REQUEST FOR PROJECT
FUNDING FROM THE ADAPTATION FUND

The annexed form should be completed and transmitted to the Adaptation Fund Board Secretariat by email or fax.

Please type in the responses using the template provided. The instructions attached to the form provide guidance to filling out the template.

Please note that a project/programme must be fully prepared (i.e., fully appraised for feasibility) when the request is submitted. The final project/programme document resulting from the appraisal process should be attached to this request for funding.

Complete documentation should be sent to:

The Adaptation Fund Board Secretariat

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ADAPTATION FUND

PROJECT PROPOSAL TO THE ADAPTATION FUND

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ACCRONYMS

Acronym	Definition
AWPB	Annual Work Plans and Budgets
FFS	Farmer Field School
GDP	Gross Domestic Product
ICRAF	International Center for Research in Agro- Forestry
IFAD	International Fund for Agricultural Development
INDC	Intended Nationally Determined Contribution
INRM	Integrated Natural Resources Management
IUCN	International Union for the Conservation of Nature
GALS	Gender Action Learning System
M&E	Monitoring and Evaluation (M&E)
MINADER	Ministry of agriculture and rural development (Ministère de l'Agriculture et du Développement Rural)
MINEPAT	Ministry of Economy, Planning and Regional Development (*Ministère de l'Economie, de la Planification et de l'Aménagement du Territoire*)
MINEPDED	Ministry of environment, nature protection and sustainable development *(Ministère de l'Environnement, de la Protection de la Nature et du Développement Durable)*
MINEPIA	Ministry of livestock, fisheries and animal industries *(Ministère de l'Élevage, des Pêches et des Industries Animales)*
MINFOF	Ministry of forestry and wildlife *(Ministère des Forêts et de la Faune)*
MINJEC	Ministry of youth and civic education (*Ministère de la Jeunesse et de l'éducation)*
NBSAP	National Biodiversity Strategy and Action Plan
NTFP	Non Timber Forest Products
PADFA	Support project for the development of agricultural sector (*Project d'appui au développement de filières agricoles*)
PADMIR	Support project for rural microfinance (*Projet d'Appui à la Microfinance Agricole*)
PEA Jeunes	Promotion of youth agropastoral entrepreneurship programme (*Programme de Promotion de l'Entrepreunariat Agropastoral des Jeunes)*
PMU	Project Management Unit
PNACC	National Climate Change Adaptation Plan (*Plan National d'Adaptation au Changement Climatique)*
PNIA	National Agricultural Investment Plan 2014-2020 (Plan National d'Investissement Agricole)
PSFE	Sectoral Programme Forest and Environment (*Programme Sectoriel Forêt et Environnement)*
RDPC	Rassemblement Démocratique du People Camerounais
SHARP	Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United National Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change

PART I: PROJECT INFORMATION

Project Category:	Regular project
Country:	Cameroon
Title of Project:	Increasing local communities' resilience to climate change through youth entrepreneurship and integrated natural resources management
Type of Implementing Entity:	Multilateral Implementing Entity (MIE)
Implementing Entity:	International Fund for Agricultural Development (IFAD)
Executing Entity:	Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED)
Amount of Financing Requested:	9,982,000 (in U.S Dollars Equivalent)

Summary

Climate change induced hazards, such as erratic rainfall, droughts, flood, low vegetation coverage, decrease of agricultural productivity and reduced ecosystems services contribute to keeping rural communities in poverty and in particular women and young people.

Ecosystems and land use services are predicted to decrease under the future climate change scenarios. Some of the most vulnerable communities living in and around protected areas in Cameroon are the most affected. These communities depend on ecosystems services and lack of alternatives climate resilient livelihoods, especially young people. Vulnerable poor communities living around protected areas face multiple challenges such as: low agricultural productivity, poverty and food insecurity which force them to put high pressure on natural resources (forests, water, land, biodiversity, etc.). Climate Change has exacerbated these challenges through erratic rainfall, drought and diseases. A number of young people from these areas lack opportunities and are forced to migrate or join radical groups.

The Adaptation Fund Project aims at increasing local communities' resilience to climate change through youth entrepreneurship and integrated natural resources management.

To achieve this objective, the project will create an enabling environment for climate change adaptation at the institutional level, and will contribute to increasing the resilience of both the local ecosystems and natural resources, and local communities (in particular young women and men) so that a sustainable development can take place in the long term in these areas in a changing climate context.

The project will directly benefit 8,800 rural households, including 6,200 households supported for the management of community forest, game areas and through pastoral water points; and 2,600 households supported in agroforestry and sub-catchment development.

The project will indirectly benefit the population of the park outskirts through development and restoration initiatives as well as the creation of jobs and resilient livelihoods in the area. In particular, the project will pay a specific attention to young people and will seek to be inclusive and promote gender equity.

1 PROJECT BACKGROUND AND CONTEXT

1.1 Country overview

The Republic of Cameroon is a medium-sized country in Central Africa with a surface area of 475 442km². Cameroon is considered as a miniature Africa given its unique diversity in climate, geography, population, and culture. The country has five agro-ecological zones: (i) Sudani – Sahelian zone (Garoua) ; (ii) High Guinea savannah (Ngaoundéré) ; (iii) Western highlands (Bamougoum, Foumbot, Baham, Dschang, Mbouda) ; (iv) Humid forest : monomodal rainfall (Melong, Buea) ; and (v) Humid forest: bimodal rainfall (Yaoundé, Okola, Obala, Bafia, Akonolinga). The country is composed of 10 regions divided in 58 departments. The project areas of intervention are located in the Far North, North, and North West Regions.

Figure 1: Map of Cameroon

1.2 Socio-cultural context

Overview. In 2015, Cameroon's population was estimated at 22.8 million people, with a population growth of 2.5% per year over the 2010-2015 period. The population is mainly composed of young people as 62% is below 24 years old. Youth unemployment differentiates by place of residence and gender. In fact, the youth unemployment rate is higher in urban areas (15.5%) than in rural areas (4.3%). It is 8.5% for men and 23.5% for women[1]. The demographic dynamics of the country show strong internal and external population migrations. The North, Sahel and Centre regions are particularly affected, with migrants (mostly males) leaving these areas for more favourable conditions in southern regions. This situation creates a growing

[1] Plan d'Action National pour l'Emploi des Jeunes (PANEJ) 2016-2020, (2015)

imbalance between the North (shortage of workforce, uncertain rainfall, chronic cereal deficit, etc.), and the South (high land pressure, sharp increase in land use, anarchic exploitation of natural resources, etc.). Overall, around 60 ethnic groups, speaking almost as many languages, are present in the country.

Gender Inequalities. In rural areas, despite permanent access to natural resources (exploitation, processing, self-consumption and marketing), women are excluded from the right of ownership and decision making over land, which belongs to men. They mainly work in seed production, tree nurseries and planting activities, while men tend to be involved in heavy work (sawmilling, logging, tree loading) and to be employed by forest companies. Hunting is an activity exclusively for men, but the marketing of the game belongs to women. The collection and marketing of Non Timber Forest Products (NTFP) is done by women and children who are major players in the retail trade while men dominate the wholesale market for greater profit.

Women's participation in community forests is not as important as men's. Women are usually poorly represented in legal entities and in the management bodies, in which they rarely have positions of responsibility. Women are not often involved in the management of resources and income, in community micro-projects or other lucrative activities related to community forests. The marketing of firewood and rattan is generally an activity mainly carried out by women and children, even if men are involved to a lesser extent.

Women's participation in biodiversity conservation is less important than men's. This is reflected in their low involvement in (i) the elaboration of development plans and community-based wildlife management plans and their implementation; (ii) the preparation of protected areas and conservation sites management plans and in their implementation; and (iii) in development initiatives such as tourism, ecotourism, etc.

Income from food crops and forest products collected by women is used for the daily management of the household. In the project area, the economic situation of women is not very different from one region to another, apart from the influence of religion on practices in different places (women's confinement, early marriage of girls, etc.).

Youth. Youth in the rural areas of Cameroon are characterized by: (i) a low level of education; (ii) a lack of vocational training and qualification; (iii) inadequate orientation in secondary education towards sectors that are not suitable for the rural economy; and (iv) very limited access to inputs (land, labour, techniques and technology, financial resources, etc.). Young people constitute a large proportion of the poorest categories in rural areas, often low-skilled (4.6% of skilled workers in rural areas compared to 21.6% of urban skilled workers) and generally trained on the job, with low levels of income. Child labour from age 5 to14 is very significant with a proportion of 41% against an average of 25% in sub-Saharan Africa. About 10% of young people between 15 and 24 have never attended school or been able to get a job. The lack of opportunities for youth could also lead to radicalisation and violent extremism. Boko Haram has managed to gain a foothold in the Far North of Cameroon and to recruit thousands of young people. This is largely due to the vulnerability of this region and the lack of employment opportunities.

1.3 Economic Context

Cameroon has one of the most diversified economy in Central Africa. Economic activity has recently decelerated due to the global decrease in oil prices and insecurity stemming from the presence of Boko Haram in the Far North region. The poverty level has not significantly changed in the last decades; overall it decreased slightly from 40% to 37.5% from 2001 to 2014 with an urban poverty dropping from 14% to 9% whereas rural poverty rose from 52% to 56.8%.

About 50% of the active population work in rural areas. Agriculture, forestry, fishing and hunting, contributed to 22.5% of the Gross Domestic Product (GDP) in 2014. Agriculture is mainly dominated by smallholder famers. Most of the agriculture is not mechanized and makes little or no use of inputs, thereby leading to low yields. Farmers and their households are among the poorest groups, and food insecurity is prevalent in the northern regions (15.4% in the North and 17.9% in the Far North). Around 40.5% of children living in rural areas suffer from chronic malnutrition against 21.9% in urban areas.

1.4 Agriculture sector

After a period of strong economic recession between 1985 and 1994, the Cameroonian economy has really rebounded since 2010, especially in export-oriented sectors. The annual growth rate of GDP has gradually increased from 3.3% in 2010 to 5.6% in 2013. Cameroon's growth was driven by exports of raw materials, of agricultural or petroleum origin. Export earnings have been one of the essential sources of public and private investment. Rural sector exports account for about 55% of the country's export earnings, compared with 30% of hydrocarbons. The main agricultural products exported are cocoa (beans, dough, butter and preparation), cotton fiber, coffee, bananas, rubber and palm oil. According to the World Bank statistics (2015), agricultural GDP in Cameroon has been evaluated at 22.82%[2].

Agriculture is dominated by about two million smallholder farmers, who are highly susceptible to weather hazards. These farmers depend heavily on available natural resources, with production systems playing a decisive role in the degradation or preservation of these resources.

Crop systems are varied in the three regions of intervention of the project:

- In the Far North, production systems are mainly based on the cultivation of millet and sorghum. Land pressure leads to intensive clearing and reduced fallow periods. The creation of stone terraces makes it possible to develop crops on steep slopes. Rain-fed crops are grown in the Yaere[3] and the cultivation of rice is growing. Agricultural productivity is still low on a regional scale, and the cereal balance is structurally deficient (+/- 100 000 t / year). In terms of livestock, 38% of the national herd is concentrated in this region. There are several types of livestock breeding in the area: (i) a small transhumance that exploits the Yaere in the dry season; (ii) cross-border transhumance between Cameroon-Nigeria-Niger and Cameroon-Chad which exploits the pastoral resources around the Lake Chad; and (iii) sedentary farms still under development.
- In the North, the development of cotton has intensified the cultivation systems and allowed a more rapid evolution towards cultivation with animal traction. Maize remains the main food and cash crop in this region. Rice cultivation and the large-scale cultivation of groundnuts are gradually leaving some room for the emergence of other crops such as onions, yams and cowpeas. In terms of livestock, this region is where transhumant herders go during the dry season. The pastoral areas are threatened by agriculture which tends to encroach on traditional transhumance corridors.
- In the Northwest, climate and soil fertility make it possible to produce maize for two growing seasons, in association with peanuts or beans. Potato is also grown in the

[2] World Bank (2015)

[3] The Yaéré is a vast annually flooded flat savanna grassland plain, part of the extensive floodplains around the shallow and variable Lake Chad in Central Africa. When not inundated by floods the Yaéré is an ecoregion of the Tropical and subtropical grasslands, savannas, and shrublands biome, and when flooded it is an African freshwater ecoregion in the flooded grasslands and savannas biome.

second growing season. These annual crops are produced in association with semi-perennial crops such as plantain, cassava and macabo and perennial crops such as avocado, mango and safoutier. The cultivation of cash crops such as coffee is often done in monoculture. The high demographic pressure in the area has led to a constant decrease in the households' cultivated areas (one hectare per household as an average in 2016). In this region, livestock depends on climatic conditions and available natural resources. The Mbororos Foulanis cattle is limited to the top of the hills in the south of the region. In the northern part of the region, where land pressure is lower, livestock rearing is predominant, with more open, subalpine meadows.

1.5 Natural Resources

Cameroon has abundant land resources still largely under-exploited. Of a total area of 47 million ha, 9.2 are used for agricultural purposes. The arable land covers about 7.2 million hectares, to which must be added nearly 2 million hectares of pasture. Only 1.8 million hectares are currently cultivated (26% of the cultivable area). The low average density of the population places Cameroon in a favourable situation in terms of land availability[4].

The potential of irrigable land is estimated at about 240 000 ha. Irrigated areas were in the order of 27 000 ha in the early 1990s. An increase of 20% in the last decade brought the irrigated area to 33 000 ha, leaving space for future expansions (SDSR, 2006).

The added value of the forestry sector was consistently 2.7% of the overall GDP between 2008 and 2010. This contribution is higher than the contribution of the non-oil mining sector (0.18% of GDP in 2010).

Wood contributes more than 80% to the supply of energy in Africa in all countries. Africa, and, is particularly Central Africa the only continent where wood will continue to play a predominant role in the coming decades as a source of domestic energy. Cameroon is no exception to this general situation, it is estimated that 83% of the Cameroonian population depend on woody biomass as a source of energy, and in rural areas it is often the only source of available energy.

The contribution of the wood energy sector to state revenues remains marginal, while sums of up to one billion CFA francs are levied on actors in the sector through the parafiscal networks.

Ecotourism aims above all at the sustainable management of natural heritage, in that it contributes to promoting the conservation and preservation of green spaces and biological diversity, while seeking the well-being of local communities through the promotion of income generating activities. In Cameroon, about 136,182 domestic and foreign tourists visit the ecotourism sites of Cameroon annually. Non-resident aliens represent about 11.6% of visitors in all sites. However, they have a strong preference for natural sites generally far from the cities of Yaoundé and Douala (Campo, Lobeke, Korup, etc.). Ecotourism generates significant revenues for the Cameroonian economy, more than 5,134 billion CFA francs. (CIFOR, 2013)

1.6 Political and Institutional Context

International Conventions. Cameroon is a signatory to many international conventions, including the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol, the United Nations Convention on Biological Diversity (UNCBD), and the United Nations Convention to Combat Desertification (UNCCD). These conventions were translated into strategies to be implemented at the national level.

Policy Framework.

[4] Strategie de Développement du Secteur Rural (SDSR) (2006)

In the framework of the UNFCCC, Cameroon has developed its Intended Nationally Determined Contribution (INDC) in December 2015, which is aligned to its National Climate Change Adaptation Plan (PNACC – *Plan National d'Adaptation au Changement Climatique*). The vision in the PNACC is that "climate change is fully integrated into the country's sustainable development, reducing its vulnerability, and even turning climate change into a solution/opportunity for development. Thus Cameroonians - particularly women, children and vulnerable people - and the country's economic sectors have a greater resilience and adaptability to the impacts of climate change". To make this vision come true, the general objective of the PNACC is to adapt to climate change by reducing the vulnerability of Cameroonians to the effects of climate change, increasing their resilience and quality of life; and improving adaptive capacity to create new opportunities to support the country's sustainable development. To do so, the Plan includes the following four strategic objectives: (i) improve knowledge on climate change in Cameroon, (ii) inform, educate and mobilize the Cameroonian population to adapt to climate change, (iii) reduce vulnerability to climate change in the main sectors and agro-ecological zones of the country, (iv) integrate adaptation to climate change into strategies and national sectoral policies.

According to the second National Biodiversity Strategy and Action Plan (NBSAP II) in the framework of the UNCBD, by 2035, Cameroon aims to establish a sustainable relationship with its biodiversity in its use and in sharing its benefits to meet the development needs and the wellbeing of the population, and to preserve the health of its ecosystems through a sectoral and decentralized integration and the effective participation of all stakeholders, including local authorities.

Other key policies with regards to the project include, among others: Cameroon Vision 2035; the National Agricultural Investment Plan 2014-2020 (PNIA – *Plan National d'Investissement Agricole*); the Strategic Document for Growth and Employment; the National Gender Policy 2011-2020, the Strategy of Woman and Family Promotion, and the Youth National Plan, the Sectoral Programme Forest and Environment (PSFE II – *Programme Sectoriel Forêt et Environnement*), etc. These policy documents are described in more details in section II.4 on the strategic alignment of the project.

Key Institutions. The main ministries involved in the implementation of these national policies, plans and projects are the following:

- MINEPDED: the ministry of environment, nature protection and sustainable development;
- MINADER: the ministry of agriculture and rural development;
- MINFOF: the ministry of forestry and wildlife;
- MINEPIA: the ministry of livestock, fisheries and animal industries; and
- MINEPAT: the ministry of economy, planning and regional development.

1.7 Environmental context

Cameroon's ecosystems make the country one of the most diverse in Africa in terms of variety and quantity of ecosystems and genetic resources, with a high level of endemism. Within the African continent, Cameroon is ranked fourth in terms of floristic diversity and fifth in terms of wildlife diversity, and the country has around 3.6 million hectares of protected areas for the conservation of this biodiversity. Nevertheless, Cameroon faces a negative trend of biodiversity loss with 815 flowering plant species and 44 animal species that are endangered. Cameroon ranks 18th in terms of the number of threatened mammals. This loss of biodiversity is mostly

linked to the anthropogenic pressure exerted by communities in vulnerable rural areas that have few economically viable options. This pressure is reflected in land-use change, unsustainable natural resource management and pollution, and is likely to worsen with the effects of climate change.

Cameroon has the fourth largest area of dense rainforest in the Congo Basin, covering almost 42% of its territory (about 20 million hectares). However, the country faces an annual net deforestation rate of about 1%[5] when considering the entire forest cover of the country, which represents a loss of about 220,000 hectares per year. The forestry law of 1994, which is considered to be a pioneer in the Central African sub-region - and which is currently being revised - promotes the conservation of the country natural resources and biodiversity, and promotes community and municipal forests. It also prescribes the classification of 30% of the permanent forested land into protected areas.

The availability of surface water resources at the national level amounts to 268 billion cubic meters. Cameroon has a dense network of rivers spread over four watersheds: (i) Lake Chad basin, (ii) Niger basin, (iii) Congo basin, and (iv) the coastal river basin. Surface water is essential for agro-pastoral activities in the northern regions and in the hydrological functioning of Yaérés. The groundwater resource is directly linked to surface water and its characteristics. Groundwater availability is estimated at 56 billion cubic meters.

Cameroon has 5 main agro-ecological zones, which are as follows from north to south: (i) Sudano Sahelian zone; (ii) high Guinean savannahs; (iii) the high western plateaus, (iv) forest zone with monomodal rainfall; and (iv) forest zone with bimodal rainfall. They are represented in the map on the side.

The project intervention sites are located in the Sudano Sahelian zone (Waza and Benoue national parks), and in the high western plateaus (Kimbi-Fungom national park).

Figure 2: Agro-ecological zones in Cameroon
(Source: MINEPAT)

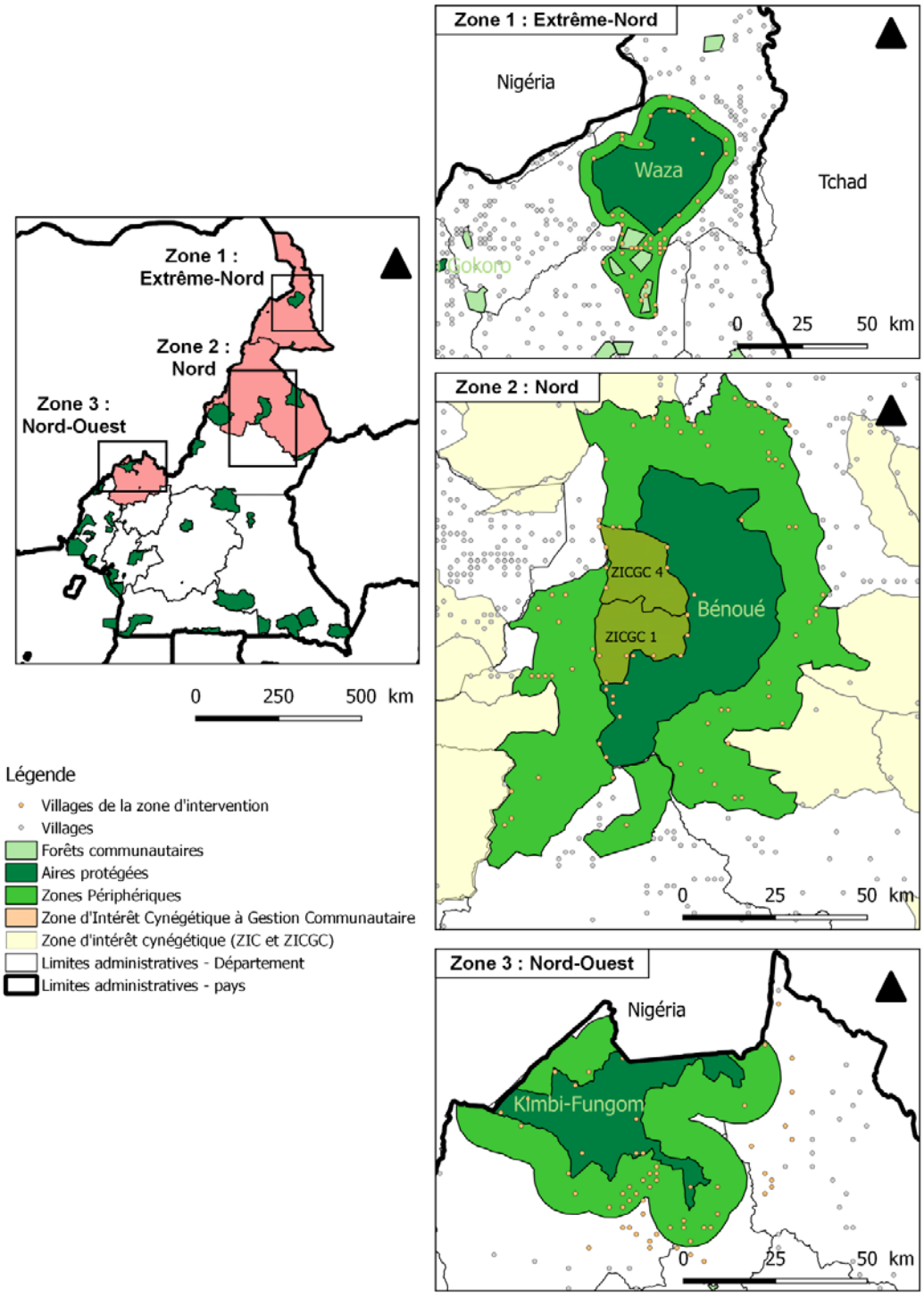
1.8 Areas of intervention

A total surface area of 104,800 hectares will benefit from project activities, including: (i) 100,800 hectares of community forest land and co-managed game areas (immediate surroundings of the protected areas) and (ii) 4,000 hectares of agro-sylvo-pastoral lands and developed sub-catchments (exploited periphery areas).

[5] Ministry of Environment and Forests (MINEF) et Food and Agriculture Organization (FAO) 2007 évaluation des ressources forestières nationales du Cameroun 2003–2004, Yaoundé, Cameroun.

The Project intervention sites are located in three regions: the Far North, the North and the North West, in the surroundings of three national parks: the Waza National Park (Far North), the Bénoué National Park (North) and the Kimbi-Fungom National Park (North-West), covering a total of 188 villages.

Figure 3: Project Intervention sites



Intervention sites were selected on the basis of: (i) the intensity of climate change impacts and the level of vulnerability of the population to climate change, especially the rural youths (ii) the biodiversitystatus of the area and the need for protection; (iii) the economic and agro-ecological potential in terms of agro-sylvo-pastoral sectors, agroforestry and the exploitation of Non-Timber Forest Products (NTFPs); and (iv) the possibilities of creating synergies with existing projects such as PADMIR, PADFA, PEA-Jeunes which support the socioeconomic integration of youths in the agro-sylvo-pastoral sector.

Far North Region - Periphery of Waza National Park

The project intervention sites spread across a five-kilometre radius around the park, including areas where community forestry initiatives are underway. This area is characterized by: (i) a Sudano-Sahelian agro-ecological system where traditional agro-pastoral practices result in severe soil degradation; (ii) deforestation related to people's fuel-wood needs; (iii) a high prevalence of food insecurity; (iv) low water availability; (v) road infrastructure degradation; (vi) very difficult access to credit, e.g. through microfinance institutions; (vii) severe insecurity due to the terrorist group Boko Haram; (viii) a large and increasing number of displaced people as a result of the armed conflict; (ix) the presence of cross-border refugees in humanitarian camps.

However, Waza National Park remains an essential refuge for biodiversity, and large mammals in particular, in the Northern Savannah ecosystem. The region is considered by the Government as a priority area. The humanitarian community in Cameroon, UN agencies and international NGOs, are very active in the region with various interventions in favour of refugees and displaced populations.

North Region - Periphery of the Bénoué National Park

The project intervention sites spread across a 20-kilometer radius around the park, including community-managed game areas #1 and #4, as represented in the map above. This area is characterized by: (i) strong demographic pressure due to past population movements; (ii) prevalence of food insecurity; (iii) low water availability; (iv) deforestation for charcoal production, exported to urban centers; (v) difficult access to microfinance institutions due to remoteness. This park also makes the connection with the wildlife corridors of the Northern Savanna ecosystem for large mammals.

North-West Region – Periphery of the Kimbi-Fungom National Park

The project intervention zone covers a ten-kilometre radius around the park. This area is characterized by: (i) a low population density; (ii) a mosaic of dense rainforest and grassland savanna for agroforestry activities and the exploitation of highly valued Non Timber Forest Products (NTFP): wild mango, njansang; (iii) entrepreneurial dynamism throughout the region; (iv) cross-border pressures on biodiversity through deforestation; (v) transhumance in the northern part of the region. Although no precise data on fauna and flora are available since Kimbi-Fungom National Park has only recently been established in 2015, it is suspected to be one of the richest in terms of diurnal primates, including chimpanzees and gorillas. The national park still doesn’t have a development and management plan.

Target Group

The total population around the three national parks is estimated at about 135,000, of which 40,500 are between the ages of 18 and 35 with almost 50.6% of young women. This ethnic and culturally diverse population is characterized by great social diversity. It is made up of indigenous people, migrants from different migration waves and internally displaced persons. It is difficult to assess exactly the relative importance each group.

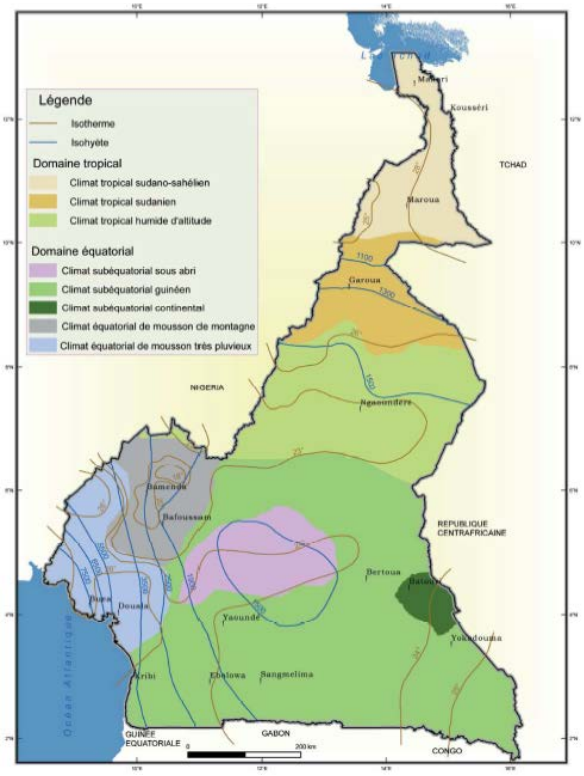
1.9 Climate and climate change

Climate types

There are three main types of climate in Cameroon depending on the country's topography.

- The equatorial climate in the southern part of the country is characterized by abundant precipitation, high and constant temperatures resulting in low thermal amplitude. Two types of equatorial climate can be distinguished: (i) the Guinean type that covers part of the coast and the South Cameroon plateau; and (ii) the Cameroonian type that covers the vicinity of Mount Cameroon and extends as far as the mouth of the Sanaga River encompassing the high plateaus of the West;
- The tropical climate which can be distinguished in three different types: (i) the tropical Sudano-sahelian type in the Far North of the country, with high temperatures and irregular rains; (ii) the tropical Sudanian type in the North, with high temperatures and little rain; and the tropical humid type, which is a transition between the tropical and the equatorial climates.

Figure 4: Zone climatiques du Cameroun
(Source: MINEPAT)



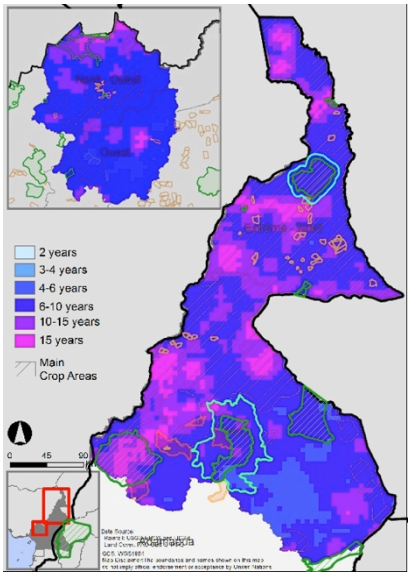
Past Climate trends

Across its entire territory, Cameroon has experienced an average temperature increase of 0.7°C between 1960 and 2007. Over the last decade, this change in climate has led to more extreme climate events such as: (i) the lengthening of dry seasons with more intense droughts; (ii) increased evapotranspiration due to rising temperatures, resulting in more violent storms; and (iii) intensification of flooding events in the Sudano-Sahelian zone. These phenomena directly affect the environmental, social and economic conditions in the different regions of the country (CHIRPS, 2016).

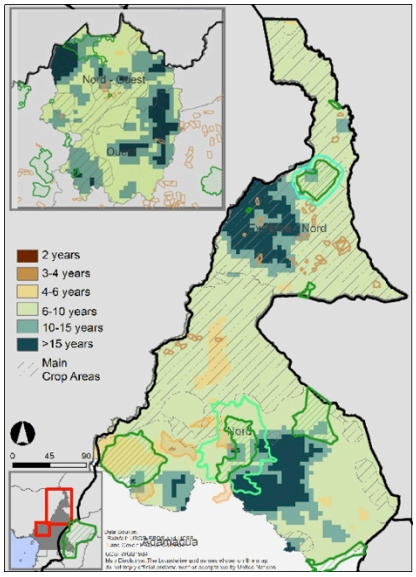
The maps below show trends in periods of rainy seasons throughout Cameroon over the past 20 years.

Figure 5: CAMEROON – Far North, North, North-West et West (calculated over the past 20 years) (CHIRPS, 2016).

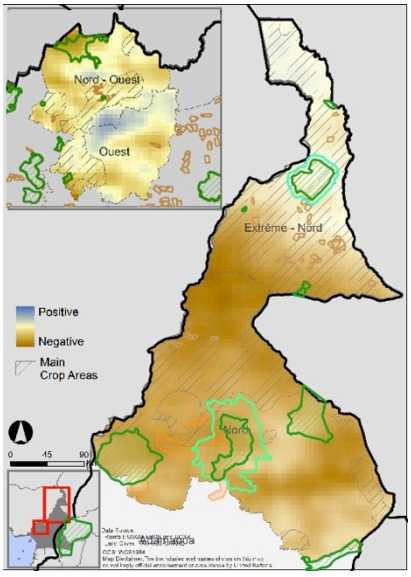
RETURN OF HEAVY RAIN SEASONS



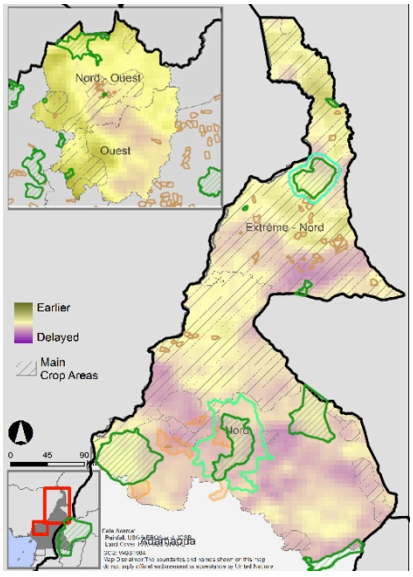
RETURN OF LIGHT RAIN SEASON



TRENDS IN ANNUAL RAINFALL



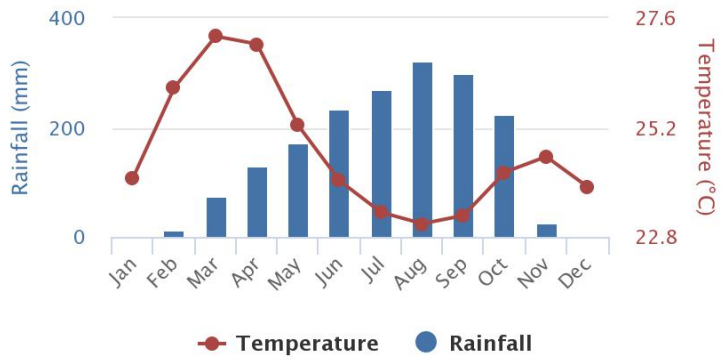
TRENDS IN THE START OF RAINY SEASONS



Climate in the zones of intervention

The high western plateaus, and the periphery of the **Kimbi-Fungom national park** are characterised by annual rainfall of about 1,800 mm, a long rainy season (March to November) and a short dry season. The average monthly temperature remains constant all year long, around 24°C. During the past six decades, rainfall has decreased by 2.5% per decade and droughts have intensified.

Figure 6: Average Monthly Temperature and Rainfall in Kimbi-Fungom National Park from 1991-2015 (World Bank, 2017)



In the **Kimbi-Fungom national park**, heavy rain seasons happen every 15 years instead of 10 years in the surrounding regions, and light rain seasons happen every 10 to 15 years instead of 6 to 10 years in the surrounding regions. The park is therefore not so frequently impacted by extreme rainfall events. It is however located in an area where annual rainfall tend to decrease, therefore limiting surface and ground water availability in the area.

In the Sudano Sahelian zone, where the **Bénoué and Waza National Parks** are located, the rainfall gradient ranges from 500 mm to 1,000mm and annual rainfall is concentrated from July to October. Temperatures are around 28°C with high thermal variations of 7.7°C. These areas have been particularly affected by the decrease in rainfall over the past 6 decades (4.1% per decade).

In the North and in the Far North (where the **Bénoué and Waza national parks** are located), heavy and light rain seasons come back every 6 to 10 years, which means that extreme climate events are quite frequent, which can threaten food security. In addition in the North, annual rainfall is decreasing, which is not the case in the Far North where rainfall is already very low. The start of the rainy season tends to be delayed in Bénoué national park and in the east of Waza national park. In the west of Waza national park, however, the rainy season is starting earlier.

Figure 7: Average Monthly Temperature and Rainfall in Bénoué National Park from 1991-2015 (World Bank, 2017)

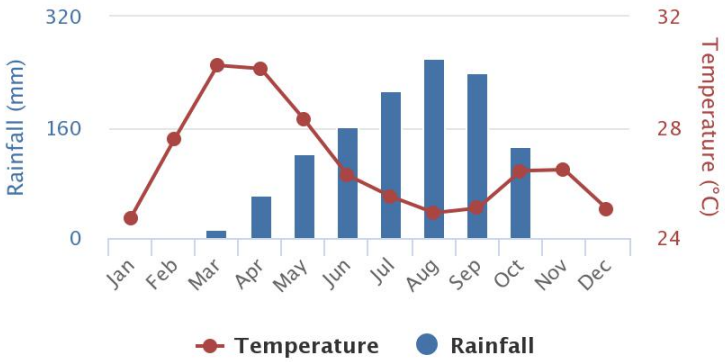
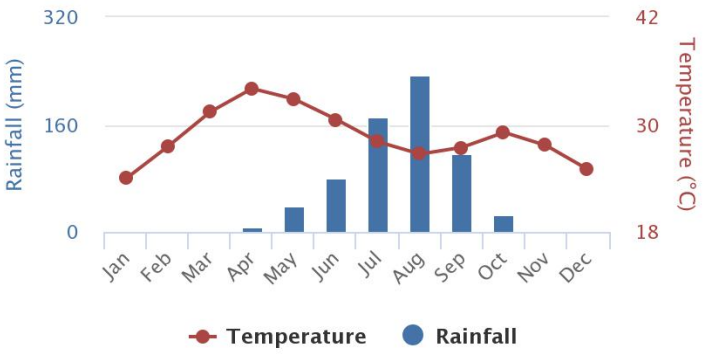


Figure 8: Average Monthly Temperature and Rainfall in Waza National Park from 1991-2015 (World Bank, 2017)



Climate change scenarios

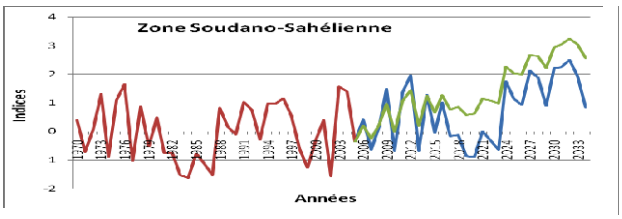
Climate analysis reveals a window of opportunity from 2020 to 2030, during which climate change will have limited adverse effects, before a more intense deterioration from 2030 to 2065. The adoption of adaptation strategies must therefore be promoted during the 2020 to 2030 period in order to prepare Cameroonian producers, and in particular the younger ones, to these new climatic conditions.

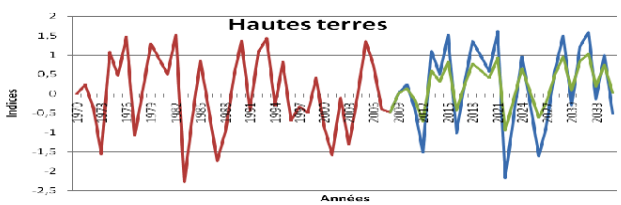
According to SRES (Scenario A2)[6], Cameroon is expected to experience stable rainfall, slightly above current trends until 2030, and then an increasing degradation of its aridity index following a southwest / northeast gradient in the country, until 2065. The Far North and North regions should see their aridity index deteriorate from -1.5 to -2.5 points. The North-West will experience less degradation, in the range of -0.5 to -1.5. The number of five-day periods without rain during the rainy season should, however, decrease slightly with a frequency of poor rainfall distribution every six years in the Far North and North regions and every ten years in the region North West.

The climate projection models available at the University of Cape Town for the town of Garoua and Maroua (respectively in the North and Far North regions) for 2030 confirm trends that will impact the areas of intervention of the project, with in particular an increase in rainfall during humid periods, an increase in temperatures, at night in particular, and an increase in the number of very hot days.

In the Sudano Sahelian zone, it is expected that rainfall will increase by the end of the 2010-2035 period, while south of this zone in the high plateaus, no major changes are foreseen.

Figure 9: Simulation of the evolution of rainfall from 1970 to 2035

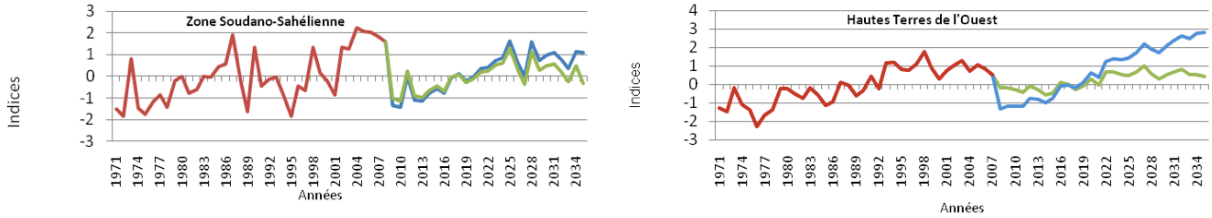




[6] According to the RegCM scenario A2 model used in the Cameroon National Climate Change Adaptation Plan (PNACC) June 24th 2015

According to the RegCM simulation model, a slight increase in temperature is expected until 2030, followed by a stronger increase of about 1°C (CMIP5) per decade until 2100.

Figure 10: Simulation of the evolution of temperatures from 1970 to 2035



Climate change impacts

The impact of climate change on Cameroon's agriculture is the result of a combination of changes in agricultural systems (intensification, extension of areas on marginal lands) and the amplitude and frequency of extreme climate events. These are likely to increase pressure on natural resources (increase in water needs, increase in water runoff and erosion, etc.).

Climate change might also impact soil erosion due to increased rainfall intensity and the extension of cultivated areas on marginal lands as a result of lowering productivity. Soils cultivated on slopes in the northern part of the North-West region and in the western part of the Far North region will thus be subject to increasing erosion until 2065, by respectively 20 and 50 MJ.mm / ha / year[7] .

The estimated long-term impact on agricultural yields[8] ranges from + 10%, due to the positive impact of increasing temperatures on crop yields in wet equatorial areas, to - 30% due to the negative impact of reduced rainfall, increasing temperatures, and an increase in the frequency and amplitude of climatic hazards on rain-fed and recession crops in the Sahelo-Sudanian zone.

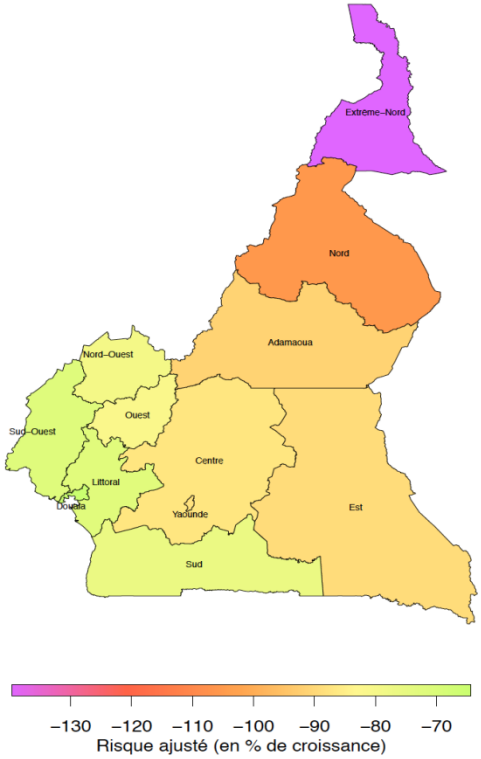
Climate change also disrupts vegetative cycles, due to a multiplication of extreme events (days and nights with high heat, more intense cold, windy episodes). The phenomenon is already observed empirically by local populations who deplore the unpredictability of harvests of NTFP in forest areas.

