To reduce the vulnerability of local communities in the Upper Niger River Basin to the additional risks posed by climate change and build their general resilience through an ecosystem-based approach that focuses on watersheds, land-use practices and adaptive capacity.

[Project Outcomes]: (1) The climate resilience of natural resource dependent livelihoods in project sites is ensured by securing the continued stream of essential agro-ecological and hydrological services upon which they depend; (2) Climate adaptive management of ecosystems is integrated into local and regional planning and policy-making processes

Implementing Partner : Ministry of Environment, Water and Forests

Brief Description

The services rendered by ecosystems sustain the livelihoods of more than half a million people in the Upper Niger River Basin, where poverty is prevalent and the economy is based on agriculture. Ecosystems provide these local communities with food, shelter, fibre, firewood and medicinal plants. They also render regulating services linked to water flows and purification, soil retention, nutrient recycling and protection against storm surge. Climate change affecting the Upper Niger Basin will result in higher temperatures, increased evapo-transpiration and changes in the rainfall regime. These conditions will threaten the continued stream of benefits from ecosystem services, particularly with respect to water security. It will also increase the risk for bushfire. Communities, whose livelihoods depend on ecosystems services and who live close to fire-prone areas, are vulnerable. In the baseline scenario, investments in watershed management are limited and generally not 'climate-proof'. Also, prevailing land use practices are gradually degrading ecosystems that are generally resilient—their function and structure has been maintained under the current level of threat. Although there is a strong baseline investment in rural development programmes, if climate change adaptation is not part of development efforts, this global-level threat will constitute an overriding stressor that will push ecosystems beyond their tipping point. This project is slated to address the additional risk posed by climate change to vulnerable communities in the Upper Niger River Basin through an ecosystem-based approach. It will enhance ecosystems' resilience and strengthen their functionality across the landscape, as a climate change adaptation measure and with a clear additionality vis-a-vis the baseline. It will focus on watershed management and land-use practices on the ground. The project will also build the capacity of relevant stakeholders to change course and adapt to a climatically challenging future. In this manner, vulnerable beneficiary communities, who depend on ecosystem services for their livelihoods, will become more resilient to climate change.

Programme Period: 2015 - 2022
 Atlas Business Unit: GUI10
 Atlas Award #: 00092295
 Atlas Output Project #: 00097080
 PIMS # (UNDP-GEF): 5176
 Start date: Upon Signature
 End Date: + 7 years
 Mgt Arrangements: NIM
 LPAC date:

Total resources required (total project funds) [A + B] \$122,180,000

[A] Total resources allocated to this award \$8,000,000

- Regular resources (UNDP TRAC) \$0
 - GEF \$8,000,000

[B] Other (partner managed resources): \$114,180,000

- Government \$150,000
 - Bilateral / multilateral donors \$114,030,000
 - NGOs \$0

Agreed by (Government):

Date

Agreed by (Implementing Partner):

Date

Agreed by (UNDP):

Date

Table of Contents

1	<u>SITUATION ANALYSIS</u>	<u>6</u>
1.1	Introduction	6
1.2	Climate Change Context	12
1.3	Barrier Analysis and Long Term Solution	20
1.4	Baseline Analysis	23
1.5	Stakeholder Analysis	31
1.6	Introduction to the Project Sites	32
2	<u>PROJECT STRATEGY</u>	<u>43</u>
2.1	Additional Cost Reasoning of the Proposed Project	43
2.2	Project Rationale and Policy Conformity	43
2.3	Country Ownership: Drivenness and Eligibility	45
2.4	Design Principles and Strategic Considerations	46
2.5	Project Goals, Outcomes, Outputs and Activities	47
2.6	Risks and Safeguards	67
2.7	Cost-Effectiveness	69
2.8	Gender Considerations and Other Project Benefits, including Innovativeness, Sustainability and Replicability	70
2.9	Stakeholder Involvement	73
3	<u>PROJECT RESULTS FRAMEWORK</u>	<u>75</u>
3.1	Programmatic Links	75
3.2	Logframe	76
4	<u>TOTAL BUDGET AND WORKPLAN</u>	<u>83</u>
5	<u>MANAGEMENT ARRANGEMENTS</u>	<u>86</u>
5.1	Project implementation arrangement	86
6	<u>MONITORING FRAMEWORK AND EVALUATION</u>	<u>91</u>
7	<u>LEGAL ASPECTS</u>	<u>95</u>
7.1	Legal context	95
7.2	Audit Clause	95
7.3	Communications and visibility requirements	95
8	<u>REFERENCES</u>	<u>97</u>

9 ANNEXES 98

Annex 1: Risk Analysis	98
Annex 2: Preliminary NGO registry for the project zone	103
Annex 3: Co-Finance Letters	106
Annex 4: Additional Cost Analysis	107
Annex 5: Terms of Reference for Project Staff /Consultants	108
Annex 6: Summaries of Technical Reports from PPG phase	120

List of Tables

Table 1: Confirmed, probable and suspected cases in Guinea as of March 2015	7
Table 2: Overview of Ebola cases in the project zone	7
Table 3: Climate Change Vulnerabilities	24
Table 4: Baseline Investments Overview	28
Table 5: Stakeholder matrix	31
Table 6: Prefectures and Sub-Prefectures in the project zone and their Administrative Regions	33
Table 7: Population figures and density in the project zone.....	35
Table 8: Population figures in the project zone according to the last census in 2014.....	35
Table 9: Selection criteria for project sites and proposed site-specific interventions	38
Table 10: Climate Risks and Impacts in the Project Zone.....	40
Table 11: Food security situation by region – 2015 WFP data	41
Table 12: Project Monitoring and Evaluation workplan and budget	93
Table 13: Risk Assessment Matrix	102
Table 14: Demonstration of Cost-effectiveness for each proposed Component	107

List of Figures

Figure 1: Map of Guinea	8
Figure 2 : Mean annual temperatures in Guinea.....	14
Figure 3 : Mean annual precipitation in Guinea	14
Figure 4: Map of Project Zone	18
Figure 5: Map of the selected prefectures.....	33
Figure 6: Detailed map of the project zone with key sub-prefectures highlighted	36
Figure 7: Prevalence of food insecurity (moderate and severe) and concentration of the ebola virus disease (EVD) at the regional level.....	42
Figure 8: Project implementation organigram	87

List of Acronyms and Abbreviations

AAP	Africa Adaptation Program
AfDB	African Development Bank
ALM	Adaptation Learning Mechanism
AMESD	Environmental Monitoring for Sustainable Development in Africa
CCA	Climate Change Adaptation
CIF	Climate Investment Fund
CF	Classified Forests (<i>forêts classées</i>)
COP	Conference of the Parties
CSO	Civil Society Organization
CNE	National Council for the Environment
CPAP	Country Programme Action Plan
CRD	Rural Development Community
CTA	Chief Technical Advisor
EBA	Ecosystem Based Adaptation
FAO	Food and Agriculture Organisation
GEF	Global Environment Facility
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for the Conservation of Nature
LDC	Least Developed Country
LDCF	Least Developed Country Fund (GEF)
MDB	Multilateral Development Bank
NAPA	National Adaptation Plan of Action
NBSAP	National Biodiversity Strategy and Action Plan
NGO	Non-Governmental Organization
PACV	The Community-Based Support Programme
PCU	Project Coordination Unit
PCD	Community Development Plans
PDL	Local Development Plan
PIF	Project Information Form
PNAE	National Action Plan for the Environment
PPG	Project Preparation Grant
PRSP	Poverty Reduction Strategy Paper
RDS	Rural Development Strategy
ToR	Terms of Reference
UNCDF	United Nations Capital Development Fund
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNDP-CO	UNDP Country Office
UNFCCC	United Nations Framework Convention on Climate Change

1 Situation Analysis

1.1 Introduction

1. This project will reduce the vulnerability of local communities in the Upper Niger River Basin to the additional risks posed by climate change and build their general resilience through an ecosystem-based approach that focuses on watersheds, land-use practices and investing into adaptive capacities. It is noted that the implementation of such a project will help build community resilience in areas that have been struck by the Ebola epidemic during 2014/15 and that, even though its focus is on climate change adaptation, activities building the resilience of affected communities through an ecosystem-based approach, the project will also have the co-benefit of supporting their recovery.

2. The services rendered by ecosystems sustain the livelihoods of more than half a million people in the Upper Niger River Basin, where poverty is prevalent and the economy is based on agriculture, mostly for subsistence purposes. Ecosystems provide local communities with food, shelter, fibre, firewood and medicinal plants. They also render regulating services linked to water flows and purification, soil retention, nutrient recycling, protection against storm surges and buffering fire threats.

3. Climate change affecting the Upper Niger Basin will result in higher temperatures, increased evapo-transpiration and changes in the rainfall regime.¹ These conditions will threaten the continued stream of benefits from ecosystem services, particularly with respect to water security. It will also increase the risk for bushfire. Communities, whose livelihoods depend on ecosystems services and who live close to fire-prone areas, are vulnerable. Poor land management practices, including overstocking through reduced pastoral mobility, exacerbate such climate-induced risks. In the baseline scenario, investments in watershed management are limited and generally not ‘climate-proof’. Also, prevailing land use practices are gradually degrading ecosystems that are generally resilient—their function and structure has been maintained under the current level of threat. Under a climate change scenario, this may though not remain so, reason why adaptation is needed.

4. Although there is a strong baseline investment in rural development programmes, if climate change adaptation is not part of development efforts, this global-level threat will constitute an overriding stressor that will push ecosystems beyond their tipping point. The Ebola pandemic has led to a serious disruption of development investments, and resilience building is becoming even more critical especially for rural communities that are depending on self-help and own investments for their survival.

5. This project is slated to address the additional risk posed by climate change to vulnerable communities in the Upper Niger River Basin through an ecosystem-based approach. It will enhance ecosystems’ resilience and strengthen their functionality across the landscape as a climate change adaptation measure and with a clear additionality vis-a-vis the baseline. It will focus on watershed management and land-use practices on the ground. The project will also build the capacity of relevant stakeholders to change course and adapt to a climatically challenging future. In this manner, vulnerable beneficiary communities, which depend on ecosystem services for their livelihoods, will become more resilient to climate change, and more resilient overall.

¹ Government of Guinea: NAPA (2007)

1.1.1 The project's development context

6. Guinea is among the poorest countries in the world in terms of its income per capita (\$1,020). With 10.9 million people (65% rural), adult literacy is low (59%), child mortality is high (125.8/1000 live births) and the country's Human Development Index (0.355) ranks at 178 among 185 countries.

7. The recent Ebola pandemic that affected particularly Guinea, Liberia and Sierra Leone has had crippling effects on the national economy, but also on the resilience of local communities throughout the country.

8. The impact of Ebola on livelihoods takes many forms. The associated restriction of movement of people and goods, and the closure of borders and markets have disrupted households' economic activities, jobs and incomes. People's primary sources of incomes and savings and loans schemes have been depleted, and food prices have been rising. Due to limited or lack of access to jobs, livelihoods are compromised. For example, many farmers cannot access their farms, and when they can, they lack workers for planting and harvesting. The limited supplies of goods and services as a result of the closure of borders and quarantine activities have led to underemployment. UNDP estimates that within 6 months of the Ebola outbreak, average household income had decreased by 13%. The agricultural and the mining sector have been hit hardest in Guinea, leading to a decrease in the production, availability and export of food staples such as potatoes, maize, sorghum, etc. as well as to an overall decrease of economic growth in the country.

9. According to the [latest FAO/World Food Programme Crop and Food Security Assessment](#), a total of 470,000 people were likely to be food insecure by March 2015 due to the impact of Ebola in Guinea. Agricultural production of food staples such as rice, cassava and maize has been affected negatively, thus also impacting on food insecurity in many poor and vulnerable households, and subsequently increasing dependency on provisions from ecosystems such as non-timber forest products, freshwater fish and bushmeat in some areas.

10. Of a total of 3155 ebola cases reported in Guinea by March 2015, 95 occurred in the three prefectures of Kankan, Kouroussa and Faranah of the project zone.

Table 1: Confirmed, probable and suspected cases in Guinea as of March 2015

Country	Case definition	Cumulative cases	Cumulative deaths
Guinea	Confirmed	2 762	1 704
	Probable	387	387
	Suspected	6	Data not available
	Total	3 155	2 091
Source: UNMEER, http://ebolaresponse.un.org/data			

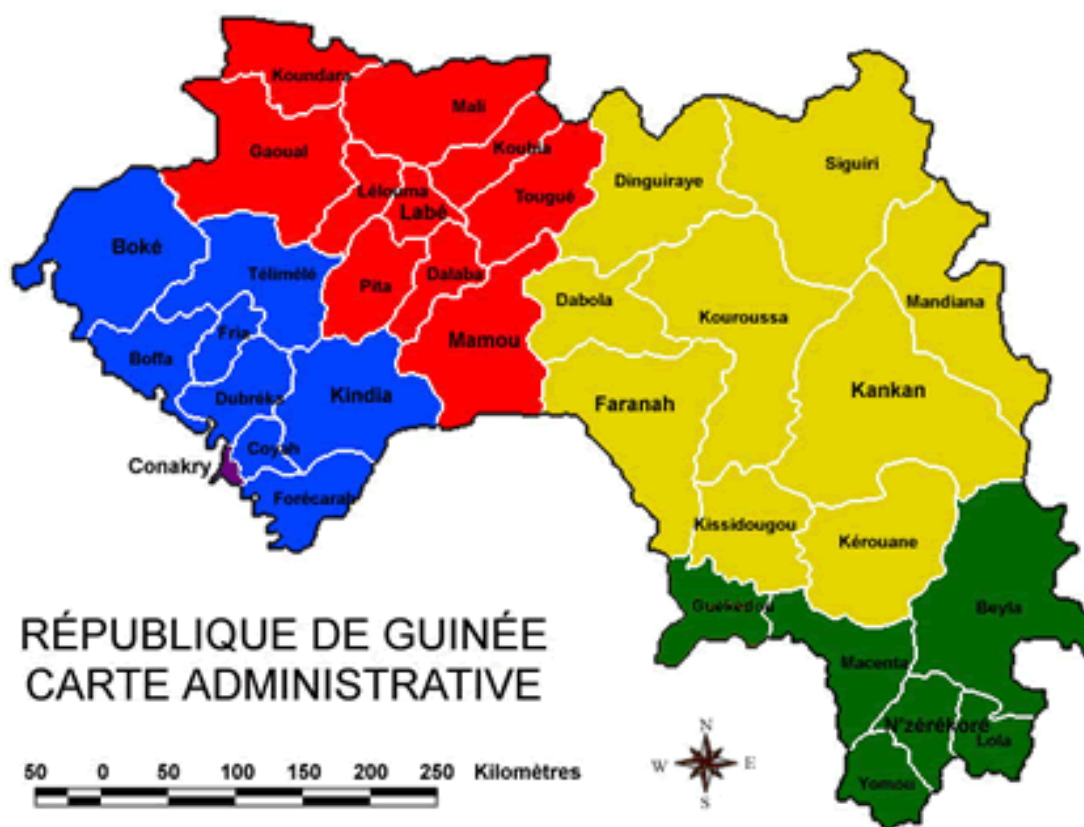
Table 2: Overview of Ebola cases in the project zone

Prefecture	Ebola Cases	Cases in the last 21 days (as of 5 March)
Kankan	31	0
Kouroussa	18	0
Faranah	46	0
Total Project zone	95	1
Total Guinea	3155	
Source: http://maps.who.int/MapGallery/		

11. Guinea's overall development situation requires attention by the international community. Although well endowed with mineral resources, the exploitation of this wealth has not translated in the past decades into improved welfare for the majority of the population. Guinea is also endowed with forests, fish, wildlife, water resources and high levels of biodiversity. Poverty is widespread and more pronounced in rural areas, where people's livelihoods depend directly on ecosystem services for their survival. Virtually 90% of rural people in Guinea can be said to fall into this category. The mentioned services include the availability of water, pastures, firewood, productive soils, the provision of game and fish, NTFP, but equally flood regulation, nutrient and carbon cycling and primary production. All of these services will be impacted in one way or another by climate change.

12. In recent years, Guinea has experienced periods of political instability and social unrest. Since 2010, the country has embarked on a more certain path of democratisation and sustained economic growth, which reached 3.9% of GDP in 2012 (WB data). A number of structural reforms are being rolled out, but challenges remain, in particular with respect to national capacity and benefit sharing.

Figure 1: Map of Guinea



1.1.2 Environmental, economic and sectoral context

13. Guinea is divided into four regions: (1) Basse Guinée (or Guinée Maritime); (2) Moyenne Guinée; (3) Haute Guinée (or ‘Upper Guinea’ in English); and (4) Guinée Forestière. The divisions of regions are based on bio-physical features, including climate and vegetation, but also predominant cultural features. With an elongated form in the north-south axis, the country is located in the southernmost ‘frontier’ of the transition zone between the dry Sahel and the wet tropical forest belt that predominate in the coastal countries of the Gulf of Guinea. Certain locations in Maritime Guinea receive up to 4000 mm of rainfall per year, while the drier interior receives 1000 mm or less. Average temperatures are also in sharp contrast, mostly due to the effect of altitude. The climate is naturally variable, as is the norm in Western Africa, due to the effects of oceanic forcing. Yet, this effect is less pronounced in Guinea than in Sahelian countries further north.

14. GDP growth in the last couple of years was around 2.8% per annum, but has been hit hard by the Ebola epidemic in West Africa. The agricultural sector contributes for 22.1 percent in the GDP, industry (including mining) for 44.9 percent, and services for 33 percent. In the medium term, the economy is expected to continue to be led by the mining sector. Main exports include bauxite, alumina, gold, diamonds, coffee and fish, accounting for 27 percent of the GDP.

1.1.3 Economy and sectors important for livelihoods

15. Agricultural growth is crucial for employment and poverty alleviation in Guinea, where an estimated 80 percent of the population is sustained by agriculture. Agriculture has the potential to boost employment growth. By reducing food prices, agriculture contributes indirectly to poverty alleviation. Guinea has great potential for economic growth in this sector due to its excellent conditions for agriculture and its strategic location. With about 64 percent of Guinea’s population living in rural areas, including 88 percent of the poor and 90 percent of the extreme poor, increasing agricultural productivity is critical for providing jobs and higher incomes. However, while agricultural potential is high, productivity remains low. Most land use is for subsistence farming on small family farms (1-3 ha), which are characterised by a lack of technology and capital to intensify crop production. Intensification of agricultural production is mostly linked to expansion of agricultural lands, leading to environmental problems and degradation due to unsustainable management practices.

16. Guinea’s mining sector is important for growth and fiscal revenues, but it creates few jobs directly. The government aims to translate the country’s mineral resources into sustainable development through developing the legal and institutional framework and increasing the capacity of key stakeholders to manage and oversee the sector. The mining sector currently represents over 80 percent of exports, provides 20 to 25 percent of government revenues (an estimated US\$210 million in 2012) and over 10,000 direct jobs (0.25 percent of the labour force). Guinea hosts some of the largest non-developed deposits of bauxite and iron ore in the world. Local processing of alumina is still extremely low (about 4 percent of the production).²

1.1.4 Institutions, decentralization, and local government

17. The key government institutions directly involved in the implementation of this initiative include:

² World Bank Group Country Partnership Strategy for Guinea 2014-2017 http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2013/09/06/000333037_20130906083708/Rendered/PDF/762300CAS0P115000OUO0900Box379823B0.pdf

- The Ministry of Environment and Sustainable Development which is responsible, alongside all environmental management and supervision issues, for the implementation of global environmental conventions, including the UNFCCC and the UNCCD; and
- The National Council for the Environment (CNE), a consultative council under the supervision of the MEDD, which is responsible for supporting the MEDD in managing the environmental sector.

18. The key government institutions with which cooperation is essential and planned in the implementation of this initiative include:

- The Ministry of Agriculture and Animal Husbandry, which is responsible for agriculture, agricultural development and food security;
- The Ministry of Fishing and Aquaculture;
- The Ministry of Planning;
- The Ministry of the Economy and Finance, which is responsible for budget planning, allocations, and environmental accounting;
- The Ministry of Decentralization and Local Development, which is responsible for the preparation and implementation of the national policy on decentralization and local development;

19. The Prefectures of Upper Guinea (Kankan, Kouroussa, Mandiana and Kissidougou) as well as the regional divisions for rural development (agriculture, forestry, environment) and the divisions of Meteorology in Upper Guinea

20. Department of Water and Forests and Department of Biodiversity and Protected Areas Groupements Forestiers (Community Forest Committees)

21. With the adoption of the local Government Code in 2006, the Government of Guinea has transferred to Local Governments, i.e. locally elected entities (in Guinea, these are *Communautés Rurales de Développement* or CRD and Urban Communes or UCs) responsibilities for domains retained in combating poverty and promoting local development such as management of local development projects, land-use planning, agriculture development, environmental protection and sustainable management of natural resources, coordination of investments and development activities, promotion of local economic development, inter-community affairs and decentralized cooperation. To this end, the implementation of local action plans will fall under the responsibility of local authorities and will be integrated into the local development plan process. This project is in line with the general guidance given in the various national policies, while adding elements that are crucial to address locally, namely issues related to the impacts of climate change on agro-ecological and hydrological systems in Guinea and how these, in turn, specifically impact local development conditions. Hence, the involvement of CRDs and UCs in the project zone is essential and provisions for it have been made in the project strategy.

1.1.5 Policy, legislative and regulatory context

22. The **National Agricultural Investment and Food Security Plan 2012-2016 (PNIASA)** was approved by the Government in December 2012. The PNIASA aims for Guinea to achieve a 6 percent growth rate in the sector and attain the MDGs. The Government intends to implement this plan in order to ensure food security and position Guinea as an exporter of agricultural products. Six priority investment programs have been identified in the PNIASA: (i) sustainable development of the rice subsector; (ii) diversification for food security and the population's nutrition improvement; (iii) promotion of agricultural exports and agribusiness, (iv) integrated natural resource management; (v) institutional capacity building; (vi) coordination of PNIASA's implementation.

23. The **National Environment Policy** (*Politique Nationale de L'Environnement*), adopted in 2012, addresses issues related to the conservation of biodiversity, the exploitation of natural resources and the fight against desertification, all of which are highly relevant to climate change adaptation activities.
24. The **Programme D'Action National de Lutte Contre la Desertification** identifies several issues related to the management of land and natural resources and aims to contribute to the sustainable management of land, forests and pastures through the implementation of various programmes.
25. The **National Biodiversity Strategy and Action Plan** (2002), or NBSAP, includes measures to achieve a sustainable use of natural resources and conservation of biodiversity and aims to establish good management and conservation practices as well as safeguarding biodiversity and ecosystems in Guinea. It also recognizes the role that biodiversity and ecosystems play in climate systems, and acknowledges the importance of intact agro-ecological and hydrological systems for sustainable development.
26. A **new NBSAP for Guinea**, which takes the 2010 Aichi Biodiversity Target into account, is currently under preparation and it is bound to remain as a key national policy document on biodiversity and ecosystems for the next 10 year. It is in the final stages of development and undergoing technical review. The new NBSAP will focus on the interface biodiversity and development. More specifically, it stresses the importance and value of ecosystem services in Guinea's economy, while also pointing to the fact that several of these services are likely to be negatively affected by climate change. The new NBSAP also points out to the need to expand the protected surface and enhance the management effectiveness of existing protected areas.
27. The **National Policy for Agricultural Development** (*Politique Nationale de Developpement de l'Agriculture vision 2015*) aims to reduce poverty and increase food security in Guinea. The PNDA has been translated in regional action plans of which the implementation is based on the decentralization and deconcentration. With the adoption of the local Government Code in 2006, the Government of Guinea has transferred to Local Governments, i.e. locally elected entities (in Guinea, these are Communautés Rurales de Développement or CRD and Urban Communes or UCs) responsibilities for domains retained in combating poverty and promoting local development such as management of local development projects, land use planning, agriculture development, environmental protection and sustainable management of natural resources, coordination of investments and development activities, promotion of local economic development, inter-community affairs and decentralized cooperation.

1.1.6 Culture and Gender

28. The Niger river is a source of identity for the entire region and the source of the river is of high significance to the people living in the project zone, the Upper Niger River Basin in Guinea. These people are mainly comprised of the Malinké, with an influx of immigrants and refugees from neighbouring countries in the 1990s. The traditional agricultural and cultural practices of local people vary from those of the immigrants. Traditionally, the people in the region practiced agriculture, collecting and hunting in the forests with a low importance given to livestock. The spiritual importance of forests is reflected in several ritual sites and forbidden forests in the project zone.
29. Gender differences in labour force participation are not as wide in Guinea as they are in many other African countries, yet there is still a moderate gender gap. Women's labour force participation rate was 79 percent in 2009, compared to a rate of 89 percent for men. Women who are economically active are more likely to work in the informal sector and less likely to be wage employees than men. They are less likely to occupy senior and skilled positions, more likely to earn less in income, and are less likely to have sufficient access to various inputs with which to improve their productivity. The reasons for women's lower economic opportunities are numerous and may include greater 'time-poverty' due to their domestic

responsibilities, lower levels of education, and cultural biases which accord a lower social standing to women.

1.2 Climate Change Context

30. Climate change represents a significant threat to all countries in the world. This threat is tempered by capacity of each country to adapt to the changes. Adaptive capacity is the “ability to design and implement effective adaptation strategies or to react to evolving hazards and stresses so as to reduce the likelihood of the occurrence and/or the magnitude of harmful outcomes resulting from climate-related hazards.”³ Guinea’s current climate and projected changes is described below, in the context of region-wide changes.

1.2.1 Regional climate

31. The most recent report of the Inter-Governmental Panel on Climate Change (IPCC Assessment Report 5, AR5⁴) indicates that all of Africa is very likely to warm during this century. The warming is very likely to be larger than the global, annual mean warming throughout the continent and in all seasons, with drier subtropical regions warming more than the moister tropics. Rainfall projections vary widely continent-wide. Furthermore, the AR5 points out that most areas of the African continent lack sufficient observational data to draw conclusions about trends in annual precipitation over the past century, in addition to discrepancies between different observed precipitation data sets. As in the previous IPCC assessment (AR4), it is difficult to assess the consequences for climate projections, especially when downscaled (e.g. looking specifically at the Niger Basin) and in particular with respect to rainfall and precipitation.

32. The absence of robust climate variability data in the West Africa for most of the 20th-century casts some doubt on the reliability of models that apply to the sub-region. The extent to which current regional models can successfully downscale precipitation over Africa is therefore unclear, and limitations of empirical downscaling results for Africa are not fully understood. AR5 does indicate that West Africa, and the Sahel in particular, has historically seen more incidents of drought. Those in the 1970’s and 1980’s are well documented, but there has also been a ‘recovery’ of the rains in the last 20 years of the 20th century. Yet, the AR5 mentions that this recovery could be either a natural variability phenomenon or a forced response either to increased greenhouse gases or reduced aerosols.⁵

Recent climate (regional)

33. After periods of severe drought, rainfall in the Sahelian zone has recovered somewhat since the 1990s, with rainfall in a number of years being above the long-term mean. However, the “recovery” of the Sahel has been uneven, with dry conditions persisting in the western Sahel where the Guinea portion of the Niger Basin is located, which is of key importance to water flows in the Niger Basin.

34. The recently observed climate scaled to the project zone shows that rainfall is very unequally distributed in the Upper Niger Basin. The headwater regions receive up to 2,000 mm of rainfall during the

³ Brooks N et al (2005). The determinants of vulnerability and adaptive capacity at the national level and the implications for adaptation. *Global Environmental Change* 15(2): 151-163.

⁴ IPCC (2013). IPCC Fifth Assessment Report: Climate Change 2013. See also Climate Change 2014: Impacts, Adaptation, and Vulnerability. Regional Chapter 22 on Africa [\[Link\]](#).

⁵ *Ibid.*

rainy season (July to October), the inner Niger delta only 200 to 500 mm. During and after the rainy season, large areas are inundated. In the wet 1950's and 1960's, the total flooded surface area was up to 40,000 sq km. However, due to climate change or variability, the 1970's and 1980's were very dry and although the climate conditions during the last 20 years were comparably wetter, the total flooded surface area did not exceed 21,000 km.

Climate projections (regional)

35. Global climate models do not agree on whether the Sahel region is likely to become wetter or drier over the course of the 21st century. Most climate models suggest drier conditions in the western Sahel, the Guinea highlands and source of the Upper Niger.

36. Climate scenarios conducted for Upper Niger Basin point towards a drop in annual rainfall as temperature increases⁶, also increasing the threat of droughts with severe impacts on wetlands and biodiversity in the floodplains. Also, a future drier climate is expected to impact negatively on the runoff and invariably on available water resources in the project zone.

37. Hence, if the current prevailing climatic conditions of increasing temperature trend and decreasing rainfall trends continue unabatedly, projected climate change may exacerbate its impacts on the water resources of the region, resulting in water stress condition. This will have serious implications on freshwater, hydro-power, health and food security. Development planning in the basin needs to accommodate a high degree of uncertainty in future climate, particularly rainfall, to be able to cope with a range of very different possible futures. Such uncertainty is hardly new in a region characterised by climatic conditions which are highly variable on multiple timescales and in which there is a high degree of spatial variability in rainfall.

38. Yet, models for precipitation and rainfall for the Sahel region should be treated with caution. AR5 mentions: “*There is therefore low to medium confidence in the robustness of projected regional precipitation change until a larger body of regional results become available through, for example, the Coordinated Regional Downscaling Experiment [...]*” or CORDEX, an on-going project.⁷

1.2.2 National and sub-national climate

Recent climate (national and sub-national)

39. Guinea is located in western Africa on the Atlantic Coast. At latitudes of 7 to 13°N Guinea has atypically tropical climate. Guinea has one wet season between May and October, peaking between July and September. This rainfall season is largely controlled by the movement of the tropical rain belt. There is a strong east-west gradient in total rainfall received in Guinea at this time, with more than 1000mm per month on the east coast, but less than 150mm per month in the far west.

40. Temperatures in Guinea are lowest in the wet season at 22-25°C, and around 25-27°C during the rest of the year. Over the last decades, mean annual temperature has increased by 0.8°C. Annual precipitation is declining since the 1960s, though some observers note that this is due to extremely high rainfall in the early 1960s.

⁶ Liersch et al. (2012): Constraints of future freshwater resources in the Upper Niger Basin Has the human-environmental system of the Inner Niger Delta a chance to survive? In: Seppelt, R. Voinov, A.A. and D. Bankamp (Eds.), 2012: International Congress on Environmental Modelling and Software. Managing Resources of a Limited Planet, Sixth Biennial Meeting, Leipzig, Germany. <http://www.iesm.org/society/index.php/iesm-2012-proceedings>.

⁷ IPCC (2013), AR5: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Regional Chapter 22 on Africa [Link].

Figure 2 : Mean annual temperatures in Guinea

Carte de températures moyennes annuelles (1961 - 2004)

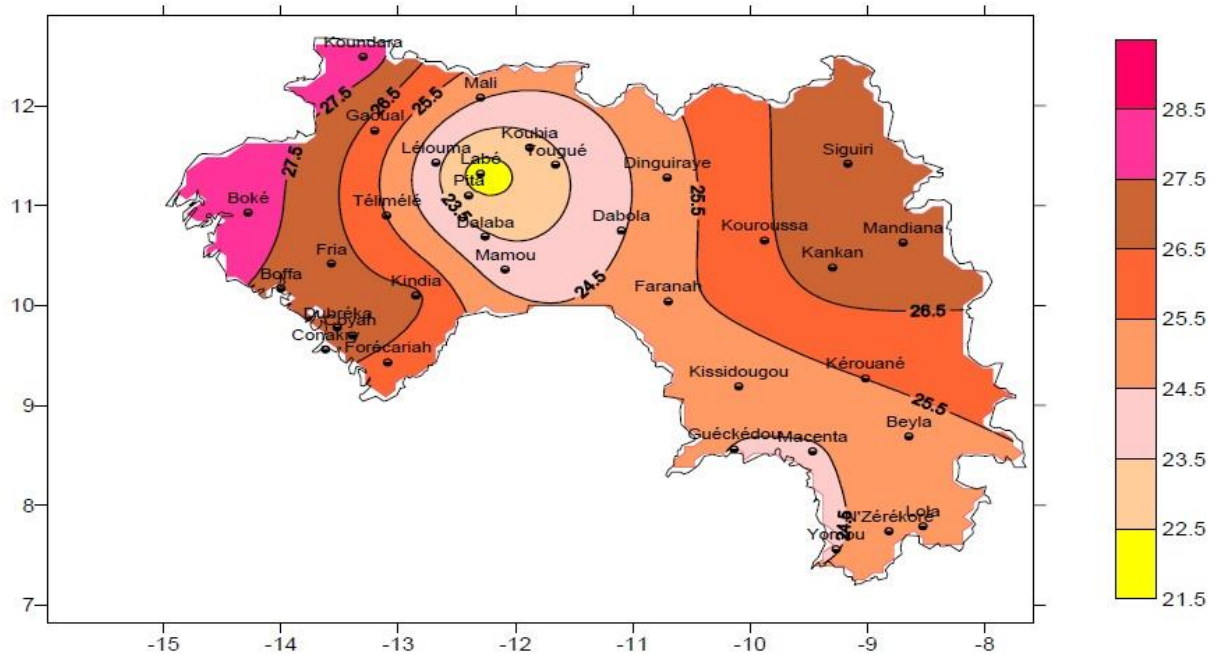
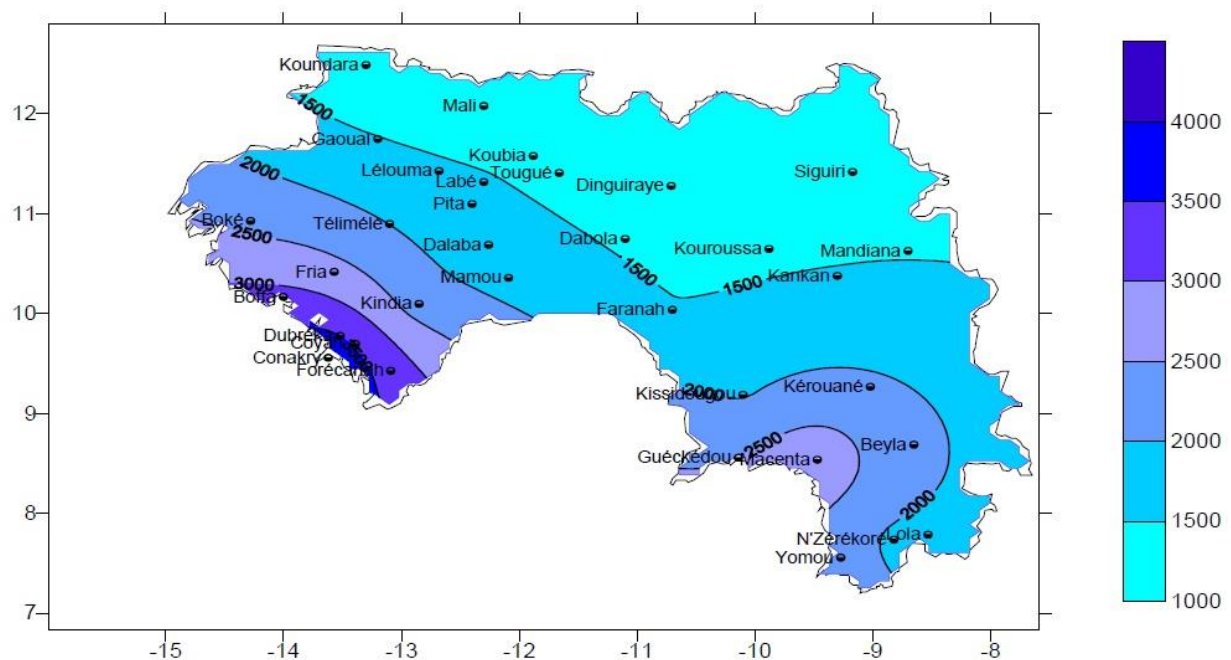


Figure 3 : Mean annual precipitation in Guinea

Carte de la pluviométrie annuelle (moyenne 1961 - 2004)



41. Climate change predictions in the NAPA (2007) show a sharp decrease in precipitation (-31% from the current average by 2050) and a moderate increase in temperature, spanning 0.5°C to 4.8°C increases (under a global scenario of +4.5°C in average by 2100). In contrast, more recent and specific scenarios for the Niger Basin in Guinea extracted from the WB Climate Portal predict marginal changes in average precipitation (either positive, unchanged or negative) and mild increases in temperature.⁸

42. Downscaled climate change models imply, however, a higher level of uncertainty in predictions. Some authors recommend practitioners to use nested models for the region and country⁹, but those are still under development.¹⁰ In any case, the NAPA points out to the Upper Guinea, as well as Maritime and Moyenne Guinea, as the regions in the country most susceptible to negative climate change impacts.