Such context pushes producers to change their production systems. Highland producers in the North-West region adapt in particular through the use of more diversified resources (NTFP, labour outside the field) and intensified agro-sylvo-pastoral production: intercropping (maize, bean, groundnut, and plantain), small livestock (poultry farming, pig farming) and forestry. Producers in the Far North and North regions are adopting strategies for the diversification of livestock products through the agricultural use of flood-recessional land and land benefiting from livestock manure.

[7] Increasing erosion measuring unit: mega joule per millimeter per hectare per year.

[8] Climate changes impacts on agricultural yields. Christoph Müller, Alberte Bondeau, Alexander Popp, Katharina Waha, and Marianela Fader, Potsdam Institute for Climate Impact Research (PIK), Germany

Figure 11: Economic risk during the 2040-2049 decade on the growth of the agriculture sector under the effect of temperature and precipitation measured as a percentage of growth in the high warming scenario. (World Bank, 2017. Rapport Diagnostic Cameroun)



Agriculture is the most sensitive sector of the economy to temperatures and precipitation, and major risks are foreseen in the Far North, North, Adamaoua and East regions. As indicated in the figure on the side, there is also a high probability of decay/recession in the agricultural sector of up to 130% in the high warming scenario.

Finally, Climate change and anthropogenic pressure are also expected to impact Cameroon's national parks by exacerbating the increasing pressure of riparian populations on water, land, pasture and forest resources. These pressures are likely to increase the degradation of sensitive and biodiversity rich environments.

1.10 Description of the problem to be addressed

The project area of intervention is vulnerable to climate change. Increase in temperature, higher occurrence of extreme climate events (droughts, floods, heavy winds, etc.), poor rainfall distribution and changes in season patterns were observed in recent years. These changes affect local communities, especially young people, that already suffer from lack of opportunities and basic services, which often leads them to illegal activities.

The theory of change of the project is that young men and women in the North West, North, and Far North regions located in the surroundings of protected areas (Kimbi-Fungum, Bénoué and Waza national parks) would increase their resilience to climate change as well as their incomes if they have access to good agricultural practices, integrated natural resources management and advisory services.

Commercial banks and financial institutions are still reluctant to finance the agricultural sector (only 2% of the formal financings are granted to agriculture) and they are still shy to finance MFIs which are struggling to find refunding funds. The national average of financial services penetration rate in rural areas is low, only a very limited number of Cameroonian, rural adults had an account within a financial institution. However, the rise of mobile banking operators with mobile transfer operations has led to an increase from 9.8% to 71% between 2004 and 2014.

The paradigm shift envisaged through the project is to sustainably strengthen youth eco-entrepreneurs with financial incentives by establishing an Adaptation Fund Facility at local level and a PES fund to attracting capital, particularly from the private sector, REDD+ markets and Government. This mechanism will allow them access to medium and long term investments to expand number of REDD+ pilot projects that are currently in operation in Cameroon on Ecosystem Services (PES) and forest communities and biodiversity conservation at the regional level through landscape management and to address climate change with potential interventions listed below.

Change	Impact	Potential Interventions Examples
Temperature Increase on land and water	Heat stress on crops	Access to heat tolerant crops
	Increased crop water demand and or reduced water availability	Access to drought tolerant and fast maturing crops and varieties
		Increase organic content
		Water conserving crop management practices (e.g. ridge planting
		Maximize water capture and storage
		Advocacy on securing rights to water supply to small scale farmers
	Heat , stress on livestock	Tree Planting (shed and fodder)
		Change to more heat tolerant livestock
Changed seasonality	Farmers uncertain about when to cultivate , sow and harvest	Appropriate , accessible and reliable seasonal and weather forecasts
		Crop diversification and crop mixing
		Livestock diversification
	Crops damaged by dry spells within growing season	Appropriate , accessible and reliable seasonal and weather forecasts
		Crop diversification and crop mixing
		Sustainable agricultural techniques to improve drainage
		Social and economic protection measures thriygh financing
	Reduced agricultural seasons	Livelihood diversification and access to finance through the facility
		Payment for Ecosystems Services;
		Access to fast maturing drought tolerant crops
		Appropriate, accessible and reliable seasonal and weather forecasts
Increase in intense rainfall or large increase in annual rainfall	Increased frequency and severity of floods	Improved drainage
		Protected/raised food, water and sanitation
Decrease in annual rainfall in arid and	Increased frequency and	Rainwater harvesting through Increasing water retention capacity of the tanks as an adaptive measure

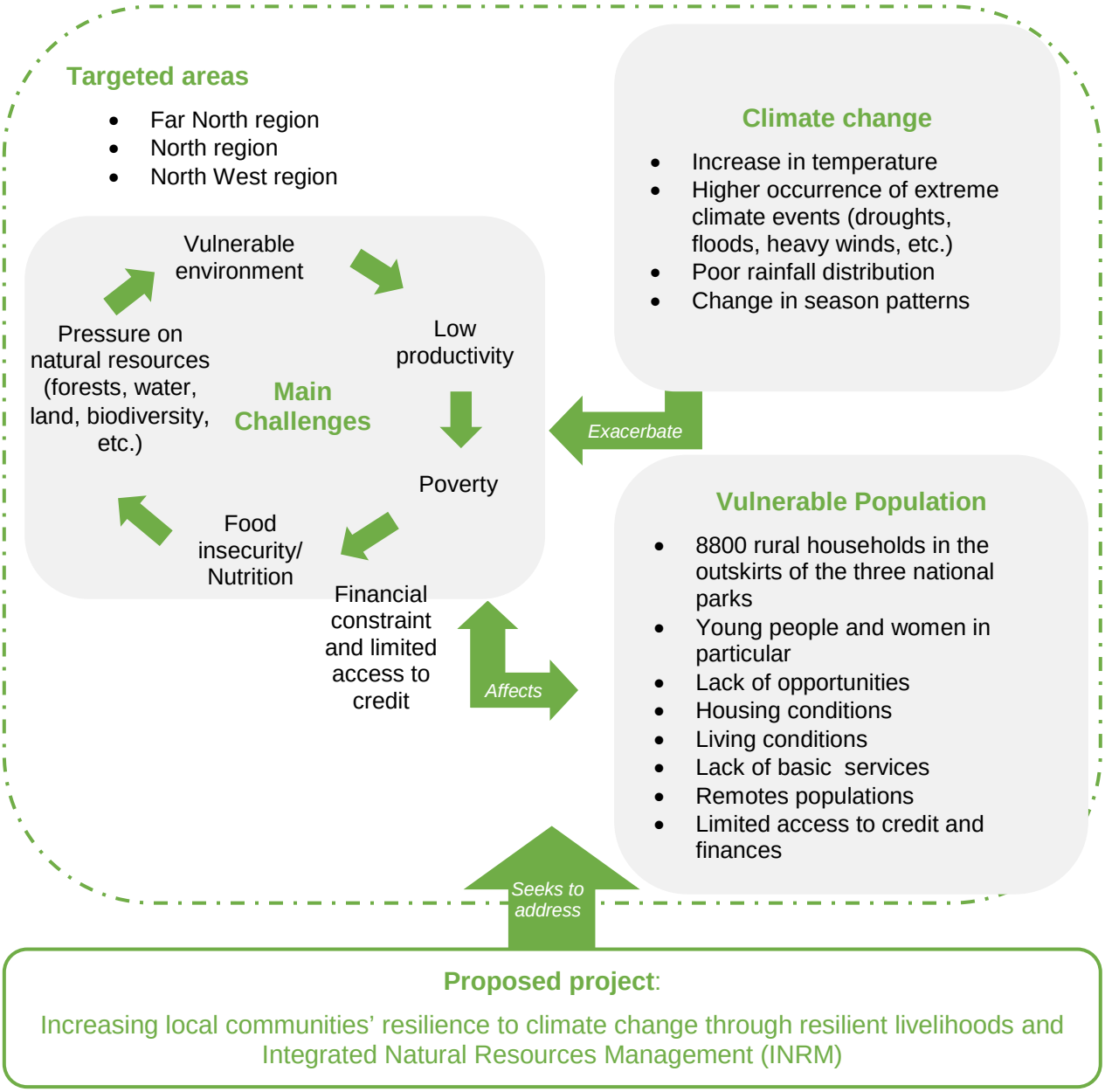
semi-arid areas	severity of drought	to address rainfall variability
		Community water management committees
		Access to more drought-tolerant crops

Concretely and operationally, this will be achieved through (i) the integration of climate change adaptation and resilient development perspectives in institutional frameworks and local development planning processes; (ii) the strengthening of ecosystem resilience to climate change through a better knowledge of their status and vulnerability and the implementation of restoration measures; and (iii) the improvement of climate change adaptation capacities and awareness among young people and local communities and the strengthening of more resilient livelihoods.

The three zones of intervention of the project face various challenges that are likely to be exacerbated by climate change.

The figure below illustrates the problems to be addressed by the proposed project.

Figure 12: Illustration of the problems the proposed project seeks to address



To address these challenges in a context of climate change, the project will intervene livelihood diversification as a means of adaptation in the following manner in the three regions of intervention:

- In the Far North (Waza National Park): The project will support (i) the installation of livestock water points; (ii) the promotion of community forestry and reforestation activities; (iii) the rehabilitation of degraded soils and the adoption of sustainable agro-sylvo-pastoral practices; (iv) the development of economic opportunities for young people through eco-businesses; (v) Access to finance through a Facility (initial capital of 4 million) and a payment for ecosystems schemes that will provide finance to young entrepreneurs for sustainable management of natural resources and promotion (vi) the sustainable exploitation of NTFP - especially arabic gum, practiced by women informally.

- In the North (Bénoué National Park): The project will (i) support the improvement of natural resources management in community game areas; (ii) install livestock water points to limit competition on the water resources of the national park; (iii) develop economic opportunities for young people through eco-businesses; iv) Access to finance through the Facility (initial capital of 4 million) that will provide finance to young entrepreneurs as well as a payment for ecosystems schemes (v) and (iv) develop NTFP, especially shea butter, traditionally carried out by women.
- North West (Kimki-Fungom National Park): The Project will focus its work on (i) supporting the development of the National Park management plan, and simplified management plan for surrounding community forests; (ii) increasing knowledge of ecosystems and natural resources in the outskirts of the national park; (iii) developing interventions in community forests and reforestation; (iv) strengthening the entrepreneurial approach of young people; v) Access to finance through the Facility (initial capital of 4 million) that will provide finance to young entrepreneurs (v) valorisation of NTFP – particularly wild mango and njansang.

2 PROJECT OBJECTIVES:

The overall objective of the project is to increase local communities' resilience to climate change through resilient livelihoods and integrated natural resources management.

The project will deliver this objective through three outcomes:

- Outcome 1: Climate proofed institutional frameworks and local development plans at regional and local level;
- Outcome 2: Ecosystems resilience to climate change is strengthened through monitoring and better knowledge of their status and vulnerability;
- Outcome 3: Sustainable management of natural resources and ecosystems leading to climate resilient ecosystems, green jobs creation for youth and resilient livelihoods.

3 PROJECT COMPONENTS AND FINANCING:

Project Components	Expected Concrete Outputs	Expected Outcomes	Amount (US$)
Component 1: Mainstream climate change adaptation into institutional and regulatory frameworks plans for improved land and natural resources management at regional and local level	• Output 1.1: Institutional and regulatory frameworks and plans at municipal and regional level are strengthened to promote climate change adaptation and the resilient management of natural resources • Output 1.2: Land and natural resources management are improved in the Waza, Bénoué and Kimbi-Fungom national parks and their outskirts to increase the resilience to climate change of vulnerable populations contributing to emissions reduction	Outcome 1: Climate proofed institutional frameworks and local development plans at regional and local level	1,400,000
Component 2: Improve knowledge on ecosystems' vulnerability to climate change, ecosystem-based adaptation and climate smart businesses opportunities	• Output 2.1: Climate information systems and surveillance mechanisms are strengthened through the development of a unified observation system to respond to climate change • Output 2.2: Ecosystem-based adaptation and climate smart businesses opportunities for the most vulnerable groups are identified (youth, indigenous people, women, displaced people) and information systems are improved	Outcome 2: Ecosystems resilience to climate change is strengthened through monitoring and better knowledge of their status and vulnerability	1,300,000

Component 3: Adaptation to climate change measures are implemented through incentives instruments leading to increasing the resilience to climate change of targeted communities and areas	• Output 3.1: An Investment Fund is established and managed to invest in sustainable agroforestry and renewable energy enterprises for youth and other marginalized groups • Output 3.2: Climate adaptation actions in agroforestry and natural resources management are made through the Investment Fund with a focus on youth and other marginalized groups. • Output 3.3: Payments for ecosystem services schemes to support conservation of fragile ecosystems are introduced	Outcome 3: Sustainable management of natural resources and ecosystems leading to climate resilient ecosystems, green jobs creation for youth and resilient livelihoods	6,000,000
6. Project Execution cost			500,000
7. Total Project Cost			9,200,000
8. Project Cycle Management Fee charged by the Implementing Entity (8.5%)			782,000
Amount of Financing Requested			9,982,000

Projected Calendar

Milestones	Expected Dates
Start of Project Implementation	2018
Mid-term Review (if planned)	2021
Project Closing	2024
Terminal Evaluation	2024

PART II: PROJECT JUSTIFICATION

1 PROJECT COMPONENTS

The proposed project aims to increase local communities' resilience to climate change through resilient livelihoods and integrated natural resources management in the outskirts of the Waza, Benoué and Kimbi-Fungom national parks. The project's objective is aligned with five outcomes of the Adaptation Fund, namely:

- Adaptation Fund Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level
- Adaptation Fund Outcome 4: Increased adaptive capacity within relevant development and natural resource sectors
- Adaptation Fund Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress
- Adaptation Fund Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas
- Adaptation Fund Outcome 7: Improved policies and regulations that promote and enforce resilience measures.

As outlined in the previous section, local populations in the targeted areas are amongst the poorest and the most vulnerable in Cameroon. They live in a fragile environment which is under increasing anthropogenic pressure due to the unsustainable management of natural resources in a context of a growing population combined with food insecurity and poverty. The situation in the three areas of intervention is likely to worsen with the effects of climate change, with for instance an expected rise in temperatures, higher occurrence of extreme climate events, poor rainfall distribution and changes in season patterns. To cope with this negative trend, the project aims to take advantage of the climate window of opportunity until 2030 to support local communities in their adaptation to climate change so that they are able to cope with its long term effects on their livelihoods. To achieve this objective, the project will therefore create an enabling environment for climate change adaptation at the institutional level, and will contribute to increasing the resilience of both the local ecosystems and natural resources, and local communities (in particular young women and men) so that a sustainable development can take place in the long term in these areas in a changing climate context.

To project is structured around three components:

- Component 1: Mainstream climate change adaptation into institutional and regulatory frameworks plans for improved land and natural resources management at regional and local level;
- Component 2: Improve knowledge on ecosystems' vulnerability to climate change and ecosystem-based adaptation and climate smart businesses opportunities; and
- Component 3: Adaptation to climate change measures are implemented through incentives instruments leading to increasing the resilience to climate change of targeted communities and areas.

Each component is described in more details below.

The project will directly benefit 8,800 rural households, representing almost 52,800 people living in the outskirts of the three national parks (about 40% of the population), including: 6,200 households supported for the management of community forest, game areas and through pastoral water points; and 2,600 households supported in agroforestry and sub-catchment development. Among these 8,800 households, 2,300 young eco-entrepreneurs (of which 50% will be women) will be supported as well. The project will indirectly benefit the population of the park outskirts through development and restoration initiatives as well as the creation of jobs and resilient livelihoods in the area. In particular, the project will pay a specific attention to young people and will seek to be inclusive and promote gender equity.

Component 1: Mainstream climate change adaptation into institutional and regulatory frameworks plans for improved land and natural resources management at regional and local level.

The expected outcome of this component is **climate proofed institutional frameworks and local development plans at regional and local level (Outcome 1)**. This outcome is aligned with the Adaptation Fund Output 7: "Improved integration of climate resilience strategies into country development plans". This component aims to build an enabling environment so that institutions are aware and able to promote climate change adaptation in the long term at the national, regional and local level. The expected outputs and activities to be implemented under this component are as follows:

Output 1.1: Institutional and regulatory frameworks and plans at municipal and regional level are strengthened to promote climate change adaptation and natural resources management

This output aims to mainstream climate change adaptation into the regional and municipal development plans of the three areas of intervention. This mainstreaming process will be participatory and will include relevant stakeholders. The management and development plans of the three national parks will be reviewed to identify potential gaps in terms of climate change adaptation and potential amendments to these frameworks will be proposed to better integrate the challenges posed by climate change. In particular, the project will review the Waza National Park development plan, support the ongoing reformulation process of the Bénoué national park development plan, and support the elaboration of a development and management plan for the Kimbi-Fungom national park that does not exist yet. The budget of the different plans will also be reviewed to ensure that they are aligned with adaptation needs. In addition, monitoring and evaluation (M&E) systems will be developed for the different plans to monitor their implementation.

The following activities will be implemented to achieve this output:

- *Activity 1.1.1:* Carry out a socio economic baseline and a community based Climate Vulnerability and Capacity Assessment (CVCA) to update the institutional and regulatory policy frameworks and plans
- *Activity 1.1.2:* Organise workshops and dialogues to raise awareness on climate change adaptation, generate political will and integrate the vulnerability assessment outcome and stakeholders' input into the relevant strategic framework and investment plans
- *Activity 1.1.3:* Develop voluntary codes of practice for forest management activities, including timber harvesting

- *Activity 1.1.4:* Develop a road map for the implementation of the updated frameworks with a resource mobilisation strategy
- *Activity 1.1.5:* Organize participatory planning sessions to review and update local and regional development plans in the areas of intervention to mainstream climate change adaptation
- *Activity 1.1.6:* Review of the management and development plans of Waza and Bénoué national parks to identify potential gaps in terms of climate change adaptation, and propose potential amendments to mainstream this dimension
- *Activity 1.1.7:* Develop simple M&E systems for local and regional development plans, in order to enable local authorities to properly monitor their implementation
- *Activity 1.1.8:* Provide institutional and capacity building to local authorities to implement natural resources conservation and adaptive frameworks
- *Activity 1.1.9:* Develop practical guidance for updating regional and local development plans with up-to-date climate change information

Output 1.2: Land and natural resources management are improved in the Waza, Bénoué and Kimbi-Fungom national parks and their outskirts to increase the resilience to climate change of the vulnerable people

This output aims to mainstream climate change adaptation and natural resources management in the three national parks and their outskirts, in particular by integrating climate change into the national parks management and development plans, and by creating/updating community forest and game areas at their outskirts (buffer zones). This output will also consist in creating/updating community forests and game areas at the outskirts of the three national parks, including their legal status, management entities and the elaboration of simplified management plans. This output, and especially the creation and demarcation of community forests and game areas, will be participatory and involve all relevant stakeholders.

The following activities will be implemented to achieve this output:

- *Activity 1.2.1*: Use of a Drivers-Pressures-State change-Impact-Response (DPSIR) framework to identify and analyse specific project activities areas
- *Activity 1.2.2:* Nine forest areas to be classified as “community forests” and to be managed sustainably by the communities at the outskirts of Waza (3 community forests of around 3 000 ha each) and Kimki-Fungom national parks (6 community forests of around 2 000 ha each)
- *Activity 1.2.3:* Participatory micro-zoning of game areas #1 and #4 in the outskirts of the Bénoué national park to recognize a living space for local communities, identify conflict zones and regulate natural resources use outside of this living space
- *Activity 1.2.4:* Assess the conservation status of 10 endangered or endemic flora and fauna species and develop climate conservations plans for at least 5 of them
- *Activity 1.2.5:* Conduct vulnerability assessment to climate change of local ecosystems, and the needs for adaptation on the outskirts of Waza, Bénoué and Kimbi-Fungom national parks
- *Activity 1.2.6:* Establish of natural (and temporary) physical fencing in the buffer zones

- *Activity 1.2.7:* Document, revive and promote continued use of traditional and indigenous systems related to conservation and climate resilience
- *Activity 1.2.8:* Improve water resource management in vulnerable households for food production systems through the water efficient practices such as drip irrigation
- *Activity 1.2.9:* Forest restoration on degraded lands within and outside the parks through the plantation of around 15,000 trees from selected species demonstrating strong resilience to climate change and adaptation to the local ecosystems and the livelihood needs of the local communities
- *Activity 1.2.10:* Create a community forest and game areas management entities: identification of relevant stakeholders, consultation with local communities, and development of the legal status of the entities
- *Activity 1.2.11:* Support the new entities in the classification process of the identified areas into community forest and game areas
- *Activity 1.2.12:* Elaboration of simplified management plans for the demarcated community forests and game areas defining communities' rights and access modalities to the natural resources of the area (spatial planning of crop land, livestock raising, firewood, NTFP, hunting, etc.) ensuring long-term conservation of ecosystem services in a climate change context

Component 2: Improve knowledge on ecosystems' vulnerability to climate change, ecosystem-based adaptation and climate smart businesses opportunities.

The expected outcome of this component is **a strengthened resilience to climate change of the different ecosystems through monitoring and better knowledge of their status and vulnerability (Outcome 2)**. This Outcome is aligned to the Adaptation Fund Outcome 3: "Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level".

The expected outputs and activities to be implemented under this component are as follows:

Output 2.1: Climate information systems and surveillance mechanisms are strengthened through the development of a unified observation system to respond to climate change.

This output aims to upgrade the information systems in the three national parks and their outskirts, more specifically to gather up-to-date information on climate change vulnerability to better inform the adaptation process. In particular the project will support the introduction of drones, the improvement of meteorological, climatic and sentinel stations, the introduction of resilience measurement tools and the training of eco-guard in these new information systems.

Drones are not currently used in Cameroon for national parks surveillance. This technology will be used to monitor the impacts of climate change at the three protected areas (Waza, Bénoué and Kimbi-Fungum) and their surroundings. It could also be used as a supervision and monitoring tool for the project activities.

The following activities will be implemented to achieve this output:

- *Activity 2.1.1*: Introduction of drones in the three national parks for ecosystems and natural resources surveillance to better monitor the impact of climate change, forest cover changes and ecological responses within protected areas and buffer zones.

- *Activity 2.1.2*: Set-up, rehabilitate or upgrade of the network of meteorological stations (automatic rain gauges, lightning detectors, standard equipment, power supply, telecoms for field stations) and of the sentinel sites in the three intervention sites.
- *Activity 2.1.3:* Training of Eco-guards and communities on the maintenance of meteorological stations, and of the sentinel sites in the three intervention sites.
- *Activity 2.1.4:* Capacity building of Eco-guards on drone technology, climate data collection, monitoring, and treatment for decision making in the three national parks.
- *Activity 2.1.5:* Upgrade and introduce data collection and communication equipment and devices, data storage and management systems, computers and software for remote sensing, software and customized tools for GIS, modelling and forecasting.
- *Activity 2.1.6:* Consolidation of hazard and risk maps, analysis and completion of historical data, identification of climate variability indicators for rainfall and temperature and consolidation of all available data.
- *Activity 2.1.7:* Application of specific tools (such as the FAO tool SHARP - Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists) to measure the evolution in the level of climate change resilience in local communities.
- *Activity 2.1.8:* Develop a monitoring system for the conservations plans of the 5 most endangered or endemic flora and fauna species.

Output 2.2: Ecosystem-based adaptation, climate smart businesses opportunities for the most vulnerable groups are identified (youth, indigenous people, women, displaced people) and information systems are improved.

The following activities will be implemented to achieve this output:

- *Activity 2.2.1*: Assess local alternative employment based on the Climate Vulnerability and Capacity Assessment (CVCA) with a special focus on youth, indigenous people, women and displaced people.
- *Activity 2.2.2*: Identify ecosystem-based adaptation and climate-smart solutions based on the different group of beneficiaries.
- *Activity 2.2.3*: Develop and maintain on a regular basis a database of potential eco-business opportunities and climate vulnerable beneficiaries.
- *Activity 2.2.4*: Establish local concertation platforms on eco-businesses and natural resources management in the villages of the three areas of intervention (gathering the management entities of the community forests and game areas).
- *Activity 2.2.5*: Increase generation and use of ecosystem-based adaptation and climate smart business opportunities in decision making and local development and investment plans.
- *Activity 2.2.6*: Develop a rural youth employment local guide with ecosystem-based adaptation and climate-smart practices.
- *Activity 2.2.7*: Awareness raising on opportunities stemming from NTFP (acacia gum, shea butter, wild mango and njansang) among young people in the three areas of intervention, and selection of interested potential young entrepreneurs.

- *Activity 2.2.8*: Conduct a feasibility study on market information and business opportunities on NTFP system through cellular and internet technologies.

Component 3: Adaptation to climate change measures are implemented through incentives instruments leading to increasing the resilience to climate change of targeted communities

The expected outcome of this component is **sustainable management of natural resources and ecosystems leading to climate resilient ecosystems, green jobs creation for youth and resilient livelihoods (Outcome 3)**. This Outcome is aligned to the Adaptation Fund Outputs 4 and 5: "Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability" and Output 6: "Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability".

The expected outputs and activities to be implemented under this component are as follows:

Output 3.1: An Investment Fund is established and managed to invest in sustainable agroforestry enterprises for youth and other marginalized groups.

This output aims to establish an investment fund that will finance sustainable eco-businesses for youth and other marginalized groups in the areas of intervention. The fund will be hosted by a local bank Afriland First Bank- partner and will operate as special window under the IFAD investments . The output will raise awareness among young people on existing opportunities for them to develop resilient eco-businesses. The term "eco-business" is understood as an agro-pastoral business that conducts its activities through an integrated approach to the management of natural resources, and is better equipped to adapt to the effects of climate change. To achieve this output, the project will carry out awareness raising activities and will strengthen existing training centres so they can provide business training for a number of selected young entrepreneurs. It will also aim to develop the NTFP sector and train young entrepreneurs on the specific opportunities that this sector can offer. Under this output, activities will be linked to the management of the community forests and game areas to ensure the sustainable management of natural resources.

The following activities will be implemented to achieve this output:

- *Activity 3.1.1*: Partner with a local bank or microfinance institution to establish an Investment Fund of 4 Million USD
- *Activity 3.1.2:* Provide training for selected young people (2,300) on how to build an eco-business (economic aspects, business plans, leadership, entrepreneurship and citizenship, training in the legal status of land occupation and use of natural resources in the areas of intervention, support for professional integration).
- *Activity 3.1.3:* Call for proposal for at least 400 projects from young eco-entrepreneurs, women, indigenous people and displaced people.
- *Activity 3.1.4:* Finance 30% of the Fund to indigenous people, women and displaced people projects for sustainable agroforestry and renewable energy enterprises.
- *Activity 3.1.5:* Define ecosystem-based adaptation and climate-smart practices criteria to assess all future projects.

- *Activity 3.1.6:* Community awareness and mobilisation on climate resilient and ecological agro-sylvo-pastoral NTFP eco-business to address women's and youth's needs and priorities.
- *Activity 3.1.7:* Capacity building for existing business training centres and development of training strategies for young eco-entrepreneurs to tap into this fund.
- *Activity 3.1.8:* Analysis and diagnosis of existing producer organizations and cooperatives in the areas of intervention to receive fund from the investment fund on eco businesses.

Output 3.2: Climate adaptation actions in agroforestry and natural resources management are made through the Investment Fund with a focus on youth and other marginalized groups.

The objective of this output is to promote climate change adaptation and natural resources management in agroforestry through the Investment Fund. Through this output, a Farmers Field Schools (FFS) will be set up in the three areas of intervention to train local communities (including young eco-entrepreneurs) and implement sustainable and resilient agroforestry, soil and water conservation measures so that local communities can better cope with the effects of climate change. To ensure that the FFS training is best suited to the situation of the areas of intervention, a diagnosis will be carried out before hand in each project intervention zone.

The following activities will be implemented to achieve this output:

- *Activity 3.2.1*: Fund invests in 200 type of sustainable business models of home gardens using techniques to reduce climate risks (such as drip irrigation, soil and water conservation and agro-ecological practices).
- *Activity 3.2.2:* Fund invests in youth initiatives to promote rural alternative energy (biogas plants, solar) in agroforestry, NTFP and livestock production value chain development.
- *Activity 3.2.3:* Fund invests in setting up (FFS): develop training tools for master trainers, train and equip master trainers, develop training curricula for farmers.
- *Activity 3.2.4:* Fund invests in 2000 ha of sustainable land management measures (soil, water, etc.) with a labour-intensive approach through the FFS approach.
- *Activity 3.2.5:* Fund invests in 2000 ha of agroforestry measures through the FFS approach.
- *Activity 3.2.6:* Fund supports the construction and improvement of facilities for rainwater storage, permeation and runoff control.
- *Activity 3.2.7:* Fund supports directly at least 9 indigenous associations to lead the collection of local knowledge and identification of traditional productive practices relevant for climate change via an indigenous service provider.
- *Activity 3.2.8:* Fund supports the construction of erosion control structures and construction of flood mitigation structures.
- *Activity 3.2.9:* Fund supports the restoration of land, wildlife habitat based on climate information.
- *Activity 3.2.10:* Fund supports the promotion ecotourism, sustainable harvesting, local processing of selected commercially viable NTFP, and nature based local enterprises to

enhance community resilience to climate change impacts through alternative income generation.

- *Activity 3.2.11:* Fund invests in construction of 20 livestock water points in the outskirts of the national parks to prevent conflicts over water points within the parks, and to protect the reforested areas. The location of the water points will be decided through a participatory process.
- *Activity 3.2.12:* Fund supports the creation of and assistance to WUAs in running the 20 water points to increase awareness of water scarcity and the need for a rational use.
- *Activity 3.2.13:* Fund supports ecosystem resilience to climate change through targeted restoration investments.
- *Activity 3.2.14:* Fund support the development of green and climate resilient design and construction principles in and outside the park and protected areas.
- *Activity 3.2.15:* Fund supports the establishment of nurseries, fields and seedbanks for crop research of local seeds and varieties to their resilience for climate change and their suitability for home gardens.

Output 3.3: Payments for ecosystem services schemes to support conservation of fragile ecosystems are introduced.

This output aims to develop and introduce incentive instruments such as ecosystem services schemes for young farmers to invest in biodiversity conservation and carbon sequestration techniques in order to enhance their livelihoods while producing global environmental benefits.

The following activities will be implemented to achieve this output:

- *Activity 3.3.1:* Establish a stimulus fund of 2 million USD to introduce Payments for Ecosystem Services schemes (PES) for forest conservation. The stimulus fund will be hosted by a local bank Afriland First Bank- partner under the special window
- *Activity 3.3.2:* Sign an agreement with the Centre pour l'Environnement et le Développement (CED), BioClimate Research & Development (BioClimate) and the Rainforest Foundation UK to expand their PES under the REDD+ with their modalities in the targeted regions.
- *Activity 3.3.3:* Develop partnership with the Congo Basin Fund (CBFF) and other funds to mobilize more resources to scale up PES (Forest management and sustainable practice); Capacity building in REDD+; in monitoring, assessment and verification; and in sustainable forest management and livelihoods and economic development.
- *Activity 3.3.4:* Dissemination of project good practices and experiences through various networks at the local, regional and national levels.

2 PROJECT BENEFITS

Social benefits

The riparian population of the three national parks is particularly diverse as it includes for instance indigenous people, migrants from different migration waves, and internally displaced persons. In such context, the project will target around 8,800 rural households to help them adapt to the effects of climate change. The project will be inclusive and will ensure that the different categories of beneficiaries participate, are included and benefit from the project activities. The beneficiaries of the different project activities will be identified at the start of the project. In a context of rapidly changing socio-economic dynamics, beneficiary eligibility criteria for each activity will be defined and validated with communities involving young people, women and the most vulnerable. The criteria will be discussed objectively (plot size or number of animals, type of housing, level of education, etc.) and associated with assessments of maturity, residence or motivation.

Targeted communities will benefit from an improved management of natural resources in community forest and game areas so that they can sustainably benefit from these resources in the long term for their livelihoods. They will also be trained in sustainable resilient agro-sylvo-pastoral practices through the FFS approach, which will contribute to reduce food insecurity.

The project will target young people in particular, as they are the ones that will be the most impacted by the effects of climate change by 2030. The project will adapt to the heterogeneity of the rural youth in the areas of intervention and will take into account its various needs, interests of capacities. Young women and young men will for instance be supported in the development of resilient eco-businesses in the areas of intervention. They will also benefit from the FFS trainings and the development of the NTFP sector. Young people will also be considered and represented in the project concertation mechanism and decision making processes.

The project will adopt a gender sensitive approach and will ensure that women participate in and benefit as much as men from the project intervention. The main factors of exclusion of women and young women will be taken into account throughout the project implementation, including the weight of customs and traditions, early marriage, and the lower level of education, which weakens their access to socio-economic opportunities. In addition, the project will apply IFAD's Gender Action Learning System (GALS), an innovative community-led methodology that comprises a series of tools enabling household members to negotiate their needs and interests and find innovative, gender-equitable solutions in livelihoods planning and value chain development[9]. The GALS will enable both the most disadvantaged and minorities to be included in the dynamics of the project, while addressing the root causes of gender inequalities and fostering collaboration between the generations. The project will also ensure that women are represented in the project decision making processes.

The purpose of the GALS methodology is to give women more control over their lives and to catalyse and support a sustainable movement for gender justice. GALS promotes equality in rights and opportunities by:

- empowering the most vulnerable women and men to develop, negotiate, implement and monitor their own plans for increasing productivity/quality and incomes, reducing livelihood risks and increasing gender equality within households;

[9] https://www.ifad.org/web/knowledge/publication/asset/39435857

- bringing about significant changes in property rights, gender-based violence and participation in economic decision-making;
- In the context of value chain development, engaging with and gaining commitment of more powerful private-sector actors at the local and national levels to develop win-win strategies for value chain development that address gender issues and promote inclusion of the most vulnerable.

Economic Benefits

The project targets a rural population that is amongst the poorest and the most exposed to food insecurity in Cameroun, and it aims to generate economics benefits for targeted communities at various levels. Economic benefits will mostly be generated by making the livelihoods of local communities more resilient to climate change, and creating economic opportunities through resilient eco-businesses, resilient agro-sylvo-pastoral practices and the development of the NTFP sector.

Environmental Benefits

The project will generate direct and indirect environmental benefits through different entry points.

The project will create an enabling institutional environment for the sustainable and resilient management of natural resources in the long term through its first component. It will for instance strengthen the institutional framework at the national and local levels, and in the different national parks by making sure that climate change is considered and integrated. This will contribute to ensuring a sustainable protection of natural resources in the long term, even in a context of a changing climate. In addition, the classification in community forests and game areas of some of the areas of intervention will create an opportunity to regulate and promote a sustainable use and management of natural resources within these areas in order to support the healthy functioning of the ecosystems and their services.

The second component of the project aims to generate knowledge on the environment of the different areas of intervention in order to better measure and monitor its health and vulnerability to climate change. This knowledge will be able to inform the preservation of the environment. In addition, the project will contribute to the restoration of different ecosystems by supporting the plantation of around 15,000 trees. The project will also support the construction of livestock water points in the outskirts of the national parks to relieve livestock pressure on water resources within the parks.

The third component of the project aims to create sustainable and resilient livelihood opportunities for local communities. It should generate positive effects on the environment as it will raise awareness and train people on how to sustainably manage local agro-sylvo-pastoral natural resources (forest, soil, water, etc.), and therefore limit anthropogenic pressures on the environment. The development of economic activities in the periphery of the national parks should contribute to their preservation through the creation of income opportunities. Previous IFAD's experiences has shown that agro-forestry and sustainable soil management practices have a long-term and large-scale impact when they are structuring and carried out within the legal and regulatory framework.

The benefits generated by the Project have been taken into account in calculating the economic rate of return. These include environmental benefits. The adjustment of the Ex-Act software parameters to the context of Cameroon in each Region indicates that the Project avoids considerable amounts of carbon emissions. The profit calculation figure is modest but interesting for the amount and impacts of the Project. The carbon benefit is linked to agro-sylvo-

pastoral good practices, reforestation and sustainable management plans for community forests and community-based hunting areas.

All Project activities will have a positive global impact on greenhouse gas emissions over a 20-year period:

- In the Far North, the project will reduce emissions by 900 000 tons of CO_2, 195 tons CO_2eq of N_2O and 103 tons CO_2eq of CH_4 ;In the North, the project will reduce emissions by 5,150,000 tons of CO_2, 122 tons CO_2eq of N_2O and 34 tons CO_2eq of CH_4;
- In the North West, the project will reduce emissions by 1,920,000 tons of CO_2, 384 tons CO_2eq of N_2O and 34 tons CO_2eq of CH_4.

3 COST EFFECTIVENESS

The proposed project is expected to be cost-effective throughout its three components.

The first component of the project aims to create an enabling environment for climate change adaptation at the national, regional, municipal and national parks levels. The approach under this component is cost-effective in the sense that the project will mainstream climate change adaptation into existing strategic and operational frameworks (national strategies, municipal development plans and development and management plans of the Waza and Bénoué national parks etc.) instead of developing new strategic documents from scratch. In that sense, the project will support a cost effective approach while also encouraging national ownership over the project outputs.

The project will also support the elaboration of a development and management plan for the Kimki-Fungom national park, which was created in 2005 and does not have one yet. It will also support the elaboration of simplified management plans for community forests and game areas. While these documents will be developed from scratch as they do not yet exist, this approach is considered cost effective as it will benefit from an overall consultative and participatory approach as well as a mapping process of these different areas, and will enable the sustainable management of these areas and their natural resources in the long term. In addition the project will provide support to local authorities for the implementation of the different plans to ensure that they remain implemented in the long term to maximize results.

Under the second component of the project, surveillance and information systems to be introduced are considered cost effective. For instance, the introduction of drones, even though costly, will allow for a very accurate surveillance of the different protected areas and will enable the monitoring of the protected areas and their outskirts. They will for instance allow the measurement of climate change impacts and anthropogenic pressures, as well as the measurement of project results in the national parks and their outskirts. They will therefore be highly valuable for monitoring project results during its implementation, but also beyond the project, to measure and monitor long term trends and impacts on these important protected areas and their outskirts. The national park authorities will be trained in this type of technology so they can carry out the monitoring work in the long term.

When it comes to meteorological and climatic stations, the project will follow a cost effective approach as it will focus first on rehabilitating and upgrading existing ones, and will only set up new ones where necessary.

Throughout the project's duration, awareness and capacities will be strengthened – mainly in climate change adaptation and resilient agro-sylvo-pastoral practices - in various institutions at the national, provincial and local levels. The staff with strengthened capacity will remain in the country after the end of the project and will therefore be able to upscale awareness on CCA and

resilient natural resources management, which will allow for a potential replication of the project results.

The cost effectiveness of the project can also be shown through the support provided to the development of eco-businesses. It has a high potential on return on investment by creating jobs and economic opportunities for young people, while increasing their resilience to climate change and protected the environment.

The restoration measures, and the agro-sylvo-pastoral practices to be promoted by the project are deemed cost effective because they are low-cost no-regret measures. These different measures such as the plantation of trees, creation of water points or the promotion of resilient agro-sylvo-pastoral activities are all cost-effective labour-intensive investments that strengthen local capacities. Regarding FFS in particular, in the preparation of the FAO/GEF project "Integrating climate resilience into agricultural production for food security in rural areas of Mali", a comparison of costs for FFS and standard training approaches to extension was undertaken. Although not directly transferable to this project, the findings were that "building upon 400 existing FFS and 233 experienced facilitators (for crops such as rice, cotton and vegetable gardening) will save 251 540 USD in training costs alone and 220 000 USD in FFS operation over the project cycle." Although not a solid economic analysis, this does strongly indicate the cost-effectiveness of the FFS approach.

The project will also seek synergies and complementarities with on-going initiatives and programs having similar objectives while avoiding overlaps. In that sense, all interventions will be coordinated closely with other relevant on-going initiatives implemented in the country. Cost-effectiveness will also be achieved through knowledge management, synergies and complementarities.

4 STRATEGIC ALIGNMENT

The project is aligned to the main strategic documents of the country in terms of climate change adaptation and natural resources management, as described here below.

- **Cameroon NDC**: By improving smallholder farmers resilience to climate change while also reducing their greenhouse gas emissions the project is completely aligned with Cameroon's Nationally Determined Contribution. Agriculture and forestry are among Cameroon's priorities for both mitigation and adaptation. Cameroon intends through its NDC to reduce the carbon footprint of its development without slowing its growth, by favouring mitigation options with high co-benefits; strengthen the country's resilience to climate change; bring coherence to its sectoral policies and reinforce its mechanism and implementation tools to facilitate the achievement of these objectives; and mobilize for this purpose all relevant means: financing, technology transfer and capacity building. Most of these objectives will be supported by the project.
- **PNACC**: By aiming to increase the resilience to climate change of vulnerable populations the project directly contribute to the visions of the PNACC[10]. The project is also supporting all four strategic objectives of the PNACC that are as follows: (i) improving knowledge on climate change in Cameroon (through project output 1.1, and 3.4), (ii) inform, educate and mobilize the Cameroonian population to adapt to climate

[10] « Climate change is fully integrated into the country's sustainable development, reducing its vulnerability, and even turning climate change into a solution/opportunity for development. Thus Cameroonians - particularly women, children and vulnerable people - and the country's economic sectors have a greater resilience and adaptability to the impacts of climate change »

change (through project component 3), (iii) reduce vulnerability to climate change in the main sectors and agro-ecological zones of the country (through project component 2 and 3); and (iv) integrated adaptation to climate change into strategies and national sectoral policies (through project component 1).

- **NBSAP II**: the project promotes the sustainable management and use of natural resources within and in the outskirts of the three national parks of Waza, Bénoué and Kimki-Fungom and is therefore aligned to the objective of the NBSAP II that aims to establish a sustainable relationship between Cameroon's populations and the country's biodiversity to meet the development needs and the wellbeing of the population, and to preserve the health of its ecosystems.
- **Cameroun Vision 2035** includes *"a residual level of poverty, illiteracy and social exclusion, a residual level of unemployment and underemployment, woman with a reinforced and economically autonomous social role, a well-trained youth demonstrating merit and national expertise"*. The project is aligned with this vision, in particular through the promotion of eco-businesses and economic opportunities for local communities and in particular young women and men. The gender approach (GALS) undertaken by the project is also well align with the vision.
- **PNIA 2014-2020.** The project contribute to 3 of the 4 priority thematic areas of the PNIA, namely:
    - *Thematic area 1: Development of production chains (crops, livestock, fisheries and forests) and improvement of food and nutritional security* – through its third component of the development of eco-businesses, agro-sylvo-pastoral activities through FFS, and the development of the NTFP sector;
    - *Thematic area 3: Sustainable management and valorisation of natural resources* – through promoting a sustainable management in the institutional and strategic framework (project component 1), restoration measures (project component 2), and the promotion of a sustainable use of natural resources in agro-sylvo-pastoral activities (project component 3); and
    - *Thematic area 4: Capacity building of rural development stakeholders and promotion of concertation mechanisms* – through capacity building and awareness raising at the institutional and at the community levels, and through the establishment of concertation mechanisms.
- **National Gender Policy 2011-2020** promotes an impartial and egalitarian society for women and men in order to ensure a sustainable development. The proposed project is aligned to two objectives of the strategy, namely: "ensure equal rights and opportunities to men and women regarding access and control of resources", and "create favourable conditions for equal participation of women and men in development activities".
- **PSFE.** Cameroon has a forest planning tool called "Programme Sectoriel Forêts-Environnement" (PSFE) which is the framework program of action of the Government of Cameroon for the implementation of its forestry and environmental policy. Its implementation since 2005 is part of the momentum of the Paris Declaration on Harmonization of Aid through the leadership of the recipient government. It has five main components divided into the three categories below:
    - A general component whose goal is the control of the environmental situation related to the forest sector in Cameroon - 'Environmental Management of Forestry Activities' ;

- Three specific components that target productive forest management, wildlife and protected area management, and community-based resource management - "Management of Permanent Forest Estate Production Forests and Enhancement of Forest Products", "Conservation of Biodiversity and enhancement of wildlife resources', 'Community Management of Forest and Wildlife Resources' ;
- A cross-cutting component for capacity building of sector actors - 'Institutional Capacity Building, Training and Research'.

- **National Action Plan for Youth Employment (2016-2020).** The third component of the project, and its output 3.1 in particular, is aligned to the following strategic orientations of the National Action Plan for Youth Employment: (i) matching employment and training, (iii) promotion of youth decent employment, and (iv) promotion and development of youth entrepreneurship.

5 STANDARDS

The project will respect and take into account the legal framework and requirement in effect in Cameroun, and will comply with the Environmental and Social Policy of the Adaptation Fund.

In particular, the project will comply with the following regulation:

- **Framework Law on environmental management** (No. 96/12 from August 5 1996) which establishes in article 9 the fundamental principles of environmental management in Cameroon: (i) the precautionary principle, (ii) the principles of preventive and remedial action, (iii) the polluter-pays principle, (iv) the responsibility principle, (v) the participation principle and (vi) the subsidiarity principle;
- **Decree No. 2013/0171/PM of 14 February 2013** defines the procedures for preliminary or detailed environmental impact assessments, and for environmental impact notices, respectively categorized as A and B. The project will therefore have to produce an Environmental Impact Notice, for validation by the Departmental Head of Decentralized Services of the Ministry of the Environment, prior to the implementation of activities;
- **Law No. 98/005 of 14 April 1998** on the water regime;
- **Law No. 99/017 of 22 December 1999**, governing the quality control of soils, building materials and geotechnical studies;
- **Law No. 94/01 of January 20 1994**, on the Forest, Wildlife and Fisheries Regime and **Decree No 95/466/PM of July 20 1995**, establishing the procedures for the application of Wildlife regime. Currently, harvesting products in forests owned by the State is illegal in Cameroon, only harvesting samples for domestic purposes is allowed within certain limits. Nevertheless, in order to ensure a concerted, equitable and sustainable exploitation of natural resources, and to involve people in the process, the delegation of forest management to communities has been legalized by the Forest Law. This delegation is possible through the establishment of a simplified management plan, which will be an activity under output 1.3 of the proposed project. The commercialization of NTFP coming from community forests, which is an activity supported by the project under output 3.3, is legally regulated. The owners of this forest must sign a management agreement with MINFOF (Article 3 of Decision No.1985/D/MINEF/SG/DF/CFC), specifying the terms for the exploitation of natural resources and the management of natural resources, as part of the implementation of the simple management plan.

All IFAD supported projects are appraised before approval. During appraisal, appropriate experts and stakeholders ensure that the project has been designed with a clear focus on agreed results. The appraisal is conducted through the formal meeting of the Quality Evaluation Committee established by IFAD. The committee members are independent in that they should not have participated in the formulation of the project and should have no vested interest in the approval of the project. Appraisal is based on a detailed quality programming checklist which ensures, amongst other issues, that necessary safeguards have been addressed and incorporated into the project design.

6 DUPLICATION

The table below summarizes the main projects/ interventions being implemented in the areas of intervention of the proposed project, and the main synergies with the AF project.

Comparative table and synergies with other IFAD projects in the target area

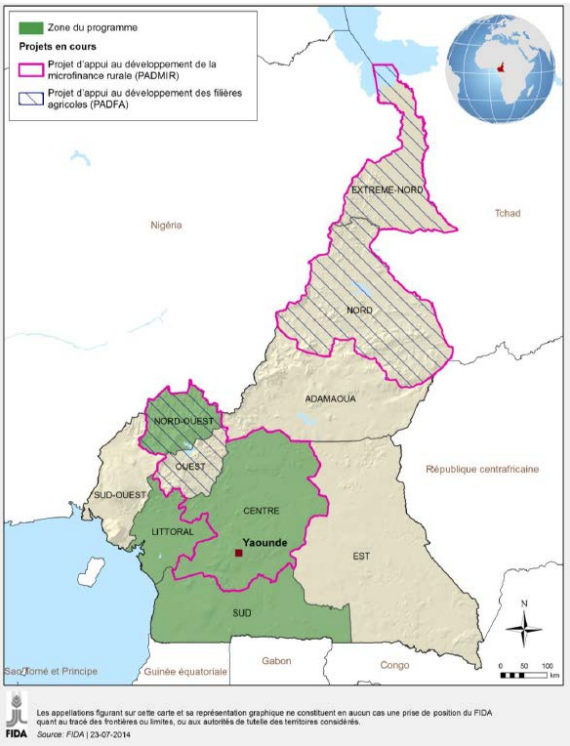
Other projects/ interventions	Components	Overlap with the proposed project area of intervention	Synergies with the proposed project
PEA-Jeunes	Development of agro pastoral enterprises. Access to financial services. Improving the entrepreneurial environment.	North West Region	Knowledge sharing between young entrepreneurs, peer training, collaboration with project partners on the agro-sylvo-pastoral sector
PADMIR	Improving the microfinance environment Access to rural financial services	Far North, North, and North West Regions	Bringing young eco-businesses entrepreneurs in contact with microfinance institutions supported by PADMIR
PADFA	Support to production Support to the marketing and structuring of the sectors	Far North, North, and North West Regions	The natural resources management initiatives targeted by the proposed project draw on the achievements of the PADFA in terms of value chains. PADFA supports rice producers' organizations (rain-fed and lowlands) in the three regions of the Far North, North and North West. Knowledge and skills transfers as well as synergies between the implementation teams and the beneficiaries will be possible.

IFAD is currently implementing 2 projects in Cameroun in the same regions of interventions of the proposed project, as represented in the map below:

- The promotion of youth agropastoral entrepreneurship programme (**PEA-Jeunes** – *Programme de Promotion de l'Entrepreunariat Agropastoral des Jeunes*), in the Regions North West, Littoral, Center and South (in green in the map below); and
- The support project for the development of agricultural sector (**PADFA** – *Project d'appui au développement de filières agricoles*) in the Far North, North, North West and West (hatched area in the map below).

IFAD have recently completed the implementation of the Support Project for Rural Microfinance (**PADMIR** – *Projet d'Appui à la Microfinance Agricole*) in the Far North, North, North West and West Regions (in purple in the map below), and a second phase of the project (PADMIR II) was initiated by the Government.

Figure 13: Areas of intervention of ongoing IFAD projects
(Source: PEA Jeune Project document)



All three projects target rural communities and producers, and focus on complementary aspects of the rural sector: youth entrepreneurship for PEA-Jeune, microfinance access for PADMIR, and agricultural production for the PADFA. The proposed project will have strong synergies with these projects, in particular under its third component that aim to strengthen capacities of local communities (and young people) on eco-businesses (synergies with PEA-Jeune, and PADMIR), agro-sylvo-pastoral production through FFS, and NTFP development (synergies with PADFA). Nevertheless, the proposed project does not duplicate these three former IFAD projects, and is rather complementary as it focuses on the adaptation and resilient to climate change of rural communities in the three, an aspect not covered by the other projects.

In fact, the evaluation of IFAD's Country Program has identified the need for better consideration of adaptation to climate change with improved environmental sustainability in IFAD's operations in Cameroon, which is where the complementarity of the proposed project stems from.

Even though IFAD has not yet focused its intervention in Cameroun on climate change adaptation, the Fund's experience in the country has generated a number of lessons related to key themes of the proposed project which were fully considered in the development of this proposal:

Management of natural resources at the periphery of protected areas

- Strengthening the capacities of traditional leaders in conflict prevention and conflict management increases their awareness of the key role they play as a leader in order to maintain dialogue and consensus among different resource users within the community. Their effective involvement makes it possible to reinforce the respect of the limits and the management rules of transhumance corridors and grazing areas, leading to better

cohabitation between herders and farmers and a concerted management of available resources.

- The development of economic activities in the periphery of protected areas contributes to their preservation through the creation of income opportunities.

Integration of conservation and development

- Agroforestry and sustainable land management practices allow for a long-term and large-scale results when they are structured and carried out within the framework of sub-watershed management.
- The promotion of the "landscape approach" or multi-resource management planning requires a good understanding of social, economic and environmental forces, including traditional land tenure systems.
- Populations are active or passive poaching actors for several reasons, including: poverty (resource dependency), low involvement in conservation strategies, and lack of awareness of conservation issues and legislative frameworks. It is necessary in any conservation action to develop strategies for the effective involvement of local populations by combating poverty, improving their knowledge of the issues at stake in the sustainable management of natural resources, and strengthening their capacities for the valorization and sustainable use of resources.

Participatory approach

- Women, young people and indigenous peoples are the most vulnerable groups, particularly in the northern savanna areas of Cameroon, yet they are most dependent on natural resources. It is important in any sustainable management initiative to develop strategies to ensure their effective involvement, by fighting poverty, supporting their organization and structuring, the development of appropriate sectors, activities that promote the resilience of these groups to climate change, and the sustainable exploitation of natural resources.
- The establishment of consultation platforms that allow stakeholders to express their concerns and expectations is of critical importance. Consultation techniques should also be adapted to the most vulnerable groups, such as indigenous peoples, to avoid marginalization in the process.
- The organization and structuring of stakeholders (herders, farmers, fishermen, agropastoralists) is a key process in order to create a community dynamic that is better suited to facilitate the involvement of rural actors in local natural and pastoral resource management initiatives.

Promoting Youth Entrepreneurship

- The promotion of green enterprises, in order to obtain the support of the beneficiaries and to facilitate the sustainability of the project, should be based on local realities and achievements in the communities, in particular agro-sylvo-pastoral practices with an environmental, social and economic added value. This approach allows the ownership and cultural involvement of the different stakeholders because they consider that the project will strengthen their attitudes and practices with a view to increasing productivity and profitability.
- The mobilization of stakeholders' own resources draws their attention and interest in the implementation of activities. Otherwise, it might be harder for stakeholders to build ownership over the approach as they might consider that it is an initiatives for the benefit

of others. Stakeholder contributions require that the process is particularly participatory and inclusive.

Management of climate impacts and environmental factors

In order to adapt to the impacts of climate change, different strategies have been implemented by farmers, either individually or collectively, endogenously or exogenously:

- Migration is the most visible strategy to provide for the needs of the household through formal or informal work of one or more members of the household;
- The diversification of production systems has been adopted in particular by pastoralists who have "settled" in rural areas (highlands in the West, Adamaoua and the North regions). This settlement took place near pre-existing sedentary villages. These herders cultivate some plots with rain-fed and sometimes recessional crops. Farmers also diversified their activities, with livestock (Far North and North) and with the relatively recent development of gardening. These strategies have increased pressure on agricultural and grazing land without fully benefiting from the potential for integration and complementarity of agricultural and livestock activities;
- Intensification of cereal cropping systems in the western highlands is the result of increased land pressure. This intensification implies a diversification of crops (cereal-legume associations, annual crops-perennial crops) and reduces risks linked to climatic impacts. However, the use of inputs to maintain or increase soil fertility is limited.

Non-Timber Forest Products (NTFP)

- The rural populations in Cameroon that commercially exploit NTFPs are looking to generate additional income from this resource. This can be achieved by shifting the scale of NTFP activities and ensuring better availability of market information, including: pricing, seasonal market requirements, quality requirements, logistics and procedures market access.
- Generations of Cameroonians have developed invaluable knowledge of forestry and forest products. However, knowledge on the sustainable use of resources, the principles of forest regeneration and their implementation are less well known and understood. Raising awareness and training on these aspects would improve productivity and income while supporting the adaptation to climate change.

7 LEARNING AND KNOWLEDGE MANAGEMENT COMPONENT

The knowledge management and communication activities will be under the responsibility of IUCN and ICRAF and they will be detailed in the partnership agreements. The knowledge management strategy will be developed at the beginning of the project with IUCN and ICRAF to identify communication channels and formats. The activities will cover the documentation of project lessons and best practices and their dissemination through reports, multimedia and sharing events.

Sharing best practices and knowledge amongst project stakeholders will be ensured through the village-level platforms and advisory committees at the regional level. Special attention will be given to the valorization of endogenous knowledge which will be shared internally to support continuous improvement of project activities. Knowledge exchanges with other projects in Cameroon and in the countries of the Central African sub-region will also be promoted. The project team, partners and beneficiaries will also participate in workshops organized at the national and sub-regional levels, including IFAD project sharing workshops.

The generated knowledge will be used by the different partners to improve and adjust the implementation of the project, for political dialogue and for the design of future projects. Based on the knowledge management system, the project will systematically include in project progress reports an appendix on good practices. Capitalization master sheets to collect the experiences of project facilitators and other actors will be developed in partnership with IUCN and ICRAF.

8 CONSULTATIVE PROCESS

From 05 to 18 November 2016, a joint mission of the Government of Cameroon and the International Fund for Agricultural Development (IFAD) stayed in Cameroon to design the Project for the Promotion of Youth Ecological Entrepreneurship. The mission was received by the Secretary General of the Ministry of Forests and Wildlife, and had working sessions with representatives of other relevant ministries, technical and financial partners, projects and programmes, farmers' organizations, civil society organizations and NGOs. The mission visited the regions of the Far North and North from 06 to 13 November 2016, where it was received by the Governor of the North region, as well as by the conservators of the Bénoué and Waza Parks. In January 2017, another mission was organised in the same regions to collect additional information.

In each of these regions, the mission organized an information and consultation meeting for all regional actors including technical services, NGOs, producer organizations, youth organizations, microfinance institutions and processors of products. In the targeted villages meetings were organised with local populations in order to exchange with them on the project activities, their needs and their solutions. The list of persons met during the mission is presented in Annex 2.

Concerns raised by the populations during the public consultations

Sectors	Main concerns raised	Solutions proposed
Agriculture	Decline of soil fertility and soil erosion	Activities under Output 3.2: Actions to improve the fertility of the soil and land management
	Deficit Weather Forecast Information and Lack of Its Access	Activities under Output 2.1: Climate information systems
	Lack of access to climate resilient inputs (seeds, fertilizers, bio pesticides) quality	Activities under Output 3.2: Sustainable agriculture and use or modern renewables energy
	Crops diseases	Adoption of climate resilient crops and seeds and adoption of sustainable agriculture
	Lack of equipment's	Activities under Output 3.1 and 3.2 Promote sustainable and attractive eco-businesses with youth
Forestry	Destruction of forests and plantations by slash and burn, bush fires	Activities under Output 1.1 and Output 1.2: Strengthen institutional and regulatory frameworks and promote forest management.
Conflict human-elephant	Poaching and conflict	Activities under Output 2.1: Implement smart patrolling in and outside national parks.

Youth Unemployment	Lack of job and migration or enrolment in violent groups (Boko Haram) and displaced	Activities under Output 3.1 and 3.2 Provide incentives for job creation for youth and marginalised groups
Social exclusion	No inclusion of youth women and indigenous people	Activities under Output 3.1 and 3.2 Provide incentives for marginalised groups

All the needs and concerns raised during the public consultations were taken into account in the logical framework of the proposal and planning of the project. Monitoring and evaluation actions will help to measure the level of impact with beneficiaries.

9 JUSTIFICATION FOR FUNDING

The overall objective of the project is to increase local communities' resilience to climate change through resilient livelihoods and integrated natural resources management. The paradigm shift is to move from a "business as usual" characterised by unsustainable management of natural resources and agriculture practices to climate resilient agriculture and sustainable management of natural resources. The table below shows the baseline scenario (business as usual) and the alternative adaptation option under this proposal.

Baseline Scenario	Alternative adaptation option
Vicious cycle of poverty plunges poor people including the most vulnerable to climate change (youth, migrants and indigenous people) that depend on natural resources for their livelihood (food security, nutrition and income)	The project intends to break the vicious cycle of food insecurity, malnutrition and climate change nexus by combining institutional and regulatory frameworks, land and natural resources management in and on the outskirts of the parks, improving climate information systems and ecosystem-based adaptation, and creating climate smart business opportunities for the most vulnerable groups including youth with a stimulus fund and payment for ecosystems services.
Current coping and agricultural practices (rain fed agriculture, deforestation, logging, hunting) in a context of climatic stresses are clearly inadequate and exacerbate food insecurity, malnutrition and conflicts over resources.	The project will promote sustainable agroforestry and renewable energy enterprises for youth, climate change adaptation actions in agroforestry and natural resources (soil and water) management.
Climate variability and change put heavy burdens on farmers and local communities which exceed their coping capacities to adapt to climate change and rely on illegal practices to improve the household income.	The project will strengthen climate information systems and surveillance mechanisms through the development of a unified observation system to respond to climate change.
High unemployment rate, migration and enrolment of youth in violent extremist groups (Boko Haram) in the absence of job opportunities and the inability to adapt to climate change.	Investment in sustainable agroforestry and renewable energy enterprises for youth and other marginalized groups to respond to climate impacts and the lack of opportunities.

Funding from the Adaptation Fund is crucial to eliminate the barriers to development linked to climate risks and guarantee the continuity of agroforestry activities and other alternative income generating activities when risks appear.

10 PROJECT SUSTAINABILITY

The sustainability of the project will stem from the fundamentally participatory approach promoted throughout all project activities, which will allow local communities and authorities to build ownership over the project results.

The sustainability of the project outcomes relates to the combination of mainstreaming climate adaptation into institutional and regulatory frameworks plans at regional and local level and the implementation of concrete adaptation measures using climate information systems and knowledge.

The project intends to influence practice and policy beyond project implementation time and the areas of intervention. The outcome sustainability of **Component 1** is rooted on the planning processes and budgeting. Once adaptation measures are fully integrated into regional and local plans as well as investment plans, the legacy of the project could continue after the closure of the project. The project could inspire other projects in other localities both in terms of ownership and strategic planning on climate adaptation in agriculture.

Under **Component 2,** the project seeks commitment from the local authorities (eco-guards, meteorological agencies, local and regional platforms) and will develop the capacity of local actors in creating and managing ecosystem-based adaptation and climate smart business opportunities for the most vulnerable groups (youth, indigenous people, women, displaced people) with climate information systems and infrastructure. The creation of economic opportunities for young people through eco-businesses in resilient and sustainable sectors such as NTFP will also contribute to the sustainability of the project. The project will help young entrepreneurs understand how to build a business model that can be sustained in the long term because based on sustainable natural resources management in a changing climate context.

Moreover, the project will undertake the FFS approach to showcase and train local communities in various adaptation practices, namely agroforestry and soil and water conservation. The FFS approach is based on a learning-by-doing process and the recipients of the training are well placed to immediately apply the contents of the training to their work. By addressing the immediate needs of farmers and local communities, there is a strong reason to believe that the promoted practices will be used after the project has ended. FFS are “grass-root labs” that, through using participatory monitoring, will increase local leadership and strengthen long-term farmers’ capacities in the adaptive management of their land. The FFS approach will test, validate and promote local knowledge-based practices to increase sustainability and diversify production. Measure and practices will be introduced based on participatory requests from FFS or communities and will only include sustainable and resilient agroforestry, soil and water conservation measures that also meet social acceptance and are environmentally sound. The practices and measures introduced will be tailored for men and women and will be in line with their needs and traditions, in order for them to be willing to replicate them in the future. In addition, the FFS approach to extension support is low-cost and relatively easy to maintain, with early gains.

Concretes adaptation micro-projects (production, reforestation, land management, renewable energy, park management, post-harvest and processing, etc.) under component 2 will be funded through the stimulus fund and the PES. These funds will have economic and social

impacts on youth and other beneficiaries while promoting adaptation to climate change beyond the lifecycle of the project. By working with local banks, microfinance institution and REDD+, these funds will help leverage additional resources in order to sustain the project outcomes. Additional partnerships (NGOs, development partners) will be also be identified during the project implementation.

The knowledge sharing and concertation mechanisms to be put in place by the project will also contribute to the sustainability of the project results in the sense that it will allow experiences to be shared within and across the three project intervention areas, and lessons learned and good practices to be disseminated to broader audiences.

11 ENVIRONMENTAL AND SOCIAL IMPACTS AND RISK

The Environmental and Social Policy of the Adaptation Fund is consistent with Cameroon environmental and social policies and laws, in aspects which ensure that project interventions/activities do not cause environmental or social harm. The objective of the project is to implement activities that increase local communities' resilience to climate change through youth entrepreneurship and integrated natural resources management. The main activities of the project include:

- Carry out socio-economic baseline, community based Climate Vulnerability and Capacity Assessment (CVCA) to update the institutional, regulatory and policy frameworks and plans.
- Organise workshops and dialogues to raise awareness on climate change adaptation, generate political will and integrate the vulnerability assessment outcome and stakeholders' input into the relevant strategic framework and investment plans.
- Develop voluntary codes of practice for forest management activities, including timber harvesting.
- Develop a road for the implementation of the update frameworks with a resource mobilisation strategy.
- Organize participatory planning sessions to review and update local and regional development plans in the zones of intervention to mainstream climate change adaptation
- Review the management and development plans of the Waza and the Bénoué national parks to identify potential gaps in terms of climate change adaptation, and propose potential amendments to mainstream this dimension.
- Develop simple M&E systems for local and regional development plans in order to enable local authorities to properly monitor their implementation
- Provide institutional and capacity building to local authorities to implement the natural resources conservation and adaptive frameworks.
- Develop practical guides for updating regional and local development plans with up-to-date climate change information.
- Use of a Drivers-Pressures-State change-Impact-Response (DPSIR) framework to identify and analyse specific project activities areas.
- Nine forest areas to be classified as "community forests" to be managed sustainably by the communities at the outskirts of the Waza (3 community forests of around 3 000 ha each) and Kimki-Fungom national parks (6 community forests of around 2 000 ha each)
- Participatory micro-zoning of game areas #1 and #4 in the outskirts of the Bénoué national park to recognize a living space for local communities and identify conflict zones and regulate natural resources use outside of this living space.
- Assess the conservation status of 10 endangered or endemic flora and fauna species and develop climate conservation plans for at least 5 of them.

- Conduct vulnerability assessment to climate change of local ecosystems, and the needs for adaptation in the outskirts of Waza, Bénoué and Kimbi-Fungom national parks.
- Establish natural (and temporary) physical fencing in the buffer zones.
- Document, revive and promote continued use of traditional and indigenous systems related to conservation and climate resilience.
- Improve water resource management in vulnerable households for food production systems through the water efficient practices such as drip irrigation.
- Forest is restored on degraded lands within and outside parks through the plantation of around 15,000 trees from selected species demonstrating strong resilience to climate change and adaptation to the local ecosystems and the livelihood needs of the local communities
- Create community forests and game areas management entities: identification of relevant stakeholders, consultation with local communities, and development of the legal status of the entities.
- Support the new entities in the classification process of the identified areas into community forests and game areas.
- Elaboration of simplified management plans for the demarcated community forests and game areas defining communities' rights and access modalities to the natural resources of the area (spatial planning of crop land, livestock raising, firewood, NFTP, hunting, etc.) ensuring long-term conservation of ecosystem services in a climate change context.
- Set-up, rehabilitate or upgrade the network of meteorological stations (automatic and rain gauges, lightning detectors, standard equipment, power supply, telecoms for field stations), and of the sentinel sites in the three intervention sites.
- Upgrade and introduce data collection and communication equipment and devices, data storage and management systems, computers and software for remote sensing, software and customized tools for GIS, modelling and forecasting.
- Consolidate hazard and risk maps, analyse historical data, identify climate variability indicators for rainfall and temperature and consolidate all available data.
- Introduction of drones in the three national parks for ecosystems and natural resources surveillance to better monitor the impact of climate change, forest cover changes and ecological responses within protected areas and buffer zones.
- Training of eco-guards and communities on the maintenance of meteorological stations, and the sentinel sites in the three intervention sites.
- Implement smart patrolling in and outside national parks to prevent poaching and illegal wildlife trade.
- Capacity building of eco-guards on drone technology, climate data collection, monitoring, and treatment for decision making in the three national parks.
- Application of specific tools (such as the FAO tool SHARP - Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists) to measure the evolution in the level of climate change resilience in local communities.
- Develop a monitoring system for the conservations plans of the 5 most endangered or endemic flora and fauna species.
- Increase generation and use of ecosystem-based adaptation and climate smart business opportunities in decision making and local development and investments plans.
- Develop a rural youth employment local guide with ecosystem-based adaptation and climate- smart practices.
- Awareness raising on opportunities stemming from NFTP (acacia gum, shea butter, wild mango and njansang) among young people in the three areas of intervention, and selection of interested potential young entrepreneurs.

- Conduct a feasibility study on market information, business opportunities on NTFP system through cellular and internet technologies.
- Partner with a local bank or microfinance institutions to establish the Investment Fund of 4 million USD.
- Define ecosystem-based adaptation and climate-smart practices criteria to assess all future projects.
- Community awareness and mobilisation on climate resilient and ecological agro-sylvo-pastoral NTFP eco-business to address women's and youth needs and priorities.
- Capacity building for existing business training centres and development of training strategies for young eco-entrepreneurs to tap into this fund.
- Provide training for selected young people (2,300) on how to build an eco-business (economic aspects, business plans, leadership, entrepreneurship and citizenship, training in the legal status of land occupation and use of natural resources in the areas of intervention, support for professional integration).
- Call for proposal for at least 400 projects from young eco-entrepreneurs, women, indigenous and displaced people.
- Capacity building for existing business training centres and development of training strategies for young eco-entrepreneurs.
- Analysis and diagnosis of existing producer organizations and cooperatives in the areas of intervention to receive fund from the investment fund on eco businesses.
- Invest in 200 types of sustainable business models of home gardens using techniques to reduce climate risks (such as drip irrigation, soil and water conservation and agro-ecological practices)
- Invest in youth initiatives to promote rural alternative energy (biogas plants, solar) in agro-forestry, NTFP and livestock value chain development.
- Invest in setting up FFS: develop training tools for master trainers, train and equip master trainers, develop training curricula for farmers.
- Invest in 2000 ha of sustainable land management measures (soil, water, etc.) with a labour-intensive approach through the FFS approach.
- Invest in 2000 ha of agroforestry measures through the FFS approach.
- Support facilities for rainwater storage, permeation and runoff control.
- Support directly at least 9 indigenous associations to lead the collection of local knowledge and identification of traditional productive practices relevant for climate change via an indigenous service provider.
- Support the construction of erosion control structures and construction of flood mitigation structures.
- Support the restoration of land, wildlife habitat based on climate information.
- Invest in construction of 20 livestock water points in the outskirts of the national parks to prevent conflicts over water points within the parks, and to protect the reforested areas.
- Support the creation of and assistance to WUAs in running of all water infrastructures including the 20 livestock water points to increase awareness of water scarcity and the need for a rational use
- Support ecosystem resilience to climate change through targeted restoration investments and build capacities on sustainable forest management practices in communities in and outside the parks and protected areas.

Overall, the project will have a medium to long-term impact that is mostly positive given the different actions whose ultimate goal is to promote ecological sustainability and resilience to climate change. Institutional and administrative strengthening activities, sensitization and professional environmental training, agroforestry and sub-watershed management, reforestation

and sustainable forest management will enable rural populations and especially young people to develop a viable agricultural or rural activity and to have alternatives to exodus and engagement in illegal activities.

Capacity-building activities of technical services including meteorological authorities, local communities, eco-guards, youth and indigenous people will have positive impacts on the management of climate resilient farming practices and the environmental management of the project. All concrete adaptation activities planned under this project including the eco-businesses will neither cause the relocation of population nor affect any natural habitat in or outside the parks.

The environmental and social impact assessment of such project will also examine the positive and negative effects that the project could have on the environment and populations, and recommend any measures needed to prevent, minimize, mitigate or compensate for adverse effects and improve environmental performance.

It is worth mentioning that IFAD (executing entity) has implemented/ is implementing ongoing projects in the landscape with the government of Cameroon (Implementing partners) adopting a similar integrated approach since year 2013 and in experience has not faced or anticipates that the proposed project activities would result in causing any adverse environmental or social impacts. However, should any adverse social or environmental impact occurs, it is likely to be restricted at a village level, be small in scale, and reversible. However there are certain risks identified under the environmental and social 15 principles (*Compliance with the Law* , *Access and Equity, Marginalized and Vulnerable Groups, Human Rights, Gender Equity and Women's Empowerment , Core Labour Rights, Indigenous Peoples, Involuntary Resettlement, Protection of Natural Habitats, Conservation of Biological Diversity , Climate Change, Pollution Prevention and Resource Efficiency, Public Health Physical and Cultural Heritage, Lands and Soil Conservation)* of the adaptation fund and the project is thus classified as a **category B** project.
Table: Checklist of environmental and social principles

Checklist of environmental and social principles	**No further assessment required for compliance**	**Potential impacts and risks – further assessment and management required for compliance**
Compliance with the Law	The project complies with the Framework Law on environmental management (No. 96/12 from August 5 1996) ; the Decree No. 2013/0171/PM of 14 February 2013 ; the Law No. 98/005 of 14 April 1998 on the water regime; the Law No. 99/017 of 22 December 1999, governing the quality control of soils, building materials and geotechnical studies; the Law No. 94/01 of January 20 1994, on the Forest, Wildlife and Fisheries Regime and Decree No 95/466/PM of July 20 1995, and other administrative orders of sub-national government.	None
Access and Equity	The project will provide fair and equitable access to the project beneficiaries and will facilitate access to improved institutions, knowledge and capacities, sustainable livelihoods and green jobs for marginalized	Low

	groups such as youth, women, and indigenous people. The project will target 27,000 Women; 15,840 young people (young men (7,760) and women (8,080) and 700 households of indigenous peoples with 4,200 individuals. While every household/ individual under the project area will have equal opportunity/access to project interventions, priority setting will be done by the village institutions and interventions will be promoted using the local and regional developmental plans and wealth ranking of households. IFAD targeting tools will be applied.	
Marginalized and Vulnerable Groups	Very low risks are predicted in this category since most of the project areas are homogenous in nature and vulnerability of populations to climate change and other shocks (economic, social, and political). Hence, these risks are mitigated through project design itself. The project will impact the most vulnerable groups (women, young people and indigenous people), which are the main targets of the project, that live in the outskirts of the three national parks (Kimbi Fungum, Waza and Benoué). The project will assess the socio-economic and cultural profile, including key issues relating to disadvantaged and vulnerable groups, conflict, migration, employment and livelihoods. It is planned to carry out socio economic baseline, community based Climate Vulnerability and Capacity Assessment (CVCA) to update the institutional, regulatory and policy frameworks and plans. The project will develop strategies to ensure the effective involvement of these groups, supporting their organization and structuring, the development of appropriate sectors and activities that promote their resilience to climate change, and the sustainable exploitation of natural resources. The project will also establish and maintain consultation platforms with communities and stakeholders throughout the project lifecycle that will allow them to express their concerns and expectations. These consultation techniques will be adapted to these groups to avoid marginalization in the process. A percentage of the budget of the investment fund will be dedicated to indigenous people projects, women, youth, displaced and migrants people. While efforts will be made to bring the entire marginalized and vulnerable households in the	Low to medium

	mainstream economy some marginalized and vulnerable individuals / households may not have any means/ assets/ skills to enable them adopt the project activities. Also, in case of heterogeneous villages (very few) the stronger communities will try to get access to more benefits and suppress support flow to the marginalized and vulnerable households and thus low – medium risks are predicted.	
Human Rights	The risk of the project negatively impacting on the human rights of the target groups is very low or even nonexistent. The project is designed to respect and adhere to the requirements of all relevant conventions on human rights. The project will respect all land rights and will avoid disposing anyone of their land. The project does not foresee any violation of human rights	Low to none
Gender Equity and Women's Empowerment	Women and youth are given a central role in the project. The project has developed a very proactive strategy for the participation of women in project activities. During the consultative process and project formulation exercise a gender analysis has been conducted using the IFAD's policy on gender equality and women's empowerment and related approaches and tools, in particular the gender and poverty targeting checklists This has provided specific areas to address and the disaggregated gender data. These have been incorporated in the design interventions and are expected to empower the women beneficiaries. The project will support activities of stemming from NFTP (acacia gum, shea butter, wild mango and njansang); support types of sustainable business models of home gardens using techniques to reduce climate risks (such as drip irrigation, soil and water conservation and agro-ecological practices) run by women; invest in youth (men /women) initiatives to promote rural alternative energy (biogas plants, solar) in agro-forestry, NTFP and livestock value chain development to reduce drudgery pressures on the women. In addition, the project will apply IFAD's Gender Action Learning System (GALS), an innovative community-led methodology that comprises a series of tools enabling household members to negotiate their needs and interests and find innovative, gender-equitable	Low to none

	solutions in livelihoods planning and value chain development[11]. The project will also ensure that women are represented in the project decision making processes. The baseline study will include a specific analysis of social and economic inequalities (related to age, gender, education, status, access to resources, access to information, etc.) will be produced. Capacity building and skill development training for sustainable livelihood generation will be provided to the women of the village communities as well. This will ensure participation by women fully and equitably, and that they do not suffer adverse effects.	
Core Labour Rights	The project will create employment enabling marginalized and vulnerable groups, especially youth and women to raise and secure their income. Payments to labour under the project area will be made as per Government approved norms duly following minimum wage rate and hence ensuring core labour rights in accordance to all labor rights ratified by the Government of Cameroon. The project will respect, promote the ILO core labour standards and ensure that they are respected and realized in good faith by the executing ministries (MINEPDED and MINADER) and the other partners and contractors. The relevant national labour laws will also be followed and monitoring will be undertaken throughout project implementation. full control on non-violation of Labour rights will be exercised when labour is being paid using project funds.	None
Indigenous Peoples	Tribal and indigenous peoples have been identified in the project area as vulnerable groups in the project area. 700 households of indigenous peoples with 4,200 individuals are part of the key beneficiaries to activities of reducing unsustainable dependencies on forests and to provide sustainable livelihoods and building resilience against climate change. While Pygmes have been identified as a clear indigenous groups, a recent studies have categorized the Baka, Bakola, Bagyeli, Bedzan, Montagnard, Mbororo Woodabe	Low

	Jafun Aku (Galegi) as indigenous groups; and heterogeneity can be suppressed by the stronger community and hence the low risk rating to this category.	
Involuntary Resettlement	Resettlement of communities does not fall within the purview of the project. There will be no involuntary resettlement due to project activities during project implementation. All activities related to natural resource restoration and management within and outside parks will not lead to resettlement	None
Protection of Natural Habitats	Integrated within the project design is the protection of natural habitats; in this case project area itself i.e. by enhancing the adaptive capacities of all its stakeholders and ensuring the effective functionality of the services it provides. The project address the threats of fragmentation through community based protection measures good practices which protect national parks, buffer zones and surrounding areas including all natural habitats for animals, plants, and other organisms. All activities proposed such as: reforestation, tree planting, conservation status of 10 endangered or endemic flora and fauna species, micro zoning and patrolling, establishment of natural (and temporary) physical fencing in the buffer zones among others will contribute to protecting natural habitats. Additionally, shifting from sustainable practices including traditional slash-and-burn agriculture practices, and deforestation will contribute to conservation and protection of natural habitats. Furthermore, the project will work with water-saving irrigation techniques to limit runoff and soil erosion in the project area. Nevertheless, the project through the proposed activities (reforestation, tree planting; promotion of new practices; fencing; micro zoning) may cause negative impacts on the biophysical environment, including natural habitats, if specific measures are not taken and project activities are not monitored consequently but no risks to natural habitat is envisaged through the project For this reason the ESMF is prepared and M&E framework will focus on assessing potential risks and impacts associated to activities on natural habitats.	None
Conservation of Biological Diversity	Integrated within the project design are activities that ensure that the flora and fauna within the project area is conserved by reducing the unsustainable dependency of the	None

	communities on the forest resources and thereby further reducing man-animal conflict and ensuring biodiversity conservation. Nine forest areas to be classified as "community forests" to be managed sustainably by the communities at the outskirts of the Waza and Kimki-Fungom national parks, the conservation status of 10 endangered or endemic flora and fauna species and develop climate conservation plans for at least 5 of them; plantation of around 15,000 trees from selected species demonstrating strong resilience to climate change and adaptation to the local ecosystems and the livelihood needs of the local communities ; monitoring system for the conservations plans of the 5 most endangered or endemic flora and fauna species.	
Climate Change	The project supports Increasing local communities' resilience to climate change through youth entrepreneurship and integrated natural resources management; Increase in carbon sinks which is a co benefit is also expected to be achieved through project interventions such as agroforestry, soil and water conservation and natural resources management. Reductions in greenhouse gas emissions will be measured where technically and financially feasible with the FAO EX-ACT tool which is already being used in some IFAD projects. In the Far North, the project will reduce emissions by 900 000 tons of CO_2, 195 tons CO_2eq of N_2O and 103 tons CO_2eq of CH_4, and in the North, the project will reduce emissions by 5,150,000 tons of CO_2, 122 tons CO_2eq of N_2O and 34 tons CO_2eq of CH_4; In the North West, the project will reduce emissions by 1,920,000 tons of CO_2, 384 tons CO_2eq of N_2O and 34 tons CO_2eq of CH_4. No project interventions are expected to contribute to release of gases responsible for CC.	None
Pollution Prevention and Resource Efficiency	The project is promoting adaptation measures such as natural resources efficient use, soil and water conservation as well as other green activities and is not expected to generate any environmental pollution and aims for higher resource efficiency for better management of available natural resources. However, due to ecotourism activities; potential impact especially with non-biodegradable products could be identified.	Low to none

Public Health	No adverse impact on public health related issues is envisaged even if the use pesticides might be adopted by some agripreneurs in accordance to IFAD policies.	None
Physical and Cultural Heritage	The project will have no adverse impacts on physical and cultural heritage of the people in the intervention areas.	None
Lands and Soil Conservation	Restoration activities are envisaged to help in land and soil conservation and will not create any damage to land and soil resources. The project will develop restoration and conservation plans according to the needs of local communities and the different ecosystems, plant resilient tree species in the outskirts of the national parks, and implement sustainable and resilient agroforestry and soil and water conservation measures so that local communities can better cope with the effects of climate change; supports rainwater storage, permeation and runoff control ; construction of erosion control structures and construction of flood mitigation structures; restoration of land, wildlife habitat based on climate information.	None

Although most of the environmental and social risks principles have none ratings arising from the project interventions, as the activities are being implemented with a approach of promoting environmental, social and economic resilience for the project beneficiaries, low risks are identified in the below principles, and the project is classified as category B project.

- Access and Equity
- Marginalized and Vulnerable Groups
- Gender Equity and Women Empowerment
- Pollution Prevention and Resource Efficiency
- Indigenous Peoples

In view of the project being categorized as a category B project, an Environmental & Social Management Plan (ESMP) is proposed below and IFAD SECAP activities in Annex reinforces the mitigation measures.

PART III: IMPLEMENTATION ARRANGEMENTS

1 IMPLEMENTATION ARRANGEMENTS

Approach

The project's approaches, actions, modes of organization and implementation will apply a general principle of subsidiarity promoting decision-making processes as close as possible to the action at different levels: (i) geographical, the project targets primarily the most "local" geographical scales (village, commune, province) and their link with the regional and national scales; (ii) institutional; (iii) project management (delegate project implementation to direct users when possible); (iv) knowledge management, by strengthening local capacities and knowledge sharing, and cross-sectoral transfers.

The project promotes partnerships between key stakeholders contributing to the project general objectives, according to the following principles: (i) identification of clear and specific role for each stakeholder involved; (ii) the knowledge and respect of the specificities of each stakeholder; (iii) the identification of common interests; and (iv) the mobilisation of resources. The project is designed to strengthen the networks of local stakeholders.

General Organisation

The Ministry of Economy, Planning and Regional Development (**MINEPAT**) will represent the borrower under the financing agreement to be signed between the Government of Cameroon and IFAD for the implementation of this project. The proposed project will be managed by the Ministry of the Environment, Nature Protection and Sustainable Development (**MINEPDED**).

Concertation and consultations mechanisms at the national level will be carried out by a project **Steering Committee**. Given the geographical and thematic scope of the project, there will be direct complementarity with the Ministry of Forests and Wildlife (**MINFOF**) and the Ministry of Agriculture and Rural Development (**MINADER**). A joint inter-ministerial decision will establish the Steering Committee and specify its composition, mandate and functioning. The nomination of Steering Committee will be done in compliance with the AF Gender Policy.In order to ensure the scaling-up of the achievements of the project within farmers and **producers organizations** in Cameroon, PLANOPAC (the national consultation platform for rural producers) and CNOP CAM (farmers and producers umbrella organization) will both be associated with the project steering committee.

A **regional advisory committee** will be established at the regional level under the chairmanship of the Governor in each Region. This committee will bring together the various stakeholders involved in the implementation of the project (technical services, representatives of regional organizations - producers, young people, protected areas, implementing partners, traditional authorities, etc.).

The overall management of the project will be under the responsibility of a financially and administratively autonomous **Project Management Unit** (PMU) hosted at MINEPDED in Yaoundé. The PMU will be composed of a National Coordinator, an Administrative and Financial Officer, an Accounting Assistant, a Procurement Assistant, and an M&E Officer. The PMU will be responsible and accountable to the Government and IFAD for the efficient use of project resources in compliance with the funding. The PMU staff will be recruited competitively at national level, in compliance with IFAD's procurement procedures, and in accordance with

the AF Gender Policy. Women candidates will be encouraged. The establishment and operationalization of the PME at MINEPDED will be facilitated by the presence of the IFAD Country Office, which will be able to provide or call upon expertise in institutional development if necessary.