43. Based on indicators of vulnerability at commune level shown in the NAPA, and noting that other regions in the country have benefitted from other LDCF interventions, the of Upper Guinea Region, featuring the Upper Niger River Basin, is the geographic focus of this project for which an ecosystem-based approach has been prioritised.

Projected change (national and sub-national)

44. The mean annual temperature is projected to increase by 1.1 to 3.0°C by the 2060s, and 1.6 to 5.3°C by the 2090s. The range of projections by the 2090s under any one emissions scenario is 1.0- 2.5°C. Temperature increases will likely be most rapid in the northern regions of Guinea. Projections of mean annual rainfall for Guinea predict a wide range of changes. It is likely that precipitation will decrease in the north and south of the country. – See figures further up.

Overall conclusion:

45. Due to the complexity of hydrological and climate systems and the lack of reliable data for the project zone, it is difficult to assess the specific impact of climate change on ecosystems. Yet, most scenarios point towards a greater variability in temperature and precipitation, thus making it more difficult for ecosystems to cope with the effects of accelerating climate change, especially if these ecosystems are vulnerable or under stress.

The General Climate Problem and Related Vulnerabilities

46. Under the current climatic regime, high temperatures, the pre-existing rainfall variability and the long dry season, combined with prevalent conditions of poverty and dependence on natural resources, make rural communities the region of Upper Guinea vulnerable, both from a socio-economic and a geographic perspective. As mentioned in the NAPA and in the Initial National Communication (INC), a major expected impact of climate change in Guinea is the exacerbation of the country's pre-existing climatic variability. It will result in a higher frequency of extreme weather events, such as droughts, storms and floods, higher average temperatures and some degree of shift in the rainfall regime. Models for Guinea differ, however, on the predicted changes in rainfall.

47. Still, three specific aspects that are relevant to the project zone are worth mentioning: hydrological systems, bushfire and associated ecosystem services linked to the presence Upper Niger River Basin in the

⁸ <http://sdwebx.worldbank.org/climateportal> (Basin 458/6193, scenarios A1b, A2 and B1, all indicators, all Global Circulation Models, periods 2030-2039 and 2050-2059), extracted on 25/03/13.

⁹ <http://earthobservatory.nasa.gov/Newsroom/view.php?id=22431>, extracted on 25/03/13.

¹⁰ See e.g. the Coordinated Regional Climate Downscaling Experiment ([CORDEX](#)) and [CORDEX Africa](#); or the Western Africa Monsoon Project ([AMMA](#)).

project zone. They are relevant to the extent that they relate directly to the livelihoods and vulnerability of people in the project zone.

48. **Hydrological systems** are likely to be some of the most affected by climate change, even if changes in rainfall as a result of it are minor. The Niger River Basin will experience significant changes in water availability and quality across the entire watershed, but also increased siltation and river bank erosion. Gallery forests and other riverine ecosystems will also be affected.

49. **Increased incidence and intensity of bushfires** as a result of climate change will be experienced wherever bushfire occurs in Africa, including in the project zone, where the fire regimes are closely related to the amount of vegetation in a landscape, but also other factors. Generally, higher temperatures and drier vegetation will exacerbate both the incidence and the intensity of bushfires.

50. **The services rendered by ecosystems** in the Upper Niger River Basin sustain the livelihoods of more than half a million people, in an area where poverty is prevalent and the economy is based on agriculture. Ecosystems provide these local communities with food, shelter, fibre, firewood and medicinal plants. They also render regulating services linked to water flows and purification, soil retention, nutrient recycling and protection against storm surge. Climate change affecting the Upper Niger Basin will result in higher temperatures, increased evapo-transpiration and changes in the rainfall regime. These conditions certainly will threaten the continued stream of benefits from ecosystem services, particularly with respect to water security, as well as the ecosystems' natural ability to control bushfire.

51. Communities, whose livelihoods depend on ecosystems services and who live close to fire-prone areas, are vulnerable. In the baseline scenario, investments in watershed management are limited and generally not 'climate-proof'. Also, prevailing land-use practices are gradually degrading ecosystems that are generally resilient—their function and structure has been maintained even under the current level of threat. Yet, climate change will likely impact the resilience of these ecosystems with a suite of negative effects on people's own resilience.

52. Although there is a strong baseline investment in rural development programmes, if climate change adaptation is not part of development efforts, this global-level threat will constitute an overriding stressor that will push ecosystems beyond their tipping point. Adaptation measures, in this case, should focus on enhancing ecosystems' resilience and on strengthening their functionality across the landscape. Within this project, managing ecosystems to increase their resilience is therefore a climate change adaptation measure with a clear additionality vis-a-vis the baseline.

53. Interventions will thus focus on watershed management and land-use practices on the ground. The project will also build the capacity of relevant stakeholders to change course and adapt to a climatically challenging future. In this manner, vulnerable beneficiary communities, who depend on ecosystem services for their livelihoods, will become more resilient to climate change.

1.2.3 Forecasted impacts of climate change on ecosystem services in the project zone

54. Pin-pointing the specific impacts of climate change on agro-ecological systems involving wetlands, such as the Upper Niger Basin and riverine ecosystems, such as the Niger tributaries is a complex task. This is because the cascading effects of climate-induced changes on the trophic community and on the physical elements of these systems can be difficult to predict. Yet, certain patterns will likely be observed.

55. Wetlands may e.g. decrease in size under warmer conditions or due to changes to inflow. For river ecosystems, including gallery forests, higher ambient temperatures will lead e.g. to greater metabolic costs for a number of different living organisms. This will negatively affect biomass production, impacting tree growth, but also populations of fresh water fish. Climate change will very likely lead to possible changes in species density, distribution and community relationships. Species' ranges may shift and so will the

composition of forests, which in the buffer zone are predominantly a mix of natural and managed landscapes. Phenology, such as spawning and migration, may be altered. Life history traits for a number of different freshwater species are affected by water quality and chemistry and seasonal flow regimes. These will likely be altered by climate change driven changes in precipitation and runoff.

56. It is worth noting that for the project sites, hydrological systems are likely to be some of the most affected by climate change. Even within a scenario of increased rainfall, water scarcity in project sites is still likely to increase in the medium-to-long-term, due to the other predicted climatic patterns (decreased surface runoff, increased temperatures and change in rainfall seasonal distribution). During periods of drought, the rivers are the only sources of freshwater in a very large perimeter.

57. Altogether, changes to the current and historical rainfall patterns will lead to changes in the hydrological regime, leading to significant changes in water availability. More importantly, as a result of climate change, the water table in the Upper Niger Basin will experience more frequent and sudden drops. Drastic reductions in water availability at critical times (e.g. in the dry season or in drought years) and at critical locations (e.g. in the more populous areas or where livestock congregates) will have a direct and catastrophic impact on livelihoods of communities in the selected project sites. Changes in hydrological systems may also include increased siltation and riverbank erosion, especially in a meandering river. These changes will be either driven by climate change or exacerbated by it.

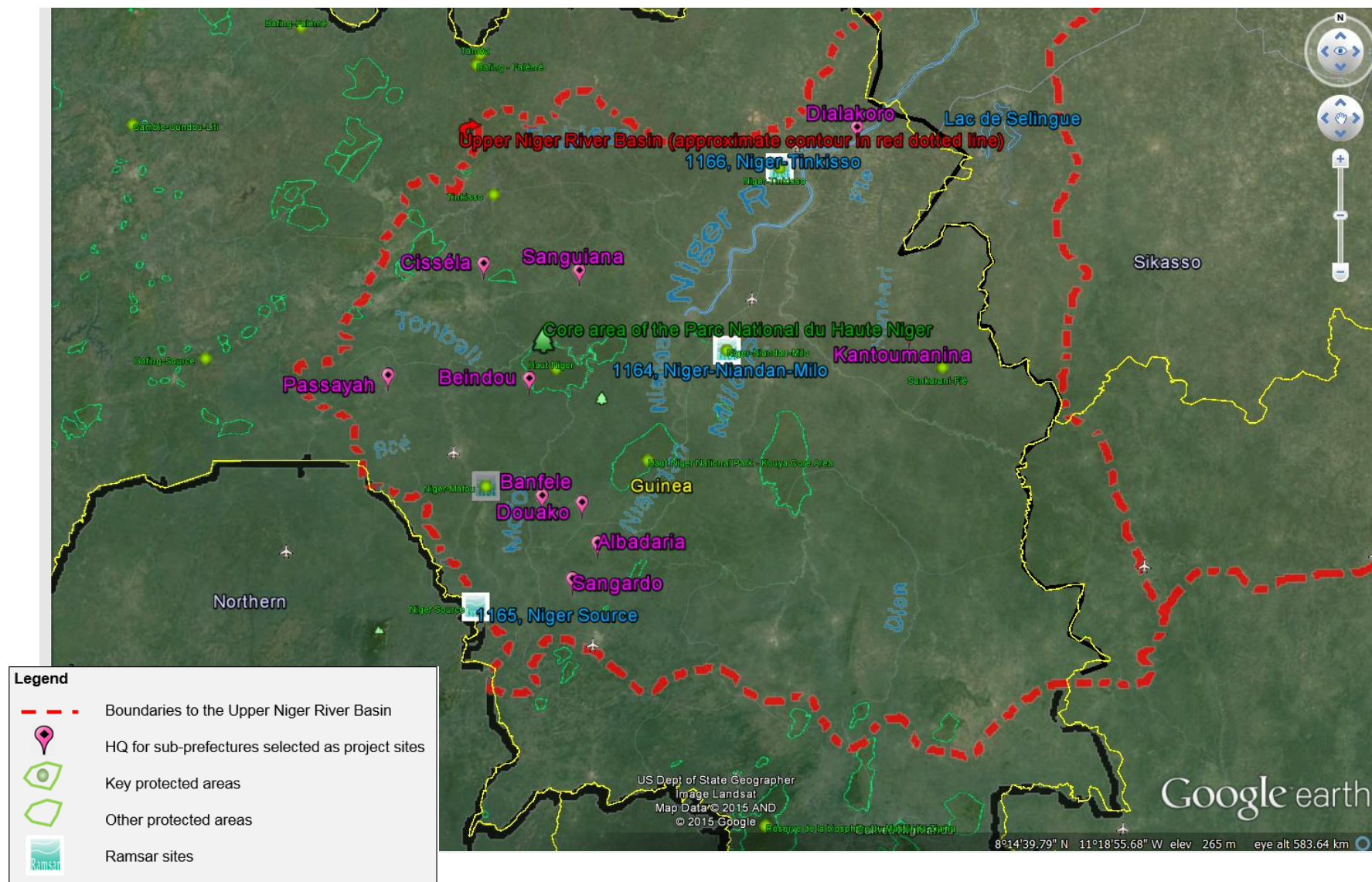
58. Future projections on hydrology are uncertain. An analysis of six locations in the upper and middle Niger basin using the World Bank's climate change data tool shows that projections by the 20 models are not consistent concerning the direction of change (increase or decrease) in rainfall and runoff. The tool does not project changes in river discharge.

59. Among other predictable impacts, climate change is also expected to result in a marked increase in the incidence and intensity of bushfires. The degree of these effects is however difficult to predict vis-a-vis climatic variables. In the savanna biome, fire regimes are closely related to the amount of standing herbaceous phytomass that varies in quantity and composition over space and time, e.g. according to topography, land use, pressure of herbivores and climatic variability. Finer resolution modeling would be needed to identify the most vulnerable forests. Yet, higher temperatures and increased evapo-transpiration across typical landscapes of Guinea will certainly create the conditions for bush-fires to spread out of control and impact larger areas.

60. While people in the project zone (and throughout Guinea) use fire for improving soil fertility and enhancing the regeneration of pasture, if out of season, out of control and too frequent, fire can have catastrophic impacts on livelihoods, notably because of the importance of pastoral and wild resources for the rural societies in question. With the current pressures to these protected sites from agricultural encroachments and the expansion of cultivated lands adjacent to the forests, fires may more often than not become out of control and spread to settlements and agricultural landscapes. It may also undesirably destroy entire forest patches with significant economic loss, besides introducing untimely ecological disturbances. This would warrant a more precautionary and climate-adapted approach to fire regimes and fire management across the landscape in scenarios of climate change to avoid catastrophic effects of fire in different agro-ecological systems.

61. In sum, agro-ecological and hydrological systems display a number of climatic vulnerabilities linked to natural and social assets such as water, pasture, forests, livelihoods and land use systems.

Figure 4: Map of Project Zone



1.2.4 About the project zone – Upper Guinea

62. The Upper Guinea Region covers almost 40% of the country and is characterised by Sahelian savannah vegetation with dry interspersed forests and large floodplains formed by the river Niger and its many tributaries. It is the driest region in the country with an average precipitation between 1200 and 1800 mm per year and high temperatures of sometimes more than 40°C. According to the National Agricultural Policy, more than 80% of the population in the region relies heavily on rainfed agriculture and ecosystem services for their livelihoods.

63. The area is rich in biodiversity, though much of it has been lost in the past decades due to land-use change, mainly through growing population and extension of agricultural lands. Approximately 8% of Upper Guinea's land surface is still covered by forests.

64. Most dwellers live in small, rural communities spread out along the many meandering rivers. Small-hold subsistence agriculture of cash crops, such as rice, groundnuts, onions and millet prevail. Commercial agricultural activities include cotton and coffee plantations, as well as some cattle farming. The area is also known for its gold reserves, which are mostly exploited through artisanal mining.

65. The area consists predominantly of vast plains on indurated alluvia, interrupted by lowlands and watercourses. One of the Niger River's sources, the Niandan, straddles the region. The soils are not generally very fertile, and consist mainly of ferrisols and fersiallitic soils.

66. Vegetation consists mainly of shrub savannah and woody vegetation growing on fallow land. The rainy season lasts from May to October, and average annual rainfall ranges from 1500 to 2000mm. The population density is low, with 10 to 20 people per sq km.

67. The overall project zone straddles a landscape with approx. 3 million hectares and it is located in the North-Western part of the Upper Niger River Basin (see <http://bit.ly/1RJ8fKb>). The Upper Niger extends over approximately 140,000 km² and contains three main tributaries, the Tinkisso, Milo and the Nianadan Rivers.

68. It harbours forest clusters, a tight fluvial network, grasslands and mosaic-agro-pastoral landscapes, as well as four wetlands of international importance (RAMSAR sites¹¹). Where formal protection is afforded (through protected areas), ecosystem services are better maintained. The Mafou Forest Reserve is a strict conservation zone with relatively intact forest swaths. The on-going establishment of the Haute Niger Park, within which Mafou is core area, is an assertive step in this direction.¹²

69. The capitals of the prefectures of Kankan, Faranah and Kouroussa, with an approximate total population of 300,000, are also located within the project zone. In the rural areas, which are dotted by small villages, it is estimated that another 150,000-200,000 people live.¹³ Both urban and rural dwellers have in common prevalent rural poverty and high dependence on natural resources.

70. Compared to other parts of Guinea, population density is relatively low (i.e. below 9 inhabitants per sq km). The area was also affected by the Ebola outbreak, though not as heavily as other regions in Guinea. The total number of confirmed Ebola cases in the three prefectures in the project zone is 95, out of a total of 3155 in Guinea as of March 2015.

71. The selection of project intervention sites is described in more detail below ([Section 1.6](#)).

¹¹ The Ramsar sites are: (i) Niger-Mafou [1163]; (ii) Niger-Niandan-Milo [1664]; (iii) Niger-Tinkisso [1166]; (iv) Tinkisso [1168].

¹² Located in the north-eastern part of Guinea and with a planned size of at least 6,000 sq km (one tenth as core areas), the Haute Niger National Park is in the pipeline for full gazettal. The park aims to protect important tracts of forest and savannah, and is considered a conservation priority for West Africa as a whole.

¹³ The latest census in Guinea is from 1983. The figures provided are based on estimates and extrapolations.

72. **Focus zone for the project:** approx. 3.3 million hectares – see approximate location within Guinea above): (i) covers a portion of the north-western section of the Upper Niger River Basin featuring the rivers Milo, Niandan, Mofou, Tombali and Tinkisso, which are tributaries; (ii) includes 3 Ramsar sites; (iii) features the Haute Niger National Park, with various gazetted forests (primary focus of climate adaptive bushfire management is on the South-Western part of it (sub-prefectures of **Sangardo, Albadariah**).

73. **Niger-Mafou.** 17/01/02; Kankan, Faranah; 1,015,450 ha; 09°53'N 010°37'W. Réserve naturelle gérée. A very large area of permanent and seasonal rivers and freshwater marshes, with irrigated and seasonally flooded agricultural land, located between and around the rivers Niger and Mafou. Large areas of primary dry forest support a high level of unusual biodiversity, and the area has been little altered by human intervention. The threatened endemic fish *Arius gigas* is supported, and a number of waterbirds visit the site annually. Moreover, the site is situated in a migratory corridor for large mammals between Guinea and neighboring states, with abundant water resources for them throughout the year. Water quality is good, but increases in cotton-growing and the use of pesticides may offer a threat - moreover, the mahogany tree *Azizelia africana*, highly prized in woodworking, is now menaced with extinction. Traditional fishing is economically important, as is agriculture and grazing, but losses due to clearing and deforestation are not negligible, and the use of explosives in fishing is diminishing fish stocks.¹⁴

74. **Mafou Classified Forest and Haut Niger National Park:** The site is located in the eastern lowlands, immediately west of the town of Kouroussa. It includes the core area of the Haut Niger National Park, centred on Mafou Forest Reserve, which covers an area of 52,000 ha, together with the surrounding Controlled Hunting Zone, which occupies a further 156,800 ha. Excluded, however, is the larger, encircling buffer zone of a further 392,400 ha. As defined therefore, the site is bounded by the roads linking the towns of Kouroussa, Banfélé, Faranah, N'Déma, Cisséla and Kouroussa. The area is drained by the Niantan river, flowing east from the Fouta Djallon, and by the northward flowing Mafou river from the Guinea Highlands, which unite at the north-east corner of Mafou Forest Reserve to become the Niger. The area is a relatively flat granitic plateau with greater relief provided by some stream valleys. Mafou Forest Reserve is uninhabited, almost untouched savanna woodland with gallery forest along the larger rivers, other forest patches in depressions and bowé (see paragraph 125 on page 34 for more details).

75. **Management considerations on Mafou within the Parc National du Haute Niger.** Mafou Forest Reserve was established in 1954 and was incorporated into Haut Niger National Park on its creation in 1997. This core area is entirely unpopulated, probably due to the prevalence of onchocerciasis in the area. Population densities in the hunting zone are about 1.1 persons/km². Clearance for agriculture, particularly by burning, in the latter area has degraded the savanna woodland in places. Burning has exerted a selective pressure on the savanna, favoring fire-resistant species.¹⁵

1.3 Barrier Analysis and Long Term Solution

1.3.1 The preferred long-term solution

76. In the riparian areas of the project zones selected to be the focus of this intervention¹⁶ – up to 500,000 people are directly dependent on natural assets such water, pasture, forests and fertile soil for a living. Although the use of these resources have undergone a certain degree of degradation over the years,

¹⁴ http://www.protectedplanet.net/sites/Niger_Mafou_Wetlands_Of_International_Importance_Ramsar

¹⁵ <http://www.birdlife.org/datazone/sitefactsheet.php?id=6367>

¹⁶ See descriptions in [Section 1.6](#).

the current regimes pertaining to natural and social assets in project sites have so far managed sustain a stream of services to the majority of resource users. E.g. every year during the dry season, lakes and water channels become the primary source of freshwater for communities and their livestock. The flood plains and riparian borders are also generally resilient to the natural variations in water levels. Riparian forests also play a key role in maintaining soil fertility and avoiding the erosion of riverbanks, besides sustaining important ecosystems. The river system itself sustains several production systems generally based on the availability of surface water all year round: livestock, irrigated crops and freshwater fishing, which are essential for communities' food security for the local economy.

77. Climate change effects such as higher temperatures, marked changes in precipitation and in the rainfall regimes, and a significant decrease in surface runoff will result in increased incidence and intensity of bushfire, water scarcity and significant changes to water flow regimes in key water bodies. The latter may include both flooding and the complete cessation of dry season flows. These impacts will create vulnerabilities that are either climate-driven or that will be exacerbated by climate change.

78. Although agro-ecological and hydrological systems in project sites hang on fragile balance due to a gradual degradation that the systems are experiencing, these same systems are currently resilient. Furthermore, in spite of widespread poverty, it can be said that communities in both project sites are currently maintaining their livelihoods within a coping range. However, with the effects of climate change, both the agro-ecological and hydrological systems and people's livelihoods will reach a tipping point. If left unchecked, climate change will lead to a rapid—and perhaps irreversible—collapse of agro-ecological and hydrological systems in project zones. With climate change, the vast array of services rendered by these systems will breakdown and so will the viability of livelihoods that they sustain.

79. **The preferred solution** proposed by project is to reduce the vulnerability of Guinea, especially the three prefectures Kankan, Kouroussa and Faranah in the Upper Guinea project zone, to the impact of climate change with a focus on the management of natural and social assets in the project sites. Combined with vulnerability reduction measures, the project will also strengthen the resilience of both these livelihoods and of agro-ecological and hydrological systems to withstand additional climate stressors.

80. Because of the uncertain nature of climate change, it is imperative to enhance the ability of ecosystems in Upper Guinea to absorb expected and unforeseen changes without disrupting the flow of goods and services that are so essential for securing livelihoods. The debate on the likely tipping points for ecosystem services is still ongoing and data to determine such points is not available. Still, it is safe to assume that the Upper Guinea Region ecosystems do not have the reserves required to cope with the additional stress emanating from climate change – unless resilience, adaptability and transformability are significantly boosted. At the same time, 'resilience science' is new and systematic approaches to build ecosystems' and people's resilience needs to learn from practical, on-the-ground experiences. **The preferred solution** proposed by the project is to reduce vulnerability of local communities in the Upper Guinea Region by enhancing the functionality and resilience of ecosystems so they can withstand additional climate stressors and continue to supply a wide range of services under conditions of climate change. Extensive and demonstrative experience with climate adaptive techniques are needed at scale to have a transformational effect on livelihoods. A precautionary approach which includes the rehabilitation of ecosystem services is warranted, alongside with an adequate package of capacity building services to support and sustain adaptation measures.

1.3.2 Barriers to achieving the solution

81. The project adopts a barrier-removal approach to the climate problem outlined in the previous section. Two sets of overarching barriers stand in the way of advancing towards the preferred long-term solution. These can be summarized in as follows:

Barrier #1. Difficulties in changing the current and prevalent practices for land use and watershed management

82. In order to address climate change vulnerabilities in ecosystem management and livelihoods, there have to be changes in land-use practices and in the management of watersheds across the landscape. Although these may be considered no-regret or low-regret adaptation options, changing management practices requires investments and the targeted application of incentives to land and resource users.

83. **The key land-use activities** in the project zone, whose current practices have chief importance for the resilience of ecosystem services, include itinerant agriculture and transhumant livestock rearing on the one hand, and the management of watersheds on the other.

84. Agriculture and livestock rearing practices can be characterised as ‘extensive’, with respect to the use of land, and ‘low-tech’, with respect to the limited adoption of scientific knowledge and improved techniques. Also, both use fire in a manner that is poorly controlled at the landscape level, at times with negative consequences for other land-users. Predominant agricultural techniques are characterised by low input of improved seeds, fertiliser and irrigation, but also by the regular shifting of cultivated grounds as a means to maintain soil fertility. Unless access to new lands for cultivation is limited, the cycle of slash-and-burn and encroachment into natural grounds will continue. In sum, the economic and policy drivers behind the current agriculture and livestock rearing practices will enforce their maintenance.

85. Changing these practices, including the indiscriminate use of fire, will require a solid understanding of the package of incentives and disincentives that apply to different players. It will also imply identifying and costing the opportunities to infuse new technologies and a more effective control with respect to access to and use of land. These opportunities may be realised through access to credit, training, extension and improved techniques and technologies. On-going rural development programmes are well positioned to deliver and facilitate the realisation of these opportunities to local communities. A key barrier is to establish to establish appropriate fora for concertation on local-level interventions. Also, without a landscape-level approach, the impact will be limited.

86. **As for watershed management**, it should be acknowledged that under various programmes for managing the Niger River Basin, considerable amounts of hydrological and socio-economic data have been produced. Techniques for IWRM are also well established and have been successfully tested in the Basin, though in very limited scale. Obviously, the Niger River Basin is very large and its management faces many challenges.

87. Although hugely important for the sub-region, effectively governing the Niger River Basin needs to be done at various levels. At the level of key sub-basins in the upper part of the Basin, concerted governance frameworks and planning are still very much under-developed. Only the Tinkisso sub-basin and the Niger-Niandan-Milo Ramsar site have recently been object of watershed management interventions.

88. **Altogether**, the realisation of adaptation benefits in land use and watershed management depends on a set of measures to be implemented. First, the integration of the climate risk in current practices is incipient. Hotspots of climate risk across the landscape and trends and livelihoods’ coping range remain to be identified. Second, the lack of hands-on tools for climate adaptive planning that can specifically be applied to the project zone is patent. E.g., the effects of current ecosystem degradation are known in Guinea and they have been observed, but they have not been adequately surveyed in the project zone, nor has a ‘climate layer’ of analysis been applied. Thirdly, and, perhaps most importantly, ecosystem-based adaptation is a novelty and there are very few practical experiences with it. In Guinea, there is currently only one practical experience with ecosystem-based adaptation. As it is focused on mangrove ecosystems it has limited replicability for this project.

89. In sum, changing predominant land uses and watershed management practices in the project zone will not be possible, unless it is closely coordinated with the various baseline development interventions and unless the proposed changes bring on tangible benefits to land and resource users.

Barrier #2. EBA is a new approach – mostly experimental – and the techniques are still under-developed and the policies and plans will need to follow

90. Knowledge and understanding of climate change impacts, ecosystems' tipping points and adequate response measures are very limited among local communities and governing stakeholders in the project region, so climate resilience is not yet part of local resource use planning and policy development.

91. The project departs from the acknowledgement that climatic change predictions for the West Africa region bear a high degree of uncertainty, especially the finer the scale ones and with respect to ecosystem management. Yet, determining tipping points and designing actions that can steer course away from them remain a challenge. The issue for the project zones is not so much to predict the climate in the upcoming decades. It is rather to be able to plan on the basis of some of the key impact parameters and trends that have been identified with respect to climate change, namely increased temperatures, decreased water availability and decreased surface runoff. It could be useful to know the likely frequency of atypical flooding or of fire incidence in forests as a result of climate change. Currently, there are no knowledge system and data is insufficient to carry out the necessary analysis to support planning and policy development. Also, technical capacities on climate science and meteorology are generally underdeveloped.

92. At the level of overarching policies, plans and strategies, Guinea has made some progress in mainstreaming climate change considerations into national and regional frameworks. This is providing a good basis for the implementation of national NAPA priorities through existing LDCF projects. Still, it takes time to formulate new policies. Several sectoral policies (i.e. those with an overarching character vis-a-vis a sector) have a lifetime of 8-10 years. Even with state of the art analysis available on the possible impacts of climate change into different sectors, mainstreaming climate change risk, vulnerabilities and resilience into them is not a straight forward process. The work on sectoral mainstreaming needs therefore to find more operational ways of influencing policies and action on the ground.

93. Local and regional development planning and financing frameworks offer a window of opportunity in this respect. These may require climate modelling knowledge products, as well as analytical products with practical application, combining climate predictions with landscape, resources and land use features as well as socio-economic data.

94. The relevant data and information to address climatic vulnerability at the local level is scattered and managed by few individuals. Furthermore, having the tools and analyses available is not in and on itself enough. Practical application requires relevant stakeholders to have the capacity to use information and analysis. Currently, the capacity both at the national and local levels for planning and policy development is very incipient.

1.4 Baseline Analysis

95. Development challenges in the project zone are being addressed through a number of programmes, projects and initiatives. Most of them focus on the various facets of rural livelihoods and attempt to provide communities with a myriad of benefits. These include e.g. increases in agricultural and livestock productivity, benefits in terms of education health, and access to finance. Several programmes focus on water as a key resource – e.g. by facilitating access to drinking water, providing sanitation or

addressing the issue of water through holistic approaches coined ‘Integrated Water Resource Management’ (IWRM).

96. Noteworthy programmes were also set in place for the management of the Niger Basin as an international water body and through a concerted effort among riparian countries.¹⁷ The Niger Basin Authority was established in the 1980 as a result of these efforts. However, based on several accounts the Authority remains challenged and poorly funded.

97. Various initiatives to tackle the issue of natural resource management, environmental challenges and landscape governance in various parts of the country could also be mentioned.

98. More recently funding is also being channelled to Guinea to face the Ebola challenge and the post-crisis recovery.

99. Guinea needs both development and humanitarian programmes to lift its people out of poverty, tackle the impacts of the Ebola crisis and produce development results. The government actively requests the international community for support. A sizable portfolio of projects and programmes, including some supported by UNDP, are currently active in the project zone and at the national level to address development challenges. Together, they provide a comprehensive baseline for the proposed project.

1.4.1 The status quo of ecosystem/NRM management in project sites

100. **The current ‘baseline scenario’** points out to ecosystems in the project zone still being generally resilient. They are maintaining crucial services to local communities in spite of the prevailing mal-adapted tendencies towards their gradual degradation. These tendencies are a result of direct threats to ecosystems and their functionality linked to land-use change and to the negative impacts of inadequate management of hydrological resources in the Upper Niger Basin. These tendencies and impacts will be clearly exacerbated by climate change.

101. Also, in spite of widespread poverty, the livelihoods of local communities in the project zone are currently within the coping range, which allows them to continue using available natural resources without an immediate need to change prevailing practices.

102. With the effects of climate change, ecosystems and people’s livelihoods may reach a tipping point. If left unaddressed, climate change may lead to a rapid—and perhaps irreversible—collapse of habitats in the project zones in a cascading effect. It will be then too late to change course. Given the vulnerability of local communities, both in terms of dependency on natural resources and in terms of poverty, this is likely to have a devastating effect on any development efforts achieved so far.

Table 3: Climate Change Vulnerabilities

CLIMATE CHANGE VULNERABILITIES
<p><u>Water</u></p> <ul style="list-style-type: none"> • River bank erosion and siltation patterns, affecting base water flows • Decreased availability and quality of ground and surface water • Sudden drops in the water table • Wetlands and springs desiccation • Fish stocks diminish as a result of changes in temperature and water turbidity

¹⁷ See e.g. http://www.gwptoolbox.org/index.php?option=com_case&id=32&Itemid=40 and the [full case study](#) file.

Forests/savannahs

- Increased incidence and intensity of bushfires
- Decreased vegetation cover leads to soil compaction, degradation and decreased percolation, leading to further degradation and loss of land productivity in a vicious cycle where climate change is the pivot
- Changes in overall climatic patterns will affect flora, fauna and habitat productivity in unforeseen ways, but likely leading to decreased availability of useful plants and animals (game, fruit, tubers, wood, fibres); it may even lead to habitat collapse in specific locations, i.e. when ecosystems are pushed beyond tipping points

Livelihoods and land-use systems

- Threats to food and water security and higher costs of living due to: (i) the deterioration of soil quality and availability; (ii) changes in cultivation period and in conditions of crop growth and harvest; (iii) crop loss resulting from floods and droughts; and (iv) degradation of water and land-based ecosystems.
- Possible expansion in the spatial distribution of vector- and water borne diseases
- Encroachment, land-use conflicts, poaching and deforestation become more pronounced in protected areas and buffer zones.

ALTERNATIVE

- 1) Strengthen the resilience of vulnerable communities to climate in selected sites through an ecosystem-based approach, leading to tangible and replicable changes in land-use and water resource management practices that sustain critical ecosystem services in scenarios of climate change. Key focus is on the management of watersheds, wetlands, fire and livestock.
- 2) Provide capacity building and information systems for the integration of climate change adaptation into national / regional / local management plans, policies, so that changes in land-use and water resource management practices can be adequately supported and sustained.

ADAPTATION BENEFITS

- Capacity of local stakeholders in the project zones to perceive climate risk and to implement adaptation measures in natural resource management activities and livelihoods development will be significantly enhanced, in particular with respect to the management of water bodies, forests and savannahs, livelihoods' options and land use systems.
- The resilience of agro-ecological and hydrological systems results in the resilience of people who depend on them.
- National, regional and local capacity to mainstream climate change adaptation in key planning and practice frameworks is strengthened
- Systems support provide information and data in a targeted way for enabling climate change adaptation
- Adaptation learning will be enhanced through dissemination of climate adaptation benefits in targeted areas to stakeholders

1.4.2 The project's development baseline

The status quo of ecosystem management in project sites

103. As seen further up, agro-ecological and hydrological systems in Guinea – and in the project zone, more specifically – display a number of climatic vulnerabilities linked to natural and social assets. These assets are water, pasture, forests, livelihoods and land use systems.

104. Under the current regime, the project sites are being managed and utilized to satisfy the most immediate needs of riparian communities. They provide food, fresh water, fiber and fuel. Livelihoods and societal relations in both zones are deeply dependent on the continued stream of services that agro-

ecological and hydrological systems provide. With the foreseeable impacts of climate change, these systems will start to breakdown and degrade beyond a level that can sustain livelihoods. This is the baseline management of natural and social assets for this proposed project.

Relevant national and regional related initiatives that address development and humanitarian problems

- UN Joint Programme for the Kankan Region 2013 – 2017, supported by UNICEF, UNFPA and UNDP, under preparation, with approx. \$10 million (excl. GEF funds) from all three agencies. The Joint Programme is built around four intervention areas, all of which are in line with the UNDAF strategy for Guinea, in particular to address extreme poverty. To this effect, the joint programme is targeting vulnerable groups (women, youth) to strengthen their capacities in the food and agricultural production sector. Further, the programme aims to increase access to revenue with a focus on job creation for young people in rural areas and participation of women in local decision-making. Finally, the programme also aims to improve access to and quality of health services for vulnerable people.
- Projet de développement rural intégré de la Haute Guinée occidentale (PDRI-HGO), Dinguiraye-Kouroussa, funded by the Government of Guinea (Ministry of Agriculture) and the Islamic Development Bank, \$11.54 million, (2005 – 2014). The objectives of this programme are the improvement of living conditions, increased access to drinking water and better connection of production zones through rural infrastructure and transport corridors. Further, income will be generated through cashew plantations. While important for the baseline, this programme is closing and no baseline amount was considered.
- Environmental Governance Capacity Building Program (USAID) and Regional Programme STEWARD (US Forestry Services International Programs), on-going with funding confirmed on a year-to-year basis, estimated at \$2 million for 2015-2017. The overall aim of the Environmental Governance Program is to facilitate the Guinean Ministry of Environment's capacity to apply laws, regulations, codes and policies that strengthen natural resources management (NRM) and biodiversity conservation. The STEWARD is, in turn, a regional initiative with focus on forests and benefitting the Mano River Union countries with a long-term engagement vision. It aims at strengthening West African trans-boundary natural resource management, including through peace building, biodiversity conservation, knowledge sharing and policy harmonization. The current phase in Guinea focuses on continued capacity building of DNEF. Though not directly active in the project zone, the programme is producing relevant results at the national policies' front, more recently with the revision of the National Agricultural Development Policy and Vision for 2015/6.
- Second Emergency Agricultural Productivity Support Project (PUAPA 2), World Bank financed: \$20 million (pipeline). The Government's Priority Action Plan for Agriculture places a particular emphasis on the sector as an engine of growth with an initial focus on achieving food security and rice self-sufficiency results. The project's goal is to increase smallholder productivity. Phase 2 involves consolidation of results and strengthening of self-reliance, as communities gradually move away from emergency agricultural support. An amount of \$20 million was considered as baseline.
- Programme de productivité agricole en Afrique de l'Ouest (PPAAO)¹⁸, World Bank, Japan, budget: \$119 million regional (started in 2008 in other countries) and reserved approx. \$9 million for Guinea for 2011-2018. The objective of the first phase is to generate and accelerate adoption of improved

¹⁸ Or West Africa Agricultural Productivity Program (WAAPP) in English.

technologies in the participating countries' top agricultural commodity priorities, as outlined in the Economic Community of West African States Agricultural Policy (ECOWAP). The national component implies the creation of national capacities for disseminating agricultural techniques and technologies, with a view to improving productivity and it is active in Upper Guinea. The programme PPAAO-Guinea is contributing to the project's Component 1 co-financing for an amount of \$9.0 million.

- *IUCN supported Ecosystem Restoration Project in Guinea*, running until 2013 with a budget of \$500K; other programmes in the pipeline. Restoration and payment for environmental services in the Tinkisso River basin. This project is implemented by IUCN, and part of the poverty reduction and environmental management initiative in West Africa (PREMI). A follow-on initiative of larger scope is bound to start implementation with a foreseen budget of \$10 million, which is considered baseline.
- *Various programmes on wetland restoration and watershed management from multiple sources of funds, among them:* (1) *IUCN REPASE* (2012-2015) working locally to promote the integrated management of the Tinkisso watershed, introducing the notion of 'payment for ecosystem services' and attempting to restore the water flow, though with very limited funding; (2) *WWF Int - Projet de demonstration pour la restauration des berges du site Ramsar Niger-Niandan-Milo* (2009-2012), whose most important result was the approval of a management plan for the Ramsar site, though funding for implementation is not available; (3) *GIZ Support to the Niger Basin Authority (NBA)* (2007-2016), where the focus is on strategic planning, organisational development and internal and external communication. The two first initiatives are directly relevant to the project, but count on very limited funding. The GIZ funding to NBA pertains to institutional support to a regional entity and is only indirectly relevant for concrete watershed management on the ground. Although important for the capacity development baseline, amounts for the three above mentioned initiatives were comparatively small and therefore not entered into baseline amount accounting was considered.
- *WFP's Country Programme and Regional Project 2013-2017*: The expected outcomes of the programme are: i) sustained increase in the number of children attending primary schools, particularly girls; ii) improved nutritional status of children aged 6–59 months and pregnant and lactating women; iii) improved nutritional status of people living with HIV and tuberculosis patients receiving treatment; iv) increased food availability and dietary diversity in the targeted areas; v) increased resilience of vulnerable communities to disasters. The total budget is \$40 million for Guinea. In addition, WFP is implementing at the regional level a programme named 'Support to Populations in Areas Affected by the Ebola Outbreak in Guinea, Liberia, Sierra Leone' with a total budget of \$189 million by May 2015. The focus of the operations has been on the provision of nutrition to vulnerable households with a total of 352,058 beneficiaries in Guinea. Of these, we consider \$20 million as baseline investment in resilience dedicated to Guinea. The regional project together with the national programme make up a total baseline of \$80M from WFP.

105. Together, all of the above programmes, projects and initiatives either contribute to the rural economy or are building capacities for ecosystems and natural resource management in Guinea, including water and watersheds. Many are already producing results. Others are planning investments. Together, they constitute **'the baseline project investment'** and sum up a solid **\$121.5 million** and it is thus divided:

Table 4: Baseline Investments Overview

Investments (\$ million)	Duration	Component 1	Component 2	TOTAL
UN Joint Programme Kankan	2013 – 2017	5.0	5.0	10.0
PDRI-HGO	2005 - 2014 (ending)	0.0		0.0
USAID / US Forestry Service - Env & BD	2015-2017		2.0	2.0
PUAPA 2	2015 on	20.0		20.0
PPAAO-Guinea	2011-2018	9.0		9.0
IUCN Ecosystems	on-going		10.0	10.0
Wetlands an watershed restoration programmes	2012-2016	0.0		0.0
WFP's Country Programme	2013-2017	40.0	40.0	80.0
Total baseline		74.0	57.0	131.0
<i>Total baseline that contributes to project's co-financing</i>		<i>9.0</i>	<i>0.0</i>	<i>9.0</i>

106. The financial baseline represents the current response to Guinea's development challenges with respect to the management of ecosystems in the project zones.

107. In addition, in support of the Government's Ebola emergency response plan, a number of partners are currently operating in Guinea. WHO is leading the coordination of the response in support of the Ministry of Health and is strengthening laboratory capacity with the Institute Pasteur. MSF has taken the leader in the provision of treatment for the ebola virus disease (EVD) patients and is running two Ebola treatment centres – one in the capital, Conakry, and one in Guéckédou. The International Federation of Red Cross and Red Crescent Societies (IFRC) is leading efforts to conduct safe burials. UNICEF is leading social mobilization activities while the World Food Programme (WFP) is providing food to 352,000 people. WFP also runs the UN Humanitarian Air Service (UNHAS) flights aimed at transporting responders and supplies, and provides logistics and emergency telecommunications services.

108. Yet, the majority of these interventions do not take the impacts of climate change into consideration.

1.4.3 National Level Response to Climate change

109. Guinea is undertaking several efforts to strengthen technical and institutional capacities for enabling climate change adaptation. They pertain to institutional measures and reforms, policy responses and the general development of capacity. Many are facilitated through the following initiatives: (i) other LDCF projects; (ii) bilateral initiatives to support climate data collection and analysis; and (iii) GEF projects in other focal areas, which relate in different ways to the project's theme.

110. With respect to the first two, Guinea is implementing two NAPA follow-on projects with UNDP: (1) *Increased Resilience and Adaptation to Adverse Impacts of Climate Change in Guinea's Vulnerable Coastal Zones*, Project Document signed in November 2010; and (2) *Strengthening Farmers Communities Livelihoods Resilience Against Climate Changes in the Guinean Prefectures of Gaoual, Koundara and Mali*, project Document signed in November 2013.

111. NAPA Follow-up Project 1 ("Coastal Adaptation") is already showing results. Climate risk management and adaptation measures to stabilize coastal zones ecosystems are being implemented on the ground in Koba, Khoréira, Wonkifong, Benty, Kaback and Kakossa. They aim to protect coastal areas

communities and their assets against sea level rise and floods. The project is also assisting Guinea with planning processes at the state, national, sub-national and local levels, including for urban planning in coastal cities. NAPA Follow-up Project 2 ('Agro-forestry adaptation') will soon produce results, in particular by disseminating agro-meteorological information, integrating climate change issues into regional and local development plans, and – most importantly – by expanding livelihoods options. Both project constitute a strong point of departure for the herein proposed intervention.

112. Furthermore, the National Directorate for Meteorology (DMN) has received an *ad hoc* support from the Spanish Meteorological Agency (AEMET) through the projects METAGRI (West Africa Agricultural Meteorology Project) and EMERMET (Post Conflict and Natural Disasters Countries project) to respectively: (i) hold, throughout the country, itinerant workshops to supply and train farmers on the use of pluviometers; and (ii) provide to the national meteorological departments observatory instruments, office equipment and training on the use of these instruments and in data analysis.

113. Under the NAPA Follow-up Project 2 on agro-forestry, a needs assessment of the DMN was undertaken, identifying the need for support of the existing meteorological services. These projects contribute to increase the capacity of the Guinean national meteorological system to provide local communities and decision makers with relevant meteorological support they need to face to climate risks. However the funding of these projects is not sufficient to reach a substantial number of rural communities and DNM staff throughout the country.

114. Other relevant GEF projects in Guinea also contribute (or have recently contributed) to the strengthening of technical and institutional capacities at various levels. The most relevant ones are in the focal areas of (a) biodiversity (e.g. NBSAP, Monts Nimba and the regional PROGEBE¹⁹), (b) land degradation (e.g. the UNDP-GEF SLM capacities, the WB-GEF Community-based Land Management and the UNEP-GEF Fouta Djallon INRM), (c) international waters (e.g. the now completed WB-GEF Niger River Basin); and (d) climate change mitigation (the Livestock CH₄ capture). There is also a multi-focal area GEF project under preparation by AfDB, the Mano River IWRM.

115. With the help of these GEF projects, as well as baseline programmes mentioned further up, national capacities are being gradually strengthened through hands-on experience.

116. In spite of these efforts, on-the-ground experiences in dealing with climate change adaptation have so far remained limited in scope and number. Given the high dependence of Guinea's economy on primary sectors and the fact that increased exploitation of natural resources such as minerals are likely to aggravate the degradation and impacts of climate change on local populations, the current baseline response does not sufficiently consider the full effects of climate change impacts. Overall, Guinea's economy is highly vulnerable to climate change and the current weak institutional and technical capacities make climate change adaptation a national priority.

Institutional response to climate variability

117. In Guinea, various national and international initiatives continue to strive for sustainable development. This can be seen via different measures in the baseline, including relevant strategies and policies, local development projects and programmes, and various local and community efforts.

118. Guinea has adopted various pieces of legislation that had the intention of furthering the protection of environmental resources. Many of these legal texts lack fully developed regulations and means of

¹⁹ UNDP-GEF project *Sustainable management of globally significant endemic ruminant livestock of West Africa*. [PROGEBE] The project, which is regional and reaching its end in 2014, focuses on the establishment of sustainable models for the management and *in-situ* conservation of three priority species ruminant livestock that are endemic to West Africa – N'dama cattle, Djallonke sheep, and the West African Dwarf goat. These livestock local races are not only resistant to a number of tropical diseases, including trypanosomiasis, but also resilient to harsh climatic conditions and limited availability of quality fodder and water. Guinea harbours the largest populations of N'dama cattle.

implementation and enforcement. Furthermore, not all of these legal texts have been endorsed by local communities or harmonised with local customary law, which makes their application at the local level difficult. This therefore reduces their effectiveness in protecting the environment.

119. Nonetheless, some of the legal and policy frameworks worth mentioning include:

- The Environmental Protection and Development Code (“*Code de Protection et de Mise en Valeur de l’Environnement*”): Promulgated in 1987, this Code defines the fundamental principles, definitions and administrative structures for management of the environment and outlines environmental protection measures.
- The Forestry Code (“*Code Forestier*”): Promulgated in 1999 and promulgating the Forestry Law, this Code codifies, among other things, the issues of forestry management, e.g. exploitation, protection, bushfires, reforestation, using rights and the national forestry fund.
- The Protection for Wild Fauna and the Hunting Regulation Code (“*Code de Protection de la Faune Sauvage et Réglementation de la Chasse*”): Promulgated in 1990 and reviewed in 1997, this Code codifies the conservation of the wild fauna and its habitats, outlines the national parks, natural reserves and hunting zones while enumerating the protected animal species.
- The Mining Code (“*Code Minier*”): Promulgated in 1995, this Code tackles the extraction of natural mineral resources, environmental protection in mining areas and compensation in case of harm and damages. This Code was recently amended and has a new designation: the Mining Conventions (“*Conventions Minières*”).
- The Water Code (“*Code de l’Eau*”): Promulgated in 1994, this Code establishes the legal context for water exploitation and protection.
- The Animal Raising and Animal Products Code (“*Code de l’Elevage et des Produits Animaux*”) and the Pastoral Code (“*Code Pastoral*”): Promulgated both in 1995, these Codes outline the links between animal husbandry and environmental protection.
- Furthermore, Guinea has prepared a National Action Plan for the Environment (“*Plan National d’Action pour l’Environnement*” – PNAE) which was initiated in 1989. Three specific programmes have been outlined: (i) Natural Resources Management; (ii) Pollution and Purification; and (iii) Society and Environment.
- Guinea has also prepared a new Policy on Agricultural Development which aims, with the target year of 2015, to: (i) improve the efficiency and effectiveness of local farming systems and markets; (ii) promote the private agricultural sector; (iii) improve access to sub-regional, national and international markets; and (iv) ensure a sustainable natural resources and environmental management.
- Finally, Guinea has promulgated a National Biodiversity Strategy which aims to tackle four goals by 2015: (i) Conservation of the biodiversity; (ii) The sustainable use of natural resources; (iii) Global measures for conservation and sustainable use of biological diversity’s resources; and (iv) International cooperation. A National Forestry Action Plan has also been elaborated.

1.5 Stakeholder Analysis

120. Given that utilization of natural resources are the dominant livelihood activities across rural areas in Upper Guinea and in the project zone specifically, many government and civil society bodies are involved in some respect.

121. As so many could be considered stakeholders to this project, it would not be possible to list them all here, but the following table summarizes the stakeholder groups and the roles they may play:

Table 5: Stakeholder matrix

Stakeholder	Relevant Role
National Directorate of Water and Forests	The implementing partner for the project. Their role is to coordination and implementation of project activities with regards to mainstreaming climate change adaptation into national planning processes. The Directorate will also ensure the engagement of relevant line ministries/government entities responsible for the agriculture, water and rural development portfolio. These entities will play a key role in both securing the co-financing for the project and in ensuring the complementarity of the baseline initiatives with the ecosystem-based investments proposed by the project.
Prefectures of Upper Niger River Basin: Kankan, Kouroussa, Faranah, Kissidougou and selected sub-prefectures	The Prefecture disseminates, executes and monitors national guidelines and policies, implements laws/regulations and maintains security; executes public expenditures within the Prefecture; animates/coordinates/controls all prefectural administrative directorates and their agents (gives opinions on transfer, promotion, secondment of public servants); exercises supervision over urban community and rural communities; promotes micro-projects and supports local governments, community groups, cooperatives, NGOs in the management of their projects; plans and promotes socioeconomic and cultural development within the prefectures (prefectural development plans). Then, the Prefectures will participate in the design and the monitoring of the field activities of the project and ensure that the project activities are in line with and contribute to the implementation of the prefectural development plans.
Regional divisions for rural development (agriculture, forestry, environment)	The regional technical divisions are responsible for the implementation of the government policies at the regional level. Their role is, among others, to coordinate the implementation of regional action plans. Their role in this project will be to provide rural communes with advisory support as well as to participate in the design and monitoring of the project activities. They will also form part of the capacity building activities under Components 1 and 2.
Bureau de Stratégie et de Développement in the Ministry of Agriculture	It is responsible for the development of sectoral policy, action plans, programs and projects, as well as monitoring and evaluation of the implementation of the planning and development tools. On the regional and local level it will play a role in the development of the climate-adaptative landscape plans (Output 1.1., 1.2.) and the implementation of integrated natural resource policies (Output 2.1.)
Rural Communes (CR)	The CRs are deliberating bodies whose members are elected by the community. They are responsible for defining local public policy in their respective territorial units in accordance with the laws of the Republic and the national development guidelines as well as for monitoring their implementation. They will participate in the design and coordinate the implementation and help monitor the project activities in each CR involved in the project.
Upper Guinea NP	The administration of the Upper Guinea National Park will be involved in the project activities and play a key role, in particular with regards to implementation

Stakeholder	Relevant Role
	of restoration and rewetting in the buffer zone as well as sharing of experiences. Further collaboration will include exchange of knowledge and capacity building with regards to developing a landscape-level adaptation plan for the project zone.
National Directorate and Regional, Divisions of Meteorology in Upper Guinea	They will coordinate the activities of collection, processing, analysis of climatic data and production and diffusion of climate information. They will provide the basis to gather and analyse climate data and diffuse early warnings about extreme weather events to key local stakeholders.
Community based organizations and agricultural associations	They will be among the main beneficiaries of the project activities and will participate in the design, the implementation and the monitoring of the project activities. The project preparation phase will allow identifying the most relevant among them. A prototype of a registry for locally-active CBOs will be developed during the PPG phase.
<i>Groupements Forestiers</i> (Community Forest Committees)	The community forest committees are managing the use of community forests and play an important role in identifying sustainable practices for natural resources management in project zones. They will participate in the consultation and project preparation as well as in capacity building activities.
Convention focal points	Focal points for UNFCCC, CBD and Ramsar will play an active role in networking and information sharing vis-a-vis the project and will be invited to participate in the project steering committee.

1.6 Introduction to the Project Sites

122. Based on preliminary discussions the area straddling the Upper Niger National Park and the Mafou Forest Reserve has been selected as the primary project zone. It comprises the Niger, Mafou, Kouya and Niandan rivers, focusing on Kouroussa and Faranah and the sub-prefectures around the Niandan river in the North-Western part of the region along the Kouroussa, Cissela, Banfele axis. These sites are notable as they:

- Represent an internationally important wetland/lake, and a large forest corridor generated via a river, containing Ramsar sites;
- Local people in these areas are highly dependent on natural resources for their livelihoods – livelihoods that will be threatened by the exacerbation of the current climatic variability and climate change;
- Communities here show willingness and demand to try new adaptation approaches;
- There are existing capacity development initiatives and/or investments in adaptation initiatives can be linked to;
- Present cases where return on investment are likely to be greatest; and
- Have reasonable accessibility in light of the need for monitoring and evaluation

123. More detailed information on the selection of sites within these areas is presented below. The project zones are large on a national scale, and indeed on a regional scale. In order to narrow down the intervention areas, 10 sub-prefectures have been selected as project sites, as follows:

Table 6: Prefectures and Sub-Prefectures in the project zone and their Administrative Regions

N°	Région administrative	Préfecture	Sous Préfectures*	Observations**
1	Faranah	Faranah	Passaya	Riveraine du PNHN
			Beindou	Riveraine du PNHN
2		Kissidougou	Albadarya	Non riveraine du PNHN
			Sangardo	Non riveraine du PNHN
3	Kankan	Mandiana	Kantoumanina	Non riveraine du PNHN
			Djalakoro***	Non riveraine du PNHN
4		Kouroussa	Banfèlè	Riveraine du PNHN
			Douako	Riveraine du PNHN
			Sanguiana	Riveraine du PNHN
			Cisséla	Riveraine du PNHN

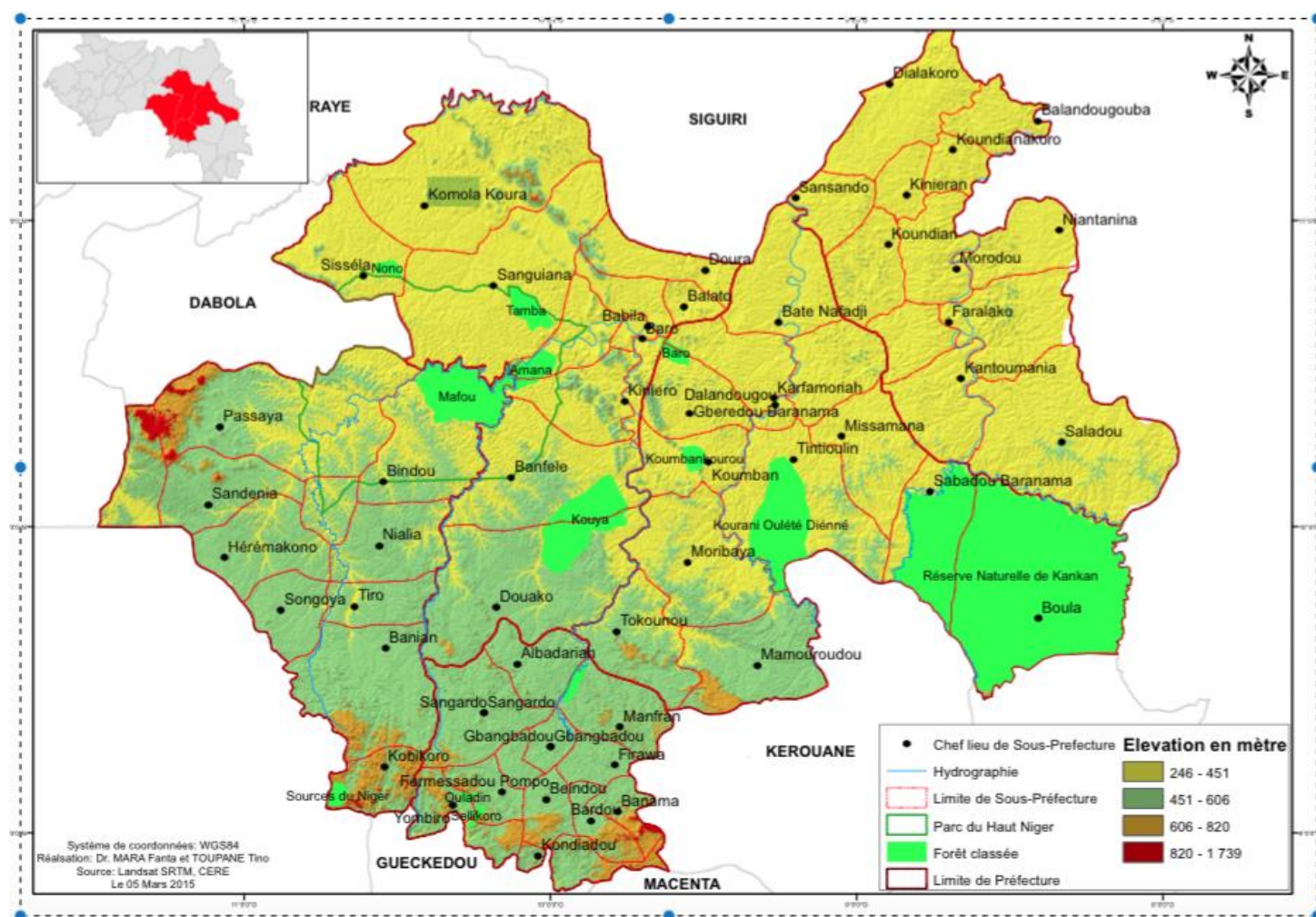
Notes:

* The sites' library in Google Earth format (.kmz) can be accessed through this [Link](#).

** Refers to location vis-à-vis the Parc National du Haute Niger (PNHN).

*** Other sources may refer to "Dialakoro".

Figure 5: Map of the selected prefectures



1.6.1 Key features of Project Sites

124. **The Haut Niger National Park** is centred around the Mafou Forest Reserve with 52,000 ha, together with the surrounding Controlled Hunting Zone, which occupies a further 156,800 ha, encircled by a larger buffer zone of a further 392,400 ha.²⁰ The area that could potentially be consolidated as national park is bounded by the roads linking the towns of Kouroussa, Banféle, Faranah, N'Déma, Cisséla and Kouroussa. The area is drained by the Niandan river, flowing east from the Fouta Djallon, and by the northward flowing Mafou river from the Guinea Highlands, which unite at the north-east corner of Mafou Forest Reserve to become the Niger. The area is a relatively flat granitic plateau with greater relief provided by some stream valleys.

125. **Mafou Forest Reserve** is basically uninhabited, with almost untouched savanna woodland and gallery forests along the larger rivers, plus other forest patches in depressions and *bowés*²¹. The closed forests are dominated by *Chlorophora excelsa*, *Erythrophloeum guineense*, *Nauclea latifolia*, *N. pobeginii*, *Pterocarpus santalinoides*, *Syzygium guineense* and *Vitex doniana*. The savanna habitat comprises woodland, wooded grassland and grass savanna on laterite. The woodland formations are characterized by the trees *Afrormosia laxiflora*, *Combretum glutinosum*, *Daniellia oliveri*, *Annona senegalensis*, *Pterocarpus erinaceus*, *Lophira lanceolata* and *Uapaca togoensis*. There are also areas of dense *Isobertlinia* (*I. doka* and *I. dalzielli*) woodland. The grasslands are dominated by *Andropogon gayanus*, *Hyparrhenia* spp. and *Imperata cylindrica*. Annual rainfall is between 1,500 and 1,700 mm.

126. **The Niandan river** together with the Niger and the Milo links the upper and lower sections of the Niger basin and is extremely important for its hydrological functions, including flood control. It harbours two large wetlands of international importance: the Niger-Tinkisso Ramsar site with 400,600 ha and the Niger-Niandan-Milo Ramsar site, which covers an area of 1,046,400 ha in the prefecture of Kankan. The source region of the Niger river is extremely important as the enormous river and its downstream basins depend on the quality and quantity of the flow from this source. The Niandan river is rich in fish, including endemic species such as *Arius gigas*. Fishing is an important source of livelihood for local people, both traditionally and commercially. Due to increase in commercial fishing, including unsustainable practices such as dynamite fishing, an overexploitation of certain economically important species such as late niloticus and labeo could have been suggested in some studies.

127. **The freshwater habitats** in the area can be described as follows: major rivers with large riverbeds showing localised rapids and / or sand deposits (i.e. Milo, Niandan, Niger), temporary seasonally flooded ponds, swamps and wetlands in the alluvial plains of some of these major rivers, secondary rivers comprising tributaries of major rivers, usually entirely fringed by riparian forest, a dense network of tertiary streams. The Niandan River (near Tokonou) and the Haut Niger River (between Tiro and Faranah), watercourses are typical of large tributaries of the Haut Niger basin, flowing through a plateau towering 400-500 meters above sea level, midway between their sources in the Loma-Man highlands and the confluence zone downstream of Kouroussa.

128. The Niandan River near Tokounou has a larger riverbed (approximately 100 m wide) with a succession of potamon sections, and 'rhithron-like' sections showing high velocity flow (rapids on bedrock) in an incised riverbed. The rapids support communities of rheophytes often including restricted range and potentially threatened species and are therefore considered to be an important habitat.²²

²⁰ If the park's surface and contour would coincide with those of the Biosphere Reserve [Link], it could cover up to 647,000 ha. Yet, this remains to be legislated and a zoning exercise undertaken for starting up management planning to the site and reconsidering the boundaries on a realistic basis. Currently, the park lacks effective management in many different fronts. Furthermore, much of the land-use in the area surrounding the Mafou Forest Reserve, and which could potentially compose the overall Park, is mainstream agricultural use and does not differ much from land-uses in areas not considered protected.

²¹ Local name for an "ironclad" type of plateau, common in West Africa, with a high sloping edge.

²² http://www.riotinto.com/documents/R_Ch11_Biodiv_EN.pdf

129. **People** in the project zone are also reliant on livelihoods from agriculture. A total of 95% of the population is involved in agricultural activities with a focus on smallholder farming. The forest area also forms an important source of nutrition for communities in the area, who have traditionally been involved in collecting and hunting activities in the forests in the area.

130. The core of the Mafou Forest comprises 580 sq km of dense, mostly intact forest that forms an important source of resilience for many species in the area. In the buffer zone, population density is still rather low (8-10 people per sq km) and most villages do not have more than 250 inhabitants.

Table 7: Population figures and density in the project zone

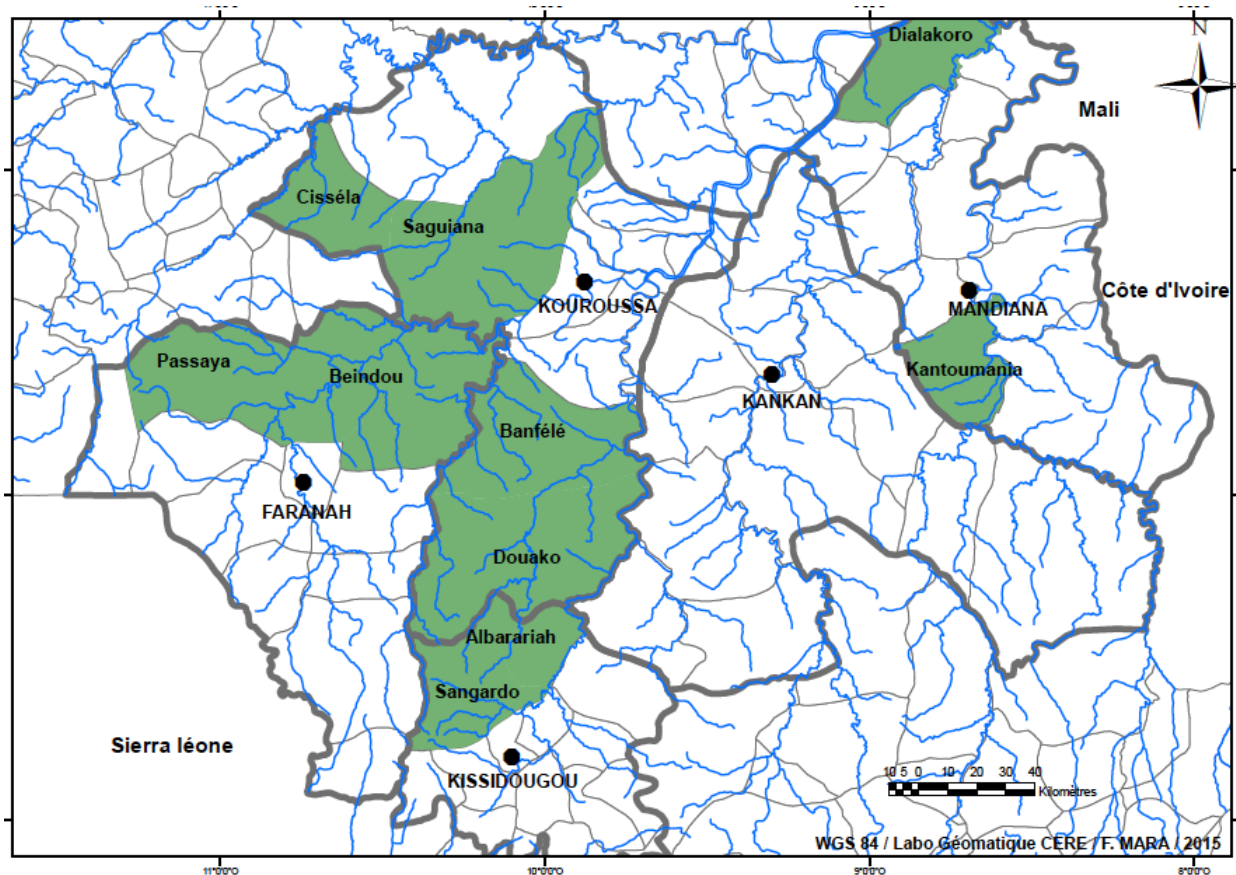
N°	Préfecture	Density (Hbts/Km ²)	Total Population (Hbts)
1	Faranah	17	223,682
2	Kissidougou	38	313,867
3	Mandiana	20	262,852
4	Kouroussa	16	227,799
Total			1,426,464

Table 8: Population figures in the project zone according to the last census in 2014

Préfectures	Sous-Préfectures	Nombre de ménage	Population		
			Masculin	Féminin	Total
Faranah	Beindou	2 031	7 845	8 676	16 521
	Passaya	2 954	9 535	10 314	19 849
Kissidougou	Albadariah	1 996	8 361	8 786	17 147
	Sangardo	2 538	10 477	11 169	21 646
Mandiana	Kantoumania	931	5 796	5 726	11 522
	Dialakoro	4 094	31 961	31 198	63 159
Kouroussa	Banfèlè	3 349	11 936	12 619	24 555
	Cisséla	4 471	20 177	21 385	41 562
	Douako	3 064	10 459	11 928	22 387
	Sanguiana	2 776	11 681	12 128	23 809
Total			128 228 (49,9%)	133 929 (51,1%)	262 157

131. Fire is a long-standing practice for all groups of people living in the area. Traditionally, farmers use slash-and-burn fires to clear the area towards the end of the dry season. These fires have been described as violent and very difficult to manage, leaving large areas barren and the vegetation damaged. The benefit is short-term, as the soil is more fertile for not more than 3 years after the fires. At the same time, hunters and gatherers, including local fires used by honey collectors in forest areas, also commonly use fire.

Figure 6: Detailed map of the project zone with key sub-prefectures highlighted



132. Livestock and cattle rearing are traditionally practiced on a small-scale by local people. During the wet season, animals would be kept in the pastures, and then moved to the fields after the harvest during the dry season. Larger herds were introduced mainly by immigrants from Sierra Leone and Mali along with burning of areas to create young grass for the herds during the dry season. These pastoral fires are mostly not addressed by authorities according to studies.

133. Deforestation is an increasing problem due to the growing demand for fuelwood and charcoal by local populations as well as urban centres in Guinea and Mali.

134. Agriculture and animal husbandry are the main livelihood activities for most households. The areas cultivated by households are the largest of all the livelihood zones: the average size of fields is 2 ha, with some better-off households working between 10 and 30 ha. Agricultural production is dominated by rice, cassava, maize, and fonio, but more maize is consumed in the northern part of the zone than elsewhere. There is a bit of yam-growing in the southern part of the zone (in Tinti-Oulen and Missamana). Rice production is significant in the shrub savannah zone; the crop is destined mainly for sale, and in order to get the benefit of good prices for their rice, the poor preferentially eat cassava, maize, and fonio. Market gardening is practiced year-round by women from poor households, but intensifies during the dry season.

135. The sale of market-garden crops provides them with income. Cashew orchards kept by better-off households also provide work opportunities for poor households during the harvest and, along with gold mining, help keep young people in the zone. They used to go to the forested area in the south during the dry season to work on coffee, palm, and other plantations and in the lumber industry.

136. Livestock is sedentary and consists mainly of poultry and small ruminants in poor households. Aside from poultry, the sale of small ruminants is generally used to meet expenses for ceremonies. The poor sometimes own a team of oxen, while those who are better off raise larger numbers of cattle, sheep, and goats.²³

1.6.2 Sub-Prefectures bordering the Upper Niger National Park

137. The region is predominantly agricultural. The potential arable land amounts to over 2.7 million ha (100 000 ha of alluvial plains), of which 400 000 ha are cultivated annually. The breeding of cattle and small ruminants is important in the region. The contribution in national production of several food crops and cash crops is very important, (cotton, yams, cassava, fonio, groundnut, corn). Bovine population makes up 34% of the national herd, the sheep, 25 % and 17% of goats.

138. **Passaya and Beindou (Faranah)** form part of the PNHN. It is a sparsely populated area: 7% to 8% of the population. The vegetation is less degraded but subject to logging and bushfires. This region is characterized by a dry season from November to May and a rainy season from June to October. The terrain in Passaya is mainly composed of the long mountain range that culminates on the west side to the Dabola-Mamou border, whereas the area around Beindou is characterised by vast aluvial plains with the main rivers being the Niger as well as Mily, Kowa, Biri, Mafou, Dikoly. The vegetation consists essentially of bush and tree savannah with some gallery forests and woodlands in the area of the National Park of Upper Niger (PNHN). Agricultural activities prevail in the rural communities, with the majority of them engaged in the cultivation of rice and other crops. Most people are also engaged in some other activities such as hunting, livestock rearing, fishing and vegetable gardening.

139. **Banfele, Douako, Sanguiana, Cisséla (Kouroussa).** These sites are in the center and around the Upper Niger Park. The sub-prefectures of Douako and Banfélè are located in the heart of the park and subsequently are less degraded. However, bushfires are frequent and no concrete steps are taken by the people to reduce them. The sub-prefectures of Cisséla and Sanguiana are densely populated and subsequently the impacts on the ecosystems such as water and forests are visible.

140. **Banfèlè** is located between the classified forests Mafou and Kouya. The vegetation consists mainly of shrubby and wooded savannah with a few galleries and woodlands forests. The presence of some relatively active logging is noted. The drainage system is well supplied. Agriculture is extensive, traditionally based on rice, groundnuts, cassava and maize, livestock rearing is practiced by most citizens and concerns cattle, sheep, goats and poultry. Fishing is practiced in all the creeks and rivers. Hunting is commonly practiced throughout the land using local or industrial manufacturing rifles caliber 12 or 16. This activity is highly organized.

141. **Douako** is located southwest of the classified forest of Kouya, bordering the PNHN. The area is known for its countless streams supplying large rice growing plains. The drainage system includes a multitude of rivers and streams, some of them permanent, others temporary. Agriculture occupies the first place among the socio-economic activities of the communities, followed by fishing, animal husbandry, hunting, gathering and craftsmanship.

²³ GUINEA Livelihood Zone Map and Descriptions 2013, FEWSNET

142. **The communities of Cisséla and Sanguiana** are located along the national road between Kouroussa-Dabola. vegetation consists mainly of shrubby savannah and wooded with a few gallery forests and woodlands as well as some classified forests (Nono and Tamba). Agricultural activities are widespread in the area. The main crops cultivated are rice, groundnuts and maize. Most inhabitants also own cattle grazing in the area. There are grazing areas in each district and village through savannas. These resources are annually subject to the phenomenon of bushfires compromising their resilience. The drainage system is well supplied. The main rivers are Sérémoussaya, Soumandji, Takalatou and Tiri, (perennial) as well as a lot of temporary streams. Two major lakes are Samaya and Djidjan-Fara. Among the socio-economic activities of communities, agriculture ranks first followed by hunting, fishing, farming, gathering and crafting.

143. **Sangardo and Albadariah (Kissidougou).** This is a wetland that receives more rain than elsewhere with 1700 mm and 2000 mmm year. The main river is the Niandan, other major ones are Mafour and Koua. A large number of irregular rivers and streams are present in the area. Agriculture and fishing are important sources of livelihood for the local population. Degradation of agricultural lands and floodplains as well as forest due to exploitation of timber and agricultural expansion is an issue.