Under the supervision of the PMU, the implementation of the gender and youth strategies will be entrusted to the two implementing partners of the Project, the ICRAF and IUCN NGOs. By capitalizing on their respective experiences and knowledge, the strategies will be discussed and validated at the start of the project. A gender focal point will be appointed within the PMU to monitor contracts with both partners on targeting, gender and youth issues. These aspects must be incorporated into the terms of reference and be allocated time and resources. The objectives will subsequently be integrated into the performance contracts and the monitoring and results indicators.

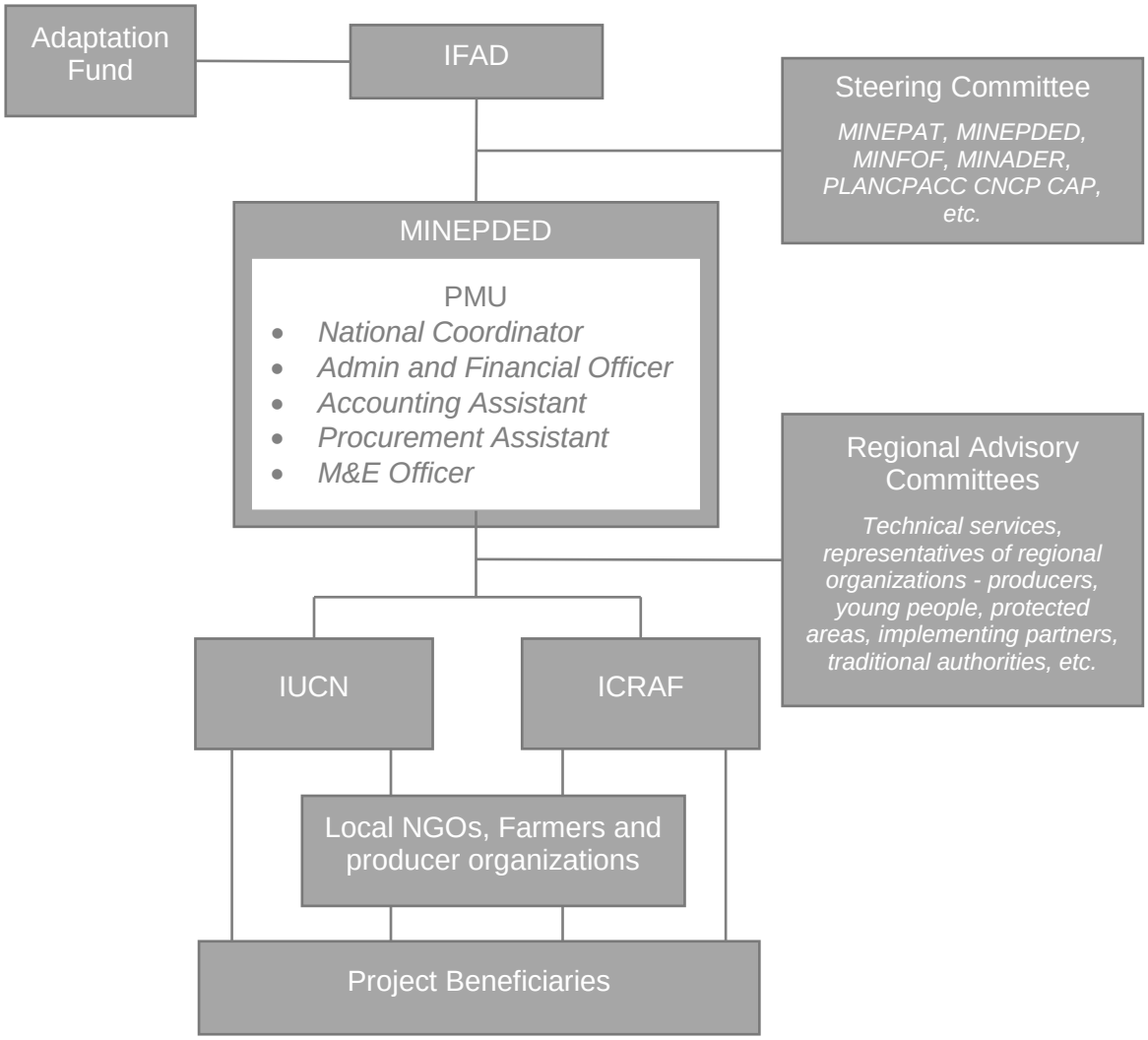
The PMU will be in charge of the administrative and financial procedures as well as of the monitoring and evaluation (M&E) of the project. The PMU will: (i) define the Annual Work Plans and Budgets (AWPB) and partnership contracts, (ii) ensure the coherence of project activities, and (iii) be IFAD's contact point for the project. Regarding partnerships, the PMU must in particular: (i) ensure that the strategies, methods of intervention, and approaches undertaken by implementing partners are defined in accordance with the overall project framework and the components for which they will be responsible; (ii) review their AWPBs on the basis of the budget framework; (iii) manage current expenditures in accordance with the payment schedule and; (iv) negotiate and prepare letter of agreements/ contracts for their respective components.

Quarterly coordination meetings of implementing partners will be organized by the PMU to monitor the progress of activities and share lessons learned from one region to another.

With regard to the implementation of field activities, the project will rely on the implementation partners identified during the project design mission. These include the International Center for Research in Agroforestry (**ICRAF**) for the implementation of activities in the Northwest Region, and the International Union for the Conservation of Nature (**IUCN**) in the Far North and North Regions. ICRAF has established a network of 12 centers for rural resources managed by local organizations in Cameroon that promote agroforestry practices. IUCN has a proven experience in the management of protected areas in Cameroon, and in the development of income generating activities in the outskirts of protected areas. IUCN and ICRAF could sub-contract some activities to competent and recognized local NGOs and farmers' organization while ensuring a quality control of their services. The household-based methodology (GALS) will be overseen by IUCN and ICRAF with facilitation at the village level by local facilitators.

The institutional arrangements of the project are presented in the figure below.

Figure 14: Project Institutional Arrangements



The table below shows the responsibilities of the different project implementing partners for the different project outputs.

Table: Responsibilities of project implementing partners per project output

Project Components and Outputs	Responsibility
Component 1: Mainstream climate change adaptation into institutional and regulatory frameworks plans for improved land and natural resources management at regional and local level	
Output 1.1: Institutional and regulatory frameworks and plans at municipal and regional level are strengthened to promote climate change adaptation and the resilient management of natural resources at municipal and regional level	MINEPDED MINFOF
Output 1.2: Land and natural resources management are improved in the Waza, Bénoué and Kimi-Fungom national parks and their outskirts to increase the resilience to climate change of vulnerable populations contributing to emissions	MINFOF

reduction	
Component 2: Improve knowledge on ecosystems' vulnerability to climate change, ecosystem-based adaptation and climate smart businesses opportunities.	
Output 2.1: Climate information systems and surveillance mechanisms are strengthened through the development of a unified observation system to respond to climate change.	MINFOF
Output 2.2: Ecosystem-based adaptation and climate smart businesses opportunities for the most vulnerable groups are identified (youth, indigenous people, women, displaced people) and information systems are improved.	MINFOF
Component 3: Implement adaptation to climate change measures through incentive instruments leading to increasing climate change resilience of targeted communities.	
Output 3.1: An Investment Fund is established and managed to invest in sustainable agroforestry for youth and other marginalized groups.	IUCN, ICRAF, ONG, OP
Output 3.2: Climate adaptation actions in agroforestry and natural management are made through the Investment Fund with a focus on youth and other marginalized groups.	MINADER, IUCN, ICRAF, ONG, OP
Output 3.3: Payments for ecosystem services schemes to support conservation of fragile ecosystems are introduced	MINEPDED CED BioClimate

A matrix describing the implication of all stakeholders in the implementation of the project is provided in Annex 1.

2 FINANCIAL RISK MANAGEMENT

Risk	Initial risk assessment (H = high, M = moderate, L = low)	Proposed mitigation measure	Final risk assessment
Insufficient capacities to appropriately manage the day-to-day implementation of the project	M	- Creation of a Project Management Unit (PMU) based in Yaoundé for the administrative, financial and accounting management of the project. - PMU with administrative and financial management autonomy that assumes the fiduciary management functions of the project. - Recruitment of experts with specific experiences in development project management and financial management procedures of the lessors and mastery of an accounting software. - IFAD country office will participate as an observer in all stages of the recruitment process. - The staff of the PMU will be linked to the project by renewable annual contracts based on a performance evaluation, - Start-up support takes into account training in financial management.	L

Risk	Initial risk assessment (H = high, M = moderate, L = low)	Proposed mitigation measure	Final risk assessment
The project budgeting process doesn't respect procedures and doesn't allow for a good implementation of project activities	M	- The budget preparation process will be carried out by the PMU staff and the AWPB will then be submitted to the steering committee for approval. The AWPB will provide details of activities, their unit and overall costs, expected results and monitoring indicators, and their implementation modalities including procurement procedures. - The budgeting process will be defined in the project procedures manual, and should be harmonized with the budgeting process of other IFAD projects (ECO-Jeunes, PEA-J, PADMIR, PADFA etc.). - The approved AWPB must be entered into the accounting and financial management software to monitor its implementation. - Quarterly financial reports including information on budget monitoring should be submitted to the ministries of guardianship, steering committee and IFAD.	L
Project financial flows and disbursement processes are not timely and jeopardize the implementation of activities on the ground	M	- Reforms are underway at the government level to improve the payment of counterpart funds - Availability of funds will be made through the standard circuit planned and already tested by other IFAD projects including replenishment of the designated account, direct payment and reimbursement. - The use of Certified Statement of Expenditures in support of expenses incurred by the Project is also planned - As regards the implementing partners and public services, the resources will be transferred in accordance with the signed agreements and service contracts, which will have to provide mechanisms for the provision of funds based on the work plan and budget of the convention/contract, and disbursements based on a quarterly / semi-annual report of the activities carried out by the beneficiary/provider/partner.	M
Project implementation and financial management procedures do not guarantee sufficient transparency and accountability	H	- Three (3) levels of security ensure transparency and control of operations and also mitigate the risk of distortion and dysfunction related to management: (i) The fact that only one person cannot conduct an operation in its entirety (from beginning to end, from execution to final control); (ii) the implementation of accounting self-audits; (iii) Implementation of the IFAD Representation's proximity monitoring in Cameroon and joint Government/IFAD support and supervision missions and an annual audit of the accounts.	L

Risk	Initial risk assessment (H = high, M = moderate, L = low)	Proposed mitigation measure	Final risk assessment
The project accounting system and financial procedures are not sufficiently formalized	H	- The Project will be equipped with management software covering all financial aspects: accounting, commitment, financial statements, budget monitoring, contracts, etc. The staff will have to master the software in order to be able to correctly parameterize it to meet the needs of management. - The monitoring of financial commitments and financial achievements will be based on the use of accounting and financial management software as well as the production of financial dashboards for use by the PMU, SC and IFAD. -The financial statements of the Project will be drafted according to the principles in force (SYSCOHADA, which provide an accounting based on the commitment of the expenses) and by respecting the minimum information required by the lessor -The annual financial statements of the Project for the year N will be established no later than the end of February of the year N + 1. The unaudited annual financial statements will be submitted to the SC and IFAD for review. -The Procedures Manual will provide a detailed phasing of all the stages leading to the closing of the accounts (monthly / quarterly / annual) and the preparation of the financial statements - The accounting system used in the framework of the Project should allow the registration of tax exemptions obtained from the government	L
The project financial procedures do not allow for proper and regular monitoring	M	Financial monitoring based on: a) regular preparation of withdrawal requests, based on rolling quarterly cash plans, and bank monitoring of the designated account and the account of operations; (b) budget monitoring; c) accounting monitoring; d) technical and economic monitoring provided by the administrative and financial officer b) The administrative and financial officer will prepare quarterly financial and accounting reports (interim financial reports) which he will submit to the Coordinator for signature and send for review to the Steering Committee and IFAD.	L

3 ENVIRONMENTAL AND SOCIAL RISK MANAGEMENT

The Environmental and Social Policy of the Adaptation Fund is consistent with the Cameroon environmental and social policies and laws, in aspects which ensure that project interventions/activities do not cause environmental or social harm. The project intends to create an enabling environment for climate change adaptation at the institutional level, and will contribute to increasing the resilience of both the local ecosystems and natural resources, and local communities (in particular young women and men by 1) Strengthening institutional frameworks to mainstream climate change adaptation into national, regional and local planning processes and promote resilient and sustainable livelihoods 2) Strengthening knowledge on ecosystems' vulnerability and promoting their restoration to increase their overall resilience to climate change; and 3) Strengthening local communities and young people's adaptive capacity through awareness raising, climate change adaptation measures, and the development of resilient eco-businesses.It adopts an integrated approach to landscape level conservation that promotes sustainable agro-forestry management and gives forests; farming systems; livestock the opportunity to adapt to climate variation thereby improving their long term functionality and ensuring improved and sustainable benefits to the biodiversity and local community. By adopting this approach, the project aims to work with the following target groups 8,800 households for a total of 52,800 individuals. Beneficiaries are composed by 27,000 women; 15,840 young people including young men (7,760) and women (8,080); 700 households of indigenous peoples with 4,200 individuals.

As indicated earlier under section 11 there are certain risks even low identified under the below environmental and social principles of the adaptation fund and the project is thus classified as a category B project.

- Access and Equity
- Marginalized and Vulnerable Groups
- Gender Equity and Women Empowerment
- Pollution Prevention and Resource Efficiency
- Indigenous Peoples

However, the implementation mechanism is designed to take care of social and environmental risks as per the AFB's Policy. The principles of the environmental and social policy of the adaptation fund have been included in each of the project activities and consistent with IFAD SECAP. All project activities will be screened for risks by the implementing partners at community level, and will focus on addressing the risks detection of environmental and / or social risks. If such risks are detected, plans will be made to address or mitigate for the specific risk.

Measures adopted for Environmental and Social Risks

Environmental and social principles	Risks/Impacts identified	Possible measures to avoid, minimize, or mitigate environmental and social risks	Monitoring Indicators	Responsible for implementation	Period	Responsible for implementation	Cost
Compliance with the law	Noncompliance with the laws and other administrative orders of national, regional and local government.	The project is in compliance with major domestic environmental law / policies / rules like the Cameroonian Framework Law on environmental management (No. 96/12 from August 5 1996) ; the Decree No. 2013/0171/PM of 14 February 2013 ; the Law No. 98/005 of 14 April 1998 on the water regime; the Law No. 99/017 of 22 December 1999, governing the quality control of soils, building materials and geotechnical studies; the Law No. 94/01 of January 20 1994, on the Forest, Wildlife and Fisheries Regime and Decree No 95/466/PM of July 20 1995,and other administrative orders of sub-national government. All local level, regional and local plans will be developed or updated to ensure compliance. Local/regional plans will be scrutinized by the project implementation committee to ensure compliance. Relevant permission and sanctions will be taken in accordance to the act/laws from the relevant line departments if necessary so as to ensure compliance and Eco guards will ensure the monitoring at the ground level.	Number of sites for which Environmental and social impact assessment document has been prepared according to the 15 principles of the Adaptation Funds ESP	IFAD	During the formulation of the subprojects ESIA	Competent Environmental Assessment Authority	Taken into account in the project see budget lines and related Outputs
Access and Equity	Elite capture and Biasness in allocating project benefits Lack of interest to participate in project activities	By design, the project has focused on the most vulnerable group of populations to climate change mainly youth, women, indigenous people and displaced communities. This in itself is a mitigation measure. Furthermore, beneficiaries have been disaggregated by gender during the design through IFAD targeting approach. The profile intends to produce socio, economic profile, which will assist in identifying the households towards which project activities support should be prioritized within the poor and vulnerable communities. Households	Level of application of fair criteria for the selection of participants in training sessions organized Percentage of women, and young people, indigenous people who received training	PMU	During the final selection of sites	Competent Environmental Assessment Authority	Taken into account in the project see budget lines and related Outputs

Environmental and social principles	Risks/Impacts identified	Possible measures to avoid, minimize, or mitigate environmental and social risks	Monitoring Indicators	Responsible for implementation	Period	Responsible for implementation	Cost
		and individuals will be sensitized towards the approach of prioritizing project support to most vulnerable households while ensuring benefits trickle down to all the village households through one of the project activities. This will mitigate any conflicts that might arise within the village due to focusing on the most vulnerable households. The project has also plan to finance 30% of the Fund to indigenous people, women and displaced people projects for sustainable agroforestry and renewable energy enterprises. The PMU will monitor closely the targeting mechanism.					
Marginalized and Vulnerable Groups	Exclusion of marginalized groups from project benefits	Exclusion of marginalized groups is seen as a low risk item since within indigenous groups, some groups may not be defined as indigenous groups and could be excluded. Thus, the project's design in itself is a mitigation measure. The recent Country Technical Notes on Indigenous Peoples' Issues developed by IFAD through PEA Jeunes will provide more details on the targeting and specific interventions. To avoid social exclusion of marginalized communities, orientation /sensitization will be initiated in the project sites, at households and villages level to ensure equal participation and ensure no social impacts fall on the marginalized and vulnerable group.	Percentage of young people, women and indigenous peoples beneficiaries of the project	PMU	Semi annual	Relevant government partners, IFAD supervisions missions	Taken into account in the project see budget lines and related Outputs
Human Rights		The project will respect and promote all fundamental human rights as per the constitution of Cameroon, and in accordance to all conventions signed by the government of Cameroon .The project will work in line with the local and regional plans and PMU and Local Communities Organisations will ensure no human rights violation happens. The project anticipates no violation of	Level of improvement of the capacity for an efficient and equitable treatment of the cases. Number of complaints cases	PMU	During the life cycle of the project	Competent Environmental Assessment Authority	Taken into account in the project see budget lines under M&E

Environmental and social principles	Risks/Impacts identified	Possible measures to avoid, minimize, or mitigate environmental and social risks	Monitoring Indicators	Responsible for implementation	Period	Responsible for implementation	Cost
		human rights through the project activities, and on the other hand will strive to empower the local community to be aware of and exercise their human rights so as to use it systemically for their benefit and wellbeing.					
Gender Equity and Women Empowerment	Inequitable representation of women in decision making process; identification, planning and implementation of activities Lack of confidence of women to participate in project activities	Community awareness and mobilisation on climate resilient and ecological agro-sylvo-pastoral NTFP eco-business to address women's and youth needs and priorities and confidence to participate in the project activities including the call for proposals ; participatory planning sessions to review and update local and regional development plans in the zones of intervention Gender focus activities will also include creating awareness in the community at large to acknowledge women for their contribution as an income generating individual in the household to create their value in the community and promote equitable. Fair and equitable selection of beneficiaries will be done for capacity building and training sessions. A list of all the participants will be maintained and gender ratio will be monitored by the PMU on a quarterly basis	Percentage of women in decision making process Number of complaints	PMU	During the life cycle of the project	Competent Environmental Assessment Authority	Taken into account in the project see budget lines and related Outputs
Core Labour Rights	Delay in wage payments Non adherence to minimum wage ; Child labour ; Labour hours especially on community work	Compliance to labour rights will be ensured in all the project activities. The main component under which labour will be involved will be Participatory micro-zoning of game areas Forest is restored on degraded lands within and outside parks through the plantation of around 15,000 trees sustainable land management measures (soil, water, etc.) with a labour-intensive approach through the FFS approach. Construction of erosion control structures and construction of flood mitigation structures, construction of 20 livestock water points in the outskirts. The wages will be determined on task allotted and	Proportion of local labor used in installation work	PMU	During labor intensive activities	Competent Environmental Assessment Authority	Taken into account in the project see budget lines and related Outputs

Environmental and social principles	Risks/Impacts identified	Possible measures to avoid, minimize, or mitigate environmental and social risks	Monitoring Indicators	Responsible for implementation	Period	Responsible for implementation	Cost
		the wage rate will be calculated on the basis of prevailing minimum wage rate for the task. The record of work done for each labour engaged will have to be maintained and the wages paid accordingly. The hours of work and the timing of the working hours will be determined in consultation with the labour and the prevailing practices in the area. Compliance will be ensured by making advance payments for the physical work as per the village micro plan submitted by the local communities to the implementing partner. Positive discrimination in favour of women may be used to provide fair and equal opportunity to women who seek employment as labour and gain from the wages earned by her. All forms of negative discrimination in respect of employment and occupation would be eliminated. Project should not engage child labour in any of its activities and all forms of forced or compulsory labour may be eliminated. He project will maintain registers for labour payments and same would be verified with respect to payments as per the schedule of rates, work quantity by the EE.					
Indigenous Peoples	Activities that are inconsistent with the Indigenous Peoples culture and practices	The project will not contravene the rights of indigenous people. The indigenous communities are the main target of the project. Activities planned will be finalized through a participatory process and will ensure that indigenous communities are consulted before finalizing and implementing any project activity. Before the call for proposal for the Fund as well as community activities; consultations will be organisation with indigenous population,	Percentage of indigenous peoples targeted	PMU	During the project lifecycle	Competent Environmental Assessment Authority	Taken into account in the project see budget lines and related Outputs

Environmental and social principles	Risks/Impacts identified	Possible measures to avoid, minimize, or mitigate environmental and social risks	Monitoring Indicators	Responsible for implementation	Period	Responsible for implementation	Cost
Pollution Prevention and Resource Efficiency	Polluting of the ecotourism sites developed under the project by the tourists visiting (treatment of non-biodegradable) Treatment of non-biodegradable Material like polythene bags of saplings, micro irrigation material etc.	Capacity building of the tourist operators will be done to instruct tourists not to litter when they visit the eco-tourism sites developed. Sign boards will be put up at the ecotourism place requesting tourist to keep the site clean. Community will be mobilized with the effect of littering/burning of non-biodegradable materials like polythene bags and other plastic material .Field staff will ensure that while supplying inputs to project beneficiary's non-biodegradable material is collected and stored at a place till collected by the waste collector for recycling. Community will be sensitized for disposal of plastic pipes used in the case of micro irrigation and will be guided to a local recycling plant.	Number of ecotourism operators and tourist trained on non-biodegradables and co-ordinated and sustainable pest and pesticide management techniques	PMU	During the project lifecycle	Competent Environmental Assessment Authority	Taken into account in the project see budget lines and related Outputs

To effectively implement the above mitigation measures, the PMU will be sensitized on these aspects related to social and environmental risk during its periodic meetings. The PMU shall be responsible for identifying specific risks that may arise during implementation based on the monitoring of project and built in mitigation and reporting mechanism for the same. Also, social audit would be put in place that would also help in mitigation of some of risk enlisted under Environmental and Social Policy of the Fund.

During its regular supervisions missions, IFAD and the Government of Cameroon will ensure that environmental and social risks, if any will be adequately and timely addressed through a management plan or changes in project design. The existing system of annual project performance reports and the mid-term and terminal evaluation reports will be designed to track any required environmental and social risk management plan or changes in project design.

In order to ensure that the implementing partners are fully aware of their responsibilities with regards to provision of the Environmental & Social Policy of Adaptation Fund, IFAD team and the PMU will orient the partners on the guidelines, systems and procedures related to the environmental and social policy including the grievance redressal mechanism.

Grievance and redress mechanism

The proposed project will utilize the existing IFAD's grievance mechanism to allow affected to raise concerns that the proposed project is not complying with its social and environmental policies or commitments. The consultative process with the community and beneficiaries aims to ensure prevention of grievances that might arise from the project activities. However, If at all, there are any grievances, the below redressal mechanism is proposed:

- Grievance redressal mechanism would be shared with the community during the project inception workshop and subsequent meetings with the beneficiaries
- As part of the grievance redressal mechanism, the contact details of the project partners - Cluster Coordinator/ Project Manager would be made available to stakeholders including project beneficiaries and the community. Contact numbers would be displayed at common or predominant places along–with the project details. This is expected to promote social auditing of project implementation. The grievance mechanism will be available to the entire project intervention areas. However, the functionality of the mechanism rests with the beneficiaries considering that the project including the grievance mechanism is envisaged to be a bottom up approach.

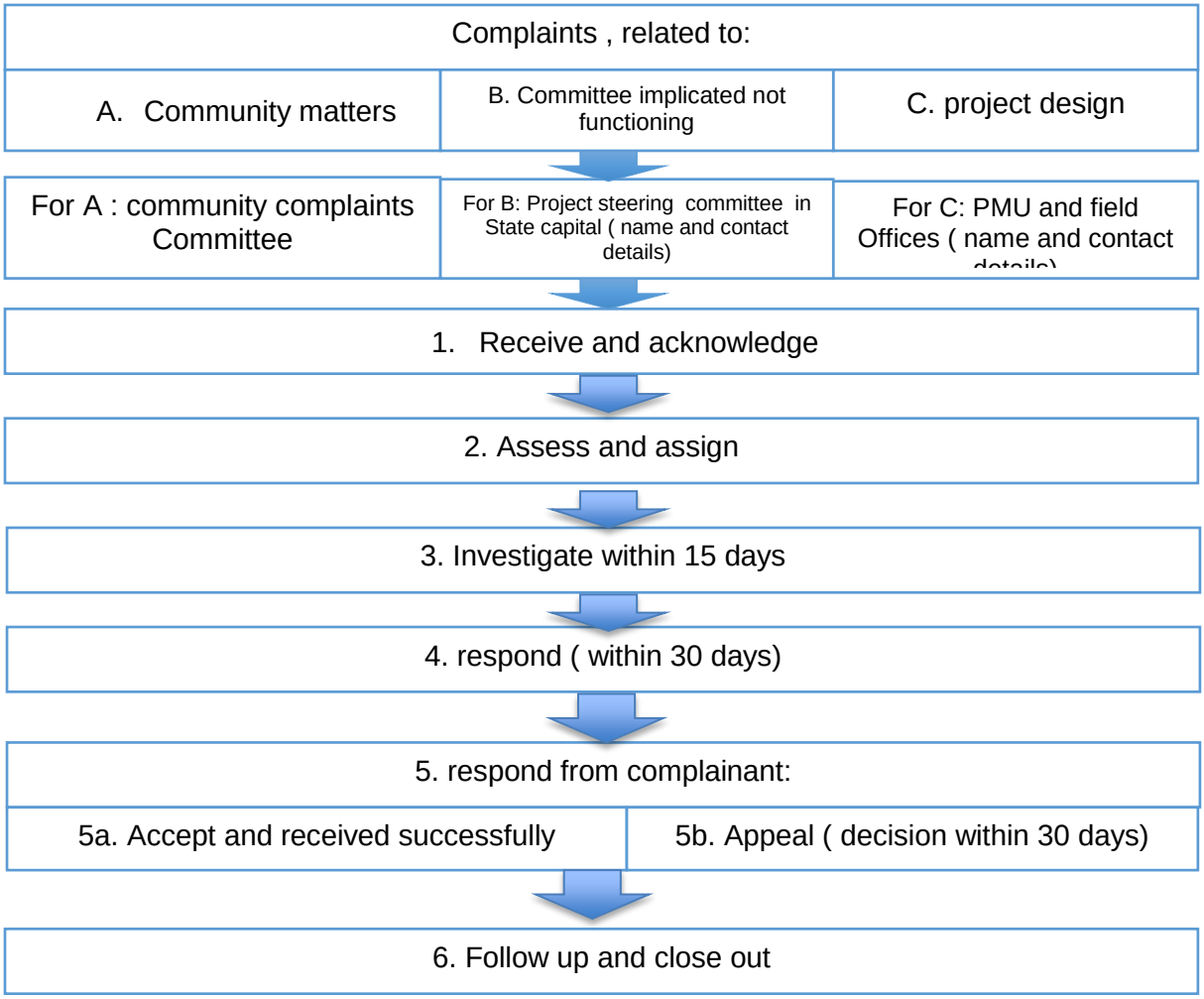
Grievances are aimed to be addressed at the field level by the project team which will be the first level of redressal mechanism. If the grievance is not resolved at the field level, it will be escalated to the PMU and then to IFAD who will be responsible for addressing grievances related to violation of any of the provisions of Environmental and Social Policy of the Adaptation Fund. All grievances received and action taken on them will be put up before the PMU and Steering committee meetings and will also be included in the progress reports to the NIE for reporting and monitoring purposes.

Whenever a project causes negative environmental or social impacts there will be grievances (complaints) from people who are affected. “Having a good overall community engagement process in place and providing access to information on a regular basis can substantially help to prevent grievances from arising in the first place, or from escalating to a level that can potentially undermine project performance. (…) Grievance mechanisms should [therefore] not be thought of as a substitute for the [above-mentioned] community engagement process or vice versa. The two are complementary and should be mutually reinforcing. Criteria's to be used for a robust robust grievance / complaints mechanism are :

a. *Legitimate*: enabling trust from the stakeholder groups for whose use they are intended, and being accountable for the fair conduct of grievance processes;
b. *Accessible*: being known to all stakeholder groups for whose use they are intended, and providing adequate assistance for those who may face particular barriers to access;
c. *Predictable*: providing a clear and known procedure with an indicative time frame for each stage, and clarity on the types of process and outcome available and means of monitoring implementation;
d. *Equitable*: seeking to ensure that aggrieved parties have reasonable access to sources of information, advice and expertise necessary to engage in a grievance process on fair, informed and respectful terms;
e. *Transparent*: keeping parties to a grievance informed about its progress, and providing sufficient information about the mechanism's performance to build confidence in its effectiveness and meet any public interest at stake;
f. *Rights-compatible*: ensuring that outcomes and remedies accord with internationally recognized human rights;
g. A source of *continuous learning*: drawing on relevant measures to identify lessons for improving the mechanism and preventing future grievances and harms;
h. Based on *engagement and dialogue*: consulting the stakeholder groups for whose use they are intended on their design and performance, and focusing on dialogue as the means to address and resolve grievances.

In general (not limited to this proposed Adaptation Fund Project in Cameroon), IFAD has established a complaints procedure to receive and facilitate resolution of concerns and complaints with respect to alleged non-compliance of its environmental and social policies and the mandatory aspects of its Social, Environmental and Climate Assessment Procedures in the context of IFAD-supported projects. The procedure allows affected complainants to have their concerns resolved in a fair and timely manner through an independent process. IFAD has established a complaints procedure to receive and facilitate resolution of concerns and complaints with respect to alleged non-compliance of its environmental and social policies and the mandatory aspects of its Social, Environmental and Climate Assessment Procedures in the context of IFAD-supported projects. The IFAD's grievance and redress mechanism will be also applied to the Adaptation Fund projects which are considered are complementary to IFAD investments **.** The procedure allows affected complainants to have their concerns resolved in a fair and timely manner through an independent process. IFAD may becontacted by e-mail at SECAPcomplaints@ifad.org or via its website at (click here for page). In addition, IFAD will require the borrower to provide an easily accessible grievance mechanism, process or procedure to facilitate resolution of concerns and grievances of project-affected parties arising in connection with the project (on a case-by-case basis for projects that poses special risks). Grievance redress will use existing formal and informal grievance mechanisms, strengthened or supplemented as needed with project-specific arrangements, and will be proportionate to the risks and impacts of the project. Although IFAD normally addresses risks primarily through its enhanced QE/QA process and by means of project implementation support, it remains committed to: (i) working proactively with the affected parties to resolve complaints; (ii) ensuring that the complaints procedure and project-level grievance mechanism are easily accessible to affected persons, culturally appropriate, responsive and operates effectively; and (iii) maintaining records of all complaints and their resolutions

Practically, the following order and structure is proposed for handling different type of complaints related to the Adaptation Fund project



Any community member in the project intervention areas concerned by the project may submit a complaint regarding the project. Depending on the type and severity, the complaint should be submitted to either a community-level complaints committee (in case of community-level matters, e.g. related to land access)78 or the Project Management Unit or the project steering committee with copy to the Project Coordinator (in case the community-level committee is implicated itself, cannot solve the issue, or is not functioning). In case the complaint is directly related to program design, it may be submitted to the PMU in copy IFAD team in Cameroon. Any complaint can be submitted via email, letter or by verbal submission to the relevant.

At each level, the respective complaints will be received and systematically recorded in a complaint register by a designated officer, and subsequently assessed on severity, assigned to a committee member ('complaint owner') to investigate the complaint within 15 days, and communicate the findings back (respond) to the complainant within 30 days. If the complainant does not accept the proposed resolution, he/she can appeal to an appeals committee at the Project Coordination in Yaoundé, which should review the case and recommend a course of action within 30 days. Once the solution has been implemented (or when the appeals committee authorizes the case for closure), the case will be closed.

Complaints or grievances are not only an indicator of something gone wrong, but also provide a valuable source of feedback and information that can help to improve program delivery. All AF funded project stakeholders should therefore be actively encouraged to use the grievance mechanism. Similar to complaints, all general requests for information should also be systematically recorded and answered. It is recommended the PMU and IFAD team keep a log of such requests and periodically upload the provided response under the 'frequently asked questions' section of the proposed national program website

Table: Additional potential negative social and environmental impacts and mitigation measures

Activity	Type of impact	Potential negative Impacts	Mitigation measures	Social and Environmental Risk
Development plan of Kimbi-Fungom	Env.	Reversal of co-management due to a lack of common strategic vision with neighbouring communities. Deterioration of environment and biodiversity.	Establishment of a strategic vision in collaboration with the communities bordering the park. Ensure that sustainable resource management brings sufficient economic benefits to communities	Low
Community forests	Env	No materialization of external limits, non-compliance with limits	Community sensitization to limits and use of plants as territorial markers	Low
	Soc.	Problems of lack of professionalism of the actors, lack of transparency of the community incomes management.	Support by local NGOs of actors and managers of the forest.	Moderate
Training	Soc.	Conflicts for access to the Projects' technical and financial support	Transparent targeting criteria and participatory targeting process	Moderate
Assisted Natural Regeneration	Env. – Soc.	Decreased flows in the downstream surface hydrographic system and strengthening of water use conflicts	The decrease in surface runoff will also have positive effects in terms of erosion control and the maintenance of soil fertility. The effect is offset by the economic, social and environmental gain provided by the ANR	Low
Reforestation	Env	Lowering soil moisture and groundwater in semi-arid regions	Choose varieties with low water demand Implement water harvesting and conservation techniques that mitigate runoff and evaporative losses and maximize infiltration	Low (North West) Moderate (Far North and North)
	Soc.	Issues related to (i) land tenure, (ii) natural resources and land use rights, (iii) ignorance of traditional land use rights	Definition of land use and consideration of traditional rights to determine managers. Enhancement of the eco-systemic benefits of forests (NTFPs) and their economic value for their preservation. Establishment of a community forest management plan	Low
	Soc.	Property rights over land and trees are poorly known and cause social conflict	Take into account the legal context and customary rights of communities to ensure the nature of the beneficiaries	Moderate

Activity	Type of impact	Potential negative Impacts	Mitigation measures	Social and Environmental Risk
	Soc.	Poor management of community forests	Forestry officials and local communities are trained to have the skills required for economic and technical management of forests	Moderate
	Soc.	Lack of commitment of rural people and overexploitation of forests	Involve communities by clearly outlining the benefits and costs of these community forests. Establishment of a community forest management plan	Low
Non-timber forest products	Soc.	Non-organization of the sector and its low visibility are risks compared to the expected results of the Project	Support to the organization of the sector and promotion of the use of these NTFP	Low
	Soc.	Expropriation of the disadvantaged / marginalized social categories in the activity for the benefit of less vulnerable categories	Monitoring, training and valorisation of disadvantaged social categories during activities	Moderate
Agroforestry	Env.	Competition for light, water and nutrients with other plantations and for soils with non-timber crops,	Good management techniques (size of branches, periodic cutting of roots), choice of species	Low
Pastoral Water Infrastructure	Env.	Displacement of wildlife outside protected areas	Localization of structures near villages to avoid approaching wildlife	Low

4 MONITORING AND EVALUATION

Project Monitoring and Evaluation (M&E) will be under the oversight of the PMU, and led by the M&E officer who will work closely with the implementing partners (IUCN, ICRAF, MINEPDED and MINFOF). The M&E system should: (i) produce, organize and disseminate the information needed for the strategic management of the Project, (ii) document the results and lessons learned for internal use and for public dissemination on the achievements and (iii) respond to the information needs of Adaptation Fund, IFAD and the Government on the activities, immediate outcomes and impact of the Project. A monitoring and evaluation manual that will describe a simple and effective system for collecting, processing, analysing and disseminating data will be prepared in the first year of the Project.

A computerized database will be developed that will enable the generation of dashboards used in IFAD projects. The system will be regularly fed from data collected in the field by the implementing partners and the various studies carried out as part of the projects' implementation. The monitoring and evaluation system will be coupled with a geo-localized information system (GIS) that will allow mapping and spatio-temporal analyses. Trainings will be organized to strengthen the capacities of the various stakeholders involved in the monitoring and evaluation system.

Project M&E activities will be guided by the following key considerations:

a) Data will be disaggregated by poverty, livelihood group and gender;

b) Each implementing or partner agency will have clear M&E responsibilities with specific reporting deadlines and a forum for presenting and discussing the findings of the monitoring exercise; and

c) M&E will be linked to the project rationale, log frame, and annual work plans and budgets. M&E findings will be used to take corrective or enhancing measures at the level of project management.

The project key M&E activities will include the following:

Project Inception Workshop

A Project Inception Workshop will be conducted within two months of project start up with the full project team, relevant government counterparts and IFAD. The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan. A fundamental objective of the Inception Workshop will be to present the modalities of project implementation and execution, and assist the project team to understand and take ownership of the project's goals and objectives. An Inception Workshop Report will be prepared and shared with participants.

Reporting

In the first and sixth year of the Project, *a MPAT/SYGRI+ survey* that also incorporates the information needs of the project logical framework will be conducted. MPAT, a multidimensional poverty assessment tool, is a recently developed IFAD tool that assesses poverty in ten dimensions that are at the heart of rural livelihoods.

Semi-annual and Annual Project Reports will be prepared by the PMU and verified by the PSC to monitor progress made since project start and in particular for the previous reporting period.

These reports include, but are 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);
- Lessons learned/good practices;
- Annual expenditure reports; and
- Reporting on project risk management.

Quarterly Progress Reports will also be prepared by project implementing partners in the field, and submitted to the PMU to ensure continuous monitoring of project activities and identify challenges to adopt necessary corrective measures in due time.

Technical reports – such as a best practices and lessons learned report - will also be completed, as determined during the project inception report/

A *Terminal project report* will also be completed at least two months before project closure.

Financial Reporting

In terms of financial monitoring, the project team will provide IFAD with certified periodic financial statements, and with an annual audit of the financial statements relating to the status of funds according to the established procedures.

External Evaluations

The project will undergo an independent external *Mid-Term Evaluation* at the mid-point of project implementation, which will determine progress being made toward the achievement of outcomes and 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 term.

A *Final Evaluation* will be conducted 3 months before project closure.

Field visits

Government authorities, members of PSC and IFAD staff will conduct regular field visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress.

The proposed M&E budget is as follows:

Type of M&E Activity	Responsible Parties	Time-frame	Estimate of costs
Inception Workshop (IW)	PMU	Within two months of project start up	USD 15,000
Baseline survey/ MPAT/SYGRI+ survey	PMU	First Year Sixth Year	USD 40,000
Project Inception Report	PMU	After the inception workshop.	USD 0 (as completed by PMU)
Supervision visits	PMU, Government, IFAD, PSC members depending on the needs.	Annual or as required	USD 30,000
Annual Work plans and Budget	PMU	Annual	USD 0 (as completed by PMU)
Semi-Annual project report	PMU	Semi-annual	USD 0 (as completed by PMU)
Annual project report	PMU	Annual	USD 0 (as completed by PMU)
Technical reports	PMU, implementing partners	As appropriate	USD 10,000 (Report on best practices and lessons learned)
Mid-term Evaluation (MTE)/Review (MTR)	External consultant	At mid-point of project implementation	USD 35,000
Final evaluation	External consultant	At the end of project implementation	USD 35,000
Terminal Report	PMU	At least two months before the end date of the project	USD 8,000
Audits	External auditor	Last year of project implementation	USD 9,000
TOTAL BUDGET			**USD 182,000**

5 RESULTS FRAMEWORK

Project Objective Outcome/Output	Indicator	Baseline	Target	Means of verification	Responsibility	Hypothesis
<u>Project Objective:</u> Increase local communities' resilience to climate change through resilient livelihoods and integrated natural resources management	Number of beneficiaries who have received support from the project as a proxy for increasing adaptive capacity to respond to the impact of climate change	0	8,800 households (at least 50% women)	Project Progress report	PMU	A stable macro-economic environment, an acceptable security level, and absence of disaster
Component 1: Mainstream climate change adaptation into institutional and regulatory frameworks plans for improved land and natural resources management at regional and local level						
<u>Outcome 1</u>: Climate proofed institutional frameworks and local development plans at regional and local level	Number of policies and development strategies adjusted to address climate change risks (by type and level – regional, local)	0	At least 5 (local, municipal and regional)	Project progress reports	PMU	The strategic and legal frameworks remain similar and are implemented throughout project implementation
<u>Output 1.1</u>: Institutional and regulatory frameworks and plans at municipal and regional level are strengthened to promote climate change	Evidence of a strategy proposing amendment to key strategic documents	Not existing strategy	1 strategy available and agreed upon	Strategy document	PMU	Good participation and collaboration between

Project Objective Outcome/Output	Indicator	Baseline	Target	Means of verification	Responsibility	Hypothesis
adaptation and the resilient management of natural resources at municipal and regional level	% of regions and communes that have a development plans that integrate CCA	To be defined at project inception	100% of the regions (Far North, North, and North West) 100% of the communes	Municipal and regional development plans covering the project areas of interventions	PMU	institutions
	Number of the national parks management plans that integrates CCA	0	3 (Management Plan of the Waza, Benoué and of the Kimki Fungom national parks)	Management plans	PMU	
<u>Output 1.2</u>: Land and natural resources management are improved in the Waza, Bénoué and Kimi-Fungom national parks and their outskirts to increase the resilience to climate change of vulnerable populations contributing to emissions reduction	Number of community forests and corresponding surface areas that have been: (i) delimited by the project, and (ii) classified	0	In the Waza NP periphery: 3 community forests of around 3 000 ha each In the Kimki-Fungom NP periphery: 6 community forests of around 2 000 ha each	Project progress report Official classification status document	PMU	
	Number of simplified management plans for community forest	0	9 simplified management plan for community forest (3	Simplified management plans	PMU	

Project Objective Outcome/Output	Indicator	Baseline	Target	Means of verification	Responsibility	Hypothesis
	and game areas developed by the project		around Waza NP, and 6 around Kimki Fungom) 2 for game areas (around Bénoué NP)			
Component 2: Improve knowledge on ecosystems' vulnerability to climate change and ecosystem-based adaptation and climate smart businesses opportunities						
<u>Outcome 2</u>: Ecosystems resilience to climate change is strengthened through monitoring and better knowledge of their status and vulnerability	Surface area of ecosystems mapped out and covered by surveillance mechanisms Strengthened awareness of adaptation and climate risk reduction measures	0	100,000 ha mapped out 2000 km^2 covered by surveillance drone and climatic stations	Project progress reports Mapping study Participatory maps	PMU	Good participation and involvement of local communities Good collaboration with national parks services Good survival rate of tree seedlings
Output 2.1: Climate information systems and surveillance mechanisms are strengthened through the development of a unified observation system to respond to climate change	Number and type of surveillance mechanisms introduced	0	6 drones for surveillance in protected areas	Project progress reports Invoice	PMU	
	Number of climatic stations and sentinel sites upgraded,	50	250	Project progress report Invoice	PMU	

Project Objective Outcome/Output	Indicator	Baseline	Target	Means of verification	Responsibility	Hypothesis
	set up or rehabilitated					
Output 2.2: Ecosystem-based adaptation and climate smart businesses opportunities for the most vulnerable groups are identified (youth, indigenous people, women, displaced people) and information systems are improved	Evidence of a feasibility study on NTFP business opportunities	0	1 study	-	PMU	
	Evidence of a database of potential eco-business opportunities	0	1 database per area (3 databases)	-	PMU	
	Number of knowledge sharing products	0	10	Knowledge products produced	PMU	
	Number of events organized	0	25	Events invitation and agendas	PMU	
Component 3: Implement adaptation to climate change measures through incentive instruments leading to increasing climate change resilience of targeted communities.						
<u>Outcome 3</u>: Sustainable management of natural resources and ecosystems leading to climate resilient ecosystems, green jobs creation for youth and resilient livelihoods.	% of project beneficiaries considering having improved their adaptive capacities	0	70%	Survey	PMU ICRAF, IUCN	The interest of young people remain high throughout project implementation
	Surface area under improved management in the project intervention sites	TBC on baseline study	4000 ha	Project progress report	PMU ICRAF, IUCN	Interest and availability of the communities to

Project Objective Outcome/Output	Indicator	Baseline	Target	Means of verification	Responsibility	Hypothesis
	% of people with increase income	0	60%	Survey	PMU ICRAF, IUCN	participate in FFS Ability of the beneficiaries to see the added value of the promoted measures The NTFP sector continues to offers economic opportunities throughout project implementation
Output 3.1: An Investment Fund is established and managed to invest in sustainable agroforestry and renewable energy enterprises for youth and other marginalized groups	Number of young people trained in resilient and ecological agro-sylvo-pastoral opportunities	0	2300 young people (50% women)	Project Progress report	PMU, ICRAF, IUCN	
	Number of training strategies developed for young eco-entrepreneurs	0	3	Project Progress report	PMU, ICRAF, IUCN	
	Number of commercial strategies developed per type of NTFP	0	4 commercial strategy (1 for acacia gum, 1 for shea, 1 for wild mango and 1 for njansan)	Strategy document	PMU, ICRAF, IUCN	
Output 3.2: Climate adaptation actions in agroforestry and natural resources management are made through the Investment Fund with a focus on youth and other marginalized groups.	Number of ha where agroforestry and soil and water conservation measures are implemented	TBC on baseline study	2000 ha agroforestry 2000 soil and water conservation measures	Project Progress report	PMU, ICRAF, IUCN	
	Number of FFS participants	0	3500	Project Progress report	PMU, ICRAF, IUCN	

Project Objective Outcome/Output	Indicator	Baseline	Target	Means of verification	Responsibility	Hypothesis
				FFS attendance sheets		
	Number of eco-businesses supported	0	400	Project Progress report	PMU, ICRAF, IUCN	
	Number of young people trained in NTFP	0	400 young people	Training attendance sheets	PMU, ICRAF, IUCN	
	Number of tree planted and surface area reforested	TBC on baseline study	15 000 trees 2000 ha reforested in community forests	Project progress report Drone monitoring	PMU ICRAF, IUCN	
	Surface where sustainable natural resources management was implemented through the FFS approach	0	2000 ha	Project progress report	PMU ICRAF, IUCN	
	Number of livestock water point constructed	TBC on baseline study	20	Project progress report Drone monitoring	PMU ICRAF, IUCN	
Output 3.3: Payments for ecosystem services schemes to support conservation of fragile ecosystems are	Number of households or youth organisations or eco-entrepreneurs	0	3000 households, 200 eco entrepreneurs	Project progress report	PMU/ PES unit	

Project Objective Outcome/Output	Indicator	Baseline	Target	Means of verification	Responsibility	Hypothesis
introduced	receiving payments or incentives to better manage ecosystems					

6 ALIGNMENT WITH THE ADAPTATION FUND

The table below demonstrates how the project aligns with the Results Framework of the Adaptation Fund.

Table: Project alignment with the result framework of the adaptation fund

Project Objective	Project Outcome Indicator	Adaptation Fund Outcomes	Fund Outcome Indicators	Grant Amount (USD)
Outcome 1: Climate proofed institutional frameworks and local development plans at regional and local level	Number of policies and development strategies adjusted to address climate change risks (by type and level –national, regional, local)	Outcome 7: Improved policies and regulations that promote and enforce resilience measures	7. Climate change priorities are integrated into national development strategy	8,700,000
Outcome 2: Ecosystems resilience to climate change is strengthened through monitoring and better knowledge of their status and vulnerability	Surface area of ecosystems mapped out, covered by surveillance mechanisms, and restored Strengthened awareness of adaptation and climate risk reduction processes at local level	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	
Outcome 3: Sustainable management of natural resources and ecosystems leading to climate resilient ecosystems, green jobs creation for youth and resilient livelihoods	% of project beneficiaries considering having improved their adaptive capacities Surface area under improved management in the project intervention sites Number of people with increased income	Outcome 4: Increased adaptive capacity within relevant development and natural resource sectors	4.2. Physical infrastructure improved to withstand climate change and variability-induced stress	
		Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress	5. Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress	
		Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in	6.2. Percentage of targeted population with sustained climate-resilient alternative livelihoods	

		targeted areas		
Project Outcomes	**Project Outcome Indicators**	**Adaptation Fund Outputs**	**Fund Output Indicators**	**Grant Amount**
Component 1: Mainstream climate change adaptation into institutional and regulatory frameworks plans for improved land and natural resources management at regional and local level				
Output 1.1: Institutional and regulatory frameworks and plans at municipal and regional level are strengthened to promote climate change adaptation and the resilient management of natural resources	Evidence of a strategy proposing amendment to key strategic documents % of regions and communes that have a development plans that integrate CCA Number of the national parks management plans that integrates CCA	Output 7: improved integration of climate-resilience strategies into country development plans	7.1. No. of policies introduced or adjusted to address climate change risks (by sector) 7.2. No. of targeted development strategies with incorporated climate change priorities enforced	1,400,000
Output 1.2: Land and natural resources management are improved in the Waza, Bénoué and Kimbi-Fungom national parks and their outskirts to increase the resilience to climate change	Number of community forests and corresponding surface areas that have been: (i) delimited by the project, and (ii) classified Number of simplified management plans for community forest and game areas developed by the project			
Component 2: Improve knowledge on ecosystems' vulnerability to climate change, ecosystem-based adaptation and climate smart businesses opportunities				
Output 2.1: Climate information systems and surveillance mechanisms are strengthened through the development of a unified observation system to respond to climate change	Number and type of surveillance mechanisms introduced Number of climatic stations and sentinel sites upgraded, set up or rehabilitated	Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities	3.1.1 No. and type of risk reduction actions or strategies introduced at local level	1,300,000
Output 2.2: Ecosystem-based adaptation and climate smart businesses opportunities for the most vulnerable groups are identified (youth, indigenous people, women, displaced people) and information systems are improved	Evidence of a feasibility study on NTFP business opportunities Evidence of a database of potential eco-business opportunities Number of knowledge sharing products Number of events organized			

Component 3: Adaptation to climate change measures are implemented through incentives instruments leading to increasing the resilience to climate change of targeted communities				
Output 3.1: An Investment Fund is established and managed to invest in sustainable agroforestry and renewable energy enterprises for youth and other marginalized groups	Number of young people trained in resilient and ecological agro-sylvo-pastoral opportunities Number of training strategies developed for young eco-entrepreneurs Number of commercial strategies developed per type of NTFP	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.1.No. and type of adaptation assets (physical as well as knowledge) created in support of individualor community-livelihood strategies	
Output 3.2: Climate adaptation actions in agroforestry and natural resources management are made through the Investment Fund with a focus on youth and other marginalized groups.	Number of ha where agroforestry and soil and water conservation measures are implemented Number of FFS participants Number of eco-businesses supported Number of young people trained in NTFP Number of tree planted and surface area reforested Surface where sustainable natural resources management was implemented through the FFS approach Number of livestock water point constructed and sustainably managed by WUAs	Output 4 and 5: Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability	4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by asset types) 5.1. No. and type of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type of assets)	6,000,000
Output 3.3: Payments for ecosystem services schemes to support conservation of fragile ecosystems are introduced	Number of households or youth organizations or eco- entrepreneurs receiving payments or incentives to better manage ecosystems	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.2. Type of income sources for households generated under climate change scenario	

7 PROJECT BUDGET

The table below presents the detailed budget of the project per activity with budget notes.

Item/activity	Amount (USD)	Budget notes/procurement
Component 1: Mainstream climate change adaptation into institutional and regulatory frameworks plans for improved land and natural resources management at regional and local level		
Output 1.1: Institutional and regulatory frameworks and plans at municipal and regional level are strengthened to promote climate change adaptation and the resilient management of natural resources		
Carry out socio economic baseline, community based Climate Vulnerability and Capacity Assessment (CVCA) to update the institutional, regulatory , policy frameworks and plans	100,000	Sociologist 60 days at 500 USD Climate Economist 80 days at 500 USD Environmentalist 60 days at 500 USD
Organise workshops and dialogues to raise awareness on climate change adaptation, generate political will and integrate the vulnerability assessment outcome and stakeholders' input into the relevant strategic framework and investment plans	30,000	At least 3 consultations at 10,000 USD each
Develop a voluntary codes of practice for forest management activities, including timber harvesting	50,000	Environmental and social impact specialist 50 days at 500 USD Legal specialist 50 days at 500 USD
Develop a road for the implementation of the update frameworks with a resource mobilisation strategy	20,000	Resource mobilisation expert 40 days at 500 USD
Organize participatory planning sessions to review and update local and regional development plans in the zones of intervention to mainstream climate change adaptation	20,000	At least 4 sessions at 5,000 USD each
Review of the management and development plans of the Waza and the Bénoué national parks to identify potential gaps in terms of climate change adaptation, and propose potential amendments to mainstream this dimension	75,000	Development specialist 60 days at 500 USD Climate specialist 60 days at 500 USD
Develop simple M&E systems for local and regional development plans, in order to enable local authorities to properly monitor their implementation	30,000	M&E specialist international 40 days at 500 USD M&E specialist national at 10,000 USD
Provide institutional and capacity building to local authorities implement the natural resources conservation and adaptive frameworks	45,000	At least 3 consultations at 10,000 USD each 1 training at 15,000 USD
Develop practical guides for updating regional and local development plans	30,000	Climate and environmental economist 60 days

Item/activity	Amount (USD)	Budget notes/procurement
with up-to-date climate change information		at 500 USD
Sub-Total	**400,000**	
Output 1.2: Land and natural resources management are improved in the Waza, Bénoué and Kimbi-Fungom national parks and their outskirts to increase the resilience to climate change of vulnerable populations contributing to emissions reduction		
Use of a Drivers-Pressures-State change-Impact-Response (DPSIR) framework to identify and analyse specific project activities areas	30,000	Environmentalist 50 days at 600 USD
Nine forest areas to be classified as "community forests" and to be managed sustainably by the communities at the outskirts of the Waza (3 community forests of around 3 000 ha each) and Kimbi-Fungom national parks (6 community forests of around 2 000 ha each)	90,000	Forester engineer 50 days at 500 USD Climate Expert 50 days at 500 USD Legal specialist 50 days at 600 USD Local consultant at 10,000 USD
Participatory micro-zoning of game areas #1 and #4 in the outskirts of the Bénoué national park to recognize a living space for local communities on the one hand, identify conflict zones and regulate natural resources use outside of this living space on the other hand	50,000	Development specialist 50 days at 500 USD Forester 50 days at 500 USD
Assess the conservation status of 10 endangered or endemic flora and fauna species and develop and develop climate conservations plans for at least 5 of them	40,000	Fauna and flora specialist 50 days at 600 USD Local consultant at 10,000 USD
Conduct vulnerability assessment to climate change of local ecosystems, and the needs for adaptation outside the outskirts of Waza, Bénoué and Kimbi-Fungom national parks	80,000	Climate expert 90 days at 600 USD Environmentalist 60 days at 600 USD (for the 3 parks)
Establish of natural (and temporary) physical fencing in the buffer zones	180,000	Construction of fences at contract award for 120,000 USD
Document, revive and promote continued use of traditional and indigenous systems related to conservation and climate resilience	30,000	Sociologist 40 days at 500 USD Local consultant at 10,000 USD
Improve water resource management in vulnerable households for food production systems through the water efficient practices such as drip water irrigation	120,000	contract award for 120,000 USD for drip water irrigation
Forest is restored on degraded lands within and outside parks through the plantation of around 15,000 trees from selected species demonstrating strong resilience to climate change and adaptation to the local ecosystems and the livelihood needs of the local communities	190,000	Purchase of plants and cash for work at contract award for 190,000 USD

Item/activity	Amount (USD)	Budget notes/procurement
Create a community forest and game areas management entities: identification of relevant stakeholders, consultation with local communities, and development of the legal status of the entities	80,000	At least 5 consultations at 10,000 USD One consultation at 30,000 (legal expert 60 days at 500 USD)
Support local authorities in the classification of new areas into community forest and game areas especially for activities such as safari, eco-tourism and cultural tourism	40,000	Eco tourism expert 40 days at 500 USD Forester 40 days at 500 USD
Elaboration of simplified management plans for the demarcated community forests and game areas defining communities' rights and access modalities to the natural resources of the area (spatial planning of crop land, livestock raising, firewood, NFTP, hunting, etc.) ensuring long-term conservation of ecosystem services in a climate change context	70,000	Forester 60 days at 500 USD GIS specialist 50 days at 400 USD Legal expert 50 days at 400 USD
Sub-total	**1,000,000**	
Cost for Component 1	**1,400,000**	
Component 2: Strengthening knowledge on ecosystems' vulnerability and promoting their restoration to increase their overall resilience to climate change		
Output 2.1: Surveillance mechanisms and climate information systems are strengthened		
Set-up, rehabilitate or upgrade of the network of meteorological stations (automatic and rain gauges ,lightning detectors, standard equipment, power supply, telecoms for field stations), and of the sentinel sites in the three intervention sites	220,000	Contract award for 220,000 USD for automatic and rain gauges standard equipment, power supply, telecoms for field stations in 3 sites
Upgrade and introduce data collection and communication equipment and devices , data storage and management systems, computers and software for remote sensing ; software and customized tools for GIS and modelling and forecasting	80,000	GIS specialist 50 days at 400 USD IT specialist 50 days at 400 USD Engineer 50 days at 800 USD
consolidation of hazard and risk maps, the analysis and completion of historical data, identification of climate variability indicators for rainfall and temperature and consolidation of all available data	60,000	Climate expert 80 days at 500 USD Local expert at 20,000 USD
Introduction of drones in the three national parks for ecosystems and natural resources surveillance to better monitor the impact of climate change, forest cover changes and ecological responses within protections areas and buffer zones.	80,000	Purchase of Drones and equipment at 80,000 USD
Training of Eco- guards and communities on the maintenance of meteorological stations, and of the sentinel sites in the three intervention sites	50,000	At least 3 trainings at 15,000 USD each 1 consultation with local communities at 5,000

Item/activity	Amount (USD)	Budget notes/procurement
		USD
Capacity building of Eco-guards on drone technology, climate data collection, monitoring, and treatment for decision making in the three national parks, and training on smart patrolling	80,000	At least 8 trainings @ 10,000 USD each
Application of specific tools (such as the FAO tool SHARP - Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists) to measure the evolution in the level of climate change resilience in local communities	100,000	Livestock specialist 60 days at 500 USD Resilience Specialist60 days at 500 USD Agronomist 40 days at 500 USD Local Experts at 20,000 USD
Develop a monitoring system for the conservations plans of the 5 most endangered or endemic flora and fauna species	80,000	M&E specialist 120 days at 500 USD Conservationist at 20,000 USD
Sub-total	**750,000**	
Output 2.2: The status and vulnerability of the ecosystem and natural resources within and in the outskirts of the three national parks are assessed and disseminated.		
Assess local alternative employment based on the Climate Vulnerability and Capacity Assessment (CVCA) with a special focus on youth, indigenous people, women, displaced people	80,000	Youth specialist 60 days at 500 USD Climate expert 60 days at 500 Gender and Indigenous people expert 40 days at 500 USD
Identify ecosystem-based adaptation and climate- smart solutions based for the different group of beneficiaries	60,000	Climate expert 120 days at 500 USD
Develop and maintain on a regular basis a database of potential eco-business opportunities and climate vulnerable beneficiaries	70,000	Business specialist 60 days at 500 USD Data expert lump sum at 40,000 USD
Establish of local concertation platforms on eco-businesses and natural resources management in the villages of the three areas of intervention (gathering the management entities of the community forests and game areas)	80,000	8 concertation with local communities at 10,000 USD
Increase generation and use of ecosystem-based adaptation and climate smart business opportunities in decision making and local development and investments plans	60,000	Climate/adaptation expert50 days at 600 USD Development plan specialist 50 days at 600 USD
Develop a rural youth employment local guide with ecosystem-based adaptation and climate-smart practices	60,000	Development specialist 50 days at 500 USD Designer 30days USD at 300 USD Youth Expert 40 days at 500 USD Infographics at 1,000 USD

Item/activity	Amount (USD)	Budget notes/procurement
Awareness raising on opportunities stemming from NFTP (acacia gum, shea butter, wild mango and njansang) among young people in the three areas of intervention, and selection of interested potential young entrepreneurs	70,000	At least 7 trainings/workshops at 10,000 USD
Conduct a feasibility study on market information, business opportunities on NTFP system through cellular and internet technologies	70,000	Market expert 80 days at 500 USD Forester 60days at 500 USD
Sub-total	**550,000**	
Cost for Component 2	**1,300,000**	
Component 3: Strengthening local communities and in particular young people's adaptive capacity through awareness raising, climate change adaptation measures, and the development of resilient eco-businesses.		
Output 3.1: An Investment Fund is established and managed to invest in sustainable agroforestry and renewable energy enterprises for youth and other marginalized groups.		
Partner with a local bank (**Afriland First Bank- partner of IFAD)** to establish the Investment Fund of 4 million USD operating under a special window linked to the IFAD funds	30,000	Finance Consultant 50 days at 500 USD
30% of the Fund will be reserved for financing sustainable agroforestry and renewable energy enterprises of indigenous people, women and displaced people (USD 1.2 Million)	-	
Develop the Guidelines/ criteria's for the selection of projects on ecosystem based adaptation/ climate smart agriculture/agroforestry	50,000	Guidelines and regulations Finance specialist 40 days at 500 USD Adaptation Specialist 60 days at 500 USD
Community awareness and mobilisation on climate resilient and ecological agro-sylvo-pastoral NTFP eco-business to address women's and youth needs and priorities	80,000	At least 8 workshops at 10,000 USD
Capacity building for existing business training centres and development of training strategies for young eco-entrepreneurs to tap into this fund	180,000	At least 8 workshops at 10,000 USD and 10 trainings at 10,000 USD each
Provide training for selected young people (2,300) on how to build an eco-business (economic aspects, business plans, leadership, entrepreneurship and citizenship, training in the legal status of land occupation and use of natural resources in the areas of intervention, support for professional integration).	80,000	8 thematic trainings at 10,000 USD each
Call for proposal for at least 400 projects from young eco-entrepreneurs, women and indigenous people , displaced people	10,000	Expert for call for proposal preparation at 10,000 USD
Capacity building for existing business training centres and development of training strategies for young eco-entrepreneurs	50,000	Training modules specialist at 20,000 USD

Item/activity	Amount (USD)	Budget notes/procurement
		3 Trainings of trainers at 10,000 USD each
Analysis and diagnosis of existing producer organizations and cooperatives in the areas of intervention to receive fund from the investment fund on eco businesses	70,000	Farmer Organisers Specialist 50 days at 600 USD Fund Management Specialist 50 days at 600 USD
Sub-total	**550,000**	
Output 3.2: Climate adaptation actions in agroforestry and natural resources management are made through the Investment Fund with a focus on youth and other marginalized groups.		
Fund invests in 200 types of sustainable business model of home gardens using techniques to reduce climate risks (such as drip irrigation, soil and water conservation and agro-ecological practices)	1,400,000	Contract award for 1.400,000 USD for micro project with project up to 50,000 USD each
Fund invests in youth initiative to promote rural alternative energy (biogas plants, solar) in agro- forestry, NTFP and livestock production value chain development	400,000	Contract award for 400,000 USD for micro project with project up to 20,000 USD each
Funds invests in setting up FFS: develop training tools for master trainers, train and equip master trainers, develop training curricula for farmers, establishment of FFS	80,000	Agronomist 80 days at 500 USD Designer/printing at 20,000 USD 2 Training at 10,000USD each
Fund invests in 2000 ha of sustainable land management measures (soil, water, etc.) with a labour-intensive approach through the FFS approach	350,000	Cash for work for 2,000 ha of sustainable land management for 350,000 USD
Fund invests in 2000 ha of agroforestry measures through the FFS approach	130,000	Cash for work for 2,000 ha of sustainable land management for 130,000 USD
Fund supports support the construction and improvement of facilities for rainwater storage, permeation and runoff control	150,000	Hydraulic engineer 120 days at 500 USD Architect 50 days at 600 USD Climate adaptation Specialist 120 days 500 USD
Fund supports directly at least 9 indigenous associations to lead the collection of local knowledge and identification of traditional productive practices relevant for climate change via an indigenous service provider	100,000	Climate adaptation Specialist 120 days at 500 USD Knowledge management expert 60 days at 500 USD
Fund supports the construction of erosion control structures and Construction of flood mitigation structures	140,000	Detailed engineering designs based on past experience with engineering firm for works in

Item/activity	Amount (USD)	Budget notes/procurement
		erosion control project at 140,000 USD
Fund supports the restoration of land , wildlife habitat based on climate information	100,000	Detailed engineering designs based on past experience with engineering firm for works in restoration of land, wildlife habitat project at 100,000 USD
Fund supports the promotion of ecotourism, sustainable harvesting, local processing of select commercially viable NTFP, and nature based local enterprises to enhance community resilience to climate change impacts through alternative income generation	100,000	Contract award for 100,000 USD for micro project supports the promotion of ecotourism, sustainable harvesting, local processing of select commercially viable NTFP, and nature based local enterprises
Fund invests in construction of 20 livestock water points in the outskirts of the national parks to prevent conflicts over water points within the parks, and to protect the reforested areas. The location of the water points will be decided through a participatory process	160,000	Detailed engineering designs of 20 livestock water points in the outskirts of the national parks at 160,000 USD
Fund supports the creation of and assistance to WUAs in running of all water infrastructures including the 20 livestock water points to increase awareness of water scarcity and the need for a rational use	90,000	Consultations at 90,000 USD (water expert 80 days at 500 USD; Community organizer expert 10,000 USD; development expert 80 days at 500 USD)
Fund supports ecosystem resilience to climate change through targeted restoration investments and build capacities on sustainable forest management practices in communities in and outside the Parks and protected areas	70,000	Forest expert 80 days at 500 USD Development expert 60 days at 500 USD
Fund support the development of green and climate resilient design and construction principles in and outside the park and protected areas	80,000	Contract award for 80,000 USD
Fund supports the establishment of nurseries, fields and seedbanks for crop research of local seeds and varieties to their resilience for climate change and their suitability for home gardens	100,000	Contract award for 100,000 USD
Sub-total	**3,450,000**	
Output 3.3: Knowledge sharing and concertation mechanisms are in place and project results and lessons learned are disseminated		
Establish a stimulus fund of 2 million USD to introduce Payments for ecosystem services schemes	2,000,000	partner with Afriland First Bank and REDD+ and Forest Carbon Partnership Facility (FCPF) to fund micro projects
Sign an agreement with the Centre pour l'Environnement et le Développement (CED), BioClimate Research & Development (BioClimate) and the Rainforest	-	

Item/activity	Amount (USD)	Budget notes/procurement
Foundation UK to expand their PES under the REDD+ with their modalities in the targeted regions		
Develop partnership with the Congo Basin Fund (CBFF) and other funds to mobilize more resource to scale up PES (Forest management and sustainable practice); Capacity building in REDD+; in monitoring, assessment and verification; and in sustainable forest management and livelihoods and economic development	-	
Sub-total	**2,000,000**	
Cost for Component 3	**6,000,000**	
Project execution costs		
Recruitment of local staff	150,000	Program Manager 18,000/year for 6 years Forest Specialist: 7000 USD for 6 years
Running costs	150,000	Maintenance Fuel for 6 years Office consumables for 6 years
Purchase of equipment	200,000	Cars: 35000 USD *5 Motorcycles: 25,000 USD
Total project execution costs	**500,000**	
Total Project Costs	**9,200,000**	
Project cycle management fee (8.5%)		
Financial management	100,000	Finance officer: 16,500/year for 6 years
Information, Reporting, Knowledge Management	200,000	KM officer: 11,000/year for 6 years M&E Specialist: 11,000/year for 6 years Communication Officer 11,000/year for 6 years
Performance Management – progress monitoring, field monitoring	182,000	Audit 6 audit:15,000 USD each for 6 years Field monitoring: 15,300 USD/year for 6 years
Programme support	300,000	Consultancies and technical assistance 50,000 USD per year

Item/activity	Amount (USD)	Budget notes/procurement
Total project cycle management fee	**782,000**	
Amount of Financing requested	**9,982,000**	

8 DISBURSEMENT SCHEDULE

The table below presents the disbursement schedule per year by activity.

Item/activity	Amount (USD)	Amounts disbursed by year (1000 USD)					
		Y1	Y2	Y3	Y4	Y5	Y6
Component 1: Mainstream climate change adaptation into institutional and regulatory frameworks plans for improved land and natural resources management at regional and local level							
Output 1.1: Institutional and regulatory frameworks and plans at municipal and regional level are strengthened to promote climate change adaptation and the resilient management of natural resources							
Carry out socio economic baseline, community based Climate Vulnerability and Capacity Assessment (CVCA) to update the institutional, regulatory , policy frameworks and plans	100,000	50	50	0	0	0	0
Organise workshops and dialogues to raise awareness on climate change adaptation, generate political will and integrate the vulnerability assessment outcome and stakeholders' input into the relevant strategic framework and investment plans	30,000	15	0	15	0	0	0
Develop a voluntary codes of practice for forest management activities, including timber harvesting	50,000	0	50	0	0	0	0
Develop a road for the implementation of the update frameworks with a resource mobilisation strategy	20,000	0	0	0	0	20	0
Organize participatory planning sessions to review and update local and regional development plans in the zones of intervention to mainstream climate change adaptation	20,000	20	0	0	0	0	0
Review of the management and development plans of the Waza and the Bénoué national parks to identify potential gaps in terms of climate change adaptation, and propose potential amendments to mainstream this dimension	75,000	0	75	0	0	0	0
Develop simple M&E systems for local and regional development plans, in order to enable local authorities to properly monitor their implementation	30,000	30	0	0	0	0	0
Provide institutional and capacity building to local authorities implement the natural resources conservation and adaptive frameworks	45,000	0	20	25	0	0	0
Develop practical guides for updating regional and local development plans with up-to-date climate change information	30,000	0	15	0	15	0	0
Sub-Total	**400,000**	**115**	**210**	**40**	**15**	**20**	**0**
Output 1.2: Land and natural resources management are improved in the Waza, Bénoué and Kimbi-Fungom national parks and their outskirts to increase the resilience to climate change of vulnerable populations contributing to emissions reduction							

Item/activity	Amount (USD)	Amounts disbursed by year (1000 USD)					
		Y1	Y2	Y3	Y4	Y5	Y6
Use of a Drivers-Pressures-State change-Impact-Response (DPSIR) framework to identify and analyse specific project activities areas	30,000	0	15	15	0	0	0
Nine forest areas to be classified as “community forests” and to be managed sustainably by the communities at the outskirts of the Waza (3 community forests of around 3 000 ha each) and Kimbi-Fungom national parks (6 community forests of around 2 000 ha each)	90,000	0	30	30	30	0	0
Participatory micro-zoning of game areas #1 and #4 in the outskirts of the Bénoué national park to recognize a living space for local communities on the one hand, identify conflict zones and regulate natural resources use outside of this living space on the other hand	50,000	0	20	30	0	0	0
Assess the conservation status of 10 endangered or endemic flora and fauna species and develop and develop climate conservations plans for at least 5 of them	40,000	0	20	20	0	0	0
Conduct vulnerability assessment to climate change of local ecosystems, and the needs for adaptation outside the outskirts of Waza, Bénoué and Kimbi-Fungom national parks	80,000	0	40	0	40	0	0
Establish of natural (and temporary) physical fencing in the buffer zones	180,000	50	50	20	50	10	0
Document, revive and promote continued use of traditional and indigenous systems related to conservation and climate resilience	30,000	0	0	15	0	0	15
Improve water resource management in vulnerable households for food production systems through the water efficient practices such as drip water irrigation	120,000	0	30	30	30	30	0
Forest is restored on degraded lands within and outside parks through the plantation of around 15,000 trees from selected species demonstrating strong resilience to climate change and adaptation to the local ecosystems and the livelihood needs of the local communities	190,000	40	30	30	30	30	30
Create a community forest and game areas management entities: identification of relevant stakeholders, consultation with local communities, and development of the legal status of the entities	80,000	0	40	40	0	0	0
Support local authorities in the classification of new areas into community forest and game areas especially for activities such as safari, eco-tourism and cultural tourism	40,000	0	40	0	0	0	0
Elaboration of simplified management plans for the demarcated community forests and game areas defining communities' rights and access modalities to the natural resources of the area (spatial planning of crop land, livestock raising, firewood, NFTP, hunting, etc.) ensuring long-term conservation of	70,000	0	30	40	0	0	0

Item/activity	Amount (USD)	Amounts disbursed by year (1000 USD)					
		Y1	Y2	Y3	Y4	Y5	Y6
ecosystem services in a climate change context							
Sub-total	**1,000,000**	**90**	**345**	**270**	**180**	**70**	**45**
Cost for Component 1	**1,400,000**	**205**	**555**	**310**	**195**	**90**	**45**
Component 2: Strengthening knowledge on ecosystems' vulnerability and promoting their restoration to increase their overall resilience to climate change							
Output 2.1: Surveillance mechanisms and climate information systems are strengthened							
Set-up, rehabilitate or upgrade of the network of meteorological stations (automatic and rain gauges ,lightning detectors, standard equipment, power supply, telecoms for field stations), and of the sentinel sites in the three intervention sites	220,000	0	50	70	100	0	0
Upgrade and introduce data collection and communication equipment and devices , data storage and management systems, computers and software for remote sensing ; software and customized tools for GIS and modelling and forecasting	80,000	0	40	40	0	0	0
consolidation of hazard and risk maps, the analysis and completion of historical data, identification of climate variability indicators for rainfall and temperature and consolidation of all available data	60,000	0	0	30	30	0	0
Introduction of drones in the three national parks for ecosystems and natural resources surveillance to better monitor the impact of climate change, forest cover changes and ecological responses within protections areas and buffer zones.	80,000	40	40	0	0	0	0
Training of Eco- guards and communities on the maintenance of meteorological stations, and of the sentinel sites in the three intervention sites	50,000	15	10	0	0	15	10
Capacity building of Eco-guards on drone technology, climate data collection, monitoring, and treatment for decision making in the three national parks, and training on smart patrolling	80,000	40	0	40	0	0	0
Application of specific tools (such as the FAO tool SHARP - Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists) to measure the evolution in the level of climate change resilience in local communities	100,000	0	50	0	50	0	0
Develop a monitoring system for the conservations plans of the 5 most endangered or endemic flora and fauna species	80,000	0	40	0	40	0	0

Item/activity	Amount (USD)	Amounts disbursed by year (1000 USD)					
		Y1	Y2	Y3	Y4	Y5	Y6
Sub-total	**750,000**	**95**	**230**	**180**	**220**	**15**	**10**
Output 2.2: The status and vulnerability of the ecosystem and natural resources within and in the outskirts of the three national parks are assessed and disseminated.							
Assess local alternative employment based on the Climate Vulnerability and Capacity Assessment (CVCA) with a special focus on youth, indigenous people, women, displaced people	80,000	0	40	40	0	0	0
Identify ecosystem-based adaptation and climate- smart solutions based for the different group of beneficiaries	60,000	0	30	30	0	0	0
Develop and maintain on a regular basis a database of potential eco-business opportunities and climate vulnerable beneficiaries	70,000	0	0	30	30	10	0
Establish of local concertation platforms on eco-businesses and natural resources management in the villages of the three areas of intervention (gathering the management entities of the community forests and game areas)	80,000	0	40	40	0	0	0
Increase generation and use of ecosystem-based adaptation and climate smart business opportunities in decision making and local development and investments plans	60,000	30	0	30	0	0	0
Develop a rural youth employment local guide with ecosystem-based adaptation and climate-smart practices	60,000	0	0	30	0	30	0
Awareness raising on opportunities stemming from NFTP (acacia gum, shea butter, wild mango and njansang) among young people in the three areas of intervention, and selection of interested potential young entrepreneurs	70,000	0	30	0	40	0	0
Conduct a feasibility study on market information, business opportunities on NTFP system through cellular and internet technologies	70,000	0	0	30	40	0	0
Sub-total	**550,000**	**30**	**140**	**230**	**110**	**40**	**0**
Cost for Component 2	**1,300,000**	**125**	**370**	**410**	**330**	**55**	**10**
Component 3: Strengthening local communities and in particular young people's adaptive capacity through awareness raising, climate change adaptation measures, and the development of resilient eco-businesses.							
Output 3.1: An Investment Fund is established and managed to invest in sustainable agroforestry and renewable energy enterprises for youth and other marginalized groups.							
Partner with a local bank or microfinance institutions to establish the Investment Fund of 4 million USD	30,000	10	10	10	0	0	0

Item/activity	Amount (USD)	Amounts disbursed by year (1000 USD)					
		Y1	Y2	Y3	Y4	Y5	Y6
30% of the Fund will be reserved for financing sustainable agroforestry and renewable energy enterprises of indigenous people, women and displaced people (USD 1.2 Million)	-	-	-	-	-	-	-
Develop the Guidelines/criteria for the selection of projects on ecosystem based adaptation/ climate smart agriculture/agroforestry	50,000	50	0	0	0	0	0
Community awareness and mobilisation on climate resilient and ecological agro-sylvo-pastoral NTFP eco-business to address women's and youth needs and priorities	80,000	20	20	20	20	0	0
Capacity building for existing business training centres and development of training strategies for young eco-entrepreneurs to tap into this fund	180,000	30	30	30	30	30	30
Provide training for selected young people (2,300) on how to build an eco-business (economic aspects, business plans, leadership, entrepreneurship and citizenship, training in the legal status of land occupation and use of natural resources in the areas of intervention, support for professional integration).	80,000	20	20	20	20	0	0
Call for proposal for at least 400 projects from young eco-entrepreneurs, women and indigenous people , displaced people	10,000	0	10	0	0	0	0
Capacity building for existing business training centres and development of training strategies for young eco-entrepreneurs	50,000	0	25	0	25	0	0
Analysis and diagnosis of existing producer organizations and cooperatives in the areas of intervention to receive fund from the investment fund on eco businesses	70,000	0	70	0	0	0	0
Sub-total	**550,000**	**130**	**185**	**80**	**95**	**30**	**30**
Output 3.2: Climate adaptation actions in agroforestry and natural resources management are made through the Investment Fund with a focus on youth and other marginalized groups.							
Fund invests in 200 types of sustainable business model of home gardens using techniques to reduce climate risks (such as drip irrigation, soil and water conservation and agro-ecological practices)	1,400,000	0	300	300	400	200	200
Fund invests in youth initiative to promote rural alternative energy (biogas plants, solar) in agro- forestry, NTFP and livestock production value chain development	400,000	0	60	60	100	100	80
Funds invests in setting up FFS: develop training tools for master trainers, train and equip master trainers, develop training curricula for farmers, establishment of FFS	80,000	0	0	40	40	0	0
Fund invests in 2000 ha of sustainable land management measures (soil, water, etc.) with a labour-intensive approach through the FFS approach	350,000	0	0	100	100	150	0

Item/activity	Amount (USD)	Amounts disbursed by year (1000 USD)					
		Y1	Y2	Y3	Y4	Y5	Y6
Fund invests in 2000 ha of agroforestry measures through the FFS approach	130,000	0	0	60	70	0	0
Fund supports support the construction and improvement of facilities for rainwater storage, permeation and runoff control	150,000	0	0	50	50	50	0
Fund supports directly at least 9 indigenous associations to lead the collection of local knowledge and identification of traditional productive practices relevant for climate change via an indigenous service provider	100,000	0	0	50	50	0	0
Fund supports the construction of erosion control structures and Construction of flood mitigation structures	140,000	0	0	40	40	40	20
Fund supports the restoration of land , wildlife habitat based on climate information	100,000	0	30	30	30	10	0
Fund supports the promotion of ecotourism, sustainable harvesting, local processing of select commercially viable NTFP, and nature based local enterprises to enhance community resilience to climate change impacts through alternative income generation	100,000	0	0	50	50	0	0
Fund invests in construction of 20 livestock water points in the outskirts of the national parks to prevent conflicts over water points within the parks, and to protect the reforested areas. The location of the water points will be decided through a participatory process	160,000	0	50	50	60	0	0
Fund supports the creation of and assistance to WUAs in running of all water infrastructures including the 20 livestock water points to increase awareness of water scarcity and the need for a rational use	90,000	0	0	30	30	30	0
Fund supports ecosystem resilience to climate change through targeted restoration investments and build capacities on sustainable forest management practices in communities in and outside the Parks and protected areas	70,000	0	0	30	40	0	0
Fund support the development of green and climate resilient design and construction principles in and outside the park and protected areas	80,000	0	40	0	40	0	0
Fund supports the establishment of nurseries, fields and seedbanks for crop research of local seeds and varieties to their resilience for climate change and their suitability for home gardens	100,000	0	0	25	25	25	25
Sub-total	**3,450,000**	**0**	**480**	**915**	**1125**	**605**	**325**
Output 3.3: Knowledge sharing and concertation mechanisms are in place and project results and lessons learned are disseminated							
Establish a stimulus fund of 2 million USD to introduce Payments for ecosystem services schemes	2,000,000	0	0	500	500	500	500

Item/activity	Amount (USD)	Amounts disbursed by year (1000 USD)					
		Y1	Y2	Y3	Y4	Y5	Y6
Sign an agreement with the Centre pour l'Environnement et le Développement (CED), BioClimate Research & Development (BioClimate) and the Rainforest Foundation UK to expand their PES under the REDD+ with their modalities in the targeted regions	-	-	-	-	-	-	-
Develop partnership with the Congo Basin Fund (CBFF) and other funds to mobilize more resource to scale up PES (Forest management and sustainable practice); Capacity building in REDD+; in monitoring, assessment and verification; and in sustainable forest management and livelihoods and economic development.	-	-	-	-	-	-	-
Sub-total	**2,000,000**	**0**	**0**	**500**	**500**	**500**	**500**
Cost for Component 3	**6,000,000**	**130**	**665**	**1495**	**1720**	**1135**	**855**
Project execution costs							
Recruitment of local staff	150,000	25	25	25	25	25	25
Running costs	150,000	25	25	25	25	25	25
Purchase of equipment	200,000	200	0	0	0	0	0
Total project execution costs	**500,000**	**250**	**50**	**50**	**50**	**50**	**50**
Total Project Costs	**9,200,000**	**710**	**1640**	**2265**	**2295**	**1330**	**960**
Project cycle management fee (8.5%)							
Financial management	100,000	20	20	20	20	10	10
Information, Reporting, Knowledge Management	200,000	30	35	30	35	40	30
Performance Management – progress monitoring, field monitoring	182,000	20	40	40	25	40	17
Programme support	300,000	50	50	50	50	50	50
Total project cycle management fee	**782,000**	**120**	**145**	**140**	**130**	**140**	**107**
Amount of Financing requested	**9,982,000**	**830**	**1785**	**2405**	**2425**	**1470**	**1067**

Table: Disbursement summary table

Outputs	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total (USD)
Component 1: Mainstream climate change adaptation into institutional and regulatory frameworks plans for improved land and natural resources management at regional and local level							
Output 1.1	115,000	210,000	40,000	15,000	20,000	0	**400,000**
Output 1.2	90,000	345,000	270,000	180,000	70,000	45,000	**1,000,000**
Component 2: Improve knowledge on ecosystems' vulnerability to climate change, ecosystem-based adaptation and climate smart businesses opportunities							
Output 2.1	95,000	230,000	180,000	220,000	15,000	10,000	**750,000**
Output 2.2	30,000	140,000	230,000	110,000	40,000	0	**550,000**
Component 3: Adaptation to climate change measures are implemented through incentives instruments leading to increasing the resilience to climate change of targeted communities							
Output 3.1	130,000	185,000	80,000	95,000	30,000	30,000	**550,000**
Output 3.2	0	480,000	915,000	1,125,000	605,000	325,000	**3,450,000**
Output 3.3	0	0	500,000	500,000	500,000	500,000	**2,000,000**
Project execution costs	250,000	50,000	50,000	50,000	50,000	50,000	**500,000**
Project Cycle Management Fee (8.5%)	120,000	145,000	140,000	130,000	140,000	107,000	**782,000**
Total (USD)	**830,000**	**1,785,000**	**2,405,000**	**2,425,000**	**1,470,000**	**1,067,000**	**9,982,000**

Table: Disbursement schedule (%)

Outputs	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Component 1: Mainstream climate change adaptation into institutional and regulatory frameworks plans for improved land and natural resources management at regional and local level																								
Output 1.1				29				81				91				95				100				
Output 1.2				09				44				71				89				96				100
Component 2: Improve knowledge on ecosystems' vulnerability to climate change, ecosystem-based adaptation and climate smart businesses opportunities																								
Output 2.1				13				43				67				97				99				100
Output 2.2				5				31				73				93				100				
Component 3: Adaptation to climate change measures are implemented through incentives instruments leading to increasing the resilience to climate change of targeted communities																								
Output 3.1				24				57				72				89				95				100
Output 3.2								14				40				73				91				100
Output 3.3												25				50				75				100
Project execution costs				50				60				70				80				90				100
Project Cycle Management Fee (8.5%)				15				34				52				68				86				100

PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

1 RECORD OF ENDORSEMENT ON BEHALF OF THE GOVERNMENT[1]

Dr. Haman Unusa National Designated Authority for the Adaptation Fund, Ministry of Environment Protection of Nature and Sustainable Development (MINEPDED)	Date: *December 8th 2017*

2 IMPLEMENTING ENTITY CERTIFICATION

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans and subject to the approval by the Adaptation Fund Board, commit to implementing the project in compliance with the Environmental, Social Policy and the Gender Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project.	
Liza Leclerc, LIZA LECLERC AS OIC *Margarita Astralaga, Director Environment and Climate Division, IFAD* Implementing Entity Coordinator	
Date: *22/12/2017*	Tel. and email: +393358176237 m.astralaga@ifad.org
Project Contact Person: Amath Pathe SENE, Lead Technical Specialist Environment and Climate for West and Central Africa, IFAD	
Tel. And Email: +393371143704 ; amath.sene@ifad.org	

[1] Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

ANNEXES

ANNEX 1: LETTER OF ENDORSEMENT BY THE GOVERNMENT

REPUBLIQUE DU CAMEROUN
Paix-Travail-Patrie

MINISTERE DE L'ENVIRONNEMENT, DE LA PROTECTION DE LA NATURE ET DU DEVELOPPEMENT DURABLE

SECRETARIAT GENERAL

DIVISION DES ETUDES, DES PROJETS ET DE LA COOPERATION

CELLULE DES ETUDES ET DE LA PROSPECTIVE

POINT FOCAL OPERATIONNEL DU FEM
POINT FOCAL FONDS D'ADAPTATION

REPUBLIC OF CAMEROON
Peace-Work-Fatherland

MINISTRY OF ENVIRONMENT, PROTECTION OF NATURE AND SUSTAINABLE DEVELOPMENT

SECRETARIAT GENERAL

DEPARTMENT OF STUDIES, PROJECTS AND COOPERATION

STUDIES AND PROSPECTIVE UNIT

GEF OPERATIONAL FOCAL POINT
ADAPTATION FUND FOCAL POINT

ADAPTATION FUND

N° 0092/L/MINEPDED/SG/DEPC/CEP/PF-FA

Yaoundé, the 19 AVR 2018

Letter of Endorsement by Government

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for **'increasing local communities' resilience to climate change through youth entrepreneurship and natural resources management'**

In my capacity as designated authority for the Adaptation Fund in Cameroon, I confirm that the above national project/programme proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Cameroon.