144. **Kantoumania and Dialakoro.** The prefecture of Mandiana is the closest to the Sahel region. Rainfall within 1400 -1500 mm on average. However the region has a large water resource potential (rivers, ponds) and is home to extensive floodplains along the rivers Sankarani and Fié. The area is the most productive of fish in the region and especially important as a spawning ground because of its calm and deep currents protected by gallery forests. With a population of 63,159 inhabitants, the sub-prefecture of Dialakoro is the most populous. The savanna formations are under pressure due to human activities (agriculture and gold mining). The majority of fallow land are turned into plantation of cashew.

Table 9: Selection criteria for project sites and proposed site-specific interventions

Criteria	Sites selected	Sub-prefecture/ villages concerned	Justification	Proposed site-specific interventions
Sensitivity of the site to ecological degradation, and degradation influence this may have on other environmental and economic systems related to it.	[1] Zone bordering the classified forests of Mafou and Kouya as well as the core zone of the Parc National du Haut Niger.	Beindou Banfèlè Douako Sanguiana	In the last decade (2005-2015), due to suspension of funding for protection and conservation of these forests resources, the area has undergone a significant and accelerated degradation of ecosystems (forests, rivers, agricultural lands) that threatens the livelihoods of communities dependent on provision of vital ecosystem services.	Fire management activities along the axis Kourossa-Cissela and Kourossa Banfele (Output 1.4.1)

Criteria	Sites selected	Sub-prefecture/ villages concerned	Justification	Proposed site-specific interventions
Specific threats and pressures on the ecosystem (agricultural lands, rivers, and forests).	[2] Zone pré forestière	Passaya Cisséla	Due to intensification of agricultural activities and increased exploitation of natural resources the area has undergone a significant and accelerated degradation of vital ecosystems that endanger the continued provision of ecosystem services. Some village forests are prone to forest clearing for extension of farm land as well as uncontrolled exploitation of timber. Soil erosion is threatening the productivity of the land. Bush fires and artisanal gold mining contribute to the accelerated degradation of natural resources.	Improvement of soil management and erosion control techniques (1.4.2) Reintroduction of locally adapted crop varieties (1.4.3) Enhancing agro-pastoral resources (1.4.5)
Specific threats and pressures on the ecosystem (rivers and wetlands).	[2] Zone pré forestière	Albadaria Sangardo	Watersheds, watercourses and important wetlands are under increasing pressure from human activities and climate change impacts.	Climate adaptive watershed rehabilitation (1.3)
	[3] Savanna zone and floodplains along the rivers Sankarani and Fié	Kantoumanina (proximity to Niger-Niandan-Milo Ramsar Site, close to Sankarani and Fié River) Dialakoro (proximity to Ramsar Site Niger-Tinkisso)	Drying up of springs, rivers and wetlands has a negative effect on agricultural productivity and provision of ecosystem services.	Wetland rehabilitation and re-wetting of floodplains (1.4.4)
Good opportunities to take advantage of the cooperative support related activities.	All the sites selected	Villages where the programs or projects are already in place, and have co-funding opportunities.		Capacity building, climate adaptive landscape planning, improve climate information services, strengthen capacities for sustainable management of natural resources

1.6.3 Vulnerability of project sites to climate change

145. Populations living around the project zone, including the villages selected for project interventions, are severely exposed to the effects of climate variability and change. Their livelihoods can be reduced from one year to another according to the vagaries of rainfall. Production can be « random » given the quality and distribution of the annual rainfall, as well as its consequent effects on land productivity. In these conditions:

146. Terrestrial ecosystems have low productivity; agricultural production does not cover the food needs of populations, and pasture is increasingly insufficient for livestock grazing. Increasingly, people tend to practice a system of several harvests per year, in order to make up for any losses occurred through erratic rainfall patterns or other crop failures due to poor climatic conditions. The insufficient harvests also lead to more land being cleared for agricultural purposes, often in previously untouched areas as people move deeper into the forests and closer to riverbeds in search of arable land. This in turn leads to negative impacts and greater stress for vulnerable ecosystems and endangers the provision of vital ecosystem services such as soil and forests (in particular gallery forests) in the medium- to long-term.

147. The aquatic ecosystem also suffers from the same effects, undergoing much greater rates of evapotranspiration. This results in an early depletion of the groundwater, and an inability to provide humans and animals the water necessary to survive in the area. Activities affecting water quality and modifying the hydrological conditions of the watercourses include: Clearing (for agriculture, wood cutting and human settlements) in the watersheds, especially on steep slopes, concentrates the runoff water, thus causing erosion and carrying sediment into the watercourses. Among the other sources of water contamination representing a threat to aquatic species are agriculture, domestic and commercial pollution, and traditional artisanal mining activities. Fishing is a potential threat to freshwater fish species, particularly certain practices such as fishing with poisons, fishing with fine nets, and use of small river dams which are left in place after use.

Table 10: Climate Risks and Impacts in the Project Zone

Climate Risk	Impacts on natural resources	Impacts on socio-economic activities
Drought	Drying of soils, watercourses and ponds; Degradation of the sources areas of streams; Persistent low water levels in large rivers; Biodiversity loss; Siltation of river beds	Loss of yields; Crop failures; Proliferation of diseases and plant pests; Labour disputes; Low productivity of agricultural and pastoral systems Loss of livestock; Water shortage; Migration of wildlife; Resurgence of bushfires
Floods	Flooding of agricultural land; Loss of biodiversity resources; Rotting of tubers; Erosion and loss of arable land High moisture of soil and air	Destruction of infrastructure and machinery; Loss of animal and plant species; Loss of life and property; Proliferation of waterborne diseases; Isolation of agricultural production areas; Destruction of lowlands and plains cultures;

Climate Risk	Impacts on natural resources	Impacts on socio-economic activities
Disruption of rainfall patterns	Disruption of water flows, Loss of biodiversity	Disruption of the agricultural calendar; Loss of crops and income Decreased crop yields; Rural exodus; Declining purchasing power.
Heavy rainstorms	Acceleration of the erosion process; Silt and sedimentation of waterways; Land- and mudslides	Destruction of infrastructure; Loss of human life and property; Uprooting of trees; Destruction of crops;

148. Human livelihoods are more precarious than ever, and recovery is less and less likely from subsequent shocks. Households' adaptive strategies in the face of degradation of ecosystem services include growing more dry-season crops, trying to harvest several times a year, selling wood and charcoal, increasing consumption of gathered food and reliance on external supplies.

Table 11: Food security situation by region – 2015 WFP data

Regions	Food security	Limited food security	Moderate food insecurity	Severe food insecurity
Boké	8%	68%	24%	0%
Conakry	42%	56%	2%	0%
Faranah	7%	68%	24%	1%
Kankan	20%	67%	13%	0%
Kindia	10%	64%	25%	1%
Labé	6%	68%	24%	2%
Mamou	15%	72%	13%	1%
Nzérékoré	13%	69%	17%	1%
Average for Guinea	17%	66%	17%	1%

Source: WFP 2015. See <http://documents.wfp.org/stellent/groups/public/documents/ena/wfp277134.pdf>

149. Whether it is good or bad season, agro-sylvo-pastoral ecosystems are extremely sensitive to climate variability, upon they rely to deliver goods and services to local populations. There is a close link between, for example rainfall, pasture quality, filling ponds and migration.

150. Finally, any assessment of population vulnerability, must take into account the current impact of the Ebola epidemic, which has, from all accounts aggravated pre-existing vulnerabilities. However, this needs to be put in context of a chronic problem linked to food insecurity and vulnerability. Quoting from a recent WFP report, from where data in the table further up and in the map below were taken from: “In Guinea, about 1.9 million people are food insecure, of which 59,000 are severely food insecure. Areas where there are the largest number of households food insecure are those of Kindia, Nzérékoré, Boké, Kankan, Labé and Faranah. More than half of the severely food insecure people are in Labé and Nzérékoré, which shows that food insecurity is not just for the areas affected by the epidemic.” (WFP 2015. *Evaluation de la Sécurité Alimentaire en Situation d'Urgence*). Current data on moderate to severe food insecurity can be used as a proxy for pre-existing vulnerabilities in the project zone, forming the project's baseline data.

Figure 7: Prevalence of food insecurity (moderate and severe) and concentration of the ebola virus disease (EVD) at the regional level



Source: WFP 2015. Ibid. See <http://documents.wfp.org/stellent/groups/public/documents/cna/wfp277134.pdf>

2 Project Strategy

2.1 Additional Cost Reasoning of the Proposed Project

151. Detailed additional cost reasoning is provided in relevant sections, below.

2.2 Project Rationale and Policy Conformity

2.2.1 LDCF conformity

152. This project is fully consistent with the two goals of LDCF Strategic Objectives in the following manner. It responds to the Focal Area Objective CCA2 (Increasing Adaptive Capacity: Increase adaptive capacity to respond to the impacts of climate change, including variability, at local, national, regional and global level), CCA2-Outcome 2.1 (Increased knowledge and understanding of climate variability and change-induced risks at country level and in targeted vulnerable areas). This is aligned with project Component 2, as it focuses on expanding the knowledge and understanding among relevant groups of stakeholders on specific climate risks affecting the NAPA-prioritized project sites. More specifically, the project will develop and apply a comprehensive agro-ecological and hydrological system of information, planning and decision-making on the management of natural and social assets under scenarios of climate change. Through training and other measures the sustainability of the system will be secured. The project also responds to the Focal Area Objective CCA1 (Reducing Vulnerability: Reduce vulnerability to the adverse impacts of climate change, including variability, at local, national, regional and global level) by aligning the intervention to two Focal Area Outcomes. Through Component 1, the project activities are aligned to CCA1-Outcome 1.2 'Reduced vulnerability to climate change in development sectors'. More specifically, it will focus on 'natural resource management' as a 'development sector' and will address specific vulnerabilities to climate change embedded in the management of natural and social assets. Finally, the project is aligned to CCA1-Outcome 1.1 'Mainstreamed adaptation in broader development frameworks at country level and in targeted vulnerable areas'. It does so by seeking to improve, through Component 1&2, landscape-level governance in targeted landscapes in a manner that addresses the additional impacts of climate change in the ability of agro-ecological and hydrological systems to provide services and sustain livelihoods. The cost-effectiveness of proposed measures will be monitored and lessons drawn.

153. The proposed project has been prepared fully in line with guidance provided by GEF and the LDCF/SCCF Trust Fund. The project follows specific guidance from the 'Programming Paper for Funding the Implementation of NAPA's under the LDC Trust Fund' (GEF/LDCF 2006). The project focus is also aligned with the scope of expected interventions as articulated in the LDCF programming paper and decision 5/CP.9. As climate impacts fall disproportionately on the poor, the project recognizes the links between adaptation and poverty reduction (GEF/C.28/18, 1(b), 29).

2.2.2 GEF conformity

154. The project has been designed to meet overall GEF requirements in terms of design and implementation. For example:

155. **National ownership:** As above, Guinea approved and submitted its NAPA in 2007. This proposal addresses 6 of the priorities identified in the NAPA. The NAPA was prepared through a comprehensive participatory process, with the full involvement of relevant stakeholders. Accordingly, this project is country-driven and the project's concept is consistent with, and supportive of, national development strategies such as the Plan National d'Investissement Agricole et de Sécurité Alimentaire (PNIASA), the National Environment Policy (Politique Nationale de L'Environnement from 2012), the Programme D'Action National de Lutte Contre la Désertification, the NBSAP (current and new), the National Policy for Agricultural Development (vision 2015) – all of which are described further up.

156. Guinea has signed and ratified the UNFCCC in May 1993 and is currently included in the list of Least Developed Countries (LDCs). Guinea approved and submitted its National Adaptation Programme of Action (NAPA) in July 2007 and is currently in the process of implementing the priorities identified in it. Noting that other priorities have been addressed through previous LDCF projects, this project will address the following priorities identified by the Government and stakeholders in the NAPA,;

- Priority 5: Protection and restoration of fragile ecosystems
- Priority 2: Developing knowledge and good practices (with a focus on ecosystem and natural resources management);
- Priority 3: promoting adaptation-oriented technologies. Dissemination of soil conservation practices
- Priority 4: Promotion of bushfires management techniques
- Priority 9 : Rehabilitation of hydroagricultural system of plains and lowlands
- Priority 12: Promoting income-generating activities

157. **Financing:** Cost-effectiveness criteria were applied in the choice of adaptation measures and modalities during the NAPA process. During the PPG process, alternative approaches will be considered and the most cost-effective approach determined. During implementation, coordination with related activities will ensure synergies and cost-efficiencies. Finally, the level of co-financing ensures financial cost-effectiveness;

158. **Institutional synergies and support:** The project is to be linked with other concurring projects, programs and initiatives, including one ongoing project financed by LDCF. It complements rather than duplicates these other related development efforts. The project will be implemented by the Ministry of Environment, Water and Forests, with support from UNDP, which will play a pivotal role in project support and ensuring the coordination and synergies with other projects, programs and initiatives, and it will provide necessary institutional support; and

159. **Monitoring and evaluation:** The projects will follow the GEF monitoring and evaluation procedures in addition to UNDP guidance on M&E for adaptation projects. Adaptive management will be a key component on the management approach. Details for monitoring and evaluation will be articulated during the project development phase. In order to better address gender issues, where possible, indicators will be gender disaggregated. Gender marking will apply (refer to [Section 3.2](#) for further details on this).

2.3 Country Ownership: Drivenness and Eligibility

2.3.1 Country drivenness

160. Guinea is a Least Developed Country (LDC), Party to the UNFCCC (since 1994), and it has completed its NAPA in 2007. The proposed EBA project covers 6 priority areas identified in the Guinea NAPA. The project - building closely from the NAPA which was itself developed through an extensive participatory process, both the project's concept (i.e. the PIF) and this PRODOC were prepared through a highly participatory process, in line with UNDP's and GEF's requirements. During the project preparation stage, numerous meetings were held with stakeholders in order to assess their interests in the project and define their roles and responsibilities in project implementation (see the Stakeholder Analysis in Section I, Part I for a description of the primary stakeholders and their expected participation in / collaboration with the project). Project design will benefit from field visits and consultations carried out during the preparation phase, including: a national stakeholder workshop (18 March 2015); regional stakeholder workshops as well as a validation workshop. Furthermore, feasibility studies will be carried out by a team of national consultants, who were tasked with identifying and taking into account other relevant local, national or regional studies and projects.

161. The project is also fully aligned with the UNDAF outcome #1 "Accelerated, sustainable and pro-poor economic growth", which address adaptation to climate change specified in the National Strategy on Climate Change as a matter of priority. It responds directly to UNDAF Output 1.4: "National and grassroots structures practice an integrated approach sustainable management of natural resources and take into account the effects of changes climate through adaptation and mitigation".

162. Furthermore, the project directly addresses priorities in the National Communication for Guinea prepared for the UNFCCC CoP and developed with the support of the Ministry of Environment, Water and Forests. Key areas of vulnerability in Guinea identified in the NC include water resources and forestry. The project will build local community adaptation capacities as well as strengthens commune-level and decentralized government services to be able and address adaptation in a well informed and knowledgeable way. The systemic capacity to address adaptation in Guinea will be strengthened through targeted interventions at the policy, planning and budgeting levels.

163. The UNDP has served as the implementing agency for three existing NAPA projects through its Country Office presence and support from a specialized GEF Regional Coordination Unit.

2.3.2 Country eligibility

164. The Republic of Guinea is a party to several international Conventions, including: (i) the Convention on International Trade in Endangered Species (CITES) since 1981; (ii) the RAMSAR Convention since 1992; (iii) The Convention on Biological Diversity (CBD) since 1993; (iv) The United Nations Convention to Combat Desertification (UNCCD) since 1997; (v) The United Nations Framework Convention on Climate Change (UNFCCC) since 1994; and (vi) The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal since 1995.

165. The Government of Guinea became a signatory to the United Nations Framework Convention on Climate Change (UNFCCC) in 1992 and is classified among the non-Annex I parties. Guinea developed and submitted their National Adaptation Program of Action (NAPA) in 2007 and is entitled to benefit from the LDCF for the implementation of NAPA priority measures. In implementing priority interventions identified in the NAPAs, the project is consistent with the Conference of Parties (COP9) and also satisfies criteria outlined in the UNFCCC Decision 7/CP.7 and GEF/C.28/18. It also responds to Decision 1/CP.16, which invites Parties to enhance action on adaptation by "building resilience of

socio-ecological systems, including through economic diversification and sustainable management of natural resources”. The project has been endorsed by both the national UNFCCC and GEF focal points.

166. The project responds to urgent and immediate adaptation priorities and actions identified in the Guinea NAPA.²⁴ This project is specifically aligned with and supportive of the NAPA’s objectives: i) development of appropriate technologies for adaptation, with a focus on anti-erosion practices (3.2.); ii) development of an early warning system (3.8); iii) promotion of [bush]fire management techniques (4.1.); iv) integrated management and improvement of small hydraulic structures (7).

2.4 Design Principles and Strategic Considerations

2.4.1 Design principles

167. The adopted approach to project design is Ecosystem-based Adaptation (EBA) - simply, using nature (biodiversity and ecosystem services) to help adapt to climate change by strengthening, safeguarding and building both ‘natural’ and ‘social’ assets, including the interplay between them. EBA approaches can encompass protection, restoration and sustainable management of these assets, including on-the-ground and via upstream policy transformation. CBD Decision X/33 proposes a definition of EBA that includes the “sustainable management, conservation and restoration of ecosystems, as part of an overall adaptation strategy that takes into account the multiple social, economic and cultural co-benefits for local communities”. Following this line, the project design builds from the body of knowledge and lessons on EBA.²⁵

168. Local adaptation planning will utilize good practices in participation and use a ‘gender-transformative’ approach. The inequitable distribution of rights, resources and access to social goods – as well as some cultural rules and norms – result in highly asymmetrical relationships of power between men and women. This constrains the ability of many women to take action on climate change. However, poor and marginalized men often contend with similar constraints vis-à-vis other relationships of power. Therefore, adaptation approaches pioneered by NGOs such as Conservation International and CARE includes ‘empowering’ both women and men to challenge and change deeply rooted inequalities. These efforts are characterized as ‘gender-transformative activities’, which strive to examine, question and change rigid gender norms and imbalances in power relationships in order to increase people’s resilience. Gender transformative activities encourage critical awareness among men and women of gender roles and norms; promote the position of women; challenge the distribution of resources and allocation of duties between men and women; and/or address power relationships between women and others in the community, such as service providers or traditional leaders.²⁶

169. Implementation of pilot activities will be based on careful selection and preparation of feasibility studies, including information on cost-efficiency. A focus on capacity building will ensure that measures are replicable and can be implemented by local communities without dependence on outside support for the core measures to maintain provisioning of ecosystem services. As the process of ecosystem-based adaptation requires a change in the mind-set and practices of local people, emphasis will also be put on targeting village leaders as well as identifying “role models” or “local champions” among marginalized and vulnerable groups that can serve as a leading example and provide guidance to their peers.

²⁴ Available from the UNFCCC website [\[Link\]](#).

²⁵ See Travers *in press*; UNEP et al 2012; also, Andrade et al 2011 (full references in Section 8)

²⁶ Aguilar L. (2009). Training Manual on Gender and Climate Change, IUCN, UNDP and GGCA, Gland, Switzerland. CARE (2010). Adaptation, gender and women’s empowerment. CARE International Climate Change Brief. Available from: [\[Link\]](#) (Accessed November 2013.)

170. Key design principles for the project are therefore:
- Promotes multi-sectoral approaches.
 - Operates at multiple geographical scales.
 - Integrates flexible management structures that enable adaptive management.
 - Minimizes trade-offs and maximizes synergies with development and conservation goals to avoid unintended negative social and environmental impacts.
 - Incorporates best available science and local knowledge, and fosters knowledge generation and diffusion.
 - Promotes resilient ecosystems and nature- based solutions to provide benefits to people, especially the most vulnerable.
 - Is participatory, transparent, accountable, and culturally appropriate, while actively embracing equity and gender issues.
171. The basic project design incorporates several projects developed through the NAPA, and adds value by bringing them together where lessons, processes, etc. can be shared. The project design is in line with the PIF, but refined through the studies and consultations undertaken during the PPG phase, as follows:
- sectoral studies on climate change, natural resource management, water, agro-pastoral practices
 - stakeholder analysis for component 1 & 2
 - inception workshop on national level
 - field mission to the project zone including consultations and interviews with local communities and relevant authorities on the ground
 - interviews and questionnaires with partners and stakeholders on national, regional and local level
 - validation of field mission findings and proposed activities with key stakeholders at national level

2.5 Project Goals, Outcomes, Outputs and Activities

172. **The Project's Development Goal** is to contribute to managing and rehabilitating ecosystems for adaptation to climate change.

173. **The Project (immediate) Objective** is to reduce the vulnerability of local communities in the Upper Niger River Basin to the additional risks posed by climate change and build their general resilience through an ecosystem-based approach that focuses on watersheds, land-use practices and adaptive capacity.

174. In order to achieve this objective, and based on the project's barrier analysis—which identified: (i) the problem being addressed by the project; (ii) its root causes; and (iii) the barriers that need to be overcome to actually address the problem (see [Section 1.3](#))—the project's intervention has been organized in two components.

Component 1. On the Ground work

Strengthening the resilience of communities vulnerable to climate in selected sites through an ecosystem-based approach

Outcome 1: The climate resilience of natural resource dependent livelihoods in project sites is ensured by securing the continued stream of essential agro-ecological and hydrological services upon which they depend

Baseline for Component 1 – Rural development on the ground

175. Under Component 1, the project will work towards improving the management of watersheds and stabilising land-use practices as a means to reduce the vulnerability and increase the resilience of local communities, so they are better positioned to face additional climate risks. In order to achieve these goals, there needs to be a tangible change in a number of aspects of people's livelihoods. E.g. the management of land in watersheds, river banks, wetlands and forested areas needs to cater for the maintenance of critical ecosystem services. Agricultural techniques should be intensified, move away from slash-and-burn and no longer be based on deforestation. Pastoral activities will conform with the needs to maintain land productivity and equally avoid the indiscriminate use of fire. This is why many of the programmes that compose the baseline focus on land-use governance, water, natural resource management and, central to all, rural development programmes. These programmes touch upon the most important aspects of the on-going efforts to develop of rural livelihoods in the project zone.

176. The issue of livelihoods and natural resource management, including water, are addressed through a number of interventions in Upper Guinea. Although some of the interventions may have been slowed down and temporarily halted due to the impacts of the Ebola pandemic in the region, most are considered as ongoing at this point.

177. In particular, the following programmes, projects and initiatives provide the financial baseline for Component 1: the **PDRI-HGO**, the **PUAPA 3**, the **PPAAO-Guinea**, the **UN Joint Programme for Kankan** and **WFP's contribution for Guinea**. With the exception of the UN Joint Programme, the other mentioned baseline initiatives can be categorised as 'rural development programmes'. They produce results in terms of increasing yields and income through improved cultivation techniques, enhancement of value-chains, access to machinery and improvements in infrastructure. Though it is reaching its end this year, the PDRI-HGO has contributed to improving living conditions in the project zone by facilitating access to drinking water, connecting production zones and developing cashew plantations. It has also built additional boreholes in the prefectures of Dinguiraye and Kouroussa, and improved hydro-agricultural management of floodplains. The PPAAO is having its inception in Guinea and the PUAPA2 is bound to commence still in 2015, once the Ebola crises and emergency response is being dealt with. They focus respectively on cash and food crops. PPAAO-Guinea has provide co-financing to the project for as much as \$9.0M. Regardless of how these two new programmes will be rolled out on the ground, they will certainly have an impact on arable land and income in the project zone, as many rural development interventions do. It will be important to ensure that the newly established UNDP Social and Environmental Safeguards or WB environmental safeguards are upheld to avoid further deforestation and degradation, as often decisions on land allocation and land-use are made locally, and not where funding for agricultural activities are approved. The UN Joint Programme for Kankan builds on the programmatic niches of UNICEF, UNFPA and UNDP and supports communities with facing various challenges in a synergetic manner. It generally focuses on vulnerable groups such as women and youth, applying a 'right-based' approach to development. It also includes activities that favour the reduction of deforestation, improved fire management and protection of critical ecosystems, such as gallery forests. This will be achieved through the creation of community forests and capacity building of local fire management. The expected scope of this latter activity is however limited. WFP's contribution does make a significant contribution to people's resilience, but not necessarily climatic resilience.

178. Two other rural development programmes active in the project zone are worth mentioning, but are part of the financial baseline of another UNDP-GEF LDCF project: The first is the PNAAF²⁷, which is directly benefiting about 10,000 local farmers, many of which in Upper Guinea, and who are organised in three federations (CNOP) in the prefectures of Kankan, Kouroussa, Mandiana and Kissindougou. The second is the PDSD Phase II²⁸, which has a broader social and rural development focus and it is active in Kouroussa and Mandiana. A key element in it is the support to the establishment of the Economic and Social Development Fund, the promotion of local entrepreneurship, job creation, decentralization and good governance.

179. A few programmes on wetland restoration and watershed management were also mentioned in the baseline description. These included IUCN REPASSE, WWF-Int PES for the Niger-Niandan-Milo Ramsar site and the GIZ-financed support to the NBA. All of these have produced interesting results in watershed management within their own constraints. Even though climate change was an element present in the design of the programmes, their impact on the ground remained limited and the approach to adaptation not necessarily systematic.

180. The various rural development and watershed management programmes, as well as the UN Joint Programme for Kankan provide a good entry point for the proposed LDCF project in terms of engaging with communities and local stakeholders in productive activities and in developing their capacity for resource governance. They are also promoting opportunities for sustainable NRM and diversification of income generating activities through agriculture, forestry, hunting and fishing. Several of the rural development programmes are improving the access to water resources. There are important lessons to be learned, from which the project can build, with respect to the concerted management of sub-basins and wetlands in the two NGO-lead programmes for Tinkisso and Niger-Niandan-Milo. In general, business-as-usual development efforts in the project zone are addressing problems of poverty, access to social services and capacity, but they are not taking fully and actively into account the pervasive effects of climate change. Several programmes provide training. Yet, climate change impacts are not a specific topic in the various capacity building activities. In the baseline response, climate-driven vulnerabilities linked to *natural assets* (water bodies, forests, savannah pastures) and *social assets* (livelihoods and land use systems), are therefore not being sufficiently addressed.

181. **The estimated amount of ‘the baseline project’ for Component 1 is \$74 million, of which \$9.0M contributes to project’s co-financing.**

Additionality for Component 1 – Generating adaptation benefits in relevant natural and social assets by strengthening ecosystem resilience and securing the continued stream of services that they render to vulnerable people

182. Without the adaptation project, the current baseline initiatives will not be effective in increasing overall resilience and in reducing climatic vulnerabilities for two reasons: i) inadequate consideration of climate change risks, ii) inadequate understanding of and capacity to manage these risks at the wider landscape level. Altogether, changes in the current climate will reduce the resilience and regenerative

²⁷ *Programme National D’Appui aux Acteurs des Filières Agricoles* (PNAAFA), funded by IFAD and Government of Guinea, \$48 million (2010 – 2016). The PNAAFA is a nationwide programme aimed at building the capacity of farmers’ organizations and developing value chains for small-scale farmers in subsectors with good economic potential. The programme pays particular attention to involving women and young people in its activities.

²⁸ *Upper and Middle Guinea Sustainable Social Development Project* (PDSD) - Phase 2 (2010-2013), funded by AfDB, with a second phase budget of \$10.9 million. This project is implemented in the Middle, Upper and Forest Regions of Guinea. Kouroussa, Kérouané and Mandiana are targeted prefectures. The first phase of the PDSD was aimed at: (i) supporting the decentralization and local governance through building capacities of stakeholders to participate in local development and democratic processes; and (ii) improving poor people’s access to basic socio-economic services by developing the productive capacity and setting up of a Social Development Fund. The PDSD Phase II is meant to consolidate Phase I outputs and prepare tools and mechanisms to establish the Economic and Social Development Fund (ESDF), the instrument adopted to sustain outputs from PDSD Phase I.

capacity of ecosystems. Decreased surface runoff could become an ecological disaster and lead many water-based economic and social activities to collapse.

183. Extended dry conditions for several months a year and the resultant lower sub-surface flow would lead springs and wells to dry. Lower water tables will mean higher borehole costs, reduced yields from many water sources, and generate severe water stress. The hydrological system of the Upper Niger River Basin is not only of vital importance for the livelihoods of people in this area but changes in its hydrological flows will also have impacts on regions further downstream. Therefore the project is targeting key hydrological catchment areas with significance for down-stream populations. Riverine areas, wetlands and forests are particularly vulnerable. The Upper Niger River Basin drains more than 100,000 sq km in Upper Guinea, an area which is characterised by rough terrain in the highlands at the headwaters, making them particularly vulnerable to soil erosion.²⁹ While much of the current problem is due to the fact that vegetation cover has been reduced, climate change impacts, including more frequent extreme weather events, will exacerbate this problem. It is also targeting climate-adaptive ecosystem management, focusing on forests and savannahs, given that these areas are prone to climate change induced fire and degradation. Altogether, forest and savannah ecosystems will become increasingly vulnerable. This will negatively impact on the availability of resources like timber, fuelwood, NTFPs, protein and fibre. It will also compromise the soil erosion and fire suppression control services rendered by these ecosystems.

184. *In the alternative scenario enabled by the LDCF project*, the climatic vulnerability of key ecosystems will be reduced and their resilience strengthened by adaptation measures in the project zone in the Upper Niger River Basin. The aim is to demonstrate adaptation options in different landscapes at risk from the effects of climate change. Proposed measures are additional to the prevailing situation of gradual degradation, because the tendency imposed by climate change and variability will push these habitats beyond their tipping point, with catastrophic consequences for local livelihoods. Foreseeing tipping points is difficult. Hence, a precautionary and well-planned approach that also includes the restoration of structure, function and productivity of ecosystems is an adaptation measure that goes beyond the baseline. Under prevailing conditions in Guinea, the ecosystem-based approach has also good potential to be more cost-effective and sustainable than infrastructural-based adaptation solutions to climate change.

185. More specifically, the project will introduce, as no-regret/low-regret adaptation measures on-the-ground, a suite of techniques that will systematically help people adapt to climate change. It will be based on the participatory development of guidelines (e.g. biocultural community protocols) for the use and exploitation of services and resources in three ecosystem types (wetland, forest/savannah, river). The project will produce adaptation benefits on two fronts: first through planning and institutional frameworks; and secondly through concrete ecosystem-based adaptation measures. The latter will focus on watersheds and land-uses as programmatic entry points. These will include the rehabilitation of river banks and gallery forests, control and prevention of climate-driven erosion and preparedness for climatically extreme events. It will also include climate adaptive fire management across large fire-prone terrestrial landscapes with high biomass content. The project will work towards demonstrating these as adaptation options, with a clear additional character vis-a-vis existing and planned interventions in the Upper Niger River Basin, which are not adequately dealing with climatic vulnerabilities.

Outputs and Activities under Component 1

186. To start with, activities under Component 1 will benefit from climate adaptive landscape planning covering the entire project zone (***Output 1.1***). It will also develop the institutional architecture for

²⁹ See e.g. Andersen, I. et al. (2005): “*The Niger River Basin: A Vision of Sustainable Management*”, World Bank Publication.

implementing the Climate Adaptive Landscape Plan, engaging with stakeholders at various levels and forging partnerships to support on the ground activities, but also training key stakeholders (**Output 1.2**).

187. On that basis, a set of ecosystem-based adaptation measures will be implemented on the ground. The first set of measures will focus on watersheds (**Output 1.3**), as the availability and quality of water across the landscape will be highly impacted by climate change. The results of rehabilitation works will help balance social and economic needs of vulnerable riverine populations in the face of climate change, producing benefits both to future generations and further downstream. Selected sites within the watersheds of important tributaries of the Niger river will be re-confirmed through consultation during the Inception Phase. Among the Niger tributaries are the Milo, Niandan, Mofou, Tombali and Tinkisso rivers, which form extensive sub-basins, parts of which straddle outside the project zone. Gallery forests in critical areas will be rehabilitated to play a key role in infiltration, riverbank protection and maintenance of base flow (*Activities 1.3.1*). This will be done by removing stressors that impede vegetation regeneration. A minimum target of 8,000 ha in critical river meanders will be positively impacted, mostly along riverbanks. These measures will be combined with nature-based river bank protection (*Activities 1.3.2*) The aim is to control and prevent climate driven erosion, including flood surges, and to counteract the effect of drought in the water bodies. Furthermore, swales, bio-swales, check-dams and small multi-purpose reservoirs will be constructed where needed and according to studies that fully take the effects of climate change into account (*Activities 1.3.3*). This will secure quality and quantity of water in times of drought and avoid excess river siltation and damage to crops in times of flooding. The use of biodegradable fibre mats, logs, rip-rap, as well as geo-textiles and gabions as materials will be preferred, introducing innovation and community-based research (*Activities 1.3.4 and 5*).

188. The second set of ecosystem-based adaptation measures will focus on changing land-use practices (**Output 1.4**), but with a clear climate angle, i.e. with the aim of securing the continued stream of services and benefits rendered by key ecosystems to vulnerable communities in the project zone, with focus on forest, wetlands and agro-pastoral lands. Activities will include adaptive bushfire management (*Activities 1.4.1*), improved soil management and soil erosion control, primarily in agricultural lands (*Activities 1.4.2*), the re-introduction of locally adapted crop varieties that show promise with respect to climate resilience (*Activities 1.4.3*), climate adaptive re-wetting of wetland areas targeting at least 2 of the 4 Ramsar sites within the project zone (*Activities 1.4.4*). Another set of activities pertain to agro-pastoral resources (*Activities 1.4.5 and 1.4.6*). Finally, the project will promote community research and learning (*Activities 1.4.7*). Training of pastoral and farmer groups will be an essential for all activities under this output. This will help complement activities aimed at the creation of incentives for changing land-uses.

189. Due to the complexity of activities under Outputs 1.3 and 1.4, there is a need for making progress under Outputs 1.1 and 1.2 first, as these latter two pertain to the planning and organisation of activities on the ground. For this reason, the exact siting of certain activities under Outputs 1.3 and 1.4, their methodology and costing are still described in general terms in this project document. This issue will be duly addressed through adequate planning during the project's inception phase and as the achievements under Outputs 1.1 and 1.2 are consolidated. This is expected to take no more than 1 year to be accomplished.

190. By the end of year 1 of effective project implementation it is expected that:

- (i) The thorough planning, selection of exact sites and the costing of activities under Outputs 1.3 and 1.4 have been completed in full, noting that the project and UNDP may call upon specialised technical assistance to help scope and plan the activities (e.g. hydrologists, engineers, agronomists, pastoral systems experts, community engagement specialists, environmental impact specialists etc.);
- (ii) A detailed procurement plan with specific focus on Outputs 1.3 and 1.4 has been prepared and approved by UNDP and the project board;

- (iii) The implementation of some of the first steps in this procurement plan (e.g. initial scoping and completion/approval of tender documentation) is already in advanced stage; and
- (iv) Certain processes linked to community/stakeholder consultation and mobilization, which are aimed at “preparing the ground” for the activities under these two outputs have been completed.

191. *The Additionality for Component 1* concerns the generation of adaptation benefits in relevant natural and social assets by strengthening ecosystem resilience and securing the continued stream of services that they render to vulnerable people.

192. **The additional costs of generating adaptation benefits in Component 1 have been estimated at \$6.4M, with a co-financing of \$99.2M, of which \$9.0M comes from the baseline and refers to PPAO-Guinea (hence, \$90.2 M net), and with the total reaching almost \$97 million** (see paragraph 209 further down for a note on the co-financing for both components and management costs).

<i>Component 1:</i>	
Baseline:	\$ 74.0 M
Co-financing net of baseline:	\$ 90.2 M
LDCF grant requested:	\$ 6.4 M
TOTAL for the Alternative:	\$ 96.6 M

Output 1.1

Climate adaptive landscape planning for resilience for the Project Zone is developed in a dynamic and participative fashion.

193. Under this Output, the project will focus on a climate adaptive landscape-level planning covering the entire project zone. The aim is to map ecosystem services and vulnerabilities at the landscape level, which is essential for prioritizing and costing actions on the ground. It will build on and consolidate other mapping-like exercises produced by baseline interventions, but it will add nested climate change models. A product will be the Climate Adaptive Landscape Plan for the Upper Niger Basin Landscape, which covers approx. 3 million hectares within the north-western part of the Upper Niger River Basin.

194. Investments into improving the information and database for establishing a suitable GIS-based information system. Institutional support for operationalizing such an information base will be rendered. Specific investments will be made into capacity development activities, focusing on national, provincial, prefecture and sub-prefecture technical staff. The information system and planning tools will be developed in a participatory manner with local communities, who will learn in a participatory manner how to apply such instruments to planning processes and for decision-making.

195. This output is closely related to Output 2.2, which concerns the actual ‘system’ that will support the ‘planning’ and which reads as follows: “A geographically based information system for climate information services in the Upper Niger River Basin is established at and maintained through a functional partnership”. While closely related, the main difference between the work under these two outputs is that under Output 1.2. the focus will be on the collection and verification of locally available data related to specific climate vulnerabilities while Output 2.2. will be focusing on the development and provision of services and products related to climate information.

Activities:

- 1.1.1. Develop approach and guidance to climate adaptive landscape planning for the project zone (Kankan and Faranah regions), working specifically with the prefectures of Kouroussa Faranah and Kissidougou and relevant sub-prefectures, Municipalities and Rural Development Communities (RDCs).** The aim is to develop a participatory process for assessing and mapping ecosystem services and vulnerabilities, i.e. those related to climatic risks, at the landscape level. The information base to be created will aid decision-making related to the planning of development priorities and budget allocations. The approach will be multi-sectoral, working with technical and extension experts from the prefectures, the provincial government and the national level. Specific lessons learnt from undertaking multi-sectoral climate adaptive planning and climate change adaptation mainstreaming experiences will be considered. A special gender focus is critical to the composition of the institutional platform. International technical expertise will be sourced to advice on developing a rigorous process and data inputs. The team will include local experts in the fields of forestry, agriculture, livestock, and social and gender issues. This team will be assisted by a national expert in customary law in the development of landscape management plans.

Local adaptation planning:

- Is based on a comprehensive, participatory and gender-sensitive analysis of vulnerability to climate change (including the social, economic and political determinants of vulnerability);
- Recognizes differential vulnerability within countries, communities and households; and it targets adaptation strategies accordingly;
- Builds on the existing knowledge and capacities of men, women, boys and girls;
- Aims to empower vulnerable women and girls to build their adaptive capacity;
- Is planned and implemented with the participation of both women and men, including the most vulnerable groups in the community;
- Promotes adaptation policies and programs at local, national and international levels that meet the specific needs of poor women and men;
- Supports men and women to access the resources, rights and opportunities they need to adapt to their changing environment; and
- Promotes gender equality as a long-term goal³⁰.

- 1.1.2. Set up institutional platform for climate adaptive landscape plan preparation:** Set up multi-institutional technical project platform (see also Section 5 Management Arrangements and output 1.2) for Kankan and Faranah regions, working specifically with the prefectures of Kouroussa Faranah and Kissidougou and relevant sub-prefectures, Municipalities and Rural Development Communities (RDCs), and with representatives of relevant line ministries, NGOs, CBOS, agricultural association and other relevant stakeholders. Gender considerations will be specifically applied to the representation on the platform. It is important to set out a joint technical team that is involved in the preparation of the plan, as well as in the plan implementation. It is envisaged that the initially developed plan be implemented and updated beyond the project lifetime, and that learning from the on-site demonstrations (see outputs 1.3 and 1.4) be integrated. A strong institutional foundation is considered a key success factor in this. During the PPG phase a preliminary analysis of possible institutional partners has been conducted, see [sectoral reports](#) for more details. A potential institution to serve as an institutional platform is CERE, the Centre d'Étude et de Recherche en Environnement at the University of Conakry. Relevant technical and infrastructure backing will be provided by the project to help build decentralized capacities.

³⁰ See CARE 2010 (as before).

- 1.1.3. Prepare climate adaptive landscape plan:** In a participatory and consultative manner prepare the first plan. The information base for planning will need to be improved and investments into improving the data base will be made (see 1.1.5). Use the planning process as learning experience and for building a community of practice, involving local communities as well as representatives of regional and local institutions such as the Direction Nationale des Eaux et Forêts, the Bureau de Stratégie et de Développement in the Ministry of Agriculture, etc.
- 1.1.4. Improvement of climate information base:** The foundation information for landscape planning needs to be improved. This will include information on climate change impacts on regional ecosystems, taking into account local site specifications. Decentralized, but also national level institutional reforms are required to ensure that a fully updated and functional information system is in place – and accessible for use at the local level. To this aim, a database will be established containing verified and up-to-date information on the areas (either natural or with marked human presence) within the project zone that are most vulnerable to the likely impacts of climate change and variability, to the extent that these could significantly affect local livelihoods and to the extent that communities may present pre-existing elements of vulnerability (e.g. geographic isolation, food insecurity, disease, Ebola impact, etc.). The database will equally include detailed information for monitoring of bushfires³¹, socio-economic activities and population dynamics. Actual mapping and development of a GIS based decision-support information will be carried out for the project zone, but under [Output 2.1](#).

Output 1.2

The institutional architecture for implementing the Climate Adaptive Landscape Plan, resulting from Output 1.1, is strengthened including through training, and partnerships to be forged in support of it, in particular at the local level.

196. In terms of the institutional architecture for implementing the Climate Adaptive Landscape Plan, the project will engage with stakeholders at various levels and forge partnerships to support on the ground activities. This will start by the development of a panorama of concrete initiatives on the ground and of locally active partners' level, including local CBOs, for which a registry will be established for facilitating coordination (a preliminary list was created during the PPG phase, see [Annex 2](#)). Local government staff in concerned sub-prefectures and villages (i.e. rural communes) will be enabled in 'climate risk & resilience at the landscape level' and equipped (on the basis of needs), alongside with community members. The capacity building activities and trainings will facilitate the transition to climate adapted land-use practices and local people's engagement in watershed management.

Activities:

- 1.2.1. Undertake stakeholder information and capacity needs assessment and scope relevant designs of knowledge products** including for the planned GIS based information system so that

³¹ It is suggested that global datasets from the US Spatial Agency NASA on bush fire is used to compose a time geo-based time series for the project zone. Refer to NASA's Fire Information for Resource Management System (FIRMS). The FIRMS database delivers through free access global MODIS hotspots / fire locations in easy to use formats. Near Real-Time Data can be accessed at <https://earthdata.nasa.gov/data/near-real-time-data/firms>

The FIRMS Web Fire Mapper can be accessed at: <https://firms.modaps.eosdis.nasa.gov/firemap/>

they will be actively used by planners at prefecture and sub-prefecture level, RDC/local commune leaders and local resource managers and relevant NGOs, CBOs and other. Especially such information should guide the planning and sighting of adaptation activities under outputs 1.3 and 1.4. It is understood that a considerable effort must be invested into the proper design on knowledge products to ensure that they will in fact be useful and be applied. The fact that Guinea has a very high illiteracy rate must be factored into the design of any such a system. To this end it is planned to produce image-based products and disseminate key messages in the local languages prevailing in the project zone. This will be done in cooperation with rural and community radio stations that have daily broadcasts in the local language that is widely spoken (NKO alphabet). Gender considerations in this regard will also be important. Women will be specifically targeted through involvement of relevant organisations such as economic interest groups, that will serve as distribution board and make use of the informal networks women are involved in through their economic and social activities.

- 1.2.2. **Develop and implement specific capacity building strategy and plan.** A detailed capacity building strategy and plan for the project will be developed, based on the demand identified under output 1.2.1. A detailed and innovative project implementation strategy will be tailored to the identified capacity needs too. It is envisaged to develop a specific “food-for-work” type implementation element to the project that would target specifically women and Ebola-survivors, to help them build their livelihoods. Instead of simply providing food, the capacity building efforts would go beyond and help uplift such vulnerable groups in the local communities. Within this framework, options for a partnership with the World Food Programme (WFP) and UNICEF will be explored to leverage further synergies with existing initiatives. On the basis of a call for applications, local partners will be identified to conduct awareness activities on the impacts of climate change and provide targeted training required. Training and general capacity building will facilitate the transition to climate adapted land-use practices and local people’s engagement in watershed management. Furthermore, a number of non-governmental and rural development partners can play a synergetic role vis-a-vis project activities. Engaging them in planning and implementing adaptation measures in selected sites, including through partnerships, will also be done with a view to strengthening programmatic synergies and ensuring sustainability.
- 1.2.3. **Develop relevant knowledge products and application support,** including through relevant trainings and outreach activities. Investments into knowledge product development and dissemination, as well as tracking of their usefulness will be very important for the project. Communications tools might include the following elements: (inter-) village meetings, drawings, paintings, photographs, posters, maps, aerial photographs, audiovisual documentaries, puppet shows/theatre, community diagnosis of the environment. This is also reflected in the resource allocation for this activity. Project liaison staff will be working with beneficiaries to identify, evaluate, select and apply potentially new ways of disseminating information (e.g. ‘green cards’, interactive maps, mobile phone alerts / applications, and other more innovative products), as well as use of more traditional channels such as through radio, town criers and traditional instruments (tabala, horns, whistles, etc.) will be explored.

Output 1.3

Climate adaptive watershed rehabilitation is carried out in critical sites in the Upper Niger River sub-basin, from a baseline of limited investments in watershed management that are often ‘climatically vulnerable’.

197. The first set of ecosystem-based adaptation measures will focus on watersheds in the sub-prefectures of Albadariah and Sangardo, including rehabilitation of riparian vegetation, which plays a key

role in infiltration, riverbank protection and maintenance of base flow. Such measures will be combined with nature-based river bank protection. The aim is to control and prevent climate driven erosion, including flood surges, and to counteract the effect of drought in the water bodies. Furthermore, swales, bio-swales, check-dams and small multi-purpose reservoirs will be constructed, taking the effects of climate change into account.

Activities:

- 1.3.1. With target communities plan local level watershed rehabilitation activities in line with climate adaptive landscape plan:** With local communities identify intervention sites, techniques and plan implementation arrangements. Local community members will get actively involved in the implementation of the activities and a “work for food” type approach is envisaged (see output 1.2). Although the finalization of the landscape plan is not an essential pre-requisite to get started on this demonstration activity, relevant technical information must underpin the final sighting of interventions sites and techniques.
- 1.3.2. Riparian vegetation/ gallery forests rehabilitation:** A minimum target of 2,500 ha in critical river meanders will be positively impacted, mostly along riverbanks. Seedlings will have to be produced locally, propagating indigenous plants. Local nurseries will be established, which could be established as commercial enterprises by capable community members, thus providing additional livelihoods to vulnerable communities. Great care will be applied in the selection of species for reforestation with a preference for indigenous, multi-use, climate resilient tree and shrub species. Local varieties of hygrophytes will be used according to their capacity to develop root systems that can fix the banks and reach the capillary fringe of the permanent water table. These water plants also have the ability to adapt to the humidity conditions of the banks and the surrounding environment and can be considered resilient to the extent that they promote the consolidation of banks while creating a barrier against erosion. This will be combined with perennial plants such as perennial grasses, shrubs and trees. Restored and expanded gallery forests will act as co-adjuvants in improving infiltration and percolation rates around the riverine areas. The desired effect is the maintenance of the base flow in the water course, counteracting both the effects of heavy rainstorms, which may be driven by changes in the rainfall regime, and of water scarcity, which may be driven by drought.
- 1.3.3. Construction of swales, bio-swales, check-dams and small multi-purpose reservoirs, as appropriate:** If needed and appropriate additional natural structural adjustments will be implemented along the riverbanks to further aid the rehabilitation process, as well as build natural barriers for livestock. Besides functioning as freshwater depots, reservoirs might also be used to promote aquaculture and sustainable fishing, thus conserving indigenous species and relieving pressures on ecosystems.
- 1.3.4. Effort on identifying and developing local innovations:** a special effort will be made in identifying and further developing any relevant local innovations that would contribute to the improvement of the wetlands, and will be specifically identified and promoted. This will be done in close cooperation with local NGOs involved in natural resource management in the project zone to ensure local ownership and community involvement.
- 1.3.5. Implement community research approach, tracking intervention impacts and promoting learning:** A critical tool for community engagement and capacity development is the establishment and implementation of a “community research approach” that formally tracks the successes and failures of the project interventions. Another important aspect is that local knowledge available

within communities on local level will be shared for future benefits of other local stakeholders. Such learning can also be integrated into an innovative M&E approach for project monitoring and can contribute to the collection of stories from beneficiaries.

Output 1.4

Land-use practices are adapted to face climate change challenges, from a baseline of generally resilient ecosystems being gradually degraded.

198. A second set of ecosystem-based adaptation measures will focus on changing land-use practices, but with a clear climate angle. The key ecosystems targeted here are forest, wetlands, agricultural lands and pasturelands. Generally speaking, activities will focus on adaptive livestock management, and improved application of bush fires as land management tool, amongst other. In addition, locally identified innovations will be specifically identified and tested, and if appropriate, up-scaled.

Adaptive bushfire management will focus on savannah-forest habitats and crop-land mosaics in the periphery of major settlements and protected areas (most likely in the sub-prefectures of Beindou, Banfèlè, Douako and Sanguiana). Actions will also focus on changing land-uses that use fire in a harmful way. Training of pastoral and farmer groups will be an activity under this output, to be complemented with the creation of incentives for changing land-uses. Another set of activities will focus on soil erosion control techniques to maintain vital ecosystem services through introduction of measures to optimize soil cover and fertility. This will be combined with the re-introduction of locally adapted stable crop varieties such as rice, maize and manioc to maintain genetic diversity of crops and assist adaptive capacities of crop systems. Yet another set of activities pertain to agro-pastoral resources. The project will disseminate techniques for ‘controlled grazing’ and livestock movement as climate change adaptation measures.

199. Activities under this output are very distinct from each other (e.g. wetlands rehabilitation, bush-fire control, management of pastoral resources, among others). Each of these activities could in theory be handled as individual “mini-project”. They do bear one goal in common, which is to introduce adaptation to a suite of land-use practices because, and share also the same rationale that justifies the need for adaption. In the long-run, if these practices continue, they will result in the gradual degradation of ecosystem services, even though these ecosystems are generally resilient and can withstand a certain degree of pressure. Even though the degradation is gradual, these ecosystems may become too vulnerable and may not be able to withstand the intensity of pressure that will likely be imposed by climate change. Changing those practices in a preventive manner is therefore needed, so as not to foreclose future use options with respect those ecosystems. By doing so, the project will place local people, who depend on ecosystem services for their livelihood, in a better standing for facing the impacts of climate change.

Activities:

1.4.1. Adaptive bushfire management with a particular emphasis on fragile ecosystems and sensitive habitats (e.g. woodland savanna, dense dry forests and thickets, gallery forest, etc.). In target areas where bush fires are a threat to ecosystem services, specific demonstrating and learning activities revolving around appropriate fire management will be implemented. Based on existing community-fire management training materials from elsewhere in Africa (e.g. Tanzania, South Africa) a suite of awareness raising and skills developing workshops will be conducted for local decision-makers and community members. Demonstration plots visualising the impact of various fire regimes on natural vegetation but also slash and burn agricultural practices will be shared. Impacts of uncontrolled bush fires on the adjacent protected areas will be demonstrated as well. The key targeted habitats here will be savannah forest habitats and cropland mosaics, both

around settlements and protected areas. Adaptive fire-management techniques such as firebreaks, landscape-level planning, etc. will be part of the demonstration activities, and will be conducted in a participatory approach involving key stakeholders from local communities in the targeted zones. Existing studies carried out in connection with the management plan for the Haute Niger National Park, a key protected areas within the landscape, show that the eastern flank of the park is particularly prone to fire.³² The project will introduce innovative techniques of bushfire management that fully take climate risks into account, targeting various villages around the Mafou Gazetted Forest. The total target area subjected to climate adaptive bushfire management could near 100,000 ha (likely 90,000 ha), including a landscape of approx. 50,000 ha in the Kouroussa-Cisséla axis and approx. 40,000 ha in the Kouroussa-Banfélé axis. Action will be on fire-prone ‘climate hotspots’ to be identified through the landscape planning in Output 1.1. Action will also focus on changing land-uses that use fire in a harmful way. Bush-fire related activities may also strengthen the existing fire response mechanisms at community level, employing young people and using mobile technology. By focusing on hotspots only within the targeted landscape, it is estimated that some 250 thousand hectares of savannah and forests will be protected against climate-induced bushfire as a result of the activities, including the Mafou Forest core zone.

- 1.4.2. **Improvement of soil management and erosion control** in agricultural areas³³ through reforestation and stabilization of slopes and hilltops as well as introduction of techniques for soil enrichment through agricultural practices such as polyculture and minimum to no-tillage techniques combined with optimizing soil cover (cover crops, residues, mulch). The techniques will be designed to demonstrate how improved soil management can contribute to maintaining ecosystem services and diversifying income sources. The focus will be on producing not just food, but also fuel-wood, fiber and other goods more sustainably for local consumption and sale. These measures are expected to reduce local communities’ vulnerabilities to climate change through a livelihoods approach. These remain to be identified, including through involvement of local communities.
- 1.4.3. **Re-introduction of locally adapted crop varieties**, in particular rice, maize and manioc to strengthen genetic diversity and adaptive capacity of agricultural systems. The aim is to maintain biological diversity of species critically important for the provisioning of ecosystem services. High diversity of genetic resources will allow for the continued functioning of the ecosystem and the provisioning of ecosystem services. As the diversity of genetic resources is essential for maintaining and enhancing the efficiency and the resilience of agro-ecosystems, the selection of cultivars will be based on those that show promise with respect to climate resilience. This activity will involve local communities and rely heavily on local knowledge to identify and collect the relevant species. To ensure sustainability the creation of a seed bank containing the local varieties traditionally grown in the area and adapted to the local climate will be supported through a community-based approach.
- 1.4.4. **Climate adaptive rehabilitation re-wetting of selected wetlands**, targeting at least 2 of the 4 Ramsar sites within the project zone³⁴, to maintain functionality of the wetlands and raise the overall adaptive capacity of the system at both a local and broader landscape level. This will be done primarily through and control of the inflow and outflow of water. In this manner, targeted wetlands will maintain their natural ability to filter water, recycle nutrients, buffer excess flow and provide food and recreational services to people under a climate change scenario. Based on the information on vulnerabilities included in the database developed under Output 1.1, the specific

³² *Plan d’Aménagement du Projet Parc National du Haut Niger 1999-2003*. Programme régional d’aménagement des bassins versants du Haut Niger et de la Haute Gambie. Ministère de l’agriculture, des eaux et forêts, République de Guinée.

³³ Initial analysis from the field mission suggests that these activities will focus on the sub-prefectures of Passaya and Cisséla.

³⁴ For the RAMSAR sites it is suggested to focus on Niger-Tinkisso and Niger-Niandan-Milo as well as the wetlands and floodplains in the sub-prefectures of Kantoumanina and Dialakoro based on the findings from an initial field mission.

measures and sites for rehabilitation and re-wetting of wetlands will be determined³⁵. These will be based on the following principles:

- Maintenance overall natural balance between inputs and outputs; water, nutrients and soil.
- The ability of the local catchment to allow rainwater to infiltrate the ground water system and subsequently, to slowly release this water subterraneously into the wetland.
- Capacity to receive both catchment and incident water without being eroded, hold excess water and release it slowly into the downstream system.
- Reduce erosion from surface runoff to minimum.
- Ability to receive and accommodate soil and solute eroded from the surrounding catchment, and prevent the scouring and gullyng, reducing siltation in the stream.
- Capacity to accumulate organic matter.

Key to the rehabilitation of wetlands is the re-establishment of an environment that is as close to the natural hydraulic regime (depth, duration and intensity of flooding) as possible. This is achieved through reducing the velocity of water through the system and promoting the spreading of flow across the wetland. Planning of the works will depart from hydrological and feasibility studies, combined with climate modelling. To determine the most suitable approach for rehabilitation, an assessment of the watercourses, the exact size of the catchments and the predicted flow volumes will be conducted by technical experts (engineers), to be contracted for this task. This will include proposals for site-specific measures relying on locally available, nature-based materials, knowledge and human resources. Activities will be planned and implemented together with local communities to ensure adequate involvement and participation in decision-making. Activities requiring physical labour (such as e.g. planting of grasses, reclaiming of drainages, digging of channels, building of check-dams, etc.) will be carried out by local workforce whenever available under the supervision of technical staff. The rehabilitation and re-wetting measures will be closely monitored over the course of the project to ensure environmental, social and economic safeguards are applied in a consistent manner.

1.4.5. Enhancing agro-pastoral resources. The project will disseminate techniques for techniques for ‘controlled grazing’ and livestock movement as climate change adaptation measures. Controlled grazing implies that it is carefully planned and on the basis of climatic and landscape-level analyses. Techniques will be applied in a holistic manner for mimicking the functions of nature and restoring savannah grasslands.³⁶ Implementation will be enforced through community-based mechanism.

1.4.6. Adoption, by both sedentary and transhumant herders, of livestock breeds/races that are endemic to the region and that display a number of disease resistance and natural resilience traits (such as N'dama cattle breed, Djallonke sheep and African dwarf goat). The target range areas for livestock-related activities remain to be identified and coverage calculated. For this set of activities, the project will draw on direct experience from the on-going UNDP-GEF project PROGEBE. By maintaining and adopting N'dama cattle, Djallonke sheep, and the West African Dwarf goat through viable and sustainable models, farmers and herders will count on a strong economic

³⁵ Initial suggestions are for Niger-Tinkisso and Niger-Niandan-Milo Ramsar sites. However, this can change after inception, according to adequate scoping.

³⁶ See e.g.: (1) Neely, C., Bunning, S., Wilkes, A., eds. (2009). *Review of Evidence on Drylands Pastoral Systems and Climate Change: Implications and Opportunities for Mitigation and Adaptation*. Food and Agriculture Organization of the United Nations. 1-50; (2) O'Mara, F.P. 2012. *The Role of Grasslands in Food Security and Climate Change*. *Annals of Botany*. 110: 1263-1270; and (3) Stinner, DH, B.R. Stinner, E. Marsolf (1997). *Biodiversity as an Organizing Principle in Agroecosystem Management: Case Studies of Holistic Resource Management Practitioners in the USA*. *Agriculture, Ecosystems and Environment*. 62, 199-213.

drawing card for their future. The target range areas for livestock-related activities remain to be identified and coverage calculated.

- 1.4.7. Implement community research approach, tracking intervention impacts and promoting learning:** A critical tool for community engagement and capacity development is the establishment and implementation of a “community research approach” based on local knowledge that formally tracks the successes and failures of the project interventions. Such learning can also be integrated into an innovative M&E approach for project monitoring and can contribute to the collection of stories from beneficiaries (this will also build links to activities under Outputs 1.1 and 1.2 with respect to the planning and stakeholders’ platforms).

Component 2. Planning, Policies and Capacities

Capacity building and information systems for integration of climate change adaptation into relevant national, regional, local management plans, policies and practices

Outcome 2: Climate adaptive management of ecosystems is integrated into key local and regional planning and policy-making processes

Baseline for Component 2 - Development planning, landscape governance and capacity building

200. At the baseline, Guinea is making gradual progress to strengthen institutional and local governance, introduce new systems and ways of working and to incorporate sustainable management of natural resources in broader development frameworks. This is aided by programmes, projects and interventions, some of which have national scope, other local. They include primarily the **USAID / US Forestry Service - Env & BD financed programmes** (including the NRM Governance Programme and the STEWARD) and the **IUCN Ecosystems’ programmes relevant for the area** (some projects are ending soon and others in the pipeline). They are the most relevant ones for Component 2 to the extent that they include activities in development planning, landscape governance and capacity building, including to manage ‘systems’ to that effect. The **UN Joint Programme for Kankan** also falls into within this category due to its component on ‘mapping’ of development interventions and because it promotes governance in development planning. It is hence also part of Component 2 baseline. Support from WFP is also considered therein.

201. The NRM and Environmental Governance Capacity Building Program, funded by USAID, aims to facilitate the Guinean Ministry of Environment’s capacity to apply laws, regulations, codes, and policies that strengthen natural resources management (NRM) and biodiversity conservation. Climate change is a concern expressed in programme documents, but activities are not explicitly allocating funding to adaptation. In turn, the STEWARD programme works in transboundary biodiversity and conservation zones. It aims to promote and strengthen West African capacity to manage regionally shared resources, including through peace building and policy harmonization. The focus is on integrated landscape management in forested and protected areas in Guinea and neighbouring countries. Although this regional initiative is strengthening capacities for natural resource management and governance, it is not extensively taking into account the specific impacts of climate change on natural resources at the current project stage. Along the same lines, the UN Joint Programme for Kankan provides an excellent entry point for this project, which will be integrated into the Programme, once it is CEO Endorsed. Until then, climate change adaptation will remain absent from the UN Joint Programme for Kankan.

202. Baseline interventions for Component 2 are making a significant contribution to the overall landscape governance and capacity agenda. Their impact will likely be felt in many years to come, as these programmes are dealing with capacity issues at systemic, institutional and even individual levels. E.g., the US Forest Services provide a few tertiary training opportunities through programmes related to STEWARD. The UN Joint Programme for Kankan is also focusing on decentralised governance and capacity building and infusing systems to aid decentralised public administration. The USAID Environmental governance programme has focused interventions on landscape and resource governance through planning. This could potentially help expand the knowledge and understanding of climate variability and climate change induced risks at the national level and in targeted vulnerable areas. Still, climate information services and systems remain largely fragmented, insufficient and dysfunctional for meeting local and national needs. Existing planning and investment frameworks that are relevant to the project zone have only partially taken climate change considerations into account. On-the-ground interventions proposed for Component 1 would definitely lack more decisive decision-making support that are specifically focused on climate change to become truly adaptive and ‘climate-proven’.

203. **The estimated amount of ‘the baseline project’ for Component 2 is \$57.0 million.**

Additionality for Component 2 – Climate change mainstreaming into development planning & practices, adaptive capacities and systems

204. The institutional and technical capacity to adequately manage and protect natural resources against the negative impacts of climate change in Guinea needs to be strengthened. Several programmes are addressing the issue of sustainable management of natural resources, biodiversity, water, land degradation and forestry. Yet, there is no coherent response that effectively includes climate change adaptation concerns into the national and local planning concerned with the management of natural resources. Building on a baseline of initiatives to generally strengthen national capacity in relevant topics, this project will contribute to expanding capacity for tackling climate challenges at the national, regional and local levels.

205. *In the alternative scenario enabled by the LDCE project*, capacity will be strengthened at various levels, but in particular at the local level and with focus on vulnerable groups. ‘Capacity’ means the ability of individuals, institutions and societies to perform functions, solve problems and to set and achieve objectives in a sustainable manner. In this project, capacity development will focus on people, organizations and society, and on how these different ‘levels’ face the climate challenge. The aim is to strengthen, create, adapt and maintain their capacity over time. Planning, practices and systems are key and additional elements in it.

Outputs and Activities under Component 2

206. First and foremost, capacity will be built through the inclusion of a climate risk management and resilience ‘layers’ into natural resource management planning & budgeting that is regularly carried out by relevant ministries, prefectures and sub-prefectures in the Upper Guinea Region (**Output 2.1**). This is currently not being done and it is an excellent entry point for raising awareness on climate change and for supporting policy development and climate-sound decision-making. This will ensure the sustainability of adaptation measures from Component 1 and the collaborative involvement of a wide range of relevant sectors.

207. An essential institutional stakeholder in Component 2 is the National Meteorological Directorate (DNM), given that they manage local weather stations in Faranah, Kouroussa, Kissidougou, Kankan and Mandiana. Their capacity at the decentralised level remains low, but will be strengthened through the establishment of a geographically based information system for climate information in the Upper Niger

River Basin. Although it is recommended that data is to be stored remotely using appropriate systems, stations will be key data handling and dissemination point. The system is aimed at both scoping, managing and disseminating essential agro-meteorological and hydrological information, and at making it available to a large technical and non-technical audience (**Output 2.2**). Weather stations and DNM offices will play an essential role in the project and may become loci for activity coordination at the site level. The project will support the upgrading of local weather stations according to an existing needs-assessment, funding and co-funding available, so that they can also support the service of distributing climate information to local communities and inform climate-wise decision-making (**Output 2.3**). Innovation will be infused in the documentation and communication of the project's ecological, economic & social benefits through learning and feedback and adaptive management, linking up to other learning mechanisms, such as the Adaptation Learning Mechanism ALM and various relevant networks (**Output 2.4**).

208. **The additional costs of generating adaptation benefits in Component 2 have been estimated at \$1.3 M, with a mobilised co-financing of \$13.4 M, reaching more than \$14 million in total.**

Component 2:	
Baseline:	\$ 57.0 M
Co-financing:	\$ 13.4 M
LDCF grant requested:	\$ 1.3 M
TOTAL for the Alternative:	\$ 14.6 M

209. Co-financing for components 1 and 2 comes from the government entities responsible for the agriculture, water and rural development portfolios, along with meteorology. Local communities will likely contribute in-kind throughout the duration of the project, but commitments are yet to be made. . Funding from non-governmental and bilateral partners may also be mobilised during project implementation. Management costs for the LDCF and co-financing correspond to respectively to 4.9% and 10.2% of the subtotal amounts (i.e. \$0.375 M and \$10.6 M). Refer to [Annex 4](#) for the complete Additional Cost Analysis.

Output 2.1

Climate risk management and resilience are integrated into natural resource management planning & budgeting carried out by relevant ministries, prefectures and sub-prefectures in the Upper Guinea Region.

210. Capacity building for inclusion of climate risk management and resilience into natural resource management planning & budgeting by relevant ministries, prefectures and sub-prefectures in the Upper Guinea Region, supporting policy development and climate-sound decision-making. It will also include agriculture, livestock, forestry, nature protection, land technical cadastre, among others. As a minimum, development plans for at least 5 sub-prefectures, 10 rural communes and 2 protected areas will be climate-proofed. Linkages to outputs 1.1 and 1.2 will be established

Activities:

2.1.1. Provide technical updating sessions for stakeholders in the project zone on climate risk management and resilience. Invest into a dedicated learning and professional capacity building programme on climate risk management and resilience building. Linked to the capacity development plan to be developed under outcome 1, develop specific capacity development plan and implement. Facilitate for experts from the national level to serve as occasional resource people.

Develop a participatory approach to identify climate risks and adaptation measures together with local communities to improve the resilience of their territories to climate change; Conduct feasibility studies of CC adaptation measures proposed by local people, for selecting the “no regret” actions that are technically feasible, affordable and socially acceptable. Develop a CC adaptation plan for municipalities in the project zone, including priority measures, timelines, budgets, monitoring and evaluation mechanism. Propose a methodological guide for the integration of CC adaptation measures in future territorial planning process along the following lines: decisions for multiple possible futures, employing flexible and adaptive planning processes, strengthen the adaptive capacity of people and organisations.

- 2.1.2. Integrate climate risk management and resilience considerations for natural resource relevant sectors into relevant development planning and budgeting processes at regional, prefecture, sub-prefecture and local development plan (LDP) levels.** The successful integration of the climate adaptive landscape plan elements into other ongoing development planning processes and instruments is critical to ensure its implementation. Specific guidelines for such integration will be developed based on the pilot experiences with the project RDCs and will be used at higher tier levels of governance structures (sub-prefecture, prefecture, region) to upscale approach to other areas in the project zone, and potentially beyond. The local development plan (LDP) is the territorial planning tool that defines, based on a participatory process and a collaborative approach, vision, strategic directions and objectives of operational development. Based on a needs analysis, several options for action will be identified with the aim to integrate landscape components and climate change adaptation into the overall policy framework. These elements might include diversification of agriculture, improved water management as well as erosion and bushfire control techniques (see Outputs 1.3. and 1.4). Specific guidelines for such integration will be developed based on the pilot experiences with the project RDCs and will be used at higher tier levels of governance structures (sub-prefecture, prefecture, region) to upscale approach to other areas in the project zone, and potentially beyond. To this aim, awareness raising activities will be conducted for stakeholders involved in development planning on local level to equip them with the knowledge and tools on how to “climate-proof” sectoral policies on local and regional level (see Output 1.1)
- 2.1.3. Develop guidelines for addressing climate risks and resilience in natural resources sectors and implement innovative dissemination strategy:** To ensure that planning approaches and instruments tested by the project are being uptaken, invest into a well-designed dissemination strategy (see also output 2.4) Consider behaviour change know-how and gear the project design towards achieving a broader scale change in decision-making.
- 2.1.4. Implement a “help desk” function to ensure high quality consideration of climate risk and resilience in planning:** set up a technical support and peer review service to ensure that development plans at all levels are of good quality and lead to the envisaged climate resilience building.

Output 2.2

A geographically based information system for climate information services in the Upper Niger River Basin is established at and maintained through a functional partnership.

211. Under this output a working partnership between the National Meteorological Directorate (DNM) and the Ministry of Environment, Water and Forests (MEEF) will be formed, aimed at providing demand-led climate information services, including the collection analysis and dissemination of climate relevant planning information. Adequate information products, including key agro-meteorological, hydrological

and ecological information are being made available to a large technical and non-technical audience for supporting informed decision-making and landscape management as well as disaster preparedness. Other possible partnerships will be further explored, specifically focusing on the regional level.

Activities:

- 2.2.1. Develop concept for practical information and decision-support services, based on demand articulation of end-users under outcome 1.** A practical and simple information service needs to be established that can be build up over years. Whilst this project will invest into building the data base for climate adaptive planning in the natural resources sector in the project zone, the overall services would need to work on a broader scope. The following steps are suggested for the development of climate information services: determine and project hazards and sensitivities in the project zone, determine local adaptive capacities, map vulnerabilities based on GIS data and expert advice, identify, assess and review options for climate-sensitive planning³⁷. Some investment will be made into developing infrastructure at key institutions responsible for data provision, management and provision. However, the focus will mostly be regional and sub-regional. The partnership between DNM and MEEF is important, but it is realized that other partially private sector driven information services exist. Relevant linkages will be explored. A joint task team may be established as part of the concept.
- 2.2.2. Set up state of the art and practical “information centres” at regional levels,** including through relevant hardware and software investments based on a participatory needs assessment. This includes support of manpower, capacity-building as necessary and hiring of relevant staff. The overall approach will be demand-lead, thus ensuring that services will be demand oriented, and develop knowledge products that will be applied by the intended end-user. The selection and purchasing of GIS data will follow a competitive process and be based on a comprehensive checklist.

Suggested checklist for selecting GIS data³⁸

- Needs assessment: spatial information system or a mapping package taking into account issues such as scale and type (simple desktop viewer, professional workstation, etc.)
- Cost for hardware and software requirements (including ongoing maintenance).
- Type of operating system that will be used (e.g. Linux, Unix, Windows, Mac and mobile, such as OS or Android).
- Format requirements: Ability to handle raster (pixel data), vector (point, line, polygon data) or both formats.
- Staff and training: user-friendly spatial information system (i.e. easy-to-understand), including budget needed for initial training and continued capacity-building activities for both technical and non-technical users
- Reliability of system and vendor
- Scalability, maintenance and upgrading
- Maintenance and licensing
- Interface with other software used and interoperability

³⁷ For a more detailed description of the process see UNDP Mapping Climate Change Vulnerability and Impact Scenarios A Guidebook for Sub-National Planners available at: <http://europeandcis.undp.org/uploads/public1/files/Mapping%20CC%20Vulnerability%20publication%20-%20November%202010.pdf>

³⁸ This list is adapted from Local Government Spatial Information Management Toolkit Version 2.0 Module 7 available at: http://alga.asn.au/site/misc/alga/downloads/info-technology/07_Spatial_Toolkit_Module7.pdf

- 2.2.3. Develop key information product, i.e. a climate adaptive planning guide** that can be applied by project beneficiaries and stakeholders at a broader scale. Information products will help to identify and assess resources, target groups, sectors, communities and livelihoods which are directly or indirectly impacted by climate change, identify adaptation options and resilience strategies for minimizing the impacts of climate change and provide solutions to minimize social, economic and environmental concerns arising from climate change. It will be disseminated according to a well-designed dissemination plan and materials and impacts will be closely monitored and evaluated.

Output 2.3

Local weather stations in Faranah, Kouroussa, and Kankan are rehabilitated and are able to develop and disseminate early warning products to evaluate existing and new climate data.

212. The national weather/ climate observatory infrastructure will be improved through rehabilitating weather stations in Faranah, Kouroussa, and Kankan. Stations will count on systems to monitor and evaluate existing and new climate data with the objective of creating an early warning system for Upper Guinea for extreme weather events such as floods, storms and droughts. Linked to Output 2.1, a distribution mechanism of climate information to local communities will be developed, thereby contributing to informed decision-making in local development planning and agriculture, concerning planting and harvesting dates, need for increased caution with regards to fire and other precautionary measures such as evacuation of people and livestock to secure areas, in case of natural disasters (floods, fire, etc.). It is envisaged to create these systems using a participatory approach and by drawing on lessons learned from the implementation of climate information systems through the second NAPA project on agro-forestry. The service should be available to all project beneficiaries using internet, mobile and radio technology, with the potential to roll out information services to other regions.