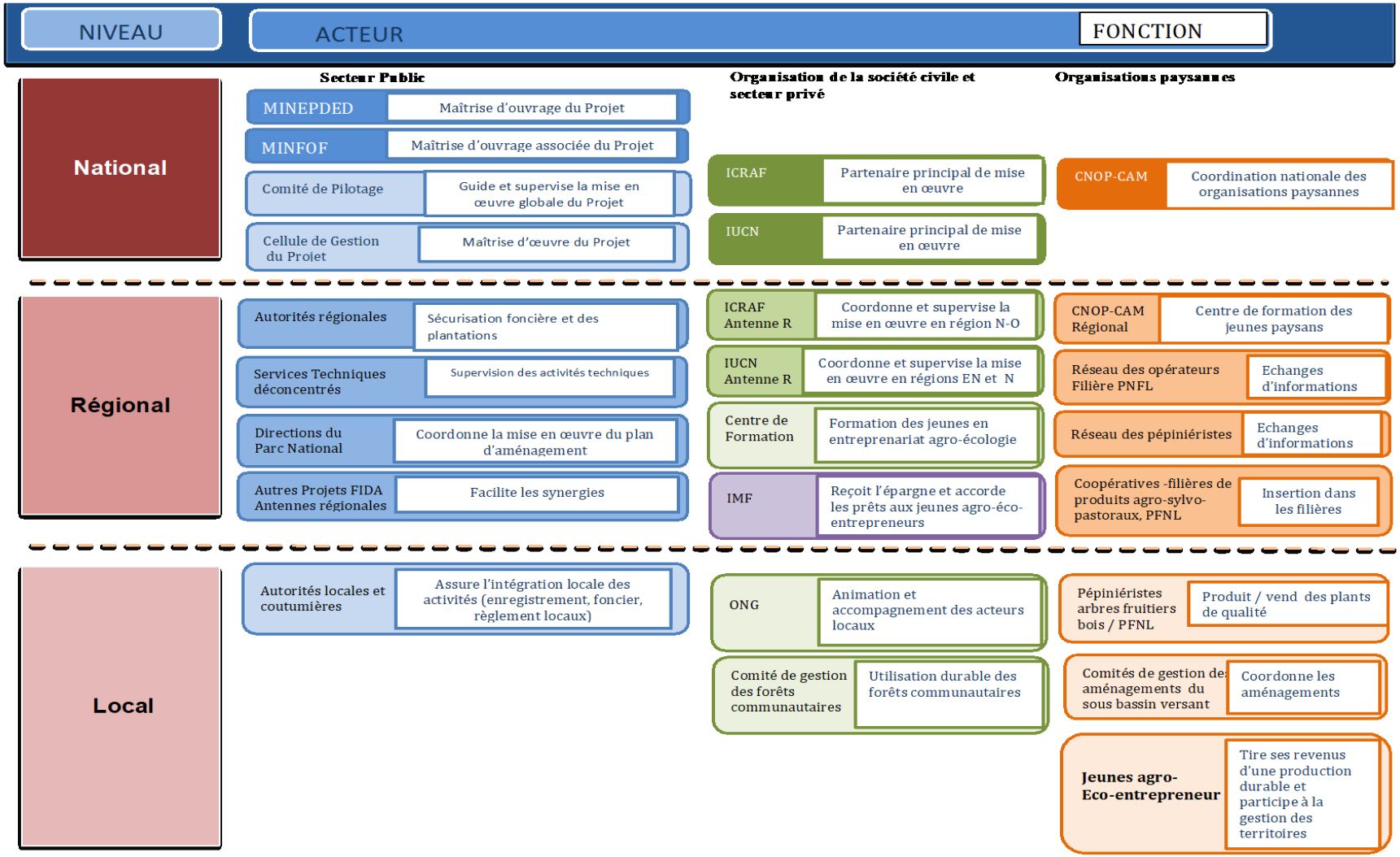
Accordingly, I am pleased to endorse the above project/programme proposal with support from the Adaptation Fund. If approved, the project/programme will be implemented by International Fund for Agricultural Development and executed by the Ministry of Environment, Protection of Nature and Sustainable Development.

Sincerely,

Hamsan Unusa (Ph.D)
Géographe - Aménageur - Environnementaliste

ADAPTATION POINT DNA

ANNEX 2: MATRIX ON STAKEHOLDERS' ROLE IN PROJECT IMPLEMENTATION (*in French*)



ANNEX 3: LIST OF PERSONS MET DURING THE DESIGN MISSION

Institutions gouvernementales rencontrées	Titre	Nom et prénoms des personnes rencontrées	Fonction
Gouverneur de la Région Nord	M.	EDIHI Jean Abate	Gouverneur
MINEPAT - Ministère de l'Economie de la Planification et de l'Aménagement du Territoire	M.	Macky Sam Georges Gabriel	Point focal
MINEPAT - Ministère de l'Economie de la Planification et de l'Aménagement du Territoire	M.	MAIRAMOU Laby	R/ Délégué Régional MINEPAT NORD
MINEPDED - Ministère de l'Environnement, de la Protection de la Nature et du Développement Durable	Mme	BANDOLO Charline	Représentante du DRI MINEPDED Nord
MINEPDED - Ministère de l'Environnement, de la Protection de la Nature et du Développement Durable	M.	Marcel Zemengue	CEA2 CPCOOP
MINFOF - Ministère des Forêts et de la Faune	M.	EKONG AKONO Josué	Représentant DEFOF Nord
MINJEC - Ministère de la Jeunesse et de la Culture	M.	MEKOBE AMBA Jean Daniel	Représentant Nord
MINPMEESA – Ministère des Petites et Moyennes Entreprises de l'Economie Sociale et de l'Artisanat	M.	KAFTARA Alioum	
Arrondissement de Waza	M.	OUMAROU Michel	Sous-préfet et Secrétaire d'administration
Bailleurs rencontrés	**Titre**	**Prénom et nom des personnes rencontrées**	**Fonction**
FAO - Food Agriculture Organization	Mme	ATANGA Felicitas	Chef de file sectoriel Sécurité Alimentaire
IOM - Organisation Internationale pour les Migrations	Mme	Tatiana Fouda Lobe	Chargée de projet Labour Migration
PAM - Programme Alimentaire mondial	M.	IBRAIMA HAMADOU AMINOU Elhaj	National Programme & Policy Officer
PAM - Programme Alimentaire mondial	M.	PEACOCKE Barnaby	Consultant indépendant
PAM - Programme Alimentaire mondial	Mme	PRUSCINI Elvira	Directrice Adjointe
UNHCR - Agence des Nations Unies pour les réfugiés	Mr	Mamady Fatta Kourouma	Chef de sous-délégation
Projets, ONGs et organisations rencontrés	**Titre**	**Prénom et nom des personnes rencontrées**	**Fonction**
ANOCO African Natural Oils company	M.	DIOMANDE Jacques	Directeur
APESS - Association pour la promotion de l'élevage au Sahel et en Savane	Mme	KOERANGA Idrissa Youssoufa	Coordinateur régional APESS CRIPA Garoua
APESS Garoua - Association pour la promotion de l'élevage au Sahel et en Savane	M.	FAISAL Mamoudou	
CADPEN	Dr.	DJIMDOHO Aboubakali	
CARDEN	Mr	Poudikiri Gilbert	
CB Waza	M.	Mounkang Houraou Moise	
CELDIE ONG	M.	BOTNA Boniface	
CENNOPCAM	M.	ABDOU Garga	Président
Chambre d'agriculture de Charente Maritime	M.	MAUCOURT Jean-Pierre	Assistant technique ponctuel à la PLANOPAC
Chef de Village MBARE	M.	Djidjiwa joseph	Chef de Village et Producteur de Mais arachide et igname
CNOP-CAM - Concertation Nationale des organisations Paysannes au Cameroun	M.	YOUSSOUFA Mohamadou	Responsable des Jeunes
Conseil National de la Jeunesse du Nord	M.	ALHADJI MAL BABBA Djibrilla	Président
Coopérative Transformation du lait, Union des Eleveurs et Producteurs de lait	Mme	Didjatou Yaya Dahirou	Membre CA
DRADERINO	Mme	MADI Ibrahima	
GIC ADJAGAMA	M.	MAHAMATISSEINI	Membre
GIC AGRO ELEVEUR de VOLONT.S.C.	M.	MOUSSA ELHADJI Ali	Membre
GIC ALZIABA	M.	ABAKAR MASSAOU	Délégué
GIC ALZIABA	M.	ALHADJI OUMAR ABAKACHI	Secrétaire
GIC ANDESSAMATICO	M.	GOUDJA Issa	Membre
GIC ANDESSAMATICO	M.	GOUDJA Yaya	Délégué
GIC ANDESSAMATICO	M.	MAHAMAI Ousmane	Délégué
GIC ATAPADAI	Mme	ASSOUALAGE Ndjidda	Membre
GIC ATAPADAI	M.	SERVICE Achnuga	Délégué
GIC BANAIYO	M.	ADAM Boukar	Délégué

Projets, ONGs et organisations rencontrés	Titre	Prénom et nom des personnes rencontrées	Fonction
GIC BARKA AKARAM	M.	DAIBOU NDJIDDA	Délégué
GIC BIFAWA	M.	FALTA Abounard	Membre
GIC BONOU DE BILE	M.	ALIMA Adraman	Membre
GIC BONOU DE BILE	M.	AMINA Ibrahim	Membre
GIC BONOU DE BILE	M.	ZIBRI Aissatan	Membre
GIC ECONOMIE	M.	AMINA Modou	Membre
GIC ECONOMIE	M.	BINTOU ABDALLA	Membre
GIC FANTOUYOO	M.	HASSAN Babba Ganarou	Secrétaire
GIC Femme Dynamique	Mme	AMSAMI Gatchi	Membre
GIC Femme Dynamique	Mme	BOUKAR Halaka	Délégué
GIC Femme Dynamique	M.	DOUBDJE Nassourou	Membre
GIC ISTIFAK	M.	MOUKTAR Younouss	Délégué
GIC JEFEDE (Jeune femme pour le Développement)	M.	ASSAME Malloum	Membre
GIC JEFEDE (Jeune femme pour le Développement)	Mme	NGONO Ebe	Membre
GIC KAKOUGUEDJI	M.	BANA Ali	Membre
GIC KIDJIRUATARI	M.	GANAMA Ali	Commissaire au compte
GIC KIDJIRUATARI	M.	HADIDJA Malloum	Secrétaire
GIC Mai AZAKOU	Mme	HAROUM DJIDDA	Membre
GIC Mai AZAKOU	Mme	MARIAABELE	Délégué
GIC NARRAL des Agroéleveurs	M.	ABDOULAYE Mahounde	Membre
GIC NARRAL des Agroéleveurs	M.	BOUKAR Ganarou	Membre
GIC Ngamme WAZA	M.	ALI KAO Dowtow	Délégué
GIC NGOUROU KOUROU	M.	MARA Djangoudoum	Secrétaire
GIC RDC de WAZA	M.	SOUMAI Evele	Délégué
GIC SATITYENNE	M.	FALMATA Modou	Trésorier

Projets, ONGs et organisations rencontrés	Titre	Prénom et nom des personnes rencontrées	Fonction
GIC SATITYENNE	Mme	HAWA Malaba	Délégué
GIC SECSEBNO	M.	MAHAMAT Daldaba	Membre
GIC Solidarité Guide Touristique PNW	Mme	BOUKAR Bana	Membre
GIC Solidarité touristique PNW	Mme	AWERSIN ASSIMINGA Ismaïla	Membre
GIC Solidarité touristique PNW	Mme	BOUKAR Ousmane	Membre
GIC VICHITKOU WAZA	M.	AMSSA Abba Charia	Délégué
GIC VICHITKOU WAZA	M.	Dougdje Sali	Membre
GIC YANA SAPIA	M.	ZAKARIA	Secrétaire
Groupe IYAGAMI	M.	DAWAI Todou	
Groupe IYAGAMI	Mme	GAOU MAOUKA	
Man&Nature	M.	Tournebize Theo	Assistant technique des projets en économie verte
Observatoire National sur les Changements climatiques - ONACC	Prof.	AMOUGOU Joseph	Directeur Général
Observatoire National sur les Changements climatiques - ONACC	M.	FORGHAB Patrick Mbomba	Directeur Adjoint
PADFA - Maroua	M.	ABBA Boukar	Chef d'antenne
PADFA - Maroua	M.	BITTY Charles	SGR/ Mra
Parc National de la Bénoué	M.	MBAMBA MBAMBA Jean Paul Kevin	Conservateur
Parc National de la Bénoué	Mme	MDEMASSANG MARIE	Assistant Projet
Parc National de la Bénoué	M.	NARKE Jean Cyrille	Coordonnateur du projet de sécurisation et cogestion des corridors de passage de la faune
Parc National de la Bénoué	M.	REPHEAL Ngandinde	Eco garde
Parc National de la Bénoué	M.	YINYANG Mbezandi	Eco garde
Parc National de Waza	M.	MAKTOUSSIDI	Eco garde
Parc national de Waza	M.	NDJIDDA Andre	Conservateur
People Finance - EMF	M.	BAKANI Musa	PEFI People Finance EMF
PI de Waza	M.	ABAMET Galadima	Commissaire spécial

Projets, ONGs et organisations rencontrés	Titre	Prénom et nom des personnes rencontrées	Fonction
PLANOPAC - Plate-forme nationale des organisations professionnelles agro-sylvo-pastorales du Cameroun	Mme	KAKAMBI Gaëlle	Chargée de programme
PLANOPAC - Plate-forme nationale des organisations professionnelles agro-sylvo-pastorales du Cameroun	M.	TCHUISSEU Miguel	Responsable technique
PLANOPAC Nord - Plate-forme nationale des organisations professionnelles agro-sylvo-pastorales du Cameroun	M.	PAKAH Samuel	
Programme ACEFA	M.	MAGRON	Représentant de l'antenne EN
Projet d'investissement des marchés agricoles - PIDMA	M.	KENGNE	Assistant technique en financement rural
SAILD Maroua - Service d'appui aux initiatives Locales de Développement	M.	BOUBA	Chef d'antenne
SAILD Service d'appui aux initiatives Locales de Développement		HOZIER Nana	Secrétaire Général
SAILD Yaounde - Service d'appui aux initiatives Locales de Développement	M.	NANA CHIMI Hozier	Secrétaire général
UICN - Union International pour la conservation de la Nature	Mr	Atangana Alain	Consultant, Docteur en Agroforesterie
UICN - Union International pour la conservation de la Nature	Mme	Mbenda Rosette	Consultante sociologue formatrice
UICN - Union International pour la conservation de la Nature	Mme	Aicha Moussa	Cheffe de Projet
UICN - Union International pour la conservation de la Nature	M.	Jiagho Rémi	Chargé de programme
Union de comités villageois F1	M.	ABBO Hamadou	Président
ZICGC - n°4 périphérie Parc Bénoué	M.	ASSABE Bello	Producteur d'Igname de DEMSA
ZICGC - n°4 périphérie Parc Bénoué	M.	DJAOUYANG Jean	Producteur de coton mais
ZICGC - n°4 périphérie Parc Bénoué		Emmanuel	CMC
ZICGC - n°4 périphérie Parc Bénoué	M.	LAASSOUM Amos	Producteur de maïs et d'arachide
ZICGC - n°4 périphérie Parc Bénoué	M.	MOISGIMENA Souley	Producteur d'Igname de DEMSA
ZICGC - n°4 périphérie Parc Bénoué	Mme	NENE Bouba	Présidente
ZICGC - n°4 périphérie Parc Bénoué	M.	NJOBIDI	Producteur de CMI
ZICGC - n°4 périphérie Parc Bénoué	M.	NONSYBRA Marc	Producteur de Igname
ZICGC - n°4 périphérie Parc Bénoué	M.	OUMARRE Badi	Producteur de mais arachide oignon coton soja
ZICGC - n°4 périphérie Parc Bénoué	M.	PHENWORE Delphine	Producteur d'arachide
Projets, ONGs et organisations rencontrés	**Titre**	**Prénom et nom des personnes rencontrées**	**Fonction**
ZICGC - n°4 périphérie Parc Bénoué	M.	SADOU Taghé	CVF
ZICGC - n°4 périphérie Parc Bénoué	M.	SALI BELLO Mboukma	Producteur de mais
ZICGC - n°4 périphérie Parc Bénoué	M.	SINHEBA Sandawa	Producteur d'Igname de DEMSA
ZICGC - n°4 périphérie Parc Bénoué	M.	TOURMBA Messingeu	Producteur de mais arachide oignon coton soja
ZICGC - n°4 périphérie Parc Bénoué	M.	VONDON Labai	Comesan Paller
ZICGC - n°4 périphérie Parc Bénoué	M.	YAMPILI Moussa	Producteur d'Igname de DEMSA
	M.	Manga Mika	Consultant Spécialiste Infrastructure

ANNEX 4 (IN FRENCH): SOCIAL, ENVIRONMENTAL AND CLIMATE ASSESSMENT PROCEDURES (SECAP) REVIEW NOTE FOR IFAD BASELINE INVESTMENT - ECO-JEUNES PROJECT)

INTRODUCTION

1. Le Projet ECO-Jeunes vise à promouvoir l'entreprenariat et les initiatives agro-écologiques durables et résilients au changement climatique pour les jeunes ruraux à la périphérie d'aire de conservation. Il adopte une approche en trois volets visant (i) à promouvoir des opportunités économiques viables pour les jeunes ruraux dans le secteur de l'éco-entreprenariat afin de (ii) gérer durablement les terres et les ressources végétales autour des aires protégées, permettant de (iii) développer des synergies durables de conservation entre les zones périphériques et des aires protégées.

2. La zone d'intervention du Projet ECO-Jeunes est localisée dans les trois provinces de l'Extrême-Nord, du Nord et du Nord-Ouest. Le Projet cible les zones périphériques aux points chauds de la biodiversité, qui sont respectivement le parc national de Waza, le parc national de la Bénoué et le parc national de Fungom-Kimbi.

A. Caractéristiques du paysage et questions principales (sociales, environnementales et climatiques)

Contexte socio-culturel

3. La population du Cameroun est caractérisée par une extrême jeunesse avec la moitié de la population ayant moins de 17 ans. Entre 2001 et 2007, la pauvreté en milieu rural s'est accentuée atteignant 55% de la population et le taux du sous-emploi chez les jeunes s'est élevé à 85%.

4. Les zones d'intervention du Projet sont parmi celles les plus touchées par l'insécurité alimentaire avec une estimation de 19% de la population en insécurité alimentaire et 15 % en état de malnutrition aigüe globale dans les régions de l'Extrême-Nord et du Nord. La population ayant besoins d'une assistance est estimée à respectivement 37, 11 et 3 %[12] pour les régions de l'Extrême-Nord, du Nord et du Nord-ouest. L'ensemble de ces facteurs force les jeunes ruraux à rechercher des alternatives économiques. Les violences liées au conflit avec Boko-Haram ont provoqué le déplacement en interne de 93 000 Camerounais et l'accueil dans ces mêmes régions de 65 000 réfugiés nigérians.

5. L'antagonisme entre le droit foncier moderne et le droit foncier coutumier reste un facteur limitant au développement agricole. Dans la région du Nord, le périmètre du Lac de Lagdo met en évidence des problématiques foncières complémentaires (i) sur la compétition entre les migrants, (ii) sur l'aménagement des zones irriguées par ces mêmes acteurs et (iii) sur l'attribution de ces zones via des fiches d'attribution, n'ayant ni de valeur foncière ni de valeur auprès du pouvoir traditionnel.[13] Dans la région du Nord-Ouest, les conflits fonciers sont essentiellement liés à l'accès à la terre, opposant les habitants ou ethnies différentes au niveau des frontières communes de leur village[14]. Un Document de Travail a été réalisé spécialement dans le but d'approfondir ces aspects. Le Projet s'efforcera de prendre en considération l'ensemble des parties prenantes et de faire que les autorités traditionnelles et administratives soient les garantes de l'accès au foncier pour les jeunes du Projet.

6. Le Projet sera mis en œuvre dans trois zones aux caractéristiques socio-environnementales spécifiques :

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[12] Office for the Coordination of the Humanitarian Affairs (OCHA) – 2016 – Aperçu des humanitaires 2016 Cameroun

[13] CNRS, Abdoulay Mfewou – 2013 - Migrations, dynamiques agricoles et problèmes fonciers en Afrique subsaharienne : Le périmètre irrigué de Lagdo (Nord-Cameroun)

[14] Irenees – DOMOU Bergeline – 2013 – Conflit foncier et frontalier entre les Bali-Nyonga et les Bahouoc dans le Nord-Ouest Cameroun.

(a) dans la région de l'Extrême-Nord et dans la périphérie du parc national de Waza : (i) une zone agro-écologique soudano-sahélienne où les pratiques traditionnelles d'agriculture entraînent une forte dégradation des sols en terres hardées ; (ii) une déforestation liée aux besoins en bois énergie des populations ; (iii) une forte prévalence de l'insécurité alimentaire qui atteint 18%[15] ; (iv) à une faible disponibilité en eau ; (v) une dégradation des infrastructures routières ; (vi) un accès très difficile aux institutions de microfinances ; (vii) une forte insécurité et un embrigadement de certains jeunes par les terroristes de Boko Haram bien que cette situation évolue positivement ces derniers mois ; (viii) une population de déplacés importante et en constante augmentation en raison du conflit armé évoqué au point précédent ; (ix) une présence de réfugiés transfrontaliers regroupés dans des camps humanitaires. ;

(b) Dans la région du Nord et dans la périphérie du parc national de la Bénoué : (i) une forte pression démographique en raison des périodes antérieures de migration de population ; (ii) une forte prévalence de l'insécurité alimentaire qui atteint 15% ; (iii) une faible disponibilité en eau ; (iv) une déforestation et une production de charbon de bois à destination des centres urbains ; (v) un accès très difficile aux établissements de microfinances en raison de l'éloignement

(c) dans la région du Nord-Ouest et dans la périphérie du parc national de Kimbi-Fungom, (i) une faible densité démographique de la population riveraine ; (ii) une mosaïque de forêt dense humide et de savane herbeuse d'altitude permettant des activités d'agroforesterie et l'exploitation de produits forestiers non ligneux très appréciés : mangue sauvage, njansang ; (iii) un dynamisme entrepreneurial dans l'ensemble de la région ; (iv) des pressions transfrontalières sur la biodiversité par la déforestation ; (v) la transhumance dans la partie septentrional de la région.

Ressources naturelles et leur gestion

7. Le relief du Cameroun se caractérise par :

(a) les hautes terres de l'Ouest qui forment une chaîne de massifs montagneux, disposés du sud-ouest au nord en un arc de cercle appelé la dorsale camerounaise et allant des volcans encore en activité du Mont Cameroun (4 095 m) au Sud-Ouest, d'Oku (3 008 m) dans le Nord-Ouest jusqu'aux monts Mandara (2 050 m) dans l'Extrême Nord ;

(b) les basses terres du Centre et de l'Est : la cuvette de Mamfé (Sud-Ouest), la cuvette de la Bénoué et la plaine du Nord ;

(c) les plateaux : le Sud camerounais, avec une altitude moyenne de 650 m et l'Adamaoua - le château d'eau du Cameroun - dont l'altitude moyenne est de 1 000 m et monte jusqu'à 2 650 m.

8. La position géographique du Cameroun fait que le pays est l'un des plus diversifiés en Afrique sub–saharienne sur le plan agro-écologique. On distingue du nord au sud : (i) la zone soudano–sahélienne (provinces du Nord et de l'Extrême–Nord) ; (ii) la zone des hautes savanes guinéennes (province de l'Adamaoua et départements du Mbam, du Lom et Djerem dans le Centre et l'Est respectivement) ; (iii) la zone des hauts plateaux de l'Ouest (provinces de l'ouest et du Nord–Ouest) ; (iv) la zone forestière humide à pluviométrie monomodale (provinces du Littoral et du Sud–Ouest) ; (v) la zone forestière à pluviométrie bimodale (provinces du Centre, du Sud et de l'Est). Plus de 40% de la superficie du pays reçoit plus de 3 900 mm de pluie par année.

[15] Plan National d'Investissement Agricole du Cameroun 2014 -2020

FIGURE 1. ZONES ECOLOGIQUE DU CAMEROUN
(SOURCE: MINEPAT: ATLAS NATIONAL DE DEVELOPPEMENT PHYSIQUE DU CAMEROUN)

9. Au sein de la zone soudano-sahélienne :

(a) le parc de Waza est localisé dans des formations végétales : (i) de steppes à épineux dans la zone de plaine Diamaré, ancienne zone d'accueil de migrants, aujourd'hui zone de départ de migrants ; (ii) de vastes prairies périodiquement inondées ou « Yaérés » en bordure Est du parc, marquées par une richesse de la biodiversité et représentant une zone agro-pastorale essentielle de la région ;

(b) le parc de la Bénoué est localisé dans des formations végétales de savanes soudaniennes boisées et de forêts claires sèches soudaniennes.

10. Au sein de la zone des Hauts Plateaux de l'Ouest, le nouveau parc national de Fungom-Kimbi est localisé au niveau des « Grassfieds » dont la strate herbacée est dominée par *Pennisetum purpureum* et *Imperata cylindrica* et le couvert ligneux est fortement anthropisé.

Ressources en eau de surface

11. Les disponibilités des ressources en eau de surface à l'échelle nationale sont de 268 milliards de m^3. Le Cameroun possède un réseau dense de fleuves réparties sur cinq bassins hydrologiques : (i) bassin du lac Tchad, (ii) bassin du Niger, (iii) bassin du Congo, (iv) bassin des fleuves côtiers.

12. Régions de l'Extrême Nord et du Nord. Elles sont soumises à un régime de type tropical sahélien, avec des crues annuelles brutales et des étiages très prolongés. Ce phénomène est localement très important pour les cultures de décrues et pour les activités agro-pastorales. La périphérie du parc national de la Bénoué est parcourue par des cours d'eau à l'Ouest, le Mayo Salo et le Mayo Farda, et la Rivière Bénoué à l'est. Celle du parc national de Waza est traversée à l'ouest par le Mayo Rando et le Mayo Motorsolo et à l'est par ses plaines inondées ou *Yaérés*. Les installations de retenue d'eau comme celle de Maga et de la digue le long du fleuve Logone, à l'Extrême-Nord, ont permis la mise en place d'une irrigation gravitaire de casiers rizicoles à l'aval sur près de 5 600 hectares.[16] Mais elles ont contribué également au dysfonctionnement hydro-écologique et socio-économique des yaérés en aval, en diminuant les apports en saison des pluies. Les baisses de la pluviométrie et des apports en limons fertiles accentuent ce phénomène avec les conséquences

[16] Banque Mondiale – 2012 - Evaluation de l'état du barrage, des digues, du réservoir et des structures hydrauliques du système de Maga-Logone-Vrick - des digues et du barrage

suivantes : (i) la réduction des surfaces inondées de 60% ; (ii) le déplacement de la population ; (iii) une forte baisse de la productivité des pâturages, de l'agriculture de décrue et des activités de pêche et ; (iv) la diminution de la capacité d'accueil de la faune sauvage et l'augmentation des conflits.[17]

13. Région du Nord-Ouest. Elle est considérée comme le « deuxième château d'eau » du Cameroun, grâce aux écosystèmes et au système hydrographique local. Mais la mauvaise gestion des ressources, la déforestation des bassins versants et le défrichement des forêts galeries et forêts de raphia au niveau des bas-fonds ont fortement contribué à diminuer la capacité de rétention en eau des sols, entraînant des problèmes de disponibilité en eau. Le parc national de Kimbi-Fungom se situe sur la partie plus en amont du bassin du Niger, et est de ce fait d'une importance fondamentale dans le fonctionnement hydrographique du bassin.

14. L'eau de surface est prioritairement mobilisée pour les activités pastorales et d'irrigation. Dans les régions où l'eau est rare, la ressource souterraine est également exploitée. Malgré les structures d'analyse existantes, la qualité de la ressource est très peu suivie depuis plusieurs décennies et ne permet pas sa bonne gestion.

15. Une préoccupation majeure en matière d'écosystèmes hydrologiques consiste à procéder à la canalisation d'un minimum d'eaux de ruissellement, en préservant et restaurant l'approvisionnement en eau. Ces écosystèmes aquatiques sont très riches en termes de biodiversité et nécessitent d'être protégés. De nombreuses activités agropastorales dépendent du bon rétablissement de ces écosystèmes, comme pour les « Yaérés » de l'Extrême-Nord.

Ressource en eau souterraine

16. Cette ressource est liée directement à celle des eaux de surface et à ses caractéristiques. Les disponibilités de ces eaux sont évaluées à 56 milliards de m^3 et représente 21% des ressources en eau de surface. L'essentiel des ressources en eau souterraine du Cameroun est contenu dans trois bassins sédimentaires et une zone de socle.

17. Le bassin sédimentaire du lac Tchad couvre une superficie de 19 800 km^2 au Cameroun. Les formations hydrogéologiques du bassin sont : (i) la nappe des terrains quaternaires constituée d'alluvions - la nappe phréatique est d'une très grande importance dans la cuvette tchadienne pour les activités locales ; (ii) la nappe des sables du pliocène supérieure d'une profondeur variant de 80 à 300 mètres, jaillissante dans la partie nord ; (iii) et la nappe du continental terminal sableux d'une profondeur entre 300 et 500 m de profondeur, présentant un artésianisme dans l'Extrême-Nord. La mise en place d'infrastructures d'hydraulique pastorale dans la périphérie du Parc de Waza sera effectuée en lien avec la nappe des sables du pliocène supérieure.

18. Aucun travail n'a été effectué pour quantifier les réserves en eau souterraine de chaque formation aquifère. Les aménagements hydrauliques et les conditions bioclimatiques diminuent le volume des inondations dans la plaine du Logone et ont un impact certain sur la recharge de la nappe quaternaire, qui constitue la principale source d'approvisionnement en eaux des populations et des cheptels de la plaine en saison sèche.

19. La saturation des ressources en quartz et en calcite et la forte teneur en nitrates (1,5 à 29 mg/l) et en chlorures (29 à 182 mg/l), témoignent en partie d'une pollution anthropique.[18]

20. Le bassin sédimentaire de la Bénoué couvre une superficie de 800 km^2. Il est composé d'un aquifère dans les dépôts crétacés et d'aquifères dans les alluvions quaternaires. Les nappes en surface sont de faible quantité, mais sont essentielles pour les usages domestiques ruraux.

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[17] Gouvernement du Cameroun – 2006 - Annexe 5 – Plan d'action National de Lutte Contre la Désertification (PAN/LCD)

World Meteorological Organization, Global Water Partnership - 2003 - Cameroun : gestion intégrée des eaux de crues – cas de la plaine d'inondation du fleuve Logone

[18] Gouvernement du Cameroun – 2009 - Plan d'action national de gestion intégrée des ressources en eau (PANGIRE)

L'alimentation de ces sources s'effectue par infiltration directe et par les écoulements de surface, elle est favorisée par la couverture des sols et sa préservation. Les eaux sont caractérisées par leur alcalinité avec un pH acide à neutre (6,4 à 7,3) et de forte teneur en calcium (de 122 à 149 mg/l).

21. La zone de Socle occupe près de 90% de la surface du territoire, avec un volume d'eau d'environ 15,4 milliards de m^3. Elle est composée de deux types d'aquifères superposés : (i) un aquifère d'altérites sus-jacents continus et ; (ii) un aquifère de fractures et fissures discontinues. La recharge de la nappe s'effectue soit par alimentation verticale directe par infiltration des eaux de précipitation et de ruissellement, soit de manière latérale depuis les berges des cours d'eau à travers les fissures et diaclase.

22. Les différents parcs nationaux du Projet et leur zone périphérique sont localisés directement à l'aplomb de ces bassins. Ils jouent ainsi un rôle essentiel dans la recharge des aquifères par alimentation verticale.

FIGURE 2 : BASSINS HYDROLOGIQUES DU CAMEROUN (SOURCE : OLIVRY 1986)

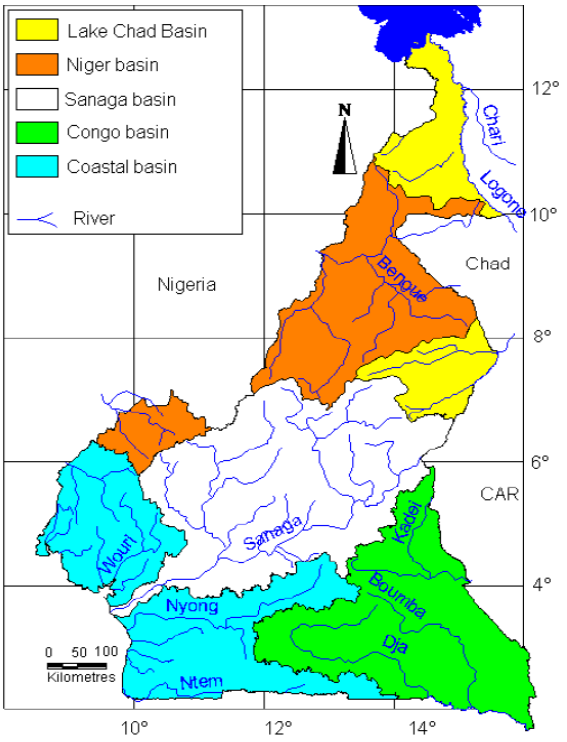
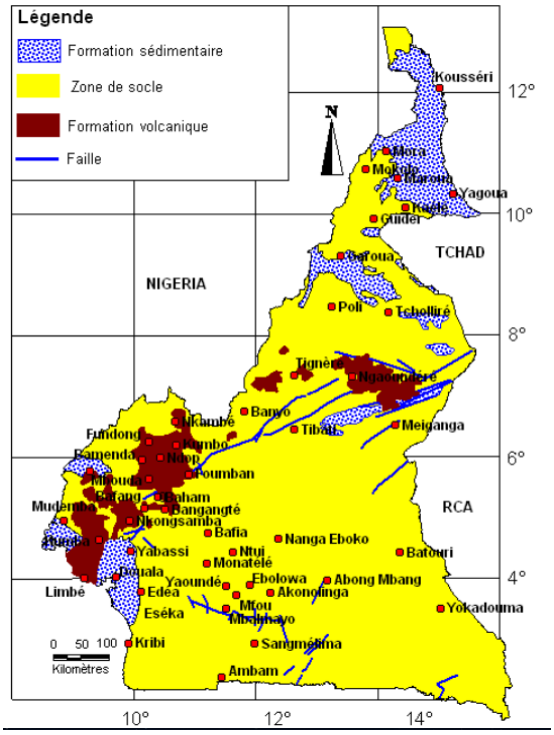


FIGURE 3 : PRINCIPALES FORMATIONS HYDROGEOLOGIQUES DU CAMEROUN (SOURCE PANGIRE)



Ressources Forestières

23. Les forêts couvrent 21,2 millions d'ha, soit 45% du territoire national. Le domaine forestier national représente 37% de la superficie du Cameroun. En 2011, 46% du domaine forestier était affecté aux forêts de production, 42% aux aires protégées, 6% aux forêts communautaires, 5% aux forêts communales et 1% à la vente de coupe.

24. Cette ressource représente un important levier économique pour le développement du Cameroun, avec 327 milliards de Francs CFA de chiffre d'affaire pour la seule filière bois. Elle représente également l'une des plus importante réserve en biodiversité, et propose de nombreux services éco-systémiques dont l'exploitation de produits forestiers non ligneux qui est encore peu développée. Cette ressource est sujette à la déforestation d'un taux net annuel d'environ 1%[19], en considérant l'ensemble des formations arborées du territoire, soit environ 220 000 hectares par an. Le

[19] Ministry of Environment and Forests (MINEF) et Food and Agriculture Organization (FAO) 2007 évaluation des ressources forestières nationales du Cameroun 2003–2004, Yaoundé, Cameroun.

taux de déforestation annuel net des forêts denses au Cameroun est estimé à 0,14%[20], qui est le deuxième plus important de ceux du bassin du congo, après la République Démocratique du Congo avec 0,2%, mais reste faible.[21] A côté de la déforestation, la dégradation des forêts apparaît comme le phénomène le plus répandu au Cameroun. Les statistiques 2003-2004 évaluent à 25% les forêts camerounaise non perturbées.[22]

25. Région de l'Extrême-Nord : zone soudano-sahélienne. Les espèces herbacées et ligneuses de la savane ont de multiples usages mais la production du bois de feu et de charbon, stimulée par une forte demande urbaine, constitue la plus importante forme d'exploitation. La surexploitation de ces ressources a induit (i) une forte dégradation du couvert végétal (perte de 18 880 ha pour la seule région Nord sur la période 2001-2014), (ii) une raréfaction des ressources, (iii) la modification des écosystèmes et (iv) une importante perte en biodiversité. La coupe de bois constitue, sous sa forme actuelle, l'un des facteurs les plus perturbateurs pour le milieu et une réelle menace pour les écosystèmes de savane au Nord-Cameroun. Elle n'offre pas d'opportunité économique durable pour les populations. Le pâturage aérien est également un facteur de stress du couvert végétal, surtout quand il est pratiqué par émondage (pour les bovins/ovins).

26. Région du Nord. Le phénomène de déforestation au sein des zones périphériques au parc national de la Bénoué est omniprésent. Il impacte négativement la préservation de la zone protégée avoisinante. La pression foncière et la dégradation de la fertilité des sols poussent la population à défricher de nouvelles terres et est une cause majeure de la déforestation. La région du Nord est un front pionnier ou des migrants des régions de l'Extrême-Nord s'installent à un rythme important, jusque dans les parcs. La gestion de forêts communautaires dans ces zones permettrait de favoriser : (i) la gestion durable des ressources de la zone périphérique ; (ii) la conservation et la reconstitution de l'équilibre écologique de la zone périphérique et de la zone protégée et ; (iii) le soutien économique des populations par la valorisation des services éco-systémiques.

27. Région du Nord-Ouest. Il ne reste que très peu de forêt dans son état naturel à l'exception des zones inaccessibles et des forêts sacrées. De nombreuses plantations à dominance d'eucalyptus, de pins ou de cyprès, couvrent près de 30 % à 40 % des besoins en bois de chauffage dans la région, mais appauvrissent les sols, assèchent les sources de captage d'eau et diminuent la biodiversité. Des pratiques d'agroforesterie à base d'essences endogènes se mettent en place pour tenter de rétablir un équilibre plus durable. Le parc de Kimbi-Fungom est encore un espace préservé de cette région, même s'il fait face à des pressions anthropiques transfrontalières, comme la déforestation, qui mettent en péril la conservation des écosystèmes de bordure.

28. **Les produits forestiers non ligneux**. En dehors du bois, les ressources forestières fournissent d'autres produits essentiels pour la satisfaction des besoins des communautés locales. Dans ce contexte la cueillette des feuilles, fruits, exsudats, écorces de certaines espèces, contribue à la sécurité alimentaire et à la génération de revenus monétaires pour les ménages les plus pauvres, tout en sensibilisant les populations à la gestion durable et à la préservation de ces ressources.

29. Plusieurs produits sont déjà valorisés dans ce domaine :

(a) à l'Extrême-Nord avec la gomme arabique (*Acacia seyal, Acacia senegalensis*), les feuilles de baobab (*Adonsonia digitata*) et les fruits et feuilles de balanites (*Balanites aegyptiaca*) ;

(b) au Nord, le karité (*Butyrospermum paradoxum)*, les fruits et feuilles de balanites (*Balanites aegyptiaca*) et les fruits des anacardiers (*Anacardium occidentale*) ;

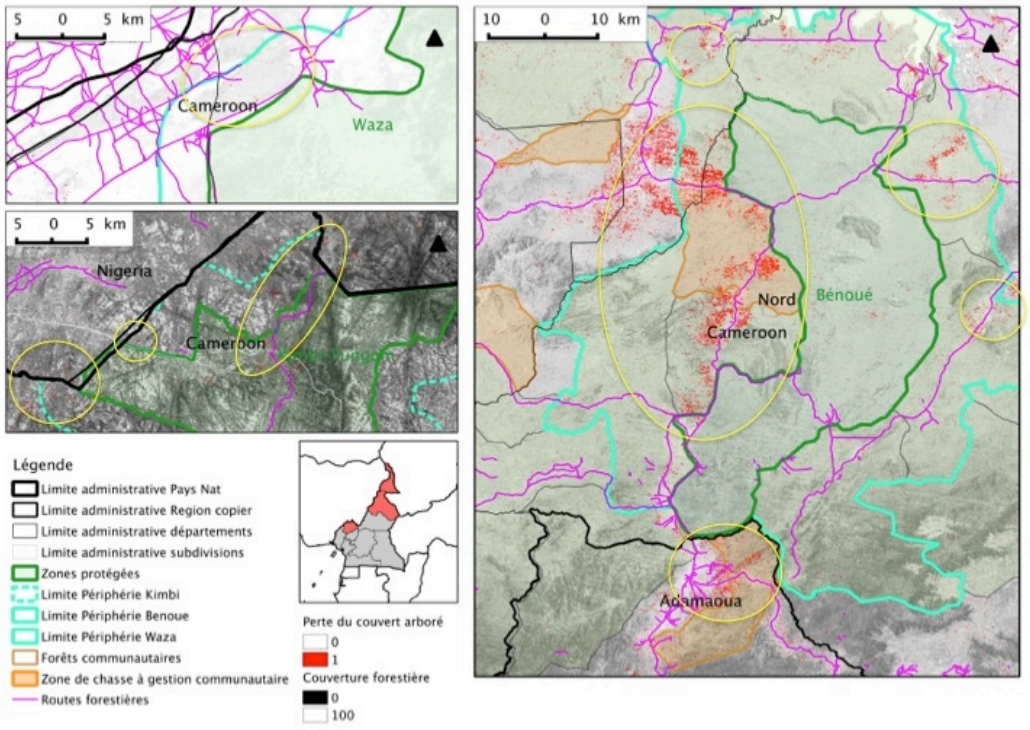
(c) au Nord-Ouest avec la mangue sauvage (*Irvingia gabonensis, Irvingia wombulu*), le Njangsang (*Ricinodendrum heudelotti*) et l'écorce du prunier d'Afrique (*Prunus africana*).

[20] Duveiller et al. - 2008

[21] Observatoire des Forêts de l'Afrique Centrale OFAC – 2008 - Les Forêts du Bassin du Congo – Etat des forêts 2008

[22] Center for International Forest Research (CIFOR) – 2011 - Le contexte de la REDD+ au Cameroun

FIGURE 4 : PERTE DE COUVERT ARBORE DANS LES ZONES D'ETUDES ET POTENTIELLES ZONES DE DEFORESTATION (SOURCE : GLOBAL FOREST CHANGE)



Biodiversité

30. **Richesse des aires protégées.** Les aires protégées sont les zones de concentration majeures de la biodiversité. Elles abritent environ 90% des espèces animales du pays, 95% des espèces végétales, près de 65% des habitats et 80% des écosystèmes du pays. Elles sont réparties en parcs nationaux (60%), réserves fauniques (14%), sanctuaires (10%), jardins zoologiques (10%) et réserves écologiques (10%). Elles couvrent environs 3,7 millions d'hectares. Les aires de production protégée ou zones de chasse sont au nombre de 72 (47 zones de chasse et 25 zones de chasse communautaire) et couvrent 5,7 millions d'hectares, soit 12% du territoire national. Les forêts communautaires ont subi un très grand essor, atteignant 301 sites en 2011 et un cumul de près d'un million d'hectares.

31. La politique du Cameroun a renforcé la présence d'aires protégées en doublant leur nombre entre 2000 et 2011 et en continuant à soutenir leur création. La mise en place du parc de Kimbi-Fungom en 2015 en est la preuve. Le gouvernement a également mis en place des mesures de sécurisation des animaux suite aux braconnages des éléphants à Bouda Ndjida en 2012, par l'adoption d'un Plan d'Extrême Urgence de Lutte Anti-braconnage le 23 mars 2013 (PEXULAB).

32. **Ecosystèmes**. La zone septentrionale d'intervention du Projet est dominée par l'écosystème de Savane Nord (i) interconnecté avec les pays frontaliers et leurs aires protégées, (ii) présentant un réseau hydrographique essentiel aux populations et à la faune locale, (iii) caractérisé par une diversité de faune, flore et d'écosystèmes de zone humide, (iv) et symbole de refuge des grands mammifères. La région Nord-Ouest est localisée au sein d'un écosystème de montagnes, représentatif d'un fort taux d'endémisme.

33. **Pressions sur les aires protégées et la biodiversité.** Malgré les efforts réalisés, les aires protégées se sont détériorées : (i) 137 espèces sont considérées en danger critique, 242 en danger, 397 vulnérables, 142 quasiment menacées et 2017 moins menacées. Ces espèces menacées sont

majoritairement présentes dans les zones forestières, les savanes et les zones humides.[23] Les raisons sont principalement (i) La modification et dégradation des habitats, (ii) La dégradation des formations forestières, (iii) la dégradation des ressources en eau et des zones humides, (iv) La désertification, (v) et l'impact du changement climatique.

Parc national de Waza et sa zone périphérique

34. Le Parc National de Waza a été créé par l'arrêté n°71 du 24 Mars 1934, sous le nom de réserve de chasse "Zina-Waza" puis a été érigé en Parc National de Waza par arrêté n°120 / SEDR du 05 Décembre 1968. Cette zone a également été inscrite en tant que réserve de biosphère en 1982, et est soumise au classement au Patrimoine mondial de l'UNESCO le 18 avril 2006. Enfin la plaine inondable de l'Est du Parc a été classée comme site RAMSAR en 2006.

35. Le parc est un refuge (i) pour les grands mammifères de l'écosystème de Savane Nord et (ii) pour les espèces d'oiseaux d'eau avec la plaine inondable à l'Est du parc et (iii) est un lieu essentiel du développement des espèces piscicoles.

36. Outre les pressions anthropiques sur la flore et l'importante déforestation, le parc fait face aux (i) pressions anthropiques sur la faune sous forme de braconnage, de conflits entre la faune et les riverains pour le pâturage et les ressources en eau et des conflits d'usage avec les pécheurs et les éleveurs en raison de la création de canaux, (ii) à la diminution de l'écotourisme, et donc de ses moyens de fonctionnement, en raison de la situation sécuritaire et (iii) les pressions climatiques.

Parc national de la Bénoué et sa zone périphérique

37. La réserve de faune de la Bénoué a été créée le 11 novembre 1932 pour devenir ensuite Parc National avec le Décret N°120 du 5 décembre 1968. Elle a ensuite été classée en Réserve de biosphère de l'UNESCO en 1981. Les limites des huit zones d'intérêt cynégétiques (ZIC) attenantes au parc national ont été définies dans l'Arrêté N°0580 du 27 Août 1998.

38. La végétation du parc national de la Bénoué et de ses environs est de type soudano-guinéen caractérisée par des savanes arborées/boisées et des savanes herbeuses[24]. Plus de 26 espèces de grands et moyens mammifères ont été recensés, dont les plus représentés sont les cobes de Buffon, les cynocéphales, les bubales, les ourébis, les hippotragues. Ce parc est essentiel au déplacement des grands mammifères au sein du réseau de aires protégées et de l'écosystème de savane nord. L'avifaune comprend plus de 306 espèces. L'important réseau hydrographique axé sur le fleuve Bénoué comprend une gamme variée d'espèces halieutiques.

39. Outre les pressions anthropiques sur la flore et l'importante déforestation, le parc fait face (i) à de fortes pressions sur les corridors fauniques qui ont quasiment tous disparu aujourd'hui, (ii) à l'orpaillage, (iii) au braconnage et la vente de viande de brousse, (iv) aux pressions engendrées par la multitude des conflits entre les migrants, la population riveraine, les éleveurs transhumants, la faune sauvage et les conservateurs du parc.

Parc national de Kimbi-Fungom et sa zone périphérique

40. La réserve de faune de Kimbi a été créé en 1964, et représentait 5 625 ha[25]. Le décret n°2015/0024 / PM du 3 février 2015 délimite et officialise la création du Parc National de Kimbi-Fungom de 95 380 ha, catégorie UICN II, unissant à la fois l'ancienne réserve de faune de Kimbi et toute une zone de hauts plateaux à l'Ouest, nommée Fungom.

41. Le parc national de Kimbi-Fungom est très important en termes de représentation d'espèces endémiques à la région Nord-Ouest ainsi qu'en terme de diversité de primates diurnes. En effet, au sein du parc national de Kimbi-Fungom, sept espèces de singes ont été vu et entendu (*Cercopithecus*

[23] Site internet de la liste rouge de l'Union Internationale pour la Conservation de la Nature : http://discover.iucnredlist.org/discover

[24] Start et Witt (1977) et DONFACK et al. (1999)

[25] Aire protégée et faune sauvage – MINFOF Cameroun

nictitans, Cercopithecus mona, Cercopithecus preussi, Cercopi-thecus erythrotis, Papio Anubis, Chlorocebus Tantale, patas Erythrocebus). Un autre singe, dont on dit se reproduire dans la partie sud de la région, aurait les caractéristiques physiques de *Mandrillus leucophaeus*. De ces espèces, quatre sont dénombrés sur la liste la liste rouge de l'UICN : une espèce vulnérable (*Cercopithecus erythrotis*), deux espèces menacées d'extinction (*Cercopithecus preussi et Pan troglodytes*) et une espèce en danger critique (*Gorilla diehli*).

42. Dans la zone d'étude, la faible démographie entraine de faibles pressions anthropiques sur la biodiversité. Néanmoins, on observe des pressions liées (i) aux activités transfrontalières de déforestation réalisée par les communautés provenant du Nigéria et (ii) les pressions liées à l'introduction des troupeaux des éleveurs à l'Est du parc, entrainant des conflits d'utilisation entre la faune sauvage et les animaux des troupeaux.

43. Le braconnage s'y fait encore à une échelle embryonnaire. Il est nécessaire d'envisager une intervention immédiate avant que la criminalité faunique n'y règne, contribuant ainsi à une décimation de ce potentiel faunique.

44. La délimitation de la zone d'intervention a été définie selon les critères suivants :

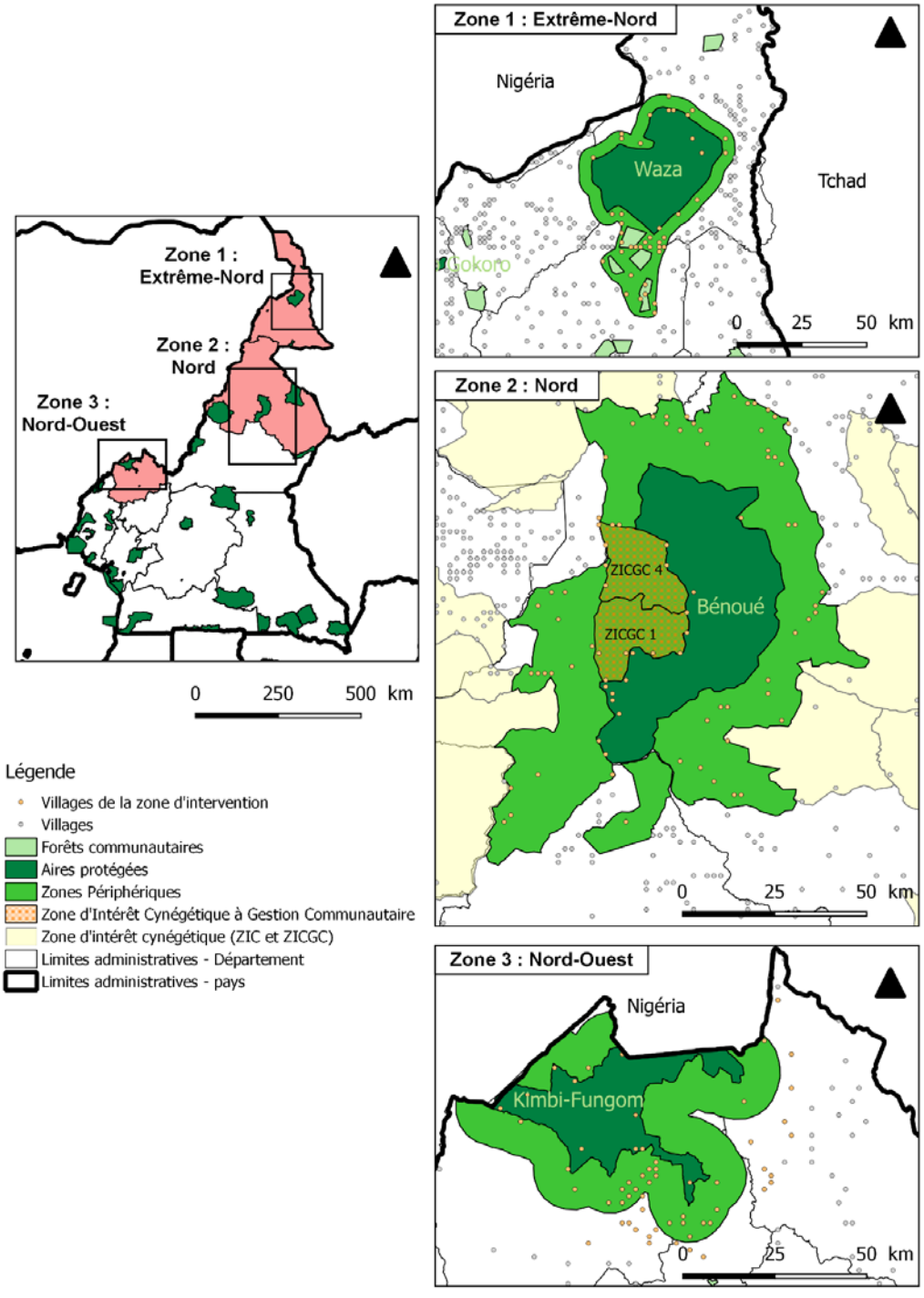
(a) **Parc national de Waza**. La zone d'intervention s'étend sur une couronne de 5 km autour du parc national de Waza en incluant les zones où les initiatives de foresterie communautaire sont en cours. Elle intègre ainsi la définition de la zone d'utilisation partielle (assimilée zone périphérique, par Saleh en 2011) pour le parc de Waza, ainsi que les forêts communautaires en cours de création localisées au sud du Parc ;

(b) **Parc de la Bénoué**. La zone d'intervention du Projet s'étend sur une couronne de 20 km autour du parc qui inclue les zones d'intérêt cynégétique à gestion communautaire (ZIC/GC) n°1 et n°4 et les zones d'intérêt cynégétique périphérique (ZIC) définies comme aire protégée par arrêté ;

(c) **Parc de Kimbi-Fungom**. Aucun zonage n'est défini pour la zone périphérique du Parc. Il a été considéré une couronne de 10 km autour du parc national comme zone d'intervention.

45. En complément de la présente synthèse descriptive des différents parcs nationaux de la zone d'intervention (i) un Document de Travail spécifique au contexte de Biodiversité est disponible et (ii) une analyse SWOT de chacun de ces parcs est disponible en appendice 5 de la présente Note SECAP.

FIGURE 5 : LOCALISATION DES AIRES PROTEGEES, DES FORETS COMMUNAUTAIRES ET DES ZONES DE CHASSE DU PROJET ECO-JEUNES (SOURCE : ATLAS FORESTIER CAMEROUN)



Systèmes de production

46. L'agriculture est dominée par environ deux millions de petites exploitations agricoles familiales, très sensibles aux aléas et accidents climatiques. Ces exploitations dépendent étroitement des ressources naturelles disponibles, avec des systèmes de production jouant un rôle déterminant dans la dégradation ou la préservation de ces dernières.

47. Région Extrême Nord : zone soudano-sahélienne. La zone est caractérisée par une mosaïque de sols et de formations édaphiques variés, très sensibles à l'érosion hydrique et éolienne, elle a été de ce fait définit comme zone d'action prioritaire I dans le cadre de lutte contre la désertification.

48. **Agriculture.** En dehors des monts Mandara, les systèmes de production sont essentiellement basés sur la culture du mil et du sorgho. La pression foncière conduit à un défrichement intensif et à une réduction des temps de jachère. Ces phénomènes conjugués à des conditions de stress climatique, favorisent la dégradation des terres et leur transformation en sol hardés stériles. Dans les monts Mandara, la création de terrasses en pierre permet de développer la culture sur forte pente. Mais l'exode rural et le manque d'entretien de ces terrasses, exposent les sols à une forte érosion hydrique.

Sol hardé[26] : ce type de sol est constitué d'une fine couche d'humus en surface recouvrant une couche compacte imperméable à l'eau, inhibant la croissance des racines. Sur une superficie totale de 10 millions d'hectares, dont plus de la moitié est une pénéplaine consacrée à l'agriculture, 15 à 20% des sols sont « hardés », 35 à 45 % sont détériorés et en voie d'hardéisation.

49. En sus des cultures pluviales, le muskuwaari (dans le yaéré de la plaine du Logone et dans les zones de décrue du lac Tchad) joue un rôle important dans le système agraire. Le riz se développe depuis peu sur les mêmes terrains inondés en saison des pluies. La productivité de cet agro-système provient essentiellement des inondations saisonnières annuelles qui renouvellent la fertilité.

Yaére[27] : plaine d'inondation temporaire alimentée par le fleuve Logone. Ses pâturages sont exploités en saison sèche et les terres sont mises en cultures pour le Muskuaari.

Muskuwaari[28] : Sorghos de saison sèche, repiqués sur les terres argileuses inondables. Cette culture se développant uniquement avec l'eau de la réserve utile des vertisols, elle est peu risquée du point de vue climatique.

50. La productivité agricole est cependant faible à l'échelle régionale, le bilan céréalier[29] est structurellement déficitaire (+/-100 000 t/an) dans l'Extrême Nord compte-tenu de la démographie de la zone (plus de 100 habitant au km^2) et légèrement excédentaire dans le Nord (+/- 50 000 t/an)

51. Le maraichage (notamment la culture de l'oignon) se développe autour des cours d'eau permanents (mare et fleuve Logone). Il s'agit de cultures à forte valeur ajoutée qui sont complémentaires aux activités vivrières car réalisées en saison sèche.

52. **Elevage.** Il joue un rôle important : la région concentre 38 % du cheptel national. On distingue plusieurs types d'élevage dans la zone : (i) une petite transhumance majoritaire qui exploite le *yaéré* en saison sèche ; (ii) une transhumance transfrontalière Cameroun-Nigeria-Niger et Cameroun-Tchad qui exploite les ressources pastorales autour du lac et ; (iii) un élevage sédentaire en développement.

53. L'espace pastoral est en diminution constante au profit des zones cultivées (pluvial/décrue/maraichage). Les mauvaises pratiques de pâturage (liées à une charge faible mais continue) contribuent à la dégradation des pâturages.

[26] Institut de Recherche pour le Développement (IRD) – 1993 - Régénération des sols dégradés "hardé" au Nord-Cameroun - Caractérisation multidisciplinaire du phénomène de dégradation et analyse critique des méthodes de revégétalisation utilisés - Régis Peltier.

[27] Daniel Sighomnou. Luc Sigha Nkamdjou. Gaston Liénou - La plaine du Yaéré dans le Nord-Cameroun Une expérience de restauration des inondations.

[28] Food and Agriculture Organization (FAO) et International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) – 2002 - Le sorgho repiqué au Nord-Cameroun : valoriser le savoir-faire des paysans et organiser la filière. Mathieu Bertrand.

[29] MINADER, FAO et PAM – 2015 - Mission conjointe d'évaluation des récoltes, des disponibilités alimentaires dans les régions de l'Adamaoua, de l'Est, de l'Extrême Nord et du Nord du Cameroun.

54. **L'élevage et l'agriculture sont peu intégrés**, en dehors de la vaine pâture. Le développement d'un élevage sédentaire et la fixation des pasteurs mobiles entrainent des concurrences pour l'accès aux ressources : pâturage de saison sèche, résidus de cultures, terre de décrue (pour le pâturage vert de saison sèche ou bien pour l'agriculture de décrue).

55. **Les ressources forestières** tiennent une place importante dans l'économie des ménages ruraux : vente de bois de chauffe, de produits forestiers non ligneux (gommes arabiques), ces activités conduites durant la saison sèche procurent de faibles revenus toutefois nécessaires à l'achat de vivres durant la période de soudure. Elles sont réalisées principalement par les femmes, les jeunes et les transhumants, les hommes migrant vers les villes qui y trouvent tous une activité rémunératrice.

56. Région du Nord : zone de transition soudano-sahélienne - hautes savanes guinéennes.

57. **Agriculture**. Le développement de la culture de coton a intensifié les systèmes de culture et permis une évolution plus rapide vers la culture attelée. La pratique de la jachère a progressivement disparu, et le renouvellement insuffisant de la fertilité des sols a conduit à une dégradation du capital productif. La riziculture et la culture à grande échelle de l'arachide laissent peu à peu place à l'émergence d'autres filières comme l'oignon, l'igname et le niébé et le développement du maraichage.

58. L'accroissement démographique, conjugué aux migrations interrégionales de population venant de l'extrême Nord, et la fixation dans ces zones de Peulhs, a augmenté considérablement la pression foncière. Les fronts pionniers ont été ouverts à la faveur des investissements routiers dans la proximité des aires protégées et sur les corridors de passage des animaux sauvages (éléphant, buffle, élan de derby, hyppotrague, etc.) dans les Zones d'Intérêt Cynégétique à Gestion Communautaire limitrophes au parc de Bénoué (ZIC/GC).

59. **Elevage.** La région est une zone de replis des transhumants en saison sèche. Un développement important de l'élevage sédentaire a été permis par la maitrise de la glossine et l'introduction de la culture attelée (90 000 têtes[30]). L'espace pastoral est ici aussi menacé par la fermeture des paysages par l'agriculture qui empiète sur les couloirs traditionnels de transhumance.

Glossine : mouche vectrice de parasites du genre Trypanosoma cause de la trypanosomose animale. La maladie chez les animaux domestiques, en particulier chez les bovins, est un obstacle majeur au développement économique des régions rurales affectées[31].

60. **L'élevage et l'agriculture sont en voie d'intégration,** Le développement de l'élevage sédentaire et la fixation des pasteurs mobiles entrainent une intégration progressive des deux activités. Les agriculteurs développent un élevage de trait et de capitalisation, tandis que les éleveurs cultivent sur les terres qu'ils fertilisent avec leurs troupeaux. Cependant cette intégration ne profite pas pleinement des interactions possibles et des savoirs faire, développés par les agriculteurs et les éleveurs. Aussi ce type d'intégration présente une vulnérabilité importante par rapport aux risques climatiques.

61. **Les ressources forestières** tiennent une place moins importante dans l'économie des ménages ruraux même si elle reste essentielle : vente de bois de chauffe, de charbon, de produits forestiers non ligneux (karité, anacarde, feuille de balanites), les faibles revenus procurés et le manque de structuration commerciale n'incitent pas à une exploitation généralisée de ces ressources. Ces activités sont réalisées principalement par les femmes, et une grande partie est autoconsommée, à l'exception du charbon qui est en majorité exporté vers Garoua.

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[30] Centre de coopération International en Recherche Agronomique pour le Développement (CIRAD) et le programme d'Appui à la Sécurisation et à la Gestion Intégrée des Ressources AgroPastorales au Nord Cameroun (ASGIRAP) – 2013 - Etude de faisabilité d'un programme d'appui à la sécurisation et à la gestion intégrée des ressources agropastorales au Nord Cameroun

[31] Programme de lutte contre la trypanosomose africaine (PLTA) – 2010 - Bulletin d'information sur les glossines et les trypanosomoses.

Pépinière de culture d'oignon - Nord

Champ de Sorgho de contre saison / acacia seyal - Nord

Région Nord-Ouest : zone des hauts plateaux de l'Ouest.

62. **Agriculture**. Le climat et la fertilité des sols permettent de réaliser deux cultures de maïs en association avec des légumineuses (arachide, haricot). La pomme de terre est cultivée en seconde saison de culture. Ces cultures annuelles sont menées en association avec des cultures semi-pérennes telles que le plantain, le manioc et le macabo et des cultures pérennes comme l'avocatier, le manguier et le safoutier. La culture de rente (café arabica) est souvent en culture pure.

63. Dans les zones les plus densément peuplées, au sud de la région, certains agriculteurs sont contraints d'arracher les caféiers[32] pour dégager suffisamment d'espace pour les cultures vivrières. La fertilité des sols volcaniques, les associations légumineuses, l'Ankara et l'usage à faible échelle d'engrais minéraux maintiennent la productivité du système. La très forte pression démographique conduit à une constante diminution des surfaces cultivées par ménage (environ un hectare en 2016). L'ensemble des terres arables, étant exploités à des fins agricoles, les sols cultivés en pente est menacé par l'érosion hydrique.

Ankara[33] : ou écobuage est la pratique du brulis des résidus de cultures enfouis sous la terre en forme de billons. Cette pratique libère très rapidement les éléments minéraux dans le sol, mais provoque la destruction de l'humus, des microorganismes et contribue à la dégradation du sol.

64. Dans le Nord de la région, le plus faible peuplement réduit la pression foncière et l'intensité des cultures est moindre. La fertilité des sols est moins liée au sol, mais est renouvelée par la pratique de la jachère.

65. **Elevage**. L'élevage bovin mené par les Mbororos Foulanis est limité au sommet des collines dans le sud de la région. Dans le nord de la région, où la pression foncière est moindre, l'élevage est majoritaire et profite de parcours plus ouverts, de prairie subalpine. Il s'agit là principalement de transhumance transfrontalière avec le Nigeria.

66. **L'élevage et l'agriculture sont peu intégrés**, dans les zones les plus peuplées, les notables détiennent une partie du cheptel des éleveurs (investissement). Des échanges de fumure sont opérés lors de la descente des troupeaux dans les vallées durant la saison sèche.

67. Dans le nord de la région, l'abondance d'espaces pastoraux et de terres cultivables ne créent pas de besoin d'intégration entre les activités agricoles et d'élevage, la fertilité des sols étant entretenue par la jachère.

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[32] Atger Julie, Torbay Marie - Supagro – 2014 - Mémoire « Diversité des stratégies d'intensification agricole dans un contexte de forte densité de population Diagnostic agraire du Mezam, Nord-Ouest Cameroun »

33 Roland Portèressem - Journal d'agriculture tropicale et de botanique appliqué – 1972 - De l'écobuage comme un système mixte de culture et de production.

68. **Les ressources forestières**. Dans le sud de la région, les forêts ont été défrichées avec quelques reliquats qui subsistent : forêts sacrées, forêts communautaires, fortes pentes non cultivables, usages culturels comme le Rafia.

69. Dans le nord de la région, les forêts ont été peu défrichées. Elles sont présentes majoritairement au fond des vallées, les hauteurs étant occupées par des pâturages. Elles sont très utilisées pour les besoins nutritionnels des populations et sont la source de nombreux produits forestiers non ligneux commercialisés pour la pharmacopée.

Climat

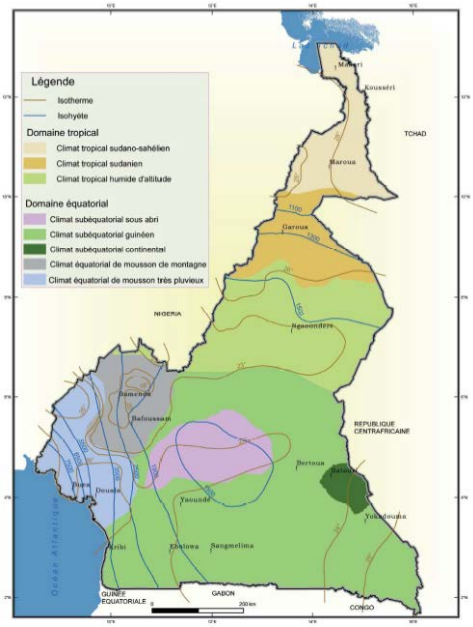
70. **Zones climatiques du Cameroun**. Il existe trois principaux types de climat liés aux types de relief :

(a) **le climat équatorial,** dans la partie sud du pays est caractérisé par des précipitations abondantes, des températures élevées et constantes entraînant une amplitude thermique faible et une végétation se dégradant au fur et à mesure que l'on s'éloigne de l'équateur avec deux nuances : (i) le type guinéen qui règne sur une partie de la côte et sur le plateau sud-camerounais et il compte quatre saisons bien marquées : saison de pluie (de mars à juin), petite saison sèche (juillet et août), saison de pluie (de septembre à novembre), grande saison sèche (décembre à février) ; (ii) le type camerounien au voisinage du Mont Cameroun et s'étend jusqu'à l'embouchure de la Sanaga englobant les hauts plateaux de l'Ouest. Sa particularité est la surabondance des pluies qui tombent en une seule saison annuelle de neuf mois de mars à novembre. Quelques périodes anormalement sèches ont été constatées, elles sont distantes de quatre à cinq ans, selon les stations, voire onze ans aux environs d'Eséka et de Kribi ;

(b) **le climat tropical soudano-sahélien** comportant deux nuances : (i) le type tropical soudanien dans le nord du pays : les températures sont élevées, les pluies sont peu abondantes ; il compte deux saisons : la saison pluvieuse de sept mois environ (très torride de mai à juin et entre juillet à octobre, très fraîche et humide) et la saison sèche de 5 mois (fraîche de novembre à janvier) ; (ii) le type tropical sahélien dans l'Extrême- Nord du pays : les températures sont élevées mais avec une irrégularité des pluies et deux saisons : une saison sèche de décembre à janvier et une saison pluvieuse. Les périodes anormalement sèches ont des durées comprises entre cinq et onze ans avec cependant des interruptions pluvieuses d'un à deux ans. Ces périodes sont séparés de trois à quatre ans dans les monts Mandara, de dix à onze ans le long du cordon dunaire Yagoua-Limani et de cinq à six ans dans le reste de la zone ;

(c) **le climat tropical humide**, dans la zone comprise entre 7° et environ 10° N, représente une transition entre les deux types précédents. Le nombre moyen des jours pluvieux varie entre 40 et 70 jours. Des périodes anormalement sèches ont été enregistrées sur les Hautes terres et au sud du plateau de l'Adamaoua. La durée de ces périodes atteint huit à douze ans au centre et à l'est dans la zone de contact forêt-savane, cinq à six ans à l'ouest du plateau de l'Adamaoua et trois à quatre ans dans les hautes terres de l'Ouest.

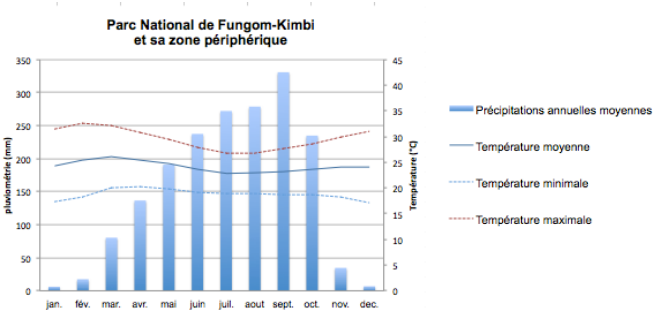
FIGURE 1 : ZONES CLIMATIQUES DU CAMEROUN
(SOURCE: MINEPAT: ATLAS NATIONAL DE DEVELOPPEMENT PHYSIQUE DU CAMEROUN)



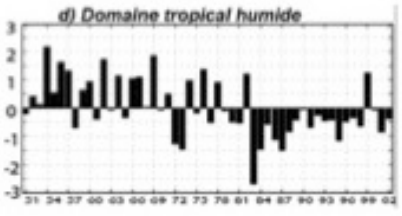
Particularités des climats des zones d'intervention du projet

71. Les hautes terres de l'Ouest et la périphérie du parc national de Fungom-Kimbi sont caractérisées par des précipitations annuelles de 1 800 mm, une longue saison des pluies (de mars à novembre) et une courte saison sèche. La température moyenne mensuelle reste constante au cours de l'année, autour des 24°C. L'écart thermique mensuel ne dépasse pas 5°C mais au-delà de 1 800 mètres d'altitude, les températures nocturnes peuvent descendre jusqu'à 0°C. Au cours des six dernières décades, la pluviométrie a diminué de l'ordre de 2,5% par décade et les périodes de sécheresse se sont intensifiées.

MOYENNES PLUVIOMETRIES ET TEMPERATURES
(ZONE FUNGOM KIMBI)
SOURCE (DONNEES BIOCLIM 1960-1990)



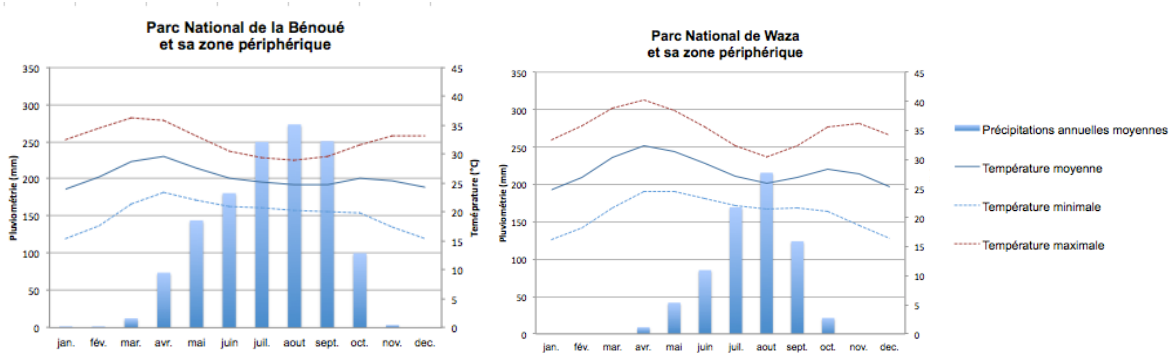
INDICE PLUVIOMETRIQUE DE 1951 A 2002
(ZONE FUNGOM-KIMBI)



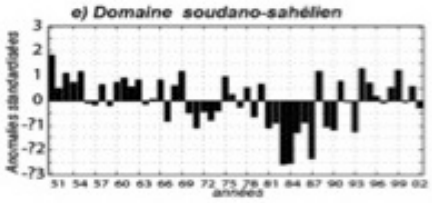
72. Dans les périphéries des parcs nationaux de Waza et de la Bénoué, respectivement dans les régions de l'Extrême-Nord et du Nord, le gradient de pluviosité du Nord au Sud s'échelonne de 500mm à 1 000mm et les précipitations annuelles sont concentrées de juillet à octobre. Les températures sont voisines de 28°C avec des écarts thermiques très important de l'ordre de 7,7°C. Ces zones ont été très affectées par la diminution des précipitations au cours des six dernières décades, avec 4,1% par décade.

MOYENNES PLUVIOMETRIES ET TEMPERATURES (ZONE DES PARCS DE LA BENOUE ET DE WAZA)

SOURCE (DONNEES BIOCLIM 1960-1990)



INDICE PLUVIOMETRIQUE DE 1951 A 2002 (ZONE DES PARCS DE LA BENOUE ET DE WAZA)



73. Le pays a subi, sur l'ensemble de son territoire, une augmentation moyenne des températures de 0,7°C entre 1960 et 2007.

74. L'ensemble de ces modifications a favorisé, lors de la dernière décennie, les évènements extrêmes tel que : (i) l'allongement de la durée des saisons sèches avec des sécheresses plus intenses ; (ii) l'augmentation de l'évapotranspiration à cause de l'élévation de la température, entrainant des tempêtes plus violentes ; (iii) l'accentuation des inondations extrêmes comme en 2011 entrainant 103 décès dans la zone soudano-sahélienne et ; (iv) les mouvements de masses. Ce sont autant de phénomènes qui impactent directement les conditions environnementales, sociales et économiques des différentes régions.

Tendances et caractéristiques des saisons des pluies.

75. Pour la zone des hauts plateaux de l'Ouest et pour le parc national de Fungom-Kimbi, le retour de la saison de fortes pluies s'effectue tous les quinze ans alors qu'il est de dix ans dans les zones avoisinantes. De même, le retour des saisons de faibles pluies est tous les dix à quinze ans au lieu des six à dix ans dans les zones avoisinantes. Le parc n'est donc pas impacté fréquemment par des évènements pluviaux extrêmes. Il se situe dans une enclave où les pluies annuelles ont tendance à diminuer, réduisant ainsi les apports en eaux de surface et en eau souterraine. La gestion de ces ressources doit être optimisée par le renforcement des phénomènes de rétention et d'infiltration de l'eau. Enfin la légère anticipation des périodes de pluie provoque un décalage dans les cultures et de probables impacts sur les rendements.

76. Pour le Nord et le parc national de la Bénoué, le retour des saisons de fortes et de faibles pluies est tous les six à dix ans, mettant en évidence un retour assez fréquent des évènements extrêmes qui renforce le problème de sécurité alimentaire. Des actions d'adaptation doivent être mises en place afin de diminuer les problématiques d'érosion, de dégradation des sols et de perte de rendement dû à la sécheresse. De plus, une tendance négative est observée pour les pluies annuelles, renforçant le phénomène de sécheresse et les problématiques d'insécurité alimentaire. Enfin, le début de saison des pluies est retardé, entrainant une déstabilisation des cycles de culture et des pertes probables de rendement.

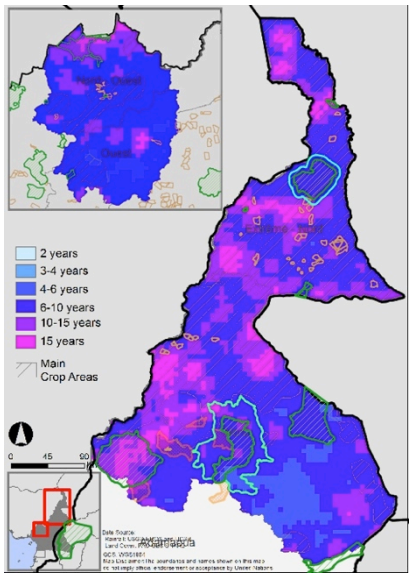
77. Pour l'Extrême-Nord et le parc de Waza, le retour des saisons de fortes et de faibles pluies est tous les six à dix ans, mettant en évidence un retour assez fréquent des évènements extrêmes, qui renforce le problème de sécurité alimentaire et a des conséquences sur l'érosion, la dégradation des sols et la sécheresse. En comparaison avec la zone Nord, il n'y a pas de tendance à la diminution des

pluies annuelles, la pluviométrie y est déjà très faible. Enfin, le début de saison des pluies est anticipé à l'ouest et retardé à l'est du parc, provoquant un décalage spatial des cycles de cultures et des impacts sur les rendements.

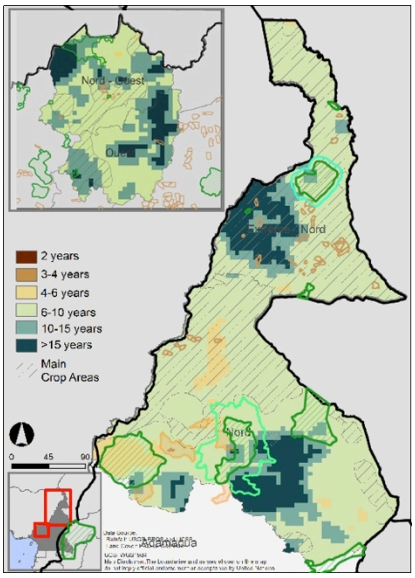
78. L'analyse des données bioclimatiques définit les zones de l'Extrême-Nord et du Nord comme prioritairement impactées par les tendances actuelles aux changements climatiques par rapport à l'insécurité alimentaire et à la gestion durable des ressources naturelles.

CAMEROUN – REGIONS EXTREME-NORD, NORD, NORD-OUEST ET OUEST
(CALCULE SUR LES 20 DERNIERES ANNEES)

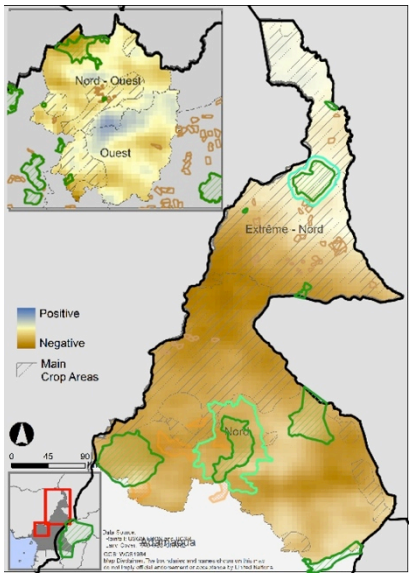
PERIODE DE RETOUR DES SAISONS DE FORTE PLUIE



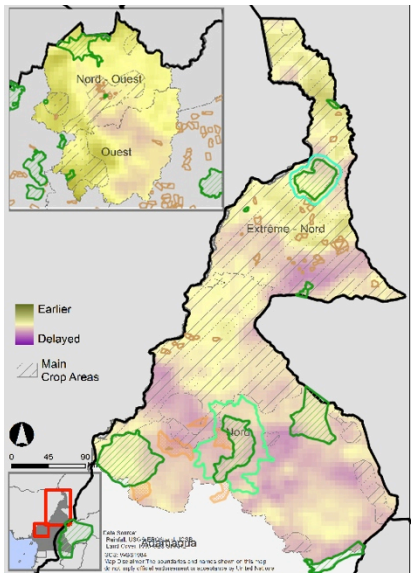
PERIODE DE RETOUR DES SAISONS DE FAIBLE PLUIE



TENDANCES DE PLUIES ANNUELLES



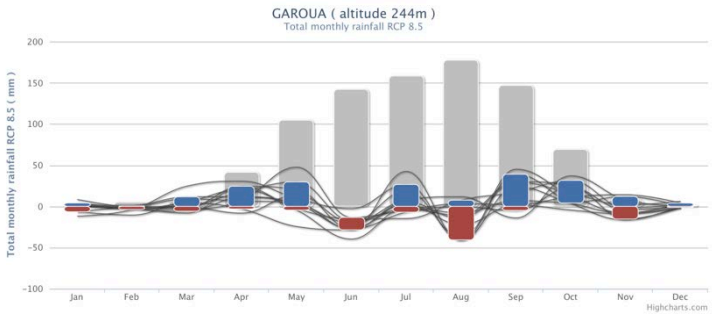
TENDANCES DU DEBUT DES SAISONS DE PLUIES



Projections climatiques.