Activities:

- 2.3.1. Source relevant weather station equipment (manual and digital), following national standards of equipment.** Support setting up and functional support for initial period, after which this will become the full responsibility of DNM. Support staff training as needed on site, especially with regards to digital data transmission. Support DNM in operationalizing centralized data processing utility in Conakry, to ensure that data from the rehabilitated stations is being utilized.

Capacity-building activities for DNM must be accompanied by:

- The acquisition and installation of automatic agro-climate stations, synoptic and rain gauges equipped with telemetry devices and improved transmission / processing / data storage in major prefectures (Upper Niger Basin);
- Complete update of meteorological equipment in the prefectures of Kankan and Faranah: equipment for the dissemination of agro-meteorological information (SMS, SSB radios, mobile phones, radios and supporting rural community)
- Acquisition and installation or rehabilitation for limnimetric stations with telemetry devices and automatic Doppler flow meter with data transmission capabilities, as well as of processing devices and data logging for hydrological modeling.

Among the equipment required by the weather stations are the following:

- Station Faranah: Measuring instruments, thermometer, rain gauge, evaporation tray and barometer, etc.
- Station Kouroussa: recover the buildings, measuring devices, weather shelter, etc.
- Station Kankan: renewal of classical instruments with analog devices, installing rainfall stations in rural communities, rehabilitation of SSB radios to facilitate the transmission of information in Conakry, remote sensing station for collection of information such as monitoring of bushfires.

2.3.2. Integrate data into target zone research, information bases and development of climate adaptive decision-making tools. Ensure that data collected from newly established weather stations is indeed fed back to project and is integrated into decision-making support tools.

2.3.3. Ensure that maintenance and future investments are integrated into the annual plans and budgets of DNM, so that the catalytic investments made are being taken up and integrated into national responsibilities.

Output 2.4

Ecological, economic & social benefits [generated by the project] are documented in the project zone through learning and feedback, using modern, innovative and locally adapted means of communication.

213. Innovation will be infused in the documentation and communication of the project's ecological, economic & social benefits through learning and feedback and adaptive management, linking up to other learning mechanisms, such as the Adaptation Learning Mechanism ALM and various other relevant networks. Where relevant, the project may choose to create its own network. The use of social media is encouraged.

Activities:

2.4.1. Design and implement from project onset community research approach, tracking intervention impacts and promoting learning: As integral part of project design develop participatory M&E and learning approach especially for the field based EbA interventions. As integral part of project design develop participatory learning modules to collect and disseminate information among communities

2.4.2. Based on end-user needs assessment and international communication and behavior change best practice identify appropriate learning and communication tools. Often communication is dealt with as an afterthought in project design. Although projects do employ communication staff, seldom are project interventions planned from the onset with a clear impact in mind – and therefore intense project efforts are often lost. Applying some simple but important principles to project design and implementation can go a long way towards harnessing lasting project impacts through a more dedicated and strategic approach to engaging and affecting target groups.

2.4.3. Communicate ecological, economic and social benefits through innovative means of communication such as mobile phone applications, message services, community theatre, etc.

- 2.4.4. Ensure availability of information on benefits for a wider audience**, including national and regional level to encourage mutual learning and exchange of experiences. This might include web-based information tools such as the ALM and other regional or international networks.
- 2.4.5. Document lessons learnt systematically and communicate learning into established sharing channels and platforms such as ALM**, to ensure the long lasting accessibility to project results and learning the systematic sharing on a globally accessible database is of use and will be systematically achieved by the project.

2.6 Risks and Safeguards

2.6.1 Summary Risk Matrix

	Risk	Rating	Management Strategy
1	Low capacity of local authorities and staff of decentralized institutions to support sustainable management of natural resources	M	The project intends to strengthen capacities of local authorities through training and will invest, where possible and through implementing partners, in awareness raising campaigns, building local capacities, introducing alternative technologies and production methods. The project will work with other projects and programmes active at project site level on a plethora of sustainable livelihoods activities.
2	Low political will of Prefectures authorities to adjust adopt landscape governance through planning and policies, strategies and programmes	L	Involvement of key political players on both national and regional level to ensure opportunities and benefits from mainstreaming climate change adaptation into broader policy frameworks are understood and used accordingly. They will be trained and capacitated as a measure to instigate their interest in the project and foster support.
3	Low commitment of targeted vulnerable rural communities	L	A participatory approach, including site-visits, interviews and consultations with local communities to identify needs and assess priorities will be applied in various project activities. Careful planning will be carried out. Safeguards will be upheld.
4	Women's engagement in leading change and in land-use practices, which is encouraged by the project, may be constrained by types of behaviours are generally considered acceptable, appropriate or desirable for women in a mostly Muslim society	L	The project aims to specifically engage women in its implementation and as beneficiaries as a means of fostering gender equality in the share of development and adaptation benefits. The community-based EbA demonstrations are planned to be carried out through "food for work" type of designs and approaches. It is clear that a special design is needed to ensure that such an approach will be culturally acceptable.
5	Targeting Ebola-affected communities and survivors may create barriers	L	Similarly the focus to empower communities affected by Ebola, including survivors of the virus, as project beneficiaries and parts of the "food for work" implementation approach can create barriers due to the social stigma faced by Ebola-survivors. The project design has built in a dedicated planning and consultation activity under component 1 in this regard.

	Risk	Rating	Management Strategy
6	Guinea is currently recovering from several years of civil rests and political instability. While the situation is currently calm, the political and social situation is still fragile	H	First of all, the advice from UN Security in situations of tension and insecurity will be respected to the letter. The Regional Bureau for Africa within UNDP also steps in and supports Country Offices to assess project specific risk and propose measures. One recommendation may be to change the modality to direct implementation to avoid political interference in project matters.
7	Inadequate land and forest regulations could create disincentives to sustainable and long-term land-use planning at the community level and be an obstacle to the adoption of climate resilient management of natural resources	L	The project will support the development of community based forest and watershed management plans that will regulate the access and use of natural resources. These custom laws will compensate the absence of appropriate land and forest regulations. Also the experience and knowledge generated from their application could promote the strengthening of the regulation framework at national level necessary to promote sustainable and long-term land-use planning at the community level. Finally, the project will collaborate with other initiatives focusing on the policy reform.
8	Guinea is a least developed country and among the ten poorest countries in the world. This means that there are only very limited financial resources available. Combined with bad infrastructure, this increases overall project delivery costs and poses extra challenges	M	The project will need to allocate sufficient funds to the implementation of specific activities and manage the project in such a way that these challenges will be addressed without jeopardizing the overall success.
9	Guinea has been hit by an Ebola outbreak that has resulted in economic isolation of the country and the region. It also means that most development aid has been re-channelled into emergency Ebola projects, leaving other sectors unattended. If the Ebola outbreak cannot remain contained, there could be a major disinvestment in much needed development sectors.	H	The project seeks to align itself with overall development priorities and projects, including emergency aid for people affected by the Ebola outbreak. Ebola survivors who may live in the project area will be specifically targeted to become beneficiaries of project components, esp. outputs 1.3 and 1.4. Overall the UN System and other cooperation partners in Guinea are advocating to start moving into a new stage in managing the crises and preventative measures will be more strongly supported. As Ebola transmission from apes (chimpanzees) to humans can be linked to ecosystem degradation, a project like the current can help in supporting ecosystems rehabilitation and improvements.

Refer to [Annex 1](#) for a complete Risk Analysis.

2.6.2 UNDP Social and Environmental Screening (SEP) Results / Safeguards

214. The UNDP Environmental and Social Screening template has been applied to ensure environmental and social safeguards are in place. The full results of the screening are available. According to this checklist, the project is considered Category 3a: Impacts and risks are limited in scale and can be identified with a reasonable degree of certainty and can often be handled through application of standard best practice.

215. Environmental safeguards that have been applied include:
- Compliance with international conventions and agreements ratified by Guinea, e.g. Ramsar Convention
 - Compliance with the existing management plans for the Ramsar site and Classified Forests, and close collaboration with the relevant authorities
 - Application of “best available techniques” for wetlands and forest management, and good environmental management practices during project implementation and operation, notably the phased approach detailed above.
216. These safeguards have been applied during the project design phase, including in the undertaking of the feasibility studies, and will be carried through to project implementation. Refer to [separate file](http://bit.ly/1O2XXU5) (access file by pasting this link into a browser address bar: <http://bit.ly/1O2XXU5>).

2.7 Cost-Effectiveness

217. A number of design options were considered for the project before the final design was proposed. Narrative detail per outcome follows.
218. Under Component 1. Strengthening the resilience of vulnerable communities to climate in selected sites through an ecosystem-based approach four outputs are mentioned.
219. The project design is built on strategic design considerations such as cost effectiveness of demonstration interventions and up-scaling potential to upper governance tiers by being situated in two neighbouring project regions and having selected pair dos RDCs per sub-prefecture. The project has selected only two demonstration areas, minimizing logistics and other costs of engagement. The two areas are indeed quite large and can have a wide strategic impact (especially regarding water resources); at the same time developing outputs that can be adapted elsewhere.
220. Regarding output 1.1, the cost effectiveness of the system developed by the project is assured by:
- Setting up a multi-disciplinary technical team from the two project intervention regions, namely Kankan and Faranah, and convening government, private sector and community representatives from the prefecture, sub-prefecture and RDC levels.
 - Instead of reinventing existing structures, the climate adaptive landscape plan will be linked to existing planning instruments and processes.
 - The intervention dovetails with existing baseline interventions and does not duplicate.
221. Regarding output 1.2, a stakeholder needs assessment will ensure products are well targeted to needs, and for example low cost options are explored. The project is looking for innovative and locally suitable communication channels to disseminate information, e.g. the existing daily radio shows on environmental affairs and climate change. Training materials will be developed which do not rely on holding a training event.
222. Interventions under outputs 1.3 and 1.4 are labor intensive. A project implementation strategy has been designed that will provide “food for work” opportunities for local people, targeting especially women and Ebola survivors. It is known that the project area is mostly inhabited by Muslims, with more than 85% of the population being of that faith, therefore a careful design of the “food for work” approach is followed to ensure that no marginalization of women will take place, whilst respecting the socio-cultural and religious context.
223. Under Component 2. Capacity building and information systems for integration of climate change adaptation into national / regional / local management plans, policies and practices four outputs are planned.

224. Component 2 contributes to the improved targeting of adaptation measures and increase the likelihood that measures will minimize costs. Furthermore the project is working very closely with government and extension services, trying to strengthen the mechanisms that are already in place. The measures under Component 2 are designed to strengthen donor and government/ministry coordination and more generally coordination amongst actors at a regional scale.

225. Ecosystem-based adaptation approaches deliver a range of benefits and co-benefits. This puts it in an advantageous cost-benefit situation when compared to other solutions to climate change (e.g. infrastructural). By considering the need for performance data at the outset of the intervention, the project evaluation framework is structured to collect relevant information. Collecting data on the cost benefit of EBA approaches will provide the evidence base for more targeted investments now and in future.

226. As compared to other options, including non-EBA, the proposed alternative stands out as the most cost-effective and confirms the strategic choices made at concept/PIF stage.

2.8 Gender Considerations and Other Project Benefits, including Innovativeness, Sustainability and Replicability

2.8.1 Gender Considerations

227. Climate resilience building is particularly important amongst vulnerable groups. In Guinea, where 85% of the population are of Muslim faith, women's role in society is determined by strong social norms based on cultural and religious traditions. More specifically, women do not have land tenure rights under customary laws. Fetching water and collecting wood are daily chores that are normally assigned to women in rural contexts, though they may have little say in decisions about the availability and use of key resources such as water and forest. This could limit women's overall influence in decision-making that is relevant for activities on the ground under Component 1. Furthermore, women's general stand in society is constrained by their limited access to schooling and training, which contributes to limited access to leadership positions. As stakeholders, this could constrain their ability to have a say in a number of activities under Component 2. In general, women are considered a vulnerable group in Guinean society.

228. Addressing these constraints rooted in gender disparities and promoting gender equality in the design of this project, guided by national policies, is thereby necessary and has been ensured. Although a small contribution to overall empowerment and emancipation at society's level, these gender considerations and empowerment in this project help Guinea implement its commitments under e.g. the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW). Doing so is furthermore in line with both government policies, among them the 2011 National Gender Policy (*Politique Nationale du Genre*), and UNDP's with programme for the country.

229. In terms of getting women actively engaged with a hands-on EbA and natural resource management programmes, this has ramifications. Special programming efforts are on designing activities in which rural women will be engaged, and the project has deliberately foreseen the specific representation of women in technical platforms and teams. It is important that all project design innovations, including the possible establishment of a "food for work" type approach be implemented and monitored with gender considerations in the cultural and country context. Various indicators will also be monitored according to gender. In the composition of project teams, equal opportunities will be offered. The Box below summarizes some important gender considerations.

Box. Examples of gender focused project design and implementation

The project will make a defined contribution to women's empowerment at the local level, defined as the "*sum total of changes needed for a woman to realize her full human rights – the combined effect of changes in her own aspirations and capabilities, the environment that surrounds and conditions her choices, and the power relations through which she negotiates her path.*"[*] This will be achieved in a manner with which women can feel comfortable, given their own social, cultural and religious context. In other words, through **agency, relations** and **structures** - the project will make a contribution to all three dimensions:

Relations: Power relations through which she negotiates her path

Examples:

- Being involved in local decision-making processes
- Getting recognized (by external groups) as an important stakeholder in natural resource management and adaptation
- Having their issues and ideas heard through a local adaptation process (using good practice in participation)

Agency: Changes in her own aspirations and capabilities

Examples:

- Knowledge of climate trends
- Access to appropriate measures (incl. technologies) for adaptation
- Access to income-generating employment via the HIMO approach**; and, when women are able to earn an income, their families are more likely to benefit

Structures: Environment that surrounds and conditions her choices

Examples:

Gender equitable adaptation planning at local level (and support from national and regional level to implement these plans)

Notes:

* Borrowing from Care International's definition of gender empowerment.

See e.g. <http://www.care-international.org/what-we-do/our-focus-on-women-and-girls.aspx>

** HIMO refers to "Haute Intensité en Main d'Œuvre" or labour intensive works.

2.8.2 Development Benefits

230. Development benefits stemming from this project include, but are not limited to the following:

- National and sub-national capacity in two selected regions (Kankan and Faranah) for dealing with climate risk and addressing climate driven/exacerbated vulnerabilities will be enhanced, not just through the development and use of the system, but also through the training of national and regionally based planners in the application of products from the system.
- Capacity of local stakeholders in the project zones to perceived climate risk and to implement and cost adaptation measures in natural resource management activities and livelihoods development will be significantly enhanced, in particular with respect to the management of wetlands, forests, pasture, fire, hydrological systems and agro-sylvo-pastoral production systems.
- National, regional and sub-regional capacity for mainstreaming climate change adaptation into sectoral planning and investment frameworks with focus on local and regional levels will be increased.
- Collaboration frameworks and partnerships for adaptation with respect to project sites will be consolidated.
- Overall adaptation learning will be enhanced by the dissemination of the project's experience.

231. In the short- to medium-term, this project supports national development goals and plans to achieve **Millennium Development Goals (MDGs) 1, 3, and 7:**

- **MDG 1: Eradicate extreme poverty and hunger** – At least 200,000 people are dependent on forestry, freshwater fishing, livestock rearing, agriculture and small game hunting for their livelihoods in the project area. The LDCF portion of the project will finance the additional costs of maintaining natural assets and related agro-ecological and hydrological services essential to local livelihoods in the face of climate change, including increased climatic variability. In doing so, the overall project will reduce vulnerability to poverty and hunger by generating socio-economic benefits at the national and local levels. The project strategy is slated to bring longer-term socio-economic benefit to involved communities, as opposed to the more short-term ones based on the rapid depletion of natural assets.
- **MDG 3: Promote gender equality and empower women** – Women are a very important group under this project; they are the ones frequently left as heads of households while men migrate for employment. Their role in the management and protection of natural assets (water, forests, fish and wildlife) is critical, though they do not often retain the rights to these resources their importance in managing would suggest. Furthermore, women, children and the elderly are frequently amongst the more vulnerable of the poor, and lacking opportunities for wage-based employment. In the face of climate change, their vulnerability will likely be exacerbated. Hence, women will not only be a key beneficiary of adaptation measures under this project, but they will also play a protagonist role in promoting the mainstreaming of adaptation measures in the local economy. Furthermore, project indicators will be broken-down by gender where applicable and gender concerns incorporated in the planning of specific activities.
- **MDG 7: Ensure environmental sustainability** – The project will ensure a transition to a much more rational use of natural assets and the long-term maintenance of a stream of agro-ecological and hydrological services associated with it, including through adequate landscape-level planning frameworks.

2.8.3 Other co-benefits: Focus on Ebola Survivors

232. A special effort is made to target and specifically include Ebola-affected communities and individual Ebola survivors as project beneficiaries. Attempting to include Ebola survivors in project implementation e.g. a “food for work” programme under outcome 1 is aimed to further immediate development and societal challenges Guinea is facing in the light of overcoming the Ebola crises.

2.8.4 Innovativeness, Sustainability and Replicability

233. Innovation and sustainability is embedded in several activities proposed for the project. The **use of mobile technology** e.g. has become very widespread and accessible in Africa. It is transforming livelihoods throughout the continent and accelerating the delivery of benefits. It will be applied in bushfire management activities under output 1.4 and in communication and outreach activities under all project deliverables.

234. The **‘nature-based solutions’ for erosion control** under output 1.3 will use e.g. use of biodegradable fibre mats, logs, rip-rap, as well as geo-textiles and gabions, but equally the use of vegetation for improving percolation in catchment areas. With current research on new materials and species’ properties, and by applying science and technology for “surgically” selecting sites and techniques, ‘nature-based solutions’ are rather innovative. They are equally more sustainable and likely more cost effective, than infrastructural solutions.

235. For livestock management, it is proposed that the project should build on the results and models promoted by the highly successful UNDP-GEF project PROGEBA. **West African endemic ruminant livestock** is naturally resilient and has many advantages. One disadvantage is that it is often perceived as less productive. However, through innovation and science, PROGEBA is proving it otherwise and pointing out to replicable techniques for making good use of this truly African genetic treasure. The present

project will show how it also applies as a climate change adaptation resource. The same can be said about **the use of livestock movement for regenerating grasslands**, which is innovative and contrary to previous scientific assumptions on land degradation and climate change.³⁹

236. As for the sustainability and replicability of the project, those elements are deeply linked to socio-economic benefits that it is expected to generate and to the training and capacity building activities. Project results will ensure a transition to a more sustainable use of 'natural assets' and the long-term maintenance of a stream of ecosystem services associated with it, including through adequate landscape-level planning and management frameworks. Collaboration with livelihoods-focused programmes will bring socio-economic benefits to local communities targeted by the project. Medium to long-term socio-economic benefits catalysed by the project will include increased land productivity and yields for both cash and food crops, increased fish catch, availability of water resources, more varied and expanded availability of forest resources, reduced fire risks, among others.

237. Finally, by training local stakeholders and decision-makers, and by focusing on women, but also young people as key development protagonists, project beneficiaries have the best chances of becoming multipliers and of securing benefits beyond the direct investment.

2.9 Stakeholder Involvement

238. Participation and engagement are the cornerstones of effective EBA. There are two levels at which participation/engagement will occur (i) within the implementing group; and (ii) the broader constituent group. The implementing group incorporates organizations responsible and accountable for the project and those responsible for activities that influence the project, for example, institutions that have a role in the management of ecosystems. The constituent group includes stakeholders that have an interest in the project areas. Successful progress towards an EBA will require engagement from a broad base of people, to ensure reduction of sectoral barriers, to facilitate trust and information sharing and to allow for high levels of understanding and vision for the project areas.

239. The stakeholders identified during project preparation will continue to be implicated in project implementation. A stakeholder involvement plan has been created to provide a framework to guide interaction between implementing partners and the key stakeholders, particularly end-users to validate project progress.

240. The project's design incorporates activities and mechanisms to ensure on-going and effective stakeholder participation in project implementation:

- Project inception phase and workshop will enable stakeholder awareness of the start of project implementation: The project will be launched by a multi-stakeholder workshop. This workshop will provide an opportunity to provide all stakeholders with the most updated information on the project and the project work plan. It will also establish a basis for further consultation as the project's implementation commences.
- Project Steering Committee to ensure representation of stakeholder interests in project: A Project Steering Committee (PSC) will be constituted to ensure broad representation of all key interests throughout the project's implementation. The representation, and broad terms of reference, of the PSC are further described in Section I, Part III (Management Arrangements) of the Project Document.

³⁹ See e.g. <http://www.savoryinstitute.com>.

- Regional/project zone technical platform to convene project stakeholders from Kankan and Faranah regions and relevant sub-regional entities. Representation of women is a priority.
- Project communications to facilitate on-going awareness of project: The project will develop, implement and maintain a communications strategy to ensure that all stakeholders are informed on an on-going basis about the project's objectives and activities; overall project progress; and the opportunities for involvement in various aspects of the project's implementation.
- Capacity building: Project activities are focused on building the capacity – at the systemic, institutional and individual levels – of the institutions, NGOs, and other stakeholders to ensure the sustainability of initial project investments.

3 Project Results Framework

3.1 Programmatic Links

<p>This project will contribute to achieving the following Country Program Outcome as defined in CPAP: <i>[From UNDAF, Outcome #4]:</i> By 2017, the public and private sectors, local authorities and communities adopt new techniques and behaviours that promote environmental sustainability and that ensure and an improved management and prevention of risk and natural disasters in a context of climate change adaptation</p>
<p>Country Program Outcome Indicators: <i>[Referring to Outputs 5, 7 and 8, under the second pillar]</i> Indicator #4: Percentage of households adopting (climate change) adaptation and mitigation technologies Indicator #5: Number of rural and urban communes applying techniques of (ecosystem) restoration, soil management, forestry and agroforestry</p>
<p>Primary Applicable Key Environment and Sustainable Development Key Result Area (from the UNDP Strategic Plan): Output 1.3: Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste</p>
<p>Applicable GEF (LDCF) Strategic Objective and Program: LDCF CCA-2 – Increasing Adaptive Capacity: Increase adaptive capacity to respond to the impacts of climate change, including variability, at local, national, regional and global level LDCF CCA-1 – Reducing Vulnerability: Reduce vulnerability to the adverse impacts of climate change, including variability, at local, national, regional and global level</p>
<p>Applicable GEF (LDCF) Expected Outcomes: Outcome 1.1: Mainstreamed adaptation in broader development frameworks at country level and in targeted vulnerable areas Outcome 1.2: Reduced vulnerability to climate change in development sectors Outcome 2.1 Increased knowledge and understanding of climate variability and change-induced risks at country level and in targeted vulnerable areas</p>
<p>Relevant GEF (LDCF) Outputs: Output 1.1.1: Adaptation measures and necessary budget allocations included in relevant frameworks Output 1.2.1: Vulnerable physical, natural and social assets strengthened in response to climate change impacts, including variability Output 2.1.2: Systems in place to disseminate timely risk information</p>
<p>Applicable GEF (LDCF) Outcome Indicators: 1.1.1 Adaptation actions implemented in national/sub-regional development frameworks 1.1.1.1 Development frameworks that include specific budgets for adaptation actions 1.2.14 Vulnerability and risk perception index (Score) - Disaggregated by gender 2.1.1 Relevant risk information disseminated to stakeholders 2.1.1.1 Updated risk and vulnerability assessment 2.1.1.2 Risk and vulnerability assessment conducted 2.1.2.1 Type and No. of monitoring systems in place</p>
<p>Gender Marking: Data to be recorded in UNDP's Atlas system by the project's year 2 and by its end:</p> <ul style="list-style-type: none"> - Total number of full-time project staff that are women - Total number of full-time project staff that are men - Total number of Project Board members that are women - Total number of project Board members that are men - The number jobs created by the project that are held by women - The number jobs created by the project that are held by men

3.2 Logframe

#	Indicator*	Baseline	Targets by End of Project	Source of verification	Risks and Assumptions
Project Objective: To reduce the vulnerability of local communities in the Upper Niger River Basin to the additional risks posed by climate change and build their general resilience through an ecosystem-based approach that focuses on watersheds, land-use practices and adaptive capacity.					
1	<p>(CCA TT indicator 1) Number of direct beneficiaries:</p> <p>a) number of people</p> <p>b) % female</p> <p>c) vulnerability assessment (Yes/No)</p> <p><u>Notes on targets for Indicator 1</u></p> <p>(a) Census data estimates a total of 262,000 inhabitants in the 10 sub-prefectures selected as project sites (PRODOC Table 8). Of these, approximately 50,000 were considered as the likely direct project beneficiaries. This target figure may be revised during the project inception.</p> <p>(b) As per PRODOC Table 8, an average of 51.1% of the population in the 10 sub-prefectures selected as project sites are women.</p> <p>(c) Regarding vulnerability, only qualitative assessments were carried out during the PPG stage, but evidence shows that it is high, and that it is both climate and non-climate related. Moderate to severe food insecurity affects approximately 16% of the target population (PRODOC Table 11).</p>	<p>a) 0 (no beneficiaries yet engaged)</p> <p>b) n/a (as indicator 1a = 0)</p> <p>c) no</p>	<p>a) 50,000 in the project zone</p> <p>b) 51% female</p> <p>c) yes, and assessments inform the overall project M&E</p>	<p>Surveys conducted (at project start and end)</p> <p>As proxies, poverty and food insecurity scores/indicators at project sites level</p>	<p><u>Assumptions:</u> Emphasis on broad-based natural and social resilience yields multiple benefits High level of vulnerability are currently due to poverty, resource dependence, but will be aggravated by climate change</p> <p><u>Risk:</u> Uncertainty in climate-related data and projections at regional and local levels provides insufficient parameters for planning adaptation measures</p>

#	Indicator*	Baseline	Targets by End of Project	Source of verification	Risks and Assumptions
2	Adaptation actions implemented in national/sub-regional development frameworks (number and type) – as per <u>sub-indicators</u> below:	<i>Broken down by sub-indicators below</i>	<i>Broken down by sub-indicators below</i>	Project's periodic reports, validated by independent evaluations and reviews	
2a	Adaptation actions implemented with respect to 'knowledge and understanding of climate risk' at the regional level (Kankan & Faranah) and in project zones	0 actions	At least 2 key actions successfully implemented: (1) Climate adaptive landscape plan in place; (2) 40 technocrats from the 2 regions, prefectures, sub-prefectures, RDCs, from public and private service entities, NGOs, CBOs and especially women representatives are members of the technical platform and benefit from capacity building interventions in terms of climate risk management skills.	As above	
2b	Adaptation actions implemented linked to 'Demo activities aimed at vulnerability reduction and resilience strengthening with focus on natural and social assets'	0 actions	At least 4 key actions successfully implemented: (1) wetlands management & restoration in Kankan and Faranah (sites TDB); (2) flood and erosion control, river bank protection and forest enrichment in Kankan and Faranah (sites TDB) ; (3) anticipatory bushfire control Kankan and Faranah (sites TDB); (4) climate resilient livestock management Kankan and Faranah (sites TDB)	As above	

#	Indicator*	Baseline	Targets by End of Project	Source of verification	Risks and Assumptions
Outcome 1: The climate resilience of natural resource dependent livelihoods in project sites is ensured by securing the continued stream of essential agro-ecological and hydrological services upon which they depend					
Output 1.1 Climate adaptive landscape planning for resilience for the Project Zone is carried out in a dynamic and participative fashion.					
Output 1.2 The institutional architecture for implementing the Climate Adaptive Landscape Plan, resulting from Output 1.1, is strengthened including through training, and partnerships to be forged in support of it, in particular at the local level.					
Output 1.3 Climate adaptive watershed rehabilitation is carried out in critical sites in the Upper Niger River sub-basin, from a baseline of limited investments in watershed management that are often 'climatically vulnerable'.					
Output 1.4 Land-use practices are adapted to face climate change challenges, from a baseline of generally resilient ecosystems being gradually degraded.					
3	(CCA TT indicator 2) Type and extent of assets strengthened and/or better managed to withstand the effects of climate change – <i>Broken down by sub-indicators below through PRODOC indicators 4 through 8</i>	<i>Broken down by sub-indicators below</i>	<i>Broken down by sub-indicators below</i>	Project's periodic reports, validated by independent evaluations and reviews	
4	(CCA TT indicator 2a) Surface of degraded land rehabilitated	0 ha	<u>Selected sites (TBD)</u> Approx. 500ha/per year of degraded land is rehabilitated; i.e. min. 3,000 ha in total by project end, as a result of various activities under Outputs 1.3 and 1.4.	As above.	
5	(CCA TT indicator 2b) Surface of "abandoned" land (or land under long-term fallow) are reforested or recuperated to resemble more natural habitats using an ecosystem-based approach	0 ha	<u>Selected sites (TBD)</u> 5,000 ha by project end, as a result of various activities under Outputs 1.3 and 1.4.	As above. Note: It is herein stressed that the project will deliver the initial steps of forest/bushland restoration are started, as it may take at least a decade or more for such ecosystem to reach minimum maturity	

#	Indicator*	Baseline	Targets by End of Project	Source of verification	Risks and Assumptions
6	(CCA TT indicator 2c) Surface of wetlands re-wetted	0 ha	<u>Selected sites (TBD)</u> At least 2 of the 4 Ramsar sites within the project zone, including through the control of the inflow and outflow of water, exact targeted surface remains to be estimated, as a result of Activity 1.4.4 (Climate adaptive rehabilitation re-wetting of selected wetlands)	As above.	
7	(CCA TT indicator 2d) Surface of riverbanks in critical river meanders	0 ha	<u>Selected sites (TBD)</u> As a minimum target of 2,500 ha in critical river meanders will be positively impacted, mostly along riverbanks, as a result of Activity 1.3.2 (Riparian vegetation/ gallery forests rehabilitation)	As above.	
8	(CCA TT indicator 2e) Surface of land subjected to climate adaptive bushfire management	0 ha	<u>Selected sites (TBD)</u> An approximate surface of 90,000 ha of fire-prone 'climate hotspots' forested areas near Mafou Classified Forest is expected to benefit from improved bush-fire management.	As above.	
9	(CCA TT indicator 3) Population benefiting from the adoption of diversified, climate-resilient livelihood options: a) number of people b) % female c) % of the target population	 a) 0 b) n/a c) 0	 a) 50,000 people b) 51% female c) 100% of the target population	Project's periodic reports, validated by independent evaluations and reviews	

#	Indicator*	Baseline	Targets by End of Project	Source of verification	Risks and Assumptions
Outcome 2: Climate adaptive management of ecosystems is integrated into key local and regional planning and policy-making processes					
Output 2.1: Climate risk management and resilience are integrated into natural resource management planning & budgeting carried out by relevant ministries, prefectures and sub-prefectures in the Upper Guinea Region.					
Output 2.2: A geographically based information system for climate information services in the Upper Niger River Basin is established at and maintained through a functional partnership.					
Output 2.3: Local weather stations in Faranah, Kouroussa, Kissidougou, Kankan and Mandiana are rehabilitated and are able to develop and disseminate early warning products to evaluate existing and new climate data.					
Output 2.4: Ecological, economic & social benefits [generated by the project] are documented in the project zone through learning and feedback, using modern, innovative and locally adapted means of communication.					
10	(CCA TT indicator 13) Sub-national plans and processes developed and strengthened to identify, prioritize and integrate adaptation strategies and measures - number of plans/ processes	0 plans / processes; current LDPs do not reflect climate risks or resilience-building strategies	22 plans / processes developed and strengthened to identify, prioritize and integrate adaptation strategies and measures. Development frameworks and strategies that include climate adaptive management measures and budgets: <u>In Kankan:</u> 1 Regional Development Programs (PRDs) and 2 Prefecture-level Development Plans (PPDs) (Kankan and Kouroussa), and 8 RDC level (LDPs) <u>In Faranah</u> 1 Regional Development Programs (PRDs) and 2 Prefecture-level Development Plans (PPDs) (Faranah and Kissindougou), and 8 RDC level (LDPs)	Reviews (of PRDs and PCDs) as part of APRs/PIR Project's periodic reports, validated by independent evaluations and reviews	<u>Risk:</u> Process of revising and adopting PRDs, PPDs and LDPs can be slow for various reasons outside the project's control The establishment of a functional geographically based information system, with focus on the Upper Niger River Basin meets technical challenges due to user capacity constraint

#	Indicator*	Baseline	Targets by End of Project	Source of verification	Risks and Assumptions
11	(CCA TT indicator 6) Risk and vulnerability assessments, and other relevant scientific and technical assessments carried out and updated	0 relevant systems for climate information services in the Upper Niger River Basin	1 relevant geographically based information system, with focus on the Upper Niger River Basin, generates various derived knowledge products (still to be defined and quantified) and it is and maintained through a functional partnership	Project's periodic reports, validated by independent evaluations and reviews	<u>Assumption:</u> Stories/ testimonials from representatives of project intervention sites, target groups or beneficiaries are sufficiently interesting to be portrayed as climate adaptive strategies in Guinea
12	(CCA TT indicator 10) Capacities of regional, national and sub-national institutions to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures - number of institutions a) Number of institutions b) Total score for 5 questions, as per Scoring in the GEF CCA TT Guidelines for Indicator 10	a) 0 (no institutions) b) Total score = 0	a) 14 institutions: 2 Prefectures, 4 sub-prefectures with each 8 villages, national level: Ministry of Environment, Water and Forests, Department of Meteorology b) Total score = 6	Annual consultations conducted from Year 2 on. Project's periodic reports, validated by independent evaluations and reviews	
13	(CCA TT indicator 9) Number of people trained to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures a) number of people b) % female	a) 0 (no people) b) n/a	a) 0 (no people) b) Of the above number, it is expected that at least 30% are female, given gender inclusion in Guinea	Project's periodic reports, validated by independent evaluations and reviews	

#	Indicator*	Baseline	Targets by End of Project	Source of verification	Risks and Assumptions
14	(CCA TT indicator 5) Public awareness activities carried out and population reached	<p>a) 0 = No stories/ testimonials on EbA in Guinea have been produced or disseminated</p> <p>b) 0 people, within the target population, have been reached by public awareness activities carried out by the project</p> <p>c) Of which the percentage of females cannot yet be determined.</p>	<p>a) At least 16 stories/testimonials on EbA from representatives of project intervention sites, target groups or beneficiaries, and these are portrayed as climate adaptive strategies in Guinea</p> <p>b) Approximately 1,000 people in the project zone (i.e. the potential beneficiaries of Activity 1.2.2, on operationalizing the multi-stakeholder platform) are directly reached by project awareness activities, using diverse means of communication</p> <p>c) Of the above number, it is expected that at least 30% are female, given gender inclusion in Guinea</p>	Specific outcome of community learning approach, to be integrated into formal M&E as well as mid-term and end-term evaluations	

* Various indicators are based on the Climate Change Adaptation Tracking Tool. See [separate files in Excel](http://bit.ly/1L9NbHa) and in [printable format](http://bit.ly/1O2XXU5) (access file by pasting these respective links into a browser address bar: <http://bit.ly/1L9NbHa> and <http://bit.ly/1O2XXU5>).

4 Total Budget and Workplan

Atlas Award and ID	00092295 00097080	Atlas Project Title	Ecosystem-Based Adaptation targeting vulnerable communities of the Upper Guinea Region
Atlas Business Unit	GUI10	Implementing Partner under NIM	Ministry of Environment, Water and Forests

Project Comp. / Atlas Activities	Impl. Agent	Fund ID	Donor Name	Atlas. Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Amount Year 6 (USD)	Amount Year 7 (USD)	Total (USD)	Notes
1. On the Ground work	MEEF	62160	GEF-LDCF	71200	International Consultants	30,000	30,000						60,000	1
	MEEF	62160	GEF-LDCF	71300	Local Consultants	20,000	10,000	10,000	10,000	10,000	5,000	5,000	70,000	2
	MEEF	62160	GEF-LDCF	71400	Contractual Services – individ	204,702	424,404	292,827	236,250	236,250	136,250	68,125	1,598,808	3
	MEEF	62160	GEF-LDCF	71600	Travel	20,000	50,000	50,000	50,000	40,000	40,000	30,000	280,000	4
	MEEF	62160	GEF-LDCF	72100	Contractual Services – companies	40,000	420,000	420,000	420,000	210,000	170,000	140,000	1,820,000	5
	MEEF	62160	GEF-LDCF	72200	Equipment and Furniture	130,000	5,000	2,000	2,000	2,000	2,000	2,000	145,000	6
	MEEF	62160	GEF-LDCF	72300	Materials and Goods	50,000	50,000	50,000	50,000	50,000	50,000	50,000	350,000	7
	MEEF	62160	GEF-LDCF	72500	Supplies	10,000	10,000	10,000	10,000	10,000	10,000	10,000	70,000	8
	MEEF	62160	GEF-LDCF	72600	Grants	0	185,000	185,000	185,000	185,000	185,000	0	925,000	9
	MEEF	62160	GEF-LDCF	72800	IT equipment	20,000	5,000	5,000	5,000	5,000	5,000	5,000	50,000	10
	MEEF	62160	GEF-LDCF	73100	Rental & maintenance premises	10,000	10,000	10,000	10,000	10,000	10,000	10,000	70,000	11
	MEEF	62160	GEF-LDCF	73200	Premises alterations	20,000							20,000	12
	MEEF	62160	GEF-LDCF	73400	Rental & maint. of other equipment	10,000	10,000	10,000	10,000	10,000	10,000	10,000	70,000	13
	MEEF	62160	GEF-LDCF	74100	Professional service	20,000	20,000	20,000	20,000	20,000	20,000	20,000	140,000	14
	MEEF	62160	GEF-LDCF	74200	Audio Visual & Print Costs	5,000	5,000	20,000	20,000	20,000	20,000	40,000	130,000	15
	MEEF	62160	GEF-LDCF	74500	Miscellaneous Expenses	3,692	5,000	5,000	5,000	5,000	5,000	5,000	33,692	16
	MEEF	62160	GEF-LDCF	75700	Training, workshops & conferences	50,000	80,000	80,000	80,000	80,000	80,000	80,000	530,000	17
					sub-total GEF	643,394	1,319,404	1,169,827	1,113,250	893,250	748,250	475,125	6,362,500	
2. Planning, Policies and Capacities	MEEF	62160	GEF-LDCF	71200	International Consultants	10,000	0	0	50,200	0	0	50,200	110,400	18
	MEEF	62160	GEF-LDCF	71400	Contractual Services – individ	9,375	18,750	18,750	18,750	18,750	118,750	9,375	212,500	3
	MEEF	62160	GEF-LDCF	71600	Travel	5,000	5,000	5,000	5,000	5,000	5,000	5,000	35,000	4
	MEEF	62160	GEF-LDCF	72100	Contractual Services – companies	40,000	40,000	25,000	25,000	25,000			155,000	19
	MEEF	62160	GEF-LDCF	72200	Equipment and Furniture	380,000	5,000	5,000	5,000	5,000			400,000	20
	MEEF	62160	GEF-LDCF	74200	Audio Visual & Print Costs		15,000	15,000	40,000	15,000	15,000	50,000	150,000	15
	MEEF	62160	GEF-LDCF	74500	Miscellaneous Expenses	4,600	5,000	5,000	5,000	5,000	5,000	5,000	34,600	16
	MEEF	62160	GEF-LDCF	75700	Training, workshops & conferences	15,000	25,000	25,000	25,000	25,000	25,000	25,000	165,000	17
					Sub-total GEF	463,975	113,750	98,750	173,950	98,750	168,750	144,575	1,262,500	

Project Comp. / Atlas Activities	Impl. Agent	Fund ID	Donor Name	Atlas Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Amount Year 6 (USD)	Amount Year 7 (USD)	Total (USD)	Notes
3. Project Mgt	MEEF	62160	GEF-LDCF	71400	Contractual Services – individ	23,542	47,083	47,083	47,083	47,083	47,084	23,542	282,500	3
	MEEF	62160	GEF-LDCF	71600	Travel	1,000	2,800	2,800	2,800	2,800	2,800	1,000	16,000	4
	MEEF	62160	GEF-LDCF	72500	Supplies	1,000	1,000	1,000	1,000	1,000	1,000	1,000	7,000	8
	MEEF	62160	GEF-LDCF	73400	Rental & Maint of Other Equip	1,000	1,000	2,000	3,000	3,000	3,000	4,000	17,000	21
	MEEF	62160	GEF-LDCF	74100	Professional service	3,000	3,000	3,000	3,000	3,000	3,000	3,000	21,000	22
	MEEF	62160	GEF-LDCF	74200	Audio Visual & Print Costs	2,000	2,000	2,000	2,000	2,000	2,000	2,000	14,000	15
	MEEF	62160	GEF-LDCF	74500	Miscellaneous Expenses	1,500	3,000	3,000	3,000	3,000	3,000	1,000	17,500	16
Sub-total GEF						33,042	59,883	60,883	61,883	61,883	61,884	35,542	375,000	
PROJECT TOTAL						1,140,411	1,493,037	1,329,460	1,349,083	1,053,883	978,884	655,242	8,000,000	

#	Budget Notes
1	Start-up EBA consultancy: Ecosystem-based Adaptation expert for (20 weeks, 16 of which in country, at approx. \$3K/week) supporting for adaptation planning and project inception foreseen under Output 1.1 and output 1.2 on developing a climate change adaptive landscape plan and institutional set-up in support thereof. Focus on indicator validation and data collection needs. See brief TOR in Annex 5.
2	Stakeholder Engagement: Local consultancy (70 weeks over 7 years, at approx. \$1k/week, including of all expenses) on developing a dedicated stakeholder and target group engagement strategy, conceptualizing especially how to best address gender, the integration of ebola survivors into project delivery, as well as conducting demand-articulation consultations. Advises service providers budget notes 8 and 9). The work will straddle across both components, but focuses in particular on outputs 1.1 and 2.1. See brief TOR in Annex 5.
3	National Project Manager: 6.5-year assignment, at \$45K per year, indicatively and for budgeting purposes. This considers time for recruitment, but noting that up to 7 years have been budgeted for, which is the project's total expected duration, and as a reserve of funds. Tasks are managerial at roughly 10-15% and 85-90% technical. Hence, the budget was thus allocated: 50% under Component 1, 36% under Component 2 and 14% under PCM. See TOR in Annex 5.
	Int. Technical Advisor, Project Deputy Coordinator & Mentor for the Jumelage Professional Training Scheme (P4 position for 2 years, at \$265K per year, based on 2015 applicable proforma costs, spread across years 1, 2 and 3). See TOR in Annex 5.
	Int. Technical Advisor, Project Deputy Coordinator & Mentor for the Jumelage Professional Training Scheme. IC position for 3 years, covering years 4 through 6, on a pro rata basis between Component 1 (two-thirds) and Component 2 (one third), at \$100K per year, indicatively and for budgeting purposes. See TOR in Annex 5.
	Field Activity Coordinator x 2 positions: 6.5-year assignment each, totalling 13 person-year at \$35.4K per year per person, indicatively and for budgeting purposes. See TOR in Annex 5.
	Project national engineer, to provide critical inputs during construction years (years 1, 2 and 3) on 50% part-time basis at \$25K per year, indicatively for a part-time input, and for budgeting purposes. Main contribution will be to outputs 1.3 and 1.4. See TOR in Annex 5.
	Project national database specialist to provide critical inputs to the establishment of key e-tools and the planning on-time basis for 6 years at \$30K per year, indicatively an for budgeting purposes. See TOR in Annex 5.
	Procurement and Accounting Manager over a 6.5-year assignment budgeted for considering time for recruitment, at \$40K per year,, indicatively and for budgeting purposes. Tasks are managerial, hence the budget amount and note for this post applies only to project management costs, rather than the components. See TOR in Annex 5.
4	Travel costs in connection with project activities under this Component, incl. PSC meetings and site visits.
5	Service provision contract (national procurement) to implement activities under Output 1.1 & 1.2.: developing a climate change adaptive landscape plan and institutional set-up in support thereof.
	Service provision contract (national or international procurement - hydraulics & forestry engineering) to implement activities under Output 1.3 (at indicatively \$750K) and under Output 1.4 (at indicatively \$770K), applying a “Food for work” delivery approach.
6	Office furniture and IT equipment to the project team at large.
	Project all-terrain vehicles (x2).

#	Budget Notes
7	Supplies, fuel, vehicle spare parts, light field equipment, including protection, and other materials.
8	Various supplies, stationary, camping materials and water purification etc. under this component.
9	Grant to a specialised service provider (as a university or other centre of excellence, national, international or preferably a consortium of both) to be tendered out for engaging young professionals x 4 per year for the 5-year Jumelage scheme. See all details for the TOR in Annex 5. The grants budget to CSOs will be managed following UNDP policy on Micro-Capital Grants
	Grant to a specialised service provider (as a UN Agency or NGO) to roll out the Food for work scheme under the project: Up to 200 workers (indicatively) in the project zone for up to 6 months per year for a maximum of 5 years. This will be a key input into Activities under Outputs 1.33 and 1.4. In Guinea, WFP is likely best situated to handle the job as they already have experience. Decision on how to roll-out the scheme will be done during the project appraisal committee. Specific TOR still to be developed upon inception. Any grants budget to CSOs will be managed following UNDP policy on Micro-Capital Grants.
10	IT equipment to the project team in the field , plus peripherals and supplies.
11	Utility bills in offices provided by the State/lessor. Rental of external rooms as needed to accommodate service providers in the field or other needs.
12	Renovation of office space.
13	Vehicle maintenance and rental of heavy duty equipment for water and forestry works.
14	Comms consultant. TOR to be developed. May also be a UNDP secondment.
15	Comms videos, applying storytelling approach etc., but also ongoing communication costs, including cell phone contracts or airtime and internet connectivity.
16	Miscellaneous costs: insurance, bank charges, security and other blended costs.
17	Workshop and meeting costs (bulk) under this component for supporting various activities, especially on the field level, but also for the PSC.
18	Int. Consultant: M&E expert, conceptualizing M&E approach and lessons learnt concept from project onset (at approx. \$3K/week). See brief TOR in Annex 5.
	Two (x2) consultancies with standard ToR for UNDP-GEF evaluations: Mid-term Review and Project Terminal evaluation. Lump-sum amount for budgeting purposes is \$40K for each consultancy.
19	Service provision contract (International Procurement) to support the establishment of a GIS based information systems Output 2.1 – 2.2, and developing a workable system between various institutions.
20	Weather stations and support equipment, installation and maintenance DNM – 4 stations (Kankan, Kouroussa, Faranah, Kissidougou).
21	Maintenance of vehicles and project machinery.
22	Project annual audit.

5 Management Arrangements

5.1 Project implementation arrangement

241. The project will be implemented over a period of seven years (84 months) through UNDP National Implementation Modality (NIM) and Harmonized Approach to Cash Transfer (HACT) procedures. The project will be executed by the Ministry of Environment, Water and Forests (MEEF) via the National Directorate of Water and Forests. Execution includes coordinating action on the ground and in the capital, engaging partners and service provider, including those that will be directly tasked with implementation, while also closely monitoring the project and reporting according to procedures. Due to the geographical distance the capital and the project zone, project activities will be implemented under the single national Project Management Unit (PMU), which will be situated in the project zone, either based in Faranah or Kankan (TBD). Project implementation will be overseen by a Project Steering Committee (PSC) described below..

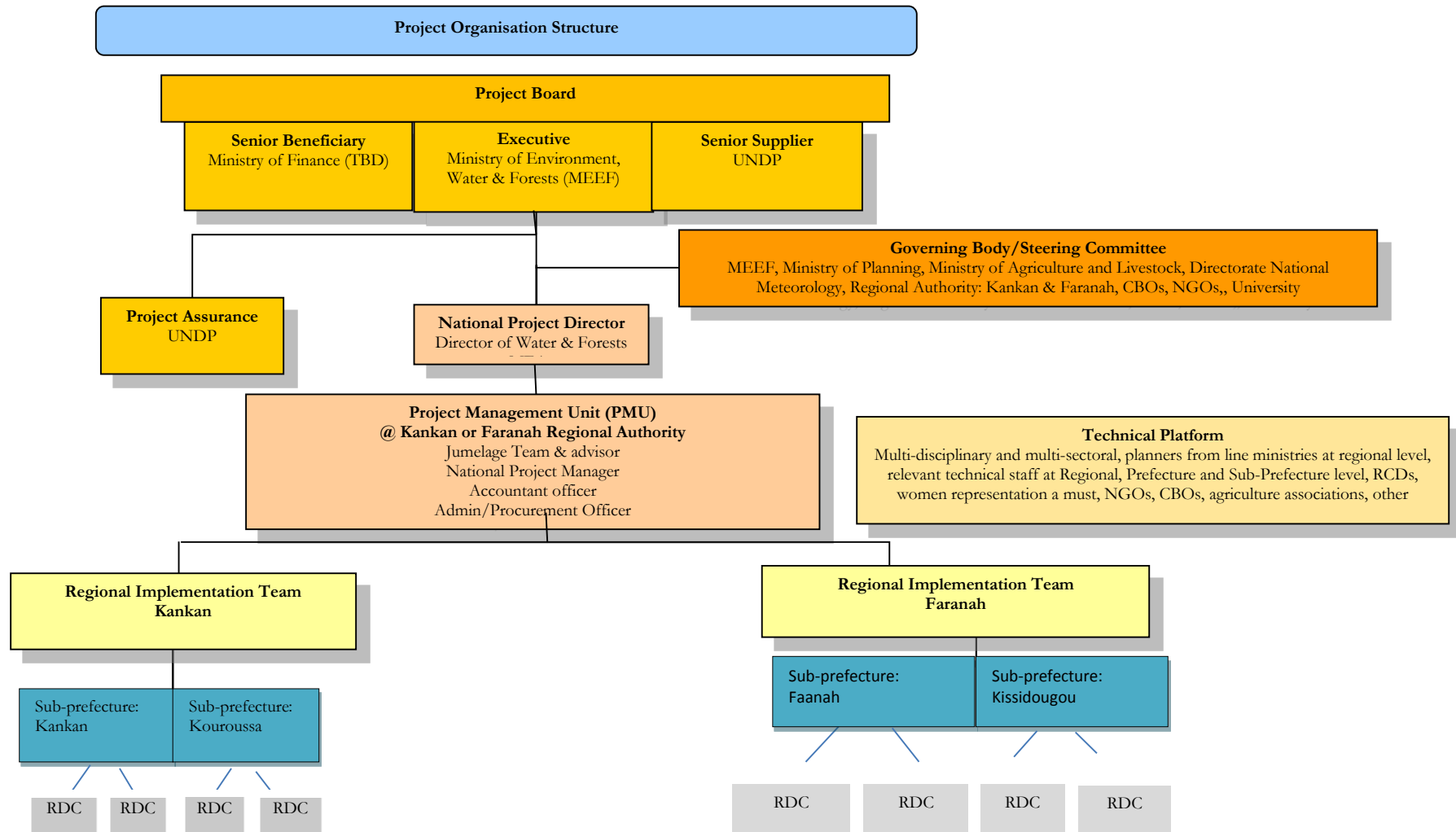
242. The **Project Board** is responsible for making management decisions for a project in particular when guidance is required by the Project Manager. The Project Board plays a critical role in project monitoring and evaluations by quality assuring these processes and products, and using evaluations for performance improvement, accountability and learning. It ensures that required resources are committed and arbitrates on any conflicts within the project or negotiates a solution to any problems with external bodies. In addition, it approves the appointment and responsibilities of the Project Manager and any delegation of its Project Assurance responsibilities. Based on the approved Annual Work Plan, the Project Board can also consider and approve the quarterly plans (if applicable) and also approve any essential deviations from the original plans.

243. In order to ensure UNDP's ultimate accountability for the project results, Project Board decisions will be made in accordance to standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition. In case consensus cannot be reached within the Board, the final decision shall rest with the UNDP Project Manager.

244. Potential members of the Project Board are reviewed and recommended for approval during the PAC meeting. Representatives of other stakeholders can be included in the Board as appropriate. The Board contains three distinct roles, including: (1) **An Executive**: the individual representing the project ownership to chair the group, which will be the MEEF. (2) The **Senior Supplier**: individual or group representing the interests of the parties concerned which provide funding for specific cost sharing projects and/or technical expertise to the project. The Senior Supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project. In the case of this project this will be UNDP. (3) The **Senior Beneficiary**: individual or group of individuals representing the interests of those who will ultimately benefit from the project. The Senior Beneficiary's primary function within the Board is to ensure the realization of project results from the perspective of project beneficiaries. This is the Ministry of Finance (TBD), on behalf of the Government of Guinea.

245. The **Project Assurance** role supports the Project Board Executive by carrying out objective and independent project oversight and monitoring functions. The Project Manager and Project Assurance roles should never be held by the same individual for the same project. UNDP fulfills the Project Assurance role.

Figure 8: Project implementation organigram



246. UNDP will monitor the project's implementation and achievement of the project outputs, and ensure the proper use of UNDP-GEF funds. Day-to-day operational oversight will be ensured by the UNDP Country Office (CO) for Guinea, and strategic oversight by the UNDP-GEF Regional Technical Advisor (RTA) responsible for the project. The UNDP CO will be responsible for: (i) providing financial and audit services to the project; (ii) recruitment and contracting of project staff; (iii) overseeing financial expenditures against project budgets; (iv) appointment of independent financial auditors and evaluators; and (v) ensuring that all activities, including procurement and financial services, are carried out in strict compliance with UNDP and GEF procedures.

247. Day-to-day management of the project will be undertaken by a National Project Manager (PM). The PM will be located in one of the two project regions, either Kankan or Faranah, respectively, housed by the Regional Authority. UNDP will provide administrative and financial management support to the PM. The Project Manager's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost. The Project Manager will liaise and work closely with all partner institutions to link the project with complementary regional and national programs and initiatives. The Project Manager will be recruited using the applicable procedures under NIM. The terms of reference for the PM and of other key project staff/consultants are detailed in [Annex 5](#).

248. The National Project Management Unit (PMU) will also consist of staff and consultants:

- The Technical Jumelage Team, which includes a senior mentor (the CTA), who will also serve as deputy to the PM, plus national and international young professionals within various expertise areas;
- A procurement and accounting manager;
- A support staff as appropriate.

249. Under the supervision of the PSC, the PMU has the following main responsibilities:

- Coordination and management of the project and its two regional 'sub-projects';
- Developing work plans and consolidated annual budgets;
- Preparation of technical reports and periodic financial reports;
- Managing relationships with donors and project partners and monitoring the implementation of co-financing arrangements;
- Supporting the strategic partners of the PSC;
- Capacity building of stakeholders;
- Monitoring and evaluation of project activities;
- Policy analysis and development strategies in the light of the results of the project;
- The design and implementation of a communication strategy for the project; and
- Resource mobilization.

250. At the national level, the PMU interacts with the Government, UN agencies and other international development agencies interested donors, competent national institutions in the areas covered by the project and field partners (local authorities, NGOs, private sector, etc.). It reports to the Government, to UNDP, and other partners, using the governance channels established by the project.

251. At the regional level, two local branches (or regional satellite offices) (in fact only one office will be needed in the region which will not house the PMU) of the project will be installed. The Regional Teams will work under the supervision of the National Project Manager to achieve the objectives planned by the project in each area. They will manage resources accordingly the project using procedures specific to the project and the terms of any applicable partnership agreements.

252. The regional satellite offices will each also be staffed by the project with: a minimum of support staff as appropriate and a Jumelage Team.

253. At the technical level, regional satellites will meet with all stakeholders that are part of the devolved and decentralized operational relationships necessary to achieve the goals of the project in their respective areas. In this sense, it will be the face of the project at regional level. With all the prefecture, sub-prefecture and local authorities involved in the implementation of field activities, memoranda of understanding will be developed to define the conditions of implementation of activities, roles and responsibilities within the project.

254. A Project Steering Committee (PSC) will be constituted to serve as the project's coordination and decision-making body. The PSC will ensure that the project remains on course to deliver the desired outcomes of the required quality, and promotes the necessary synergies between the different components of the project with other Government initiatives, including programs funded by the GEF. The PSC will be chaired by Secretary General/Permanent Secretary of MEEF or the Project Director, in its role as the project 'executive'. The role of the 'executive' is to ensure that the project is focused on achieving its outputs and that the project adopts a cost-conscious approach. The PSC provides policy, political and technical support to the project. As such, it ensures the consistency of the project objectives with national policies and initiatives, evaluates and approves work plans and budgets. The PSC will meet on a half-yearly basis to discuss work plans and annual budgets, evaluate on-going actions and validate the annual project reports being prepared. The members of this Committee are comprised of representatives of government departments and partners, including donors, interested and/or involved in the implementation of the project. The exact composition of the PSC will be proposed and approved by the Government and UNDP at project inception, with membership at a level of responsibility that encourages the necessary buy-in from the institution.

255. Indicatively, the Steering Committee will be composed of up to 20 representatives :

- The Ministry of Environment, Water and Forests: 2 members
- Line ministries respectively responsible for agriculture, livestock, decentralization, finance and planning: 1 member each.
- UNDP: 1 member
- Governor/Chairman of each Regional Council concerned by the project or its representative: 1 member per region
- The head of each of the four Prefectures (Kankan, Kouroussa, Fanarah, Kissidougou), the head of the selected sub-prefectures: 12 members
- Representatives from the RDCs: possibly on a rotating basis = up to 4 members
- The representative of an NGO or CBO partner from each project area: 2 members
- Representatives from University/think tanks: up to 2 members

256. Project Management Unit provides the secretariat for the Steering Committee. The Project Manager and two Regional Team members participate in meetings of the Steering Committee.

257. The Project Manager will prepare the Annual Work Plan (AWP) and Annual Budget Plan (ABP) each year for the project. The AWP and ABP will be approved by the PSC at the beginning of each year. These plans will provide the basis for allocating resources to planned activities. Once the PSC approves the AWP this will be sent to the UNDP Country Office and the UNDP Regional Technical Advisor for Biodiversity at the GEF Regional Coordinating Unit in Addis Ababa (Ethiopia) for clearance. Once the AWP and ABP is cleared by the Regional Coordinating Unit it will be sent to the UNDP/GEF Unit in New York for final approval and release of the funding, which will be channeled through the UNDP Country Office. The PM will, with the inputs of ICS, further produce quarterly operational reports and Annual Progress Reports (APR; this will be combined with the PIR) for review by the PSC, or any other reports at the request of the PSC. These reports will summarize the progress made by the project versus the expected results, explain any significant variances, detail the necessary adjustments and be the main reporting mechanism for monitoring project activities. A calendar for the clearance and approval of work

plans, requests for financial advances, financial reporting and technical reporting will be developed and agreed at the LPAC.

258. Regarding coordination with other initiatives, a number of other national institutions will play a pivotal role in the implementation project due to their mandate in the management of resources like water, land, forests, livestock, etc., alongside with NGOs, CSOs and other stakeholders, such as local authorities, community groups, CBOs, alongside producer associations, as they can bring the project's activities closer to immediate resource users. In this manner, herdsman/women, local leaders and existing community organizations, women's groups, producers and farmers' associations, will be engaged and strengthened in their capacity to implement climate change adaptation measures.

6 Monitoring Framework and Evaluation

259. Given that the project is very innovative in approach, its monitoring and evaluation deserve special attention and consideration. While EBA is gaining increased attention; there is limited evidence to guide users in the selection of the most appropriate options for their context. Consequently, while the evidence base is developed, it is vital that a learning-by-doing approach is adopted – and this is important at the overall project management level but more importantly at the site level. This approach advocates for constant reflection on EBA initiatives to inform change of course both during project implementation and also to continue to collect lessons post implementation that will facilitate longer-term adaptive management. Principles for monitoring EBA projects that are currently in development (e.g. by the UNEP-UNDP-IUCN EBA Flagship) will be taken on board as they are available.

260. The project design makes room for community learning, as well as using a qualitative story telling approach to gauge project impacts beyond the formal RBM-type project evaluations. This is considered a critical contribution not contributing to a meaningful EbA Learning framework globally. The Mid-Term and End-term evaluations of this project should be adjusted to include a story telling component for distilling critical lessons learnt.

261. The project will be monitored through the following M&E activities. The M&E budget is provided in the table below. The M&E framework set out in the Project Results Framework (Part 3 of this project document) is aligned with the AMAT and UNDP's M&E frameworks.

262. **Project start:** A Project Inception Workshop will be held within the first 2 months of project start with those with assigned roles in the project organization structure, UNDP country office and where appropriate/feasible regional technical policy and program advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan. The **Inception Workshop** should address a number of key issues including:

- Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of UNDP CO and Regional Coordinating Unit (RCU) staff (i.e. UNDP-GEF Regional Technical Advisor) vis-à-vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff will be discussed again as needed.
- Based on the project results framework and the LDCF related AMAT set out in the Project Results Framework (Part 3 of this project document), and finalize the first annual work plan. Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks.
- Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled.
- Discuss financial reporting procedures and obligations, and arrangements for annual audit.
- Plan and schedule Steering Committee meetings. Roles and responsibilities of all project organization structures should be clarified and meetings planned. The first Steering Committee meeting should be held within the first 12 months following the inception workshop.

An **Inception Workshop report** is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

263. Quarterly:

- Progress made shall be monitored in the UNDP Enhanced Results Based Management Platform.
- Based on the initial risk analysis submitted, the risk log shall be regularly updated in ATLAS.
- Risks become critical when the impact and probability are high. Note that for UNDP/GEF projects, all financial risks associated with financial instruments such as revolving funds, microfinance schemes, or capitalization of ESCOs are automatically classified as critical on the basis of their innovative nature (high impact and uncertainty due to no previous experience justifies classification as critical).

- Based on the information recorded in Atlas, a Project Progress Reports (PPR) can be generated in the Executive Snapshot.
- Other ATLAS logs will be used to monitor issues, lessons learned. The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

264. **Annually:** Annual Project Review/Project Implementation Reports (APR/PIR): This key report is prepared to monitor progress made since project start and in particular for the previous reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements.

The APR/PIR includes, but is not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative)
- Project outputs delivered per project outcome (annual).
- Lesson learned/good practice.
- AWP and other expenditure reports
- Risk and adaptive management
- ATLAS QPR

265. **Periodic Monitoring** through site visits: UNDP CO and the UNDP-GEF region-based staff will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the Project Board may also join these visits. A Field Visit Report/BTOR will be prepared by the CO and UNDP RCU and will be circulated no less than one month after the visit to the project team and Project Board members.

266. **Mid-term of project cycle:** The project will undergo an independent Mid-Term Review at the mid-point of project implementation (expected to be in July 2017). The Mid-Term Review will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term review will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term review will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit (RCU) and UNDP-GEF. The LD/CCF/SCCF AMAT as set out in the Project Results Framework (Part 3 of this project document) will also be completed during the mid-term evaluation cycle.

267. **End of Project:** An independent Terminal Evaluation will take place three months prior to the final PB meeting and will be undertaken in accordance with UNDP-GEF guidance. The terminal evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term review, if any such correction took place). The terminal evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF. The LD/CCF/SCCF AMAT as set out in the Project Results Framework in Section III of this project document) will also be completed during the terminal evaluation cycle. The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response, which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Center (ERC).

268. **Learning and knowledge sharing:** Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.

269. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned.

The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects.

270. There will be a two-way flow of information between this project and other projects of a similar focus.

Table 12: Project Monitoring and Evaluation workplan and budget

Type of M&E activity	Responsible Parties	Budget US\$ Excluding project team staff time	Time frame
Inception Workshop and Report	Project Manager PMU (Project Management Unit) UNDP CO, UNDP GEF	Indicative cost: \$20,000	Within first two months of project start up with the full team on board
Measurement of Means of Verification of project results.	UNDP GEF RTA/Project Manager will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members. PMU, esp. M&E expert	To be finalized in Inception Phase and Workshop. Specifically include “soft” and qualitative approaches such as story telling in design.	Start, mid and end of project (during evaluation cycle) and annually when required.
Measurement of Means of Verification for Project Progress on output and implementation	Oversight by Project Manager PMU, esp. M&E expert Implementation teams	To be determined as part of the Annual Work Plan's preparation. Indicative cost is \$50,000	Annually prior to ARR/PIR and to the definition of annual work plans
ARR/PIR	Project manager PMU UNDP CO UNDP RTA UNDP EEG	None	Annually
Periodic status/ progress reports	Project manager and team	None	Quarterly
Mid-term Review	Project manager PMU UNDP CO UNDP RCU External Consultants (i.e. evaluation team)	Indicative cost: \$40,000 Specifically include “soft” and qualitative approaches such as story telling in design	At the mid-point of project implementation.
Terminal Evaluation	Project manager PMU UNDP CO UNDP RCU External Consultants (i.e. evaluation team)	Indicative cost : \$40,000 Specifically include “soft” and qualitative approaches such as story telling in design	At least three months before the end of project implementation

Type of M&E activity	Responsible Parties	Budget US\$ Excluding project team staff time	Time frame
Audit	UNDP CO Project manager PIU	Indicative cost per year: \$3,000 (\$21,000 total)	Yearly
Visits to field sites	UNDP CO UNDP RCU (as appropriate) Government representatives	For GEF supported projects, paid from IA fees and operational budget	Yearly for UNDP CO, as required by UNDP RCU
TOTAL indicative COST Excluding project team staff time and UNDP staff and travel expenses		US\$ 171,000	

7 Legal Aspects

7.1 Legal context

271. This document together with the CPAP signed by the Government and UNDP which is incorporated by reference constitute together a Project Document as referred to in the SBAA and all CPAP provisions apply to this document.

272. Consistent with the Article III of the Standard Basic Assistance Agreement, the responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP's property in the implementing partner's custody, rests with the implementing partner.

The implementing partner shall:

- a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
- b) assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

273. The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via:

<http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm>. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

7.2 Audit Clause

274. Audit will be conducted according to UNDP Financial Regulations and Rules and applicable Audit policies.

7.3 Communications and visibility requirements

275. Full compliance is required with UNDP's Branding Guidelines. These can be accessed at [\[Link\]](#) and specific guidelines on UNDP logo use can be accessed at [\[Link\]](#). Amongst other things, these guidelines describe when and how the UNDP logo needs to be used, as well as how the logos of donors to UNDP projects needs to be used. For the avoidance of any doubt, when logo use is required, the UNDP logo needs to be used alongside the GEF logo. The GEF logo can be accessed at: [\[Link\]](#). The UNDP logo can be accessed at [\[Link\]](#).

276. Full compliance is also required with the GEF's Communication and Visibility Guidelines (the "GEF Guidelines"). The GEF Guidelines can be accessed at: [\[Link\]](#). Amongst other things, the GEF Guidelines describe when and how the GEF logo needs to be used in project publications, vehicles, supplies and other project equipment. The GEF Guidelines also describe other GEF promotional

requirements regarding press releases, press conferences, press visits, visits by Government officials, productions and other promotional items.

277. Where other agencies and project partners have provided support through co-financing, their branding policies and requirements should be similarly applied.

278. Given the nature of this project and its focus on knowledge products, UNDP-GEF and UNEP will discuss and collaborate branding issues pertaining to these products and reach agreement prior to their launching.

8 References

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9 Annexes

Annex 1: Risk Analysis

#	Description	Date Identified	Type	Impact, Probability and Risk Assessment	Countermeasures / Management response
1	Low capacity of local authorities and staff of decentralized institutions to support sustainable management of natural resources	March 2015	Organizational	I = Medium P = Likely Risk = Medium	The project intends to strengthen capacities of local authorities through training and will invest, where possible and through implementing partners, in awareness raising campaigns, building local capacities, introducing alternative technologies and production methods. The project will work with other projects and programmes active at project site level on a plethora of sustainable livelihoods activities.
2	Low political will of Prefectures authorities to adjust adopt landscape governance through planning and policies, strategies and programmes	March 2015	Strategic	I = Medium P = Mod. Likely Risk = Low	Involvement of key political players on both national and regional level to ensure opportunities and benefits from mainstreaming climate change adaptation into broader policy frameworks are understood and used accordingly. They will be trained and capacitated as a measure to instigate their interest in the project and foster support.
3	Low commitment of targeted vulnerable rural communities	At PIF stage	Organizational	I = High P = Mod. Likely Risk = Medium	A participatory approach, including site-visits, interviews and consultations with local communities to identify needs and assess priorities will be applied in various project

#	Description	Date Identified	Type	Impact, Probability and Risk Assessment	Countermeasures / Management response
					activities. Careful planning will be carried out. Safeguards will be upheld.
4	Women's engagement in leading change and in land-use practices, which is encouraged by the project, may be constrained by types of behaviours are generally considered acceptable, appropriate or desirable for women in a mostly Muslim society	At PIF stage	Organizational	I = Medium P = Mod. Likely Risk = Low (unchanged since PIF stage)	The project aims to specifically engage women in its implementation and as beneficiaries as a means of fostering gender equality in the share of development and adaptation benefits. The community-based EbA demonstrations are planned to be carried out through "food for work" type of designs and approaches. It is clear that a special design is needed to ensure that such an approach will be culturally acceptable. A specific activity in this regard is included under component 1.
5	Targeting Ebola-affected communities and survivors may create barriers	March 2015	Operational	I = Low P = Mod. Likely Risk = Low	Similarly the focus to empower communities affected by Ebola, including survivors of the virus, as project beneficiaries and parts of the "food for work" implementation approach can create barriers due to the social stigma faced by Ebola-survivors. The project design has built in a dedicated planning and consultation activity under component 1 in this regard.
6	Guinea is currently recovering from several years of civil rests and political instability. While the situation is currently calm, the	At PIF stage	Political	I = High P = Likely Risk = High	First of all, the advice from UN Security in situations of tension and insecurity will be respected to the letter. The Regional Bureau for Africa within UNDP also steps in and supports Country Offices to assess project specific risk

#	Description	Date Identified	Type	Impact, Probability and Risk Assessment	Countermeasures / Management response
	political and social situation is still fragile				and propose measures. One recommendation may be to change the modality to direct implement
7	Inadequate land and forest regulations could create disincentives to sustainable and long-term land-use planning at the community level and be an obstacle to the adoption of climate resilient management of natural resources	At PIF state	Regulatory	I = Low P = Mod. Likely Risk = Low	The project will support the development of community based forest and watershed management plans that will regulate the access and use of natural resources. These custom laws will compensate the absence of appropriate land and forest regulations. Also the experience and knowledge generated from their application could promote the strengthening of the regulation framework at national level necessary to promote sustainable and long-term land-use planning at the community level. Finally, the project will collaborate with other initiatives focusing on the policy reform.
8	Guinea is a least developed country and among the ten poorest countries in the world. This means that there are only very limited financial resources available. Combined with bad infrastructure, this increases overall project delivery costs and poses extra challenges	At PIF stage	Financial	I = High P = Mod. Likely Risk = Medium	The project will need to allocate sufficient funds to the implementation of specific activities and manage the project in such a way that these challenges will be addressed without jeopardizing the overall success.