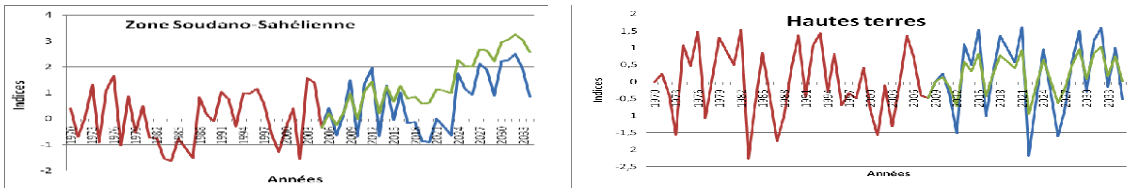
79. Les projections multi modèles disponibles auprès de l'Université du Cap pour les villes de Garoua et de Maroua aux horizon 2030 (2020-2040) confirment les tendances qui auront un impact sur les activités cibles du projet : hausse des pluies en période humide, hausse des températures notamment nocturnes et croissance du nombre de journées très chaudes.

FIGURE 2. EXEMPLE : HAUSSE DES PRECIPITATIONS A GAROUA A L'HORIZON 2030



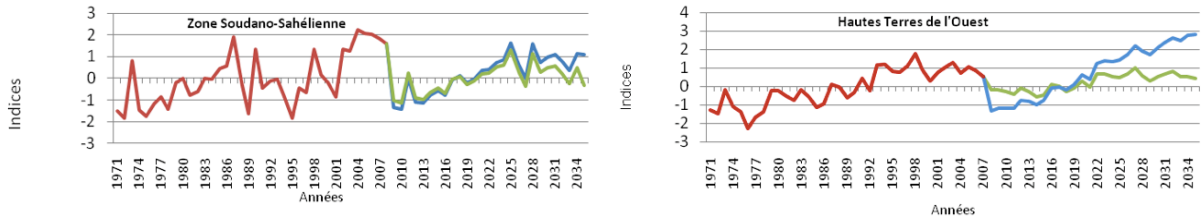
80. Pluviométrie. Dans la zone soudano-sahélienne, il faut s'attendre à une augmentation des précipitations vers la fin de la période 2010-2035. Au sud de cette zone, on ne constate pas de bouleversement majeur si l'on considère la position de l'isohyète 1 200mm qui est néanmoins située un peu plus au nord par rapport à sa position de 1995. A contrario on remarque une extension vers le nord de la zone couverte par l'isohyète 1 000mm, ce qui témoigne d'une hausse des précipitations.

FIGURE 2. SIMULATION DE L'EVOLUTION DE LA PLUVIOMETRIE DE 1970 A 2035



81. Température. Selon le modèle de simulation RegCM, on devrait s'attendre à de très faibles hausses de température jusqu'à 2030, suivie d'une croissance plus forte d'environ 1°C (CMIP5) par décennie jusqu'à 2100. En zone soudano-sahélienne, les températures globalement en hausse depuis le début de la période de référence vont continuer à augmenter. Les augmentations seront plus fortes en valeur absolue sur les régions septentrionales, allant de 0,7°C en 2025 à 4,6°C en 2100. Dans les hautes terres de l'Ouest, la tendance des températures restera à la hausse jusqu'en 2035 tandis qu'une baisse sera observée à partir de 2022 selon un scénario moins alarmiste.

FIGURE 3. SIMULATION DE L'EVOLUTION DES TEMPERATURES DE 1970 A 2035



82. Les risques liés aux changements climatiques (mauvaise répartition des pluies, sècheresse, ou inondations, vents violents, etc.), combinés aux effets de la croissance du secteur agricole (le DSCE vise à augmenter, d'ici 2020, les superficies cultivées à 30%), vont accroitre dans les années à venir la pression sur les ressources naturelles (besoins en eau accrus, hausse des ruissellements et du risque érosif, etc.). De ce fait, il est urgent de mettre en œuvre des mesures qui permettent à tous les acteurs du secteur rural de prendre la mesure de ces risques et de renforcer la dimension environnementale et climatique d'introduire dans les projets d'investissement agricoles des pratiques permettant de réduire l'empreinte environnementale du développement agricole.

Enjeux clés

83. Les questions clés sont les suivantes :

(a) renforcement des connaissances : faible connaissance des milieux et des services éco-systémiques ne permettant pas leur gestion durable et leur préservation optimale ;

(b) maitrise de la pression sur les ressources naturelles (terres et forêts) : systèmes d'exploitation insuffisamment adaptés aux conditions agro-écologiques et à la pression accrue sur les ressources naturelles ;

(c) changements climatiques : manque de connaissances et/ou d'anticipation des changements climatiques dans les activités agricoles et rurales et d'actions d'adaptation coordonnées, viables et inscrites dans le temps, besoin de diffusion de pratiques, intrants et matériels mieux adaptés aux évolutions du climat ;

(d) prise de conscience des enjeux environnementaux et climatiques par les populations rurales : sensibilité et connaissances insuffisantes des risques environnementaux et climatiques et les bonnes pratiques pour minimiser les risques et l'utilisation abusive des ressources du milieu ;

(e) identifier et promouvoir des activités économiques viable et écologique pour donner des perspectives d'avenir aux jeunes ruraux : mise en place de formation professionnelle, d'opportunités d'emplois et d'incitations pour investir dans les activités et métiers agro-pastoraux, agro-forestiers et ruraux.

B. Impacts et risques potentiels du Projet liés au social, à l'environnement et aux changements climatiques

1. Impacts potentiels clés

Les impacts sociaux possibles

84. Le Projet va cibler de manière générale les ruraux pauvres, mais en priorité les jeunes, ayant un niveau de formation souvent faible, un accès limité à du capital productif, aux technologies améliorées, aux marchés et à des services d'appui technique ou financiers. Il accordera une attention particulière aux femmes et à l'amélioration de leur accès à des connaissances et des actifs productifs afin de faciliter leurs activités économiques et augmenter leurs revenus.

85. **Forêts communautaires**. La création de neuf forêts communautaires sera répartie sur les deux sites d'interventions de l'Extrême-Nord et du Nord-Ouest pour un total de 21 000 hectares. Le manque d'expérience des gérants et le manque de transparence dans la gestion des revenus communautaires peuvent entrainer des conflits important. Un accompagnement des ONG locales est nécessaire.

86. Les impacts socio-économiques seront essentiellement positifs : (i) apprentissage par l'action et développement des métiers forestiers ; (ii) création d'emploi et diminution de l'exode rural des jeunes ; (iii) redistribution directe des revenus aux communautés et ; (iv) exploitation des produits forestiers non ligneux et diminution de l'insécurité alimentaire notamment en période sèche.

87. **Zones d'intérêt cynégétiques à gestion communautaires (ZICGC).** Le renforcement des capacités de gestion des deux ZICGC n°1 et n°4 à l'ouest du parc national de la Bénoué pour un total de 80 000 hectares a pour but de diminuer les pressions anthropiques sur les ressources naturelles et en mettant en place une gestion durable de ces ressources. Les impacts socio-environnementaux sont majoritairement positifs, mais le prise en considération des conditions économiques et sociales existantes des populations est essentielle afin d'éviter le déplacement des pressions anthropiques sur des zones avoisinantes (zones d'intérêts cynégétiques et parc national lui-même).

88. **Formation et entrepreneuriat.** La formation des jeunes en éco-entrepreneur impactera les jeunes dans leur mode de pensée et les amènera à devenir des *leader* des pratiques de préservation et de conservation des milieux pour en tirer des opportunités économiques.

89. En augmentant les opportunités économiques des jeunes et en leur proposant des solutions économiques viables, le Projet s'aligne sur les objectifs du gouvernement en s'opposant aux dynamiques d'exode rural et de recrutement des jeunes dans des activités liées au banditisme ou au

terrorisme, notamment à l'Extrême-Nord comme l'a rappelé le Ministre de l'Environnement lors de la restitution de l'Aide-Mémoire.

90. **Foncier.** La problématique foncière est considérée de manière spécifique à chaque région dans la réalisation de ce Projet en raison de : (i) la diminution de la surface disponible due à la démographie croissante dans la région du Nord-Ouest, avec moins d'un hectare par exploitant, toutefois la pression foncière est nettement inférieure dans la périphérie du parc national en raison de sa difficulté d'accès) et ; (ii) l'augmentation des superficies des terres « hardés », la faible sécurité foncière accordée par le système traditionnel de répartition des terres dans l'Extrême-Nord et le Nord, et l'augmentation démographique en raison des déplacés actuels dans l'Extrême-Nord et des migrants des générations précédentes dans le Nord.[34]

91. **Conflits d'usage de l'eau.** L'accès à l'eau de surface est actuellement libre pour l'ensemble des usages. En favorisant la négociation foncière et en donnant de quoi investir au éco-entrepreneurs, il est attendu un développement de la petite irrigation qui induise une augmentation des prélèvements pour l'agriculture. Des conflits pour l'accès à l'eau entre le cheptel transhumant, sédentaire et la faune sauvage apparaissent lors de la période sèche, même s'il existe des règles de gestion traditionnelles pour l'accès aux points d'eau à vocation pastoral. De nouveaux conflits apparaissent entre les pécheurs et les éleveurs dans la zone inondable du Parc de Waza, en raison des pratiques de création de canaux.

92. La formation des éco-entrepreneurs insistera sur : (i) la gestion communautaire de l'eau et ses multiples usages et ; (ii) les techniques d'économie en eau. Le jury de validation des projets prendra soins d'examiner la pertinence des projets d'irrigation et d'élevage sur ces deux points également.

93. **Les produits forestiers non ligneux** offrent de grandes opportunités : (i) lutte contre l'insécurité alimentaire des régions septentrionales du Cameroun ; (ii) sécurisation de revenus minimum lors de sécheresse. Ils favorisent également la cohésion sociale et le renforcement économique de minorités (Mbororo) et mettent en valeur l'utilisation de savoir-faire traditionnels. Le Projet doit considérer l'organisation actuelle du secteur et sa faible visibilité comme un risque quant à l'ampleur des résultats de Projet attendus. Une étude coût-bénéfice sur le renforcement de l'organisation des filières pourra être mis en place.[35]

94. La valorisation de ces filières exploitées par les catégories sociales défavorisées / marginalisées pourrait induire une expropriation de cette opportunité au profit de catégories sociales moins vulnérables[36]. La forte participation des femmes aux filières des produits forestiers non ligneux est un argument supplémentaire pour la priorisation de cet impact potentiel.

95. Des conflits au sein des communautés peuvent apparaître dès lors que le reboisement n'a pas pris en considération : (i) les droits traditionnels et ceux d'utilisation des terres ; (ii) le dimensionnement des services éco-systémiques, qui peut pousser les communautés à retourner à une exploitation traditionnelle de la forêt ; (iii) la gestion technique des forêts et le devoir de transparence de la gestion des revenus communautaires et ; (iv) la nécessité d'implication des populations rurales.

96. Que cela soit par des aménagements de régénération naturelle assistée, par des reboisements ou dans un contexte agroforestier, la valorisation des produits forestiers a un impact non négligeable. Il s'agit : (i) de la valorisation des services éco-systémiques des arbres, permettant une diminution de l'insécurité alimentaire et l'augmentation de revenu et (ii) de la valorisation du bois, même si cette activité est considérée comme une dérive, car il ne permet qu'un apport monétaire unique. Pour éviter

[34] Centre de coopération International en Recherche Agronomique pour le Développement (CIRAD) et le programme d'Appui à la Sécurisation et à la Gestion Intégrée des Ressources AgroPastorales au Nord Cameroun (ASGIRAP) – 2013 - Etude de faisabilité d'un programme d'appui à la sécurisation et à la gestion intégrée des ressources agropastorales au Nord Cameroun

[35] Ministère de la Forêt et de la Faune (MINFOF) – juillet 2012 - Plan National de développement des Produits Forestiers Non Ligneux (PND PFNL) au Cameroun

[36] par exemple la culture d'oignon au Sénégal, de la récolte de gomme au Tchad, du lait de buffle en Indonésie etc. où les hommes ont évincé les femmes de l'accès à la ressource, mais aussi de la pêche continentale en Mauritanie où les allochtones ont été évincés.

cette dérive, il est nécessaire que les avantages tirés des services éco-systémiques soient financièrement suffisants afin de préserver cette ressource. De plus, l'agroforesterie permet d'améliorer les rendements et ainsi d'impacter directement les revenus des bénéficiaires et de diminuer l'insécurité alimentaire.

97. **Aménagements**. Les investissements prévus sur les trois régions totaliseront 1 000 hectares de reforestation, 2 000 hectares d'aménagements agroforestiers soit 2 000 hectares d'aménagements de gestion durable des terres, selon l'approche de travaux à haute intensité en main d'œuvre (HIMO), permettant de fournir temporairement une source de revenu aux jeunes éco-entrepreneurs ciblés. Il s'agit d'investissements à très faible échelle, avec des techniques éprouvées, ne nécessitant pas de plan de gestion des risques.

98. **Infrastructures d'hydraulique pastorale**. Les investissements totalisent 20 infrastructures situées à proximité des habitations des zones périphériques des parcs nationaux de Waza et de la Bénoué. Ces aménagements permettront (i) une diminution des conflits entre les éleveurs et la faune sauvage[37], (ii) un plus dans la gestion durable de la ressource en eau et (iii) une amélioration des conditions de vie pour les communautés riveraines au parc.

Les impacts environnementaux possibles

99. Le projet sera mis en œuvre dans des zones où les ressources naturelles sont déjà fortement dégradées, et où le processus de dégradation se poursuivra. Il est donc extrêmement important que le Projet renforce la gestion des ressources qui seront à la base des filières appuyées.

100. **Conservation et valorisation des services écosystémiques.** Le Projet impactera la conservation comme part entière de l'économie des jeunes, en promouvant les services éco-systémiques afin que les aires périphériques soient le théâtre d'actions protectrices de ces zones. La fonction des zones périphériques aux parcs sera réaffirmée, en renforçant leurs potentialités éco-systémiques et leur préservation et donc, en transformant ces zones en de véritables barrières socio-environnementales de protection des aires protégées.

101. La mise en place d'un plan d'aménagement du nouveau parc de Kimbi-Fungom, permettra de s'assurer d'une gestion durable des ressources naturelles et de la préservation de la biodiversité ayant ainsi des impacts positifs sur l'ensemble des compartiments des milieux biophysiques. La prise en considération d'un plan de cogestion avec les communautés limitrophes dans cette gestion est à la fois nécessaire et doit être maîtrisée avec précaution. Les revers des cogestions des dernières décennies, pour les parcs de la Bénoué et de Waza, ont eu des impacts très négatifs sur l'état des ressources et de la faune : (i) braconnage ; (ii) surexploitation anarchique des ressources ; (iii) conflit entre les acteurs dont certains ont entrainé des morts d'homme et ; (iv) effondrement des institutions d'accompagnement.

102. Des recommandations sont faites sur le partage d'une vision stratégique par l'ensemble des acteurs et sur l'assurance que la gestion des ressources revête des bénéfices économiques pour les communautés[38]. La création de forêt communautaire et la mise en place de Plan de Gestion Simplifié, ont des effets complémentaires positifs : (i) légalisation des activités d'exploitation des ressources par la communauté ; (ii) mise en place de quotas pour une gestion durable et amélioration de l'habitat ; (iii) éloignement des acteurs illégaux de ce territoire par l'intervention de la communauté. L'obligation d'exploiter artisanalement les ressources, renforce leur gestion durable[39].

103. Les activités de prélèvement des produits forestiers non ligneux n'ont que peu d'impact sur les ressources forestières, même s'ils dépendent de la nature des produits valorisés. Dans l'Extrême-

[37] Les forages seront situés à proximité des habitations pour éviter d'attirer la faune sauvage hors des parcs

[38] Adam Saleh – 2013 - Un Modèle et son revers : la cogestion des réserves de biosphère de Waza et de la Bénoué dans le Nord-Cameroun

[39] World Rainforest Movement - Foresterie communautaire et réduction de la pauvreté rurale au Cameroun : bilan et tendances de la première décennie – Patrice Bigombe Logo

Nord, l'augmentation des prélèvements de gomme arabique peut être induite par une pratique accrue des saignées sur les *Acacia seyal* et *Acacia senegal*. L'augmentation de l'intensité et de la fréquence des saignées fragilise l'arbre. La collecte des feuilles de baobab est également potentiellement problématique. Dans le Nord, les prélèvements en noix de cajou de l'*Anacardium occidentale* et en Karité de *Vitellaria paradoxa* n'ont pas d'incidences néfastes. Dans le Nord-Ouest, les prélèvements extrêmes d'écorce de *Prunus Africana* peuvent entrainer la mort de l'arbre, alors que les prélèvements de mangues sauvages, *Irvingia spp.*, n'ont aucune incidence sur l'arbre.

104. Ces activités seront soutenues par les associations de gestion locale des ressources naturelles et selon les plans de gestion des forêts communautaires et des zones d'intérêts cynégétiques à gestion communautaire, ce qui réduira les risques de mauvaise gestion des ressources. La valorisation du couvert forestier par les produits forestiers non ligneux présente un impact positif essentiel : l'attrait des bénéfices lié au prélèvement du capital bois diminue lorsque l'opportunité économique des produits forestiers non ligneux augmente.[40]

105. Les activités de reboisement peuvent contribuer dans les zones semi-arides (Extrême-Nord) : (i) à un abaissement de l'humidité du sol et un rabattement de la nappe phréatique, impactant temporairement les tensions hydriques déjà existantes ; (ii) à la diminution des nutriments du sol dans le cas d'utilisation d'essences à croissance rapide. Le choix de l'essence devra prendre en compte ces deux paramètres.

106. Mais le reboisement a surtout de multiples impacts positifs : (i) en rétablissant le couvert végétal ; (ii) en réhabilitant les sols ; (iii) en apportant des possibilités de pâturage aérien et en diminuant les pressions sur le milieu ; (iv) en améliorant la qualité de l'eau par la diminution de la teneur en sédiment ; (v) en offrant des services éco-systémiques ; (vi) en créant un microclimat et ; (v) en agissant comme un puits de carbone. Il s'oppose surtout à la déforestation en cours dans l'Extrême-Nord et le Nord pour la vente de charbon et de bois de chauffe.

107. Dans un contexte d'érosion et de surexploitation des sols, les aménagements de type agroforesterie et régénération naturelle assistée sont des atouts essentiels, ils permettent de : (i) lutter contre la désertification et réhabiliter les sols « hardés » ou fortement dégradés ; (ii) améliorer la couverture du sol et la biodiversité associée ; (iii) entrainer des modifications microclimatiques permettant une meilleure adaptation aux évènements extrêmes.

108. L'introduction d'essence ligneuse en agroforesterie, peut initialement provoquer des compétitions entre les arbres et les cultures agricoles, qui sont compensés par l'ensemble des effets positifs associés à cette technique.

109. La réalisation d'infrastructures hydrauliques à proximité des zones habitées aura pour premier effet, une diminution de la pression anthropique sur les ressources naturelles situées à l'intérieur des parcs nationaux et ainsi une diminution des conflits avec la faune sauvage. Pour diminuer l'impact négatif de la sortie possible de la faune sauvage du parc attirée par l'eau de ces infrastructures, elles devront être construites à proximité des zones habitées qui ont un effet repoussoir sur la faune sauvage.

110. **Pollution phytosanitaire.** L'incitation à l'investissement dans l'agriculture peut conduire à un usage accru de produits phytosanitaires. Ces produits sont accessibles dans l'ensemble des zones d'intervention du Projet (pour l'oignon dans l'Extrême-Nord, le coton dans le Nord et le maïs dans le Nord-Ouest). La qualité de ces produits est toutefois variable et leur usage est mal maitrisé par les producteurs. Afin de limiter les risques liés à l'usage des produits phytosanitaires, deux stratégies seront employées durant la formation :

(a) D'une part en travaillant sur les produits de synthèse : (i) par la reconnaissance des produits de qualité dans ce qui est disponible sur le marché ; (ii) par l'apprentissage de l'usage raisonné de ces produits et ; (iii) par l'apprentissage des techniques de protection de utilisateurs et des consommateurs ;

[40] Rencontre avec les ONG environnementales locales du Mont Oku, juillet 2016

(b) D'autre part et afin de limiter l'usage de ces intrants couteux, l'utilisation d'insectifuges de fabrication locale (neem, piment, etc) sera enseignée et promue en tant qu'éco-activité.

111. L'ensemble des activités du Projet aura un impact global positif sur les émissions de Gaz à Effet de Serre sur une période de 20 ans[41].

(a) dans l'Extrême-Nord, le projet diminuera les émissions de 900 000 tonnes de CO_2, de 195 tonnes CO_2eq de N_2O et de 103 tonnes CO_2eq de CH_4 ;

(b) dans le Nord, le projet diminuera les émissions de 5 150 000 tonnes de CO_2, de 122 tonnes CO_2eq de N_2O et de 34 tonnes CO_2eq de CH_4 ;

(c) dans le Nord-Ouest, le projet diminuera les émissions de 1 920 000 tonnes de CO_2, de 384 tonnes CO_2eq de N_2O et de 34 tonnes CO_2eq de CH_4.

Risques climatiques

112. Le projet ECO-Jeunes appuiera la protection d'aires forestières et la restauration d'écosystèmes. Ces activités présentent des risques liés au climat, principalement du fait des stratégies des producteurs qui peuvent augmenter les prélèvements illégaux (bois, gibier, PFNL,..) pour faire face à une baisse de revenus agro-pastoraux.

113. Les éco-entreprises seront principalement de type « production ». La responsabilité est laissée à chaque jeune de définir son éco-entreprise pour qu'elle soit viable. Celles-ci seront plus ou moins impactées par le climat en fonction de leur dépendance à la pluviométrie. Ainsi les éco-entreprises de production céréalière seront moins résilientes que les éco-entreprises de production maraichère irriguée. Afin de limiter l'impact du changement climatique dans les systèmes pluviaux, les investissements seront réalisés : (i) pour la gestion durable des eaux et du sol et ; (ii) en agroforesterie dans les parcelles des éco-entrepreneurs et celles des populations vulnérables.

114. Les produits forestiers non ligneux sont issus d'écosystèmes robustes, qui sont peu sensibles aux variations climatiques. Cependant la pression anthropique sur les ressources forestières est directement liée aux impacts des aléas climatiques sur les systèmes agraires. Les années de faible production agro-pastorale, les populations rurales prélèvent plus intensément les ressources en fourrages (aériens et herbacés), bois et PFNL. Ces prélèvements peuvent mettre en péril la ressource naturelle qui fonde ces filières.

Tableau 1 : synthèse des risques liés aux changements climatiques

Activité	**Impacts du changement climatique**	**Mesures d'adaptation proposes dans les outputs du projet**
Foresterie communautaire	Mortalité des plants Stress des plants Prélèvements illégaux non soutenable	Diversité spécifique et diversité génétique des plants Gestion communautaire de la forêt Protection et conservation des ressources végétales et forestières
Eco-entreprises	Stress hydrique des cultures pluviales Érosion des sols	Agroforesterie Gestion durable des eaux et du sol

[41] Le détail des bilans carbones par composante est présenté en appendice 3. L'ensemble des hypothèses prises et leur source pour la réalisation des bilans carbones sont résumés en appendice 4.

Tableau 2 : synthèse des impacts socio-environnementaux négatifs potentiels et mesures d'atténuation

Activité de ECO-Jeunes	Type impact	Impacts négatifs potentiels	Mesures d'atténuation	Risque socio-environnemental
Plan d'aménagement de Kimbi-Fungom	Env.	Revers de cogestion dû à une absence de vision stratégique commune avec les communautés limitrophes. Détérioration des milieux et de la Biodiversité.	Mise en place d'une vision stratégique en collaboration avec les communautés limitrophes au parc. Etablissement de plan de gestion S'assurer que la gestion durable des ressources apporte suffisamment de bénéfices économiques aux communautés	Faible
Forêts communautaires	Env	Pas de matérialisation des limites externes, non-respect des limites	Sensibilisation de la communauté aux limites et utilisation des plantes comme marqueurs territoriaux Approche participative	Faible
	Soc.	Problèmes de manque de professionnalisme des acteurs, manque de transparence de la gestion des revenus communautaires	Accompagnement par les structures locales des acteurs et gérants de la forêt. Inclusion de groupes de jeunes, communautés locale et des Eco-guardes dans la gestion des ressources	Modéré
Plan de gestion des zones d''intérêt cynégétiques à gestion communautaire	Env. – Soc.	Délocalisation des pressions anthropiques sur les ressources naturelles et dégradation des conditions économiques des habitants	Accompagner la mise en place du plan de gestion en prenant tout d'abord en compte les besoins socio-économiques des habitants des ZICGC	Modéré
Formation et Incubation	Soc.	Conflits pour l'accès aux appuis techniques et financiers du Projet	Critères de ciblage transparents, processus de ciblage des bénéficiaires participatif	Modéré
Régénération Naturelle Assistée	Env. – Soc.	Baisse des écoulements dans le système hydrographique de surface en aval et renforcement des conflits d'usage en eau	La baisse des ruissellements de surface aura également des effets positifs en terme de lutte contre l'érosion et de maintien de la fertilité des parcelles L'effet est compensé par le gain économique, social et environnemental procuré par la RNA	Faible
Reboisement	Env	Abaissement de l'humidité contenue dans le sol et de la nappe phréatique présente dans les régions semi-arides	Choisir des essences dont la demande en eau est faible Mettre en place des techniques de captage et de conservation des eaux qui atténuent le ruissellement et les pertes par évaporation et qui maximisent l'infiltration	Faible (Nord-Ouest) Modéré (Extrême-Nord et Nord)
	Soc.	Problèmes liés (i) à l'occupation des terres, (ii) aux droits d'utilisation des ressources et des terres, (iii) à l'ignorance des droits traditionnels d'utilisation des terres ou de passage	Définition de l'occupation des terre et prise en compte des droits traditionnels pour déterminer les gestionnaires. Mise en valeur des avantages éco-systémiques des forêts (PFNL) et de leur valorisation économique pour leur préservation. Mise en place d'un plan de gestion de forêt communautaire	Faible

	Soc.	Les droits de propriété sur les terres et les arbres sont mal connus et entrainent des conflits sociaux	Prise en compte du contexte légal et des droits coutumiers des communautés afin de s'assurer de la nature des bénéficiaires	Modéré

	Soc.	Mauvaise gestion des forêts communautaires	Les fonctionnaires chargés des questions forestières et les communautés locales sont formés pour avoir les aptitudes requises pour les gestions économique et technique des forêts	Modéré
	Soc.	Absence d'engagement des populations rurales et surexploitation des forêts	Impliquer les communautés en exposant clairement les avantages et les coûts de ces forêts communautaires. Mise en place d'un plan de gestion de forêt communautaire	Faible
Produits forestiers non ligneux	Soc.	inorganisation du secteur et sa faible visibilité sont des risques par rapport aux résultats attendus du Projet	Soutien à l'organisation de la filière et promotion de l'utilisation de ces PFNL	Faible
	Soc.	Expropriation des catégories sociales défavorisées/ marginalisées dans l'activité au profit des catégories moins vulnérables	Suivi et formation et favorisation des catégories sociales défavorisées lors des activités	Modéré
Agroforesterie	Env.	compétition pour la lumière l'eau et les nutriments avec les autres plantations et pour les sols avec les cultures non ligneuses,	Bonnes techniques de gestion (taille des branches, coupe périodique des racines), choix des essences	Faible
Infrastructure d'hydraulique pastorale	Env.	Déplacement de la faune sauvage à l'extérieur des zones protégées	Localisation des structures à proximité de villages pour éviter l'approche de la faune sauvage	Faible

Adaptation aux changements climatiques

115. Le Projet prendra en compte les problèmes liés aux changements climatiques en proposant diverses mesures d'adaptation en fonction de la problématique des sites d'intervention. Ces mesures sont détaillées dans le DT «systèmes agraires et adaptation au changement climatique». Les principales activités d'adaptation seront :

(a) le maintien des écosystèmes (27 000 hectares) et leur restauration (1 000 hectares) permet de conserver les services éco systémiques (cycle de l'eau) bénéfiques à la résilience climatique des agrosystèmes exploités dans leurs proximité ;

(b) les mesures de gestion durable des eaux et du sol et des techniques agro-forestières permettent un meilleur captage et une meilleure infiltration des eaux pluviales, la réduction des phénomènes d'érosion ;

(c) la régénération du couvert végétal avec essences multi-usages va améliorer la productivité et la résilience au changement climatique des terres de cultures pluviales ;

(d) la diffusion des connaissances concernant les variétés plus résistantes à la sécheresse, leur protection et leur fertilisation, va permettre de limiter le risque de pertes de récolte lors de mauvaises années pluviométriques ;

(e) la diffusion de connaissance concernant l'irrigation va permettre d'améliorer un meilleur contrôle de l'eau pour les cultures et sécuriser la production ;

(f) la diversification des activités rurales par la fondation d'éco-entreprises va permettre d'améliorer la productivité et augmenter la valeur ajoutée.

C. Catégorie environnementale et sociale

116. De manière générale, le Projet aura un impact à moyen et long terme majoritairement positif compte tenu des différentes actions dont le but final est de promouvoir la durabilité écologique et la résilience aux changements climatiques. Des activités de renforcement institutionnel et administratif, de sensibilisation et de formations environnementales professionnalisantes, l'agroforesterie et des aménagements des sous-bassins versants permettant de réduire l'érosion et de mieux maitriser les eaux superficielles et les eaux souterraines peu profondes, des activités de reboisement et de gestion durable de forêts permettront aux populations rurales et surtout aux jeunes de développer une activité agricole ou rurale viable et afin d'avoir des alternatives à l'exode et à l'engagements dans des activités illégales.

117. Les impacts négatifs potentiels sont surtout sociaux et liés (i) à l'encadrement des communautés lors de l'ensemble des activités du Projet, (ii) au partage d'une vision stratégique commune pour les actions qui mêleront à la fois la valorisation économique et la préservation des ressources naturelles.

118. Le Projet ne devrait donc pas entrainer d'impacts négatifs significatifs en matière environnementale et sociale et, a été classé dans la **catégorie B**.

D. Catégorie de risques climatiques

119. Les éléments clés suivants sont pris en compte pour le classement climatique :

(a) les projections climatiques prévoient des changements limités en termes d'intensité, de distribution spatiale et temporelle de la pluviométrie à l'horizon 2030 : les perturbations de la pluviométrie, avec des périodes de sècheresse plus longues et des températures en augmentations dans la région septentrionale devraient avoir des effets sur la production agro-pastorale, et partant sur tous les maillons des filières agricoles ;

(b) le Projet prévoit de mener des activités d'agroforesterie et d'aménagement de sous-bassins versants permettant la réhabilitation des sols, de lutter contre la dégradation des ressources naturelles et de mieux gérer leur utilisation en réduisant les risques liés à la perturbation des régimes pluviométriques ;

(c) la faiblesse des informations sur les risques climatiques et la manière de les gérer, le manque de formation du monde agricole et l'absence d'incitations pour favoriser des pratiques viables sur le plan environnemental et climatique freinent l'émergence de systèmes de production plus adaptés et l'adoption de pratiques et de systèmes d'exploitation plus responsables et appropriés aux changements du contexte climato-écologique ;

(d) la quasi inexistence de données et d'analyses météorologiques locales ne permet pas de faire des évaluations et des projections très consistantes pour le Projet.

120. Les points ci-dessus montre que les objectifs et composantes du Projet prennent en compte le traitement des effets des changements climatiques. Le nombre limité d'expériences et d'acquis sur le terrain en matière de réduction des risques climatiques amène à proposer un classement de **risque climatique MODERE.**

Tableau 3 : matrice d'interactions potentielles (Réf. Leduc et Raymond 1999)

Type de Gestion de l'activité			Cogestion		Gestion communautaire			Gestion individuelle		
			Forêt communautaire et ZICGC	Plan d'aménagement	Reboisement	Produits forestiers non ligneux (PFNL)	Infrastructures hydrauliques	Agroforesterie (Nord-Ouest, Nord)	Agriculture-élevage (Extrême-Nord, Nord)	Aménagement des sous-bassins versants RNA (Extrême-Nord,)
Milieu bio-physique	Hydrologie	Eaux souterraines	B+	B+ *	C-	B+	C-	C-	N/A	N/A
		Qualité de l'eau	B+	B+ *	C+	C+	C-	B+	N/A	N/A
		Régime hydrodynamique	A+	A+ *	C+	C+	N/A	N/A	N/A	C-
		Ruissellement / infiltration	A+	A+ *	C+	B+	N/A	C+	N/A	C+
	Géologie / dépôt de surface	Forme et relief	N/A	N/A	N/A	C+	N/A	A+	B-	B+
		Structure et texture des sols	B+	B+ *	A+	C+	N/A	A+	C-	N/A
	Biologie	Fertilité des sols	B+	B+ *	A+	C+	N/A	B+	B+	B+
		Couvert végétal	A+	A+ *	B+	B+	N/A	A+	B-	N/A
		Faune et habitat	B+	B+ *	B+	B+	C-	N/A	B-	B+
		Biodiversité	C+	C+ *	B+	C+	N/A	B+	N/A	B+
		Ecosystèmes fragiles	C+	C+ *	N/A	C+	N/A	N/A	N/A	N/A
Milieu humain et social	Population	Démographie / déplacements	B+	B+ *	N/A	C+	A+	N/A	C+	N/A
		Activité économique	B+	B+ *	C+	A+	C+	A+	A+	B+
		Qualité de vie / hygiène	C+	C+ *	C+	A+	A+	A+	B+	C+
	Utilisation des ressources	Eau libre	B+	B+ *	N/A	N/A	N/A	A+	A-	N/A
		Espace agricole	B+	B+ *	B+	N/A	N/A	C-	C+	N/A
		Espace pastoral	A+	A+ *	N/A	N/A	C+	N/A	N/A	N/A
		Espace forestier	A+	A+ *	A+	N/A	N/A	B+	N/A	N/A
		Sites protégés	N/A	A+ *	N/A	N/A	A+	N/A	A-	N/A

* sous condition de la participation essentielle des communautés dans le processus de cogestion de ces zones protégées et des zones périphériques.

E. Recommandations pour la conception et la mise en œuvre du Projet

Mesures d'atténuation

121. Lors de sa conception, le Projet accordera une attention particulière aux activités concernant :

(a) l'amélioration du cadre administratif et institutionnel de la gestion des aires protégées et de la conservation de la biodiversité ;

(b) l'amélioration de la connaissance scientifique des aires protégées et de leur zone périphériques ;

(c) l'amélioration de la connaissance des communautés rurales et des participants au Projet sur les défis écologiques et la manière d'y répondre ;

(d) l'amélioration du cadre institutionnel et de soutien de la promotion des initiatives écologiques et de lutte contre les effets néfastes des changements climatiques ;

(e) l'amélioration de l'offre de formation dans le domaine écologique et la formation de jeunes dans des éco-entreprises ;

(f) l'appui à la mise en œuvre de projets et éco-entreprises à dimension écologique et/ou d'adaptation aux changements climatiques portés par des jeunes ;

(g) l'accompagnement et le suivi technique et organisationnel de jeunes entrepreneurs et des activités écologiques.

Approches à bénéfices multiples

122. La gestion locale collective des ressources naturelles par l'intermédiaire d'une structure de forêt communautaire permet d'avoir des impacts multiples :

(a) la responsabilité des communautés dans la gestion durable de leurs ressources ;

(b) la responsabilité des communautés dans la conservation de l'aire protégée limitrophe ;

(c) une indépendance fiscale partielle par rapport aux produits forestiers ;

(d) l'apport de ressources financières aux communautés par la réalisation de prélèvement de produits forestiers non ligneux et produits forestiers ;

(e) le renforcement des capacités locales de mise en œuvre ;

(f) la sécurisation des revenus des ménages vulnérables liés à l'exploitation de ces ressources naturelles.

123. Les activités de promotion d'une sensibilité écologique, d'informations et d'appui au développement d'initiatives/entreprises écologiques, en particulier vers les jeunes ruraux vont avoir des effets environnementaux multiples :

(a) la gestion durable des terres combinant des mesures de conservations des eaux et des techniques d'agroforesterie permettront de réduire les pertes de terre à la parcelle, d'améliorer la fertilité et le bilan hydrique des sols, d'augmenter la disponibilité de fourrage, d'améliorer la séquestration de carbone à la parcelle et de favoriser la biodiversité en créant de nouveaux habitats pour la faune et la flore ;

(b) les interventions de régénération naturelle assistée permettront d'éviter l'érosion par ruissellement, d'améliorer le bilan hydrique des sols et de favoriser la recharge des nappes phréatiques ;

(c) le développement de petites entreprises à caractère écologique (pépinières, transformation de produits forestiers non ligneux, production de compost, etc.) permettra non seulement de créer des revenus et des emplois pour les jeunes, mais également de servir de vecteur pour de nouvelles approches en matière de respect et de valorisation citoyenne des ressources naturelles.

124. La mise en avant d'une vision stratégique commune entre les acteurs de la conservation de la biodiversité et les populations limitrophes permet de soutenir l'ensemble des démarches mise en place et présentées précédemment.

Incitations pour de bonnes pratiques

125. Le Projet fournira des facilités et des incitations pour la formation des jeunes en éco-entreprises ainsi que pour la mise en place d'initiatives écologiques liées aux aménagements du territoire.

126. A l'issu de la formation, le Projet participera sous forme de « prime verte » au développement, au démarrage et à la croissance des éco-entreprises.

127. Le Projet veillera à l'évaluation en particulier de la viabilité technique et économique des initiatives présentées par les jeunes avant de s'engager ou non dans leur soutien.

Processus participatif

128. Les activités de ciblage des bénéficiaires s'appuieront sur l'élaboration de critères objectifs et une démarche de ciblage transparente et participative afin de favoriser l'appropriation des activités par les communautés ciblées et éviter l'accaparement de certains appuis par des personnes non motivées ou par des élites.

129. Des commissions de sélection et de validation des micro-projets seront mises en place, relativement proches des zones d'intervention et qui opèreront sur la base de directives et procédures consignées dans un manuel d'opérations.

130. Des échanges réguliers d'information avec d'autres intervenants au niveau local comme au niveau national seront assurés (Comité multipartenaires – CMP), afin de favoriser l'harmonisation dans les approches et les appuis, promouvoir les complémentarités et les synergies et éviter des doublons.

F. Analyse des alternatives

131. L'intensification des systèmes de production tout en veillant au respect de l'environnement et la réduction des risques climatiques est nécessaire pour garantir des moyens d'existence viables aux ménages ruraux pauvres et aux jeunes désireux de rester dans leur communauté et de trouver une situation stable.

132. Les écosystèmes du Cameroun, malgré les menaces qui pèsent sur eux, sont relativement riches et variés pour permettre la mise en place de nouvelles activités. Par ailleurs, la demande soutenue en produits agricoles et le niveau de prix sont des facteurs positifs pour le développement de nouvelles entreprises tournées vers le marché.

133. La combinaison d'activités dans la production végétale, le petit élevage, l'aquaculture ou la foresterie peut être une approche intéressante pour mieux valoriser les ressources naturelles, l'utilisation de co-produits, la main d'œuvre disponible sur l'exploitation, voire sur le marché local et ainsi d'accroitre les bénéfices d'une entreprise tout en limitant les investissements fonciers ou les charges financières. Ces alternatives devraient être étudiées de près dans le montage de micro-projets ou d'entreprises par les jeunes.

G. Analyse institutionnelle

Cadre institutionnel

134. **Cadre légal national.** La loi cadre relative à la gestion de l'environnement n° 96/12 du 05 août 1996 et son article 9 fixe les principes fondamentaux de la gestion de l'environnement au Cameroun : (i) le principe de précaution, (ii) le principe d'action préventive et de correction, (iii) le principe du pollueur-payeur, (iv) le principe de responsabilité, (v) le principe de participation et (vi) le principe de subsidiarité. Le décret n° 2013/0171/PM du 14 février 2013 définit les procédure des Etudes d'Impacts Environnementales sommaires ou détaillées et des Notices d'Impacts Environnementales, respectivement catégorisé A et B.

135. Le Projet devra ainsi réaliser une Notice d'Impact, environnementale, pour validation auprès du responsable départemental des services déconcentrés du Ministère de l'Environnement, avant la mise en œuvre de ces activités.

136. Le Projet veillera également à suivre les cadres des lois complémentaires suivantes :

(a) loi n° 98/005 du 14 avril 1998 portant sur le régime de l'eau ;

(b) loi n° 99/017 du 22 décembre 1999, régissant le contrôle de qualité des sols, des matériaux de construction et des études géotechniques ;

(c) loi n° 94/01 du 20 janvier 1994, portant le régime des forêts, de la faune et de la pêche ainsi que le décret n° 95/466/PM du 20 juillet 1995, fixant les modalités d'application du régime de la faune.

137. Dans le cas de forêt communautaire, la commercialisation des Produits Forestiers Non Ligneux qui en sont issus, et qui constitue une des activités appuyées par le Projet, est légalement encadrée. Les propriétaires de cette forêt doivent signer avec le MINFOF une convention de gestion (art. 3 de la décision n°1985 /D /MINEF /SG /DF /CFC), fixant les modalités d'exploitation en régie et de préservation des ressources naturelles, dans le cadre de la mise en œuvre du plan simple de gestion.

138. **Engagements internationaux.** Le pays est signataire de nombreuses conventions internationales, soulignant notamment son investissement dans la préservation des écosystèmes et de la biodiversité :

(a) convention sur la Diversité Biologique, Rio de Janeiro, de 1992 et ratifiée le 29/08/1994 ;

(b) convention-cadre des Nations Unies sur les Changements Climatiques et son Protocole de Kyoto, Rio de Janeiro, de 1992 et ratifiée le 19/10/1994 ;

(c) convention des Nations Unies sur la Lutte contre la Désertification, de 1994 et ratifiée le 29/08/1994 ;

(d) convention sur le Commerce International des espèces de plantes et d'animaux sauvages menacées (CITES) de 1973 et ratifiée le 05/061981 ;

(e) convention de Portée internationale sur les Zones humides, notamment en ce qui concerne l'Habitat de la Sauvagine (Ramsar) de 1971 et ratifiée le 11/01/2006 ;

(f) convention de Bonn sur les Espèces Migratoires d'Animaux sauvages (CMS de 1979 et ratifiée le 01/11/1983.

139. Le pays a également ratifié de nombreuses conventions régionales et sous-régionales pour la gestion durable des ressources comme pour le Traité de la Commission des Ministres des Forêts de l'Afrique Centrale pour la Conservation et la Gestion durable des Ecosystèmes forestiers (COMIFAC) en 2000.

140. **Alignement avec les Plan Stratégiques Nationaux.** La signature des ces conventions a ensuite été traduit par la mise en place d'infrastructures et de plans nationaux stratégiques sur la biodiversité, l'adaptation au changement climatique et la lutte contre la désertification.

141. La Stratégie et Plan d'Action National pour la Biodiversité II (SPANB II) a traduit le Plan stratégique de la CDB pour la biodiversité 2011-2020 et ses objectifs d'Aichi, en