#	Description	Date Identified	Type	Impact, Probability and Risk Assessment	Countermeasures / Management response
9	Guinea has been hit by an Ebola outbreak that has resulted in economic isolation of the country and the region. It also means that most development aid has been re-channelled into emergency Ebola projects, leaving other sectors unattended. If the Ebola outbreak cannot remain contained, it is likely that international actors will disappear from the scene.	March 2015	Financial	I = high P = likely R = high	The project seeks to align itself with overall development priorities and projects, including emergency aid for people affected by the Ebola outbreak. Ebola survivors who may live in the project area will be specifically targeted to become beneficiaries of project components, esp. outputs 1.3 and 1.4. Overall the UN System and other cooperation partners in Guinea are advocating to start moving into a new stage in managing the crises and preventative measures will be more strongly supported. As Ebola transmission from apes (chimpanzees) to humans can be linked to ecosystem degradation, a project like the current can help in supporting ecosystems rehabilitation and improvements.
Summary		9 risks	Environmental = 0 Financial = 2 Operational = 1 Organizational = 3 Political = 1 Regulatory = 1 Strategic = 1 Other = 0	Critical = 0 High = 2 Medium = 3 Low = 4	Overall assessment of risk level = Moderate

Table 13: Risk Assessment Matrix

Risk Typology:						
	<ul style="list-style-type: none">EnvironmentalFinancialOperational	<ul style="list-style-type: none">OrganizationalPoliticalRegulatory	<ul style="list-style-type: none">StrategicOther			
	Impact					
Probability		CRITICAL	HIGH	MEDIUM	LOW	NEGLIGIBLE
	CERTAIN / IMMINENT	Critical	Critical	High	Medium	Low
	VERY LIKELY	Critical	High	High	Medium	Low
	LIKELY	High	High	Medium	Low	Negligible
	MODERATELY LIKELY	Medium	Medium	Low	Low	Negligible
	UNLIKELY	Low	Low	Negligible	Negligible	Considered to pose no determinable risk

Annex 2: Preliminary NGO registry for the project zone

Liste des ONG évoluant à Faranah Mandiana, Kouroussa et Kissidougou:

N°	Denomination	Sigle	Préfecture	Contact Email
1	Association des jeunes au service de l'humanité	AJSH	Faranah	Camara10@ yahoo.fr Ajsh.200831@yahoo.com
2	Guinée développement rural environnement	GUIDRE	Faranah	Guidre2000@ yahoo.fr
3	Association des jeunes actifs pour le développement environnemental de Faranah	AJADE	Faranah	ajadef.faranah@gmail.com
4	Club des volontaires pour la Salubrité et la Protection Environnementale de Faranah	CVSPEF	Faranah	
5	Association pour la Promotion des Initiative Communautaire de Guinée	APIC-Guinée	Faranah	
6	Guinée Santé Scolaire	GUISS	Faranah	
7	Association des Jeunes pour la Promotion de l'hygiène et de l'assainissement des milieux urbains	AJPHAMU	Faranah	
8	NYON DEMEN DEE KURU	NDK	Faranah	ndk.faranah@yahoo.fr
9	Groupe Sabati pour la promotion Agricole	GSPA	Faranah(Toumania)	Tel : 662-24-29-52
10	Groupe Agricole landaya de Toumania	GALAT	Faranah	Tel : 657-78-06-30
11	Association Guinéenne pour l'allègement des chargements Féminines	AGACFEM	Faranah	
12	Association des Médias de la Région de Faranah	AMERAF	Faranah	
13	Association des Jeunes Filles leaders pour l'épanouissement féminin	AJFLEF	Faranah	
14	Centre d'appui pour la promotion de la citoyenneté en Guinée	CENAPSIG	Faranah	maregaseydou@gmail.com
15	Centre de Concertation et d'Appui pour le Développement durable	CECAD	Faranah	Cecad2013@yahoo.fr

N°	Denomination	Sigle	Préfecture	Contact Email
16	Association Guinéenne pour le Développement de l'Agriculture et de l'Environnement	GUDAPE	Faranah	
17	Agence Humanitaire pour le Développement	AHD	Kissidougou	
18	Association pour la Protection des Environnementales et Forestières	APARF	Kissidougou	
19	Monde des enfants	MDE	Kissidougou	
20	Association des animateurs Communautaire de Guinée	AACG	Kissidougou	
21	Guinée Développement Durable	GUIDED	Faranah	
22	Centre d'Appui au Développement Communautaire	CADEC	Kissidougou	
23	Association des Jeunes Kissidougou Progrès	AJKP	Kissidougou	
24	Association Enfant pour Enfant	EEA	Kissidougou	
25	Sankaran Poubelle	OSP	Faranah	
26	Association des Jeunes Volontaires pour le Développement de Mandiana	AJVDM	Mandiana	
27	Association pour le Développement Socio économique de Mandiana	ADESMA	Mandiana	
28	Association des jeunes pour le Développement Intégré et Communautaire	AJDIC	Mandiana	
29	Groupe d'Appui à l'Auto Promotion Paysanne et la protection de l'Environnement	GAAPE	Commune Urbaine de Kouroussa	Facely SACKO 62240 25B29
30	Association pour le Développement Communautaire	ADC	Commune Urbaine de Kouroussa	Alpha CONDE 621676074
31	Union pour la Promotion Paysanne	UPP	Commune Urbaine de Kouroussa	Karamoko CONDE 622 12 67 53
32	Association des Femmes Entrepreneurs	AFE	Commune Urbaine de Kouroussa	Kanny DIOUMESSY 621176286
33	G REEN Action	GA	Commune Urbaine de Kouroussa	Kpadé Kalivogui 628 72 74 27
34	Institut de Poubelles Assainissement et Transport	IPAT	Commune Urbaine de Kouroussa	Fodé MARA 622 63 62 22

N°	Denomination	Sigle	Préfecture	Contact Email
35	Curage - Assainissement des Lieux Publics	CALP	Commune Urbaine de Kouroussa	Kadé CONDE 622 79 36 63
36	Aide et Action pour le Développement	AAD	Commune Urbaine de Kouroussa	François TRAORE 621 08 24 25
37	Groupement de Reboisement	GR	Commune /Kourous.	Sékou KAMARA 628 56 64 72
38	Comité de Gestion des Ressources Naturelles	CGRN	Commune Urbaine de Kouroussa	Kébaly KOUROUMA 621 34 65 71
39	Groupement Agro - Pastoral de Kouroussa	GAPK	Commune Rurale de Cissela	622 29 06 34
40	Groupement Ah. Kalé TRAORE	GAK	Commune Urbaine de Kouroussa	622 43 89 99

Annex 3: Co-Finance Letters

Name of Co-financier	Date of letter	Co-financing Amount (\$)
Programme de Productivité Agricole en Afrique de l'Ouest PPAAO/WAAPP 1C Guinée, Ministère de l'Agriculture	18 May 2015	9,000,000
METAGRI, Direction Nationale de la Météorologie, Ministère de Transport	01 June 2015	100,000
Projet d'Appui au Secteur Agricole en Guinée (PASAG), Ministère de l'Agriculture	26 May 2015	16,000,000
Programme National d'Appui aux Acteurs des Filières Agricoles (PNAFA)	20 May 2015	89,030,000
Institut de Recherche Agronomique de Guinée, Ministère de l'Agriculture	20 May 2015	50,000
TOTAL		114,180,000

Refer to letters in a [separate file](http://bit.ly/1O2XXU5) (access file by pasting this link into a browser address bar <http://bit.ly/1O2XXU5>).

Annex 4: Additional Cost Analysis

Table 14: Demonstration of Cost-effectiveness for each proposed Component

Cost/Benefit	Baseline (B)	Alternative (A)	Project and Additional costs (A-B)
Outcome 1: The climate resilience of natural resource dependent livelihoods in project sites is ensured by securing the continued stream of essential agro-ecological and hydrological services upon which they depend	<p>Efforts to strengthen livelihoods not considering climate risks or adaptation needs Planning and finance not taking into account climate risks and adaptation potential, esp. at sub-national levels</p> <p><u>Baseline Finance:</u> \$74.0 M, Of which \$9.0 M contributes to the project's co-financing</p>	<ul style="list-style-type: none"> - Dissemination of ecosystem-based adaptation techniques and technologies, involving community in decision-making and building local capacity; on the basis of solid development and livelihoods investments, with which the project will collaborate and foster synergies. - Over time, the EBA model demonstrates a cost-effective way of building natural and social assets, many with multiple benefits; - Focus on women as major actors in the regions <p><u>Costs of the alternative Comp. 1</u> LDCF + Baseline + co-financing net of baseline TOTAL: \$170.5 M</p>	<p>LDCF + co-financing mobilized beyond the baseline:</p> <p><u>Additional Costs:</u> LDCF: \$6.363 M Co-financing net of baseline: \$90.173 M TOTAL: \$96.535 M</p>
Outcome 2: Climate adaptive management of ecosystems is integrated into key local and regional planning and policy-making processes	<p>Climate change adaptation is not sufficiently mainstreamed into key sectoral planning and investment frameworks</p> <p><u>Baseline Finance:</u> \$57.0 million</p>	<ul style="list-style-type: none"> - Engagement with local and regional authorities with respect to the decentralized planning and budgeting processes - Integration of this component with the national PEI program in a synergetic way. <p><u>Costs of the alternative Comp. 2</u> LDCF + Baseline + co-financing net of baseline TOTAL \$71.6M</p>	<p>LDCF + co-financing mobilized beyond the baseline:</p> <p><u>Additional Costs:</u> LDCF: \$1.262 M Co-financing net of baseline: \$13.355 M TOTAL: \$14.617 M</p>
PM	n/a	<p><u>Mgt Costs of the alternative</u> LDCF + co-financing's management costs net of baseline TOTAL \$11.0M</p>	<p><u>Additional Costs:</u> LDCF: \$0.375 M Co-financing net of baseline: \$10.602 M TOTAL: \$10.977 M</p>
TOTAL	<p><u>Baseline Finance:</u></p> <p>TOTAL \$131.0 M</p>	<p><u>Costs of the alternative</u> LDCF + Baseline + co-financing net of baseline TOTAL \$253.1</p>	<p><u>Additional Costs:</u> LDCF: \$8.000 M Co-financing net of baseline: \$114.130 M TOTAL: \$122.130 M</p>

Annex 5: Terms of Reference for Project Staff /Consultants

Terms of Reference (ToRs) for suggested project key staff/consultants are included in this annex. The TORs may be reviewed and adjusted during the inception phase. See [overview](#) at the end of this section, which covers the following HR inputs into the project:

- National Project Manager
- Chief Technical Advisor (P4 x 2 years, then IC x 3 years)
- Procurement & Accounting Manager
- Field Activity Coordinator x 2
- Engineer
- Database Specialist
- *Jumelage* Team

National Project Manager

Long term national consultant, senior, project lead: National Project Manager/Coordinator, up to 7 years
Background (to be complemented with project information before publishing)
The Project Manager works at national and regional levels and has overall responsibility for delivering the project successfully. The position is based out of Kankan or Faranah.
Duties and Responsibilities
<ul style="list-style-type: none"> • Supervise and coordinate the production of project outputs, as per the project document • Mobilize all project inputs in accordance with UNDP procedures for nationally executed projects • Supervise and coordinate the work of all project staff, consultants and sub-contractors • Coordinate the recruitment and selection of project personnel • Prepare and revise project work and financial plans, as required by UNDP • Liaise with UNDP, DWF, DNM, the Regional and sub-regional entities, relevant government agencies, and all project partners, including donor organizations and NGOs for effective coordination of all project activities • Facilitate administrative backstopping to subcontractors and training activities supported by the Project • Be responsible for the production and timely submission of the Inception Report, Combined Project Implementation Review/Annual Project Report (PIR/APR), Technical reports, quarterly financial reports, and other reports as may be required by UNDP, GEF, and other oversight agencies • Disseminate project reports and respond to queries from concerned stakeholders • Report progress of project to the PSC, and ensure the fulfillment of PSC directives • Oversee the exchange and sharing of experiences and lessons learned with relevant community based integrated conservation and development projects nationally and internationally • Ensures the timely and effective implementation of all components of the project • Assist community groups, municipalities, NGOs, staff, students and others with development of essential skills through training workshops and on the job training thereby upgrading their institutional capabilities • Coordinate and assists scientific institutions with the initiation and implementation of all field studies and monitoring components of the project

<ul style="list-style-type: none"> • Perform any other duty relevant to the assignment
Competencies
<ul style="list-style-type: none"> • Very experienced project manager • Financial management and control capabilities • Advanced leadership, negotiation and communication skills • Sensitive to context of the project • Able to move to regions – either Kankan or Faranah
Required Skills and Experience
<ul style="list-style-type: none"> • Education: • Minimum MA or MSc in Social or Environmental Sciences, International Development, or related • Demonstrable background in Ecosystem Based Adaptation and related Climate Change and Natural Resource Management issues as asset • PRINCE2 certificate an advantage • Experience: • Minimum 10 years' experience in project management, of which 5 years is in an international context. • Experience in managing programs or project financial management, procurement, contracting, recruitment, and staff management. • Prior UNDP/GEF project experience and knowledge of UNDP and GEF procedures and guidelines. • Language: • Fluency in written and spoken French. • Skills in English an advantage.

Chief Technical Advisor

Long term international consultant, senior, project co-lead: Chief Technical Advisor (CTA) to an Ecosystem-Based Adaptation Project in Guinea, up to 5 years, proposed under a FTA P4 for 2 years (subject to post classification), and then under an IC for 3 years.
Background (to be complemented with project information before publishing)
<p>The CTA will function as the Project's International Technical Advisor, as the Project's Deputy Coordinator and as the Mentor for the <i>Jumelage</i> Professional Training Scheme (described further down). This post is foreseen as a P4 position for the first two years of project implementation. Thereafter the plan is to launch a new recruitment for an individual consultant (IC) also international for continuing the work on a part-time basis (at 140-160 days per every 12 month period).</p> <p>Alternatively, if the project has sufficient funds, the P4 post may be extended for another year or 2, all subject to good performance.</p>
Duties and Responsibilities
<p>Technical Advisory function and Deputy Coordinator function:</p> <ul style="list-style-type: none"> • Provide technical and strategic assistance for project activities, including planning, monitoring, and site operations, and assuming quality control of interventions;

- Provide hands-on support to the National Project Coordinator (NPC), project staff and other government counterparts in the areas of project management and planning, strategic planning, management of site activities, information management, monitoring, and impact assessment;
- Assist the NPC to realize the project outputs at national level;
- Finalize Terms of Reference for consultants and sub-contractors, and assist in the selection and recruitment process;
- Assist the NPC with the establishment of Project Steering Committee (PSC) and of project advisory committee;
- Assist the NPC with the preparation of the Inception Workshop, launching of the project at central and site levels and 1st PSC meeting
- Assist the NPC in the coordination of the work of all consultants and sub-contractors, ensuring the timely delivery of expected outputs, and effective synergy among sub-contracted activities;
- Assist the NPC in the preparation and revision of the Project Management Plan as well as Annual Work Plans and with the Procurement plan for the central unit and site units;
- Assist the NPC in the coordination of the preparation of the first periodic status report;
- Assist the National Project Coordinator in the preparation of the two first Combined Project Implementation Review/Annual Project Report (PIR/APR), inception report, technical reports, quarterly financial reports for submission to UNDP, the GEF, and other donors, as required;
- Assist in mobilizing staff and consultants in the conduct of a mid-term project evaluation, and in undertaking revisions in the implementation program and strategy based on evaluation results;
- Assist the NPC in liaison work with project partners, donor organizations, NGOs and other groups to ensure effective coordination of project activities, training them where needed;
- Assist the NPC to carry out an annual review of project's work experience and assessment of best practices, document lessons from project implementation and make recommendations to the Steering Committee for more effective implementation and coordination of project activities;
- Assist relevant government agencies and project partners with development of essential skills through training workshops and on-the-job training thereby upgrading their institutional capabilities;
- Assist the NPC in liaising with scientific institutions that can contribute with field studies and monitoring components of the project.
- Perform other tasks as may be requested by the NPC, Steering Committee and other project partners.

Mentoring function vis-à-vis the *Jumelage* Professional Training Scheme:

- Help develop detailed *Jumelage* program.
- Develop detailed TORs for twin-teams.
- Organise planning and orientation “campus” for twins.
- Support twin-teams in developing their workplans.
- Ensure linkages to overall project plan and staff.
- Provide regular performance checks and feedbacks, both on administrative and technical aspects, but also on career development.
- Review all reports produced and provide feedback for improvement.
- Organise a twin-team show-case seminar, during which all teams can report on their experiences to national (and potentially international) stakeholders.

Competencies

Core: Innovation:

- Ability to make new and useful ideas work.
- Leadership: Ability to persuade others to follow.
- People Management: Ability to improve performance and satisfaction.
- Communication: Ability to listen, adapt, persuade and transform.
- Delivery: Ability to get things done.

Technical/Functional:

<ul style="list-style-type: none"> • Ability to provide guidance on biodiversity and ecosystem management, and where relevant, on sustainable land and forest management; • Ability to guide the design and implementation of multi-sectoral and sectoral programmes and projects at different scales, and to work with multiple stakeholders across a wide range of disciplines. <p><i>Primary:</i> Environmental Issues:</p> <ul style="list-style-type: none"> • Knowledge of environment issues, concept and principles and the ability to apply to strategic and/or practical situations. • Natural Resource Management: Knowledge of NRM concepts, principles and policies and ability to apply to strategic and/or practical situations. • Economics: Knowledge of economics concepts, principles and policies and ability to apply to strategic and/or practical situations. • Development Planning: Knowledge of development planning processes and the ability to apply to strategic and/or practical situations. • Program Planning and Design: Develop programmes through a process. • Resource Mobilization: Ability to identify and organize programmes and projects to implement solutions and generate resources. • Results Based Management: Ability to manage programmes and projects with a strategy aimed at improved performance and demonstrable results. • Advocacy and Representation: Ability to productively share UNDP knowledge and activities (at UN and other venues). <p><i>Secondary:</i></p> <ul style="list-style-type: none"> • Monitoring and Evaluation: Knowledge of methodologies, tools, systems and apply practical experience in planning, monitoring, evaluating and reporting. • Knowledge Management: Ability to efficiently handle and share information and knowledge. • Project Management: Ability to plan, organize, motivate, and control resources, procedures and protocols to achieve specific goals.
Required Skills and Experience (may be further developed with points and weights assigned)
<p>Education:</p> <ul style="list-style-type: none"> • Advanced university education minimum at Master's level, with expertise in the area of environmental management, or natural resource management in general; <p>Experience</p> <ul style="list-style-type: none"> • At least 7 years of professional experience, of which at least 3 are at international level • Strong skills in monitoring and evaluation and experience in implementing environmental projects; • Previous experience with GEF projects is an added plus; • Ability to effectively coordinate a large, multidisciplinary team of experts and consultants; • Be an effective negotiator with excellent oral and presentation skills; • Excellent writing skills in English, • A good working knowledge of French.

Procurement & Accounting Manager

Long term national consultant: Procurement & Accounting Manager, up to 6.5 years
Background (to be complemented with project information before publishing)
The Accounting Manager provides support to the Project Manager to support overall project delivery in line with good accounting practice. The position is based at the PMU at either Kankan or Faranah regions.
Duties and Responsibilities

<ul style="list-style-type: none"> • If applicable and needed, serve as the budget holder for GEF and UNDP funds • Collect, register and maintain all information on project activities, with focus on finance • Prepare and check all the necessary documentation for project procurement, in close collaboration with the Project Manager and the Chief Technical Advisor, and in consultation with the UNDP Country Office where needed (e.g. international procurement, where UNDP's service can be advantageous), and seeking external expertise (e.g. legal or in engineering) when needed. • Contribute to the preparation and implementation of annual workplans and progress reports • Monitor project activities, budgets and financial expenditures • Advise all project counterparts on applicable administrative procedures and ensures their proper implementation • Maintain project correspondence and communication • Support the preparations of project work-plans and operational and financial planning processes • Assist in procurement and recruitment processes • Assist in the preparation of payments requests for operational expenses, salaries, insurance, etc. against project budgets and work plans • Follow-up on timely disbursements by UNDP CO • Receive, screen and distribute correspondence and attach necessary background information • Prepare routine correspondence and memoranda for Project Manager's signature • Assist in logistical organization of meetings, training and workshops • Prepare agendas and arrange field visits, appointments and meetings both internal and external related to the project activities and write minutes from the meetings • Maintain project filing system and any necessary records for e.g. project equipment inventory • Perform any other duty relevant to the assignment
Competencies
<ul style="list-style-type: none"> • Bookkeeping skills • Administration skills • Good organizational skills
Required Skills and Experience
<p>Education:</p> <ul style="list-style-type: none"> • A degree and/or professional qualification in accountancy • PRINCE2 certificate an advantage <p>Experience:</p> <ul style="list-style-type: none"> • At least 5 years of administrative and/or financial management experience; • Demonstrable ability to administer project budgets, and track financial expenditure; • Demonstrable ability to maintain effective communication with different stakeholders, and arrange stakeholder meetings and/or workshops; • Excellent computer skills, in particular mastery of all applications of the MS Office package, in particular Excel; mastery of other finance applications is a plus; • Prior UNDP/GEF project experience and knowledge of UNDP and GEF procedures and guidelines is an advantage. <p>Language:</p> <ul style="list-style-type: none"> • Fluency in written and spoken French. • Skills in English an advantage.

Field Activity Coordinators

Long-term local consultants: Field Activity Coordinator x 2 – one in each project interventions zone, up to 6 years
Background (to be complemented with project information before publishing)
The Field Activity Coordinators have responsibility to for delivering the sub-regional aspects of the project at one of the two project sites (Kankan or Faranah). The Field Activity Coordinators will be housed within existing regional or prefecture offices.
Duties and Responsibilities
<ul style="list-style-type: none"> • Supervise and coordinate the production of project outputs in the regions and their sub-regional structures, and especially at the RDC level, as per the project document, working closely with the National Project Manager • Mobilize all project inputs in accordance with UNDP procedures for nationally executed projects • Supervise and coordinate the work of all regional project staff, consultants and sub-contractors • Coordinate the recruitment and selection of project personnel at regional level • Input to and/or prepare and revise project work and financial plans, as required by UNDP, in close cooperation with the National Project Manager • Liaise with partners at the regional level for effective coordination of all regional project activities • Contribute to the production and timely submission of the Inception Report, Combined Project Implementation Review/Annual Project Report (PIR/APR), Technical reports, quarterly financial reports, and other reports as may be required by UNDP, GEF, and other oversight agencies • Perform any other duty relevant to the assignment
Competencies
<ul style="list-style-type: none"> • Experienced field project manager • Financial management and control capabilities • Advanced leadership, negotiation and communication skills • Sensitive to context of the project and considerable understanding of the regions (either Kankan or Faranah)
Required Skills and Experience
<p>Education:</p> <ul style="list-style-type: none"> • Minimum MA or MSc in Social or Environmental Sciences, International Development, or related • Demonstrable background in Ecosystem Based Adaptation and related Climate Change and Natural Resource Management issues as asset • PRINCE2 certificate an advantage <p>Experience:</p> <ul style="list-style-type: none"> • Minimum 7 years' experience in project management, of which 5 years is in a sub-national context, ideally in the project location • Prior UNDP/GEF project experience. <p>Language:</p> <ul style="list-style-type: none"> • Fluency in written and spoken French. • Skills in English an advantage.

Database Specialist

Long-term national consultant: Database Specialist, 6 years
Background (to be complemented with project information before publishing)
The Database Specialist will also function as the project's IT and GIS manager and will be stationed in the Ministry HQ with frequent field missions. He or she will lead the successful implementation of the landscape planning system and other project systems.
Duties and Responsibilities
<ul style="list-style-type: none"> • Report to the project manager and receive technical guidance from the international advisor; • Responsible for overseeing the successful delivery of project Output 2.2: A geographically based information system for climate information services in the Upper Niger River Basin is established at and maintained through a functional partnership, and for the system aspects of related activities under Output 1.1: Climate adaptive landscape planning for resilience for the Project Zone is developed in a dynamic and participative fashion; • The system must be operational by end of project year 2 and enable the analysis of climate-driven vulnerabilities and the cost-effective planning of specific adaptation interventions in Component 1 for strengthening social and natural assets; • Manage a Technical Advisory Group for the system; • Liaise with field activity coordinators on data collection and with other members of the team; • Develop and maintain useful e-interfaces for the project, including its website, possibly an intranet and various databases as needed; • Assist the project procurement in the purchasing of IT and comms equipment; and • Perform any other duty relevant to the assignment.
Competencies
<ul style="list-style-type: none"> • Good organizational skills
Required Skills and Experience
<p>Education:</p> <ul style="list-style-type: none"> • A post-school qualification (diploma, or equivalent) • Computer Science, with applicable certificates in the required programming languages. <p>Experience:</p> <ul style="list-style-type: none"> • At least 5 years of IT management experience; • Specific experience with programming in html and other web-related programming languages, as well as the development and customisation of GIS systems, network management; • Demonstrable ability to develop geo-based planning systems and to develop and maintain user-friendly databases; • Demonstrable ability to maintain effective communication with different stakeholders, and train users for feeding data and using systems. <p>Language:</p> <ul style="list-style-type: none"> • Fluency in written and spoken French. • Skills in English an advantage.

Engineer

Part-time national consultant: Project National Engineer, at 50% of time over 3 years
Background (to be complemented with project information before publishing)
The Engineer will oversee various infrastructural and ecosystem rehabilitation works foreseen under Outputs 1.3 and 1.4, as well as 2.3. He / She will provide critical inputs during construction years (years 1, 2 and 3) on 50% part-time basis.
Duties and Responsibilities
<ul style="list-style-type: none"> • Report to the project manager and receive technical guidance from the international advisor; • Responsible for overseeing the successful delivery of projects: Output 1.3 (Climate adaptive watershed rehabilitation is carried out in critical sites in the Upper Niger River sub-basin, from a baseline of limited investments in watershed management that are often 'climatically vulnerable') and Output 1.4 Land-use practices are adapted to face climate change challenges, from a baseline of generally resilient ecosystems being gradually degraded.; • Support to other inputs will include Output 2.3 (Local weather stations in Faranah, Kouroussa, and Kankan are rehabilitated and are able to develop and disseminate early warning products to evaluate existing and new climate data.); • Support the tender processes and supervision of works relating to the above mentioned Outputs (various technically demanding processes are foreseen); • Manage a technical teams working on the implementation of the above mentioned Outputs; • Liaise with field activity coordinators and with other members of the team on progress; and • Perform any other duty relevant to the assignment.
Competencies
<ul style="list-style-type: none"> • Good organizational skills
Required Skills and Experience
<p>Education:</p> <ul style="list-style-type: none"> • A degree in engineering; • Preferably with specialisation in forestry, hydrology or civil engineering. <p>Experience:</p> <ul style="list-style-type: none"> • At least 8 years of field experience; • Specific experience with ecosystem management works; • Demonstrable ability to develop complex tender documentation and to oversee implementation on the ground; • Demonstrable ability to maintain effective communication with different stakeholders, and to find pragmatic ways of getting service providers to uphold contracts. <p>Language:</p> <ul style="list-style-type: none"> • Fluency in written and spoken French. • Skills in English an advantage.

Jumelage Team

<i>Jumelage</i> Team for Science Based Community Outreach and Engagement, various consultants
<p>Background</p> <p>A key barrier in achieving sound environmental management results is a lack of experienced human resources. On the other hand, especially in Africa, we experience that we have a large pool of young professionals, often with University degrees, who are not able to find formal employment in their chosen careers and who find it particularly difficult to get entry level practical work experience.</p> <p>A well-designed young professional “<i>jumelage</i>” (or “twinning”) approach would add value not only to the explicit support of young professionals, but also to project implementation per se.</p> <p>The approach implies that technical teams of matched international and Guinean young professionals (the “twins”) will be established and paired up during the project lifetime with specific TORs that contribute to project implementation as well as capacity building objectives.</p>
<p>Key benefits</p> <p>Key benefits would include:</p> <ul style="list-style-type: none"> • Providing learning and professional development experiences for Guinean and international young professionals • Broadening the pool of young professionals with project implementation and administration expertise • A larger pool of technical staff that can support project implementation especially on the site level • Longer-term and more continuous outreach and engagement with local communities on practical EBA and other adaptation actions through a team of young professionals • Support to local level M&E activities that can be integrated into the work of the <i>Jumelage team</i>
<p>Regional <i>Jumelage</i> Teams</p> <p><u>Team 1:</u> Community engagement and support in at Faranah</p> <p><i>Key deliverables of Team 1 would include:</i></p> <ul style="list-style-type: none"> • Co-facilitation of the development of local level adaptation plans with project staff, partners and most importantly local communities and NGOs at Passaya, Beindou, Albadaria, Sangardo (in support of Output 1.2) • Support the conducting of the community and regional level stakeholder information needs assessment, including gender and cultural specificities as foundation for developing relevant aspects of the project communication and documentation plan (see Output 2.4) • Assist in implementation of the local level adaptation plans, including through particularly facilitating gender and cultural specificities, and linked to the relevant outputs under outcome 1 <p><u>Team 2:</u> Community engagement and support at Kankan</p> <p><i>Key deliverables of Team 2 would include:</i></p> <ul style="list-style-type: none"> • Co-facilitation of the development of local level adaptation plans with project staff, partners and most importantly local communities and NGOs at Kantoumania, Djalakoro, Banfèlè, Douako, Sanguiana, Cisséla (in support of output 1.2.) • Support the conducting of the community and regional level stakeholder information needs assessment, including gender and cultural specificities as foundation for developing relevant aspects of the project communication plan (see output 2.4) • Assist in implementation of the local level adaptation plans, including through particularly facilitating gender and cultural specificities, and linked to the relevant outputs under outcome 1

Generic elements in the TOR for all Young Professionals
<p>Generic TOR elements for all Young Professionals include:</p> <ul style="list-style-type: none"> • Participate in planning and orientation “campus” week to learn about the project background and context • Design concept for each team working theme as twin-team and in liaison with the other twin-teams • A workplan will be developed and agreed to – and tracked by the twin-team as well as their mentor who provides feedback on technical aptness as well as implementation success • Field implementation is a critical aspect of this work, and extended on-site periods are foreseen • Technical reports, linking to project deliverables such as M&E requirements are to be produced by the twin-team • Regular twin-team meetings for all twin-teams will be conducted to foster peer review and learning; presentations will be given and provided feedback on • Twin-team members agree to a mutual and vice-versa mentoring responsibility and agree on certain competencies that they will share with their twin during the project period • Each team works in close collaboration with the project implementation team, and may be placed under the supervision of relevant staff in addition to the mentor
<p>Detailed TORs for the twin-teams should be developed, but must integrate technical and administrative aspects of the projects design. International young professionals should be fluent in French, speaking and writing in English is an added advantage for UNDP and GEF operational and reporting and needs.</p> <p><i>Suggested fields of technical expertise:</i> ecology, hydrology, agriculture, rural development, economics, social sciences, community outreach, gender and cultural engagement</p>
Mentorship arrangement
<p>Oversight and guidance of the <i>Jumelage</i> program will be the responsibility of a senior international advisor who will act as a mentor. This role will be played by the International Technical Advisor (refer to specific TOR further up).</p> <p>Budget provisions for as many as four Young Professionals per year have been made for a 5-year Jumelage scheme. In developing the scheme, a choice can be made on whether YP will be engaged for 1, 2, 2.5 or more years at a time and the constellation of YPs.</p> <p>Higher educational institutions or NGOs will be invited to propose bids for the deployment of YP, as a partnership scheme between a Guinean academic institution and an international one from the developed world. Therefore the budget allocation is proposed as a grant. Another option is to have UNV administrate the deployment. Proforma costs per professional will likely be higher though.</p>

Other short and medium-term consultancies

Consultancy	Brief description
Ecosystem-based Adaptation expert – international	<p>This is a ‘start-up EBA consultancy’ aimed at supporting for adaptation planning and project inception and for developing a climate change adaptive landscape plan and institutional set-up in support thereof. A key focus will be on indicator validation and data collection needs. The key outputs are:</p> <p>Output 1.1) The institutional architecture for implementing the Climate Adaptive Landscape Plan, resulting from Output 1.1, is strengthened including through</p>

Consultancy	Brief description
	<p>training, and partnerships to be forged in support of it, in particular at the local level; and</p> <p>Output 1.2) Climate adaptive watershed rehabilitation is carried out in critical sites in the Upper Niger River sub-basin, from a baseline of limited investments in watershed management that are often ‘climatically vulnerable’.</p> <p>Indicative duration: 20 weeks, 16 of which are in-country, combining home-based work and missions.</p> <p>Contract modality: International IC.</p>
Stakeholder Engagement expert(s) – national	<p>Stakeholder engagement consultancy for developing a dedicated stakeholder and target group engagement strategy, conceptualizing especially how to best address gender, the integration of ebola survivors into project delivery, as well as conducting demand-articulation consultations. Advises service providers budget notes 8 and 9). The work will straddle across both components, but focuses in particular the following outputs:</p> <p>Output 1.1) The institutional architecture for implementing the Climate Adaptive Landscape Plan, resulting from Output 1.1, is strengthened including through training, and partnerships to be forged in support of it, in particular at the local level; and</p> <p>Output 2.1) Climate risk management and resilience are integrated into natural resource management planning & budgeting carried out by relevant ministries, prefectures and sub-prefectures in the Upper Guinea Region.</p> <p>Indicative duration: 70 weeks over 7 years.</p> <p>Contract modality: National IC.</p>
M&E Expert – international	<p>M&E consultant, to be engaged for conceptualizing the project’s M&E approach and lessons learnt concept from project onset. Another key task is the compilation of Tracking Tools for the project. The work will straddle across various outputs, but a key focus will be on:</p> <p>Output 2.2) A geographically based information system for climate information services in the Upper Niger River Basin is established at and maintained through a functional partnership.</p> <p>Indicative duration: 10 weeks with 3 missions to country with a 3 week approximate duration each time.</p> <p>Contract modality: International IC.</p>
Evaluations – international	<p>Two (x2) consultancies with standard ToR for UNDP-GEF evaluations: Mid-term Review and Project Terminal evaluation (lump-sum amount for budgeting purposes = \$40.2K / each consultancy).</p>

Overview Table of Human Resource Inputs

Budget note ref.	Input	Comp	Quantity	Unit description	Unit cost \$ (*)	Sub-total \$	Link to project outputs	TOR in Annex 5	Atlas Code (abbrev.)
Project core									
3	Nat. Project Manager	1	3.5	years pro-rata	45,000	157,500	All	yes	71400 Contr Serv – ind
		2	2.5	years pro-rata	45,000	112,500	All	yes	
		PM	0.5	years pro-rata	45,000	22,500	Mgt & Ops	yes	
	Int. Technical Advisor - P4 x 2 years	1	2	years (proforma costs)	263,154	526,308	Various	yes	
	Int. Technical Advisor - IC x 3 years	1	2	years pro-rata	100,000	200,000	Various	yes	
		2	1	years pro-rata	100,000	100,000	Various	yes	
	Field Coordinators x 2	1	13	persons-year	35,385	460,000	Various	yes	
	Procurement and Accounting Manager	PM	6.5	years	40,000	260,000	Various	yes	
	Engineer, part-time at 50% over 3 years	1	3	years at 50% part-time	25,000	75,000	Various	yes	
	Database Specialist, full-time	1	6	years	30,000	180,000	Various	yes	
Short and medium term consultants									
1	Ecosystem-based Adaptation expert – international	1	20	weeks	3,000	60,000	1.1 and 1.2	yes	71200 Int Cons
18	M&E Expert – international	2	10	weeks	3,000	30,000	Various	yes	
	Evaluations – international (may include national consultants as part of team)	2	24	weeks	3,350	80,400	Various	yes	
2	Stakeholder Engagement expert(s) – national	1	70	weeks	1,000	70,000	1.1 and 2.2	yes	71300 Local Cons
Through grant making inputs									
9	Jumelage Young Professionals x 4	1	5	years	65,000	325,000	Various	yes	72600 Grants
	Food for work scheme x 200 workers at \$100 per worker per month, with supervision costs included, x 6 months x 5 years (numbers are indicative and for budgeting purposes only)	1	5	years	120,000	600,000	1.3 and 1.4	no	

(*) All costs here are indicative and for budget calculation purposes only. More realistic costing should be carried out in connection with project inception. Accordingly, unit costs do not automatically equate to any of the incumbent's remuneration level, neither proforma nor net, as this will be determined by processes linked to post classification and applicable practices determined by the UNDP Country Office.

Annex 6: Summaries of Technical Reports from PPG phase

This section provides a summary in English of each study carried out during the PPG phase (available from UNDP Country Office).

Study 1: Natural Resource Management

This report provides an overview of the team's findings during the field mission with regards to the state of natural resource management and consolidates the analysis. This thematic feasibility study on NRM is closely related to the work of the hydrologist and agro-sylvo-pastoral systems consultants. In brief, the report confirms stakeholder demand for the project, and the fit with existing institutional frameworks at sub-national levels.

Study 2: Hydrologic systems

This report describes the important hydrological aspects of the Upper Niger River basin and the project sites in particular. It highlights hydrology-related information and suggests specific adaptation and resilience building activities proposed for the implementation phase of the project. This study linked closely and fed into the NRM study, as well as the agro-sylvo-pastoral systems study.

Study 3: Climate change

The aim of this report is to provide an overview of national and localized potential effects of climate change on the agro-ecological and hydrological systems level within the project region. Within the general analysis of climate change impacts in Guinea, it appears that the project zone chosen for the project are likely to suffer most from temperature increase, which leads to a rapid increase in evapotranspiration and ecosystem imbalances. At the national level, all of the models unanimously indicate a rising average temperatures. Regarding precipitation, trends shown by the models are diverse, i.e. there was no consensus among the models as to the actual impact of this increase in temperature. The report also provides more detailed information about the impact of climate change on key ecosystems (forests, river, agriculture) in the project zone and includes mapping of the project zone.

Study 4: Agro-sylvo-pastoral systems

This study provides further details on the important agro-sylvo-pastoral aspects of the sites and the project, mentioning the role of women. It provides a summary of the vulnerability and resilience at each zone, noting key findings from the fieldwork. The report also highlights specific adaptation and resilience building activities proposed for the implementation phase of the project. This study linked closely and fed into the NRM study, as well as the hydrology study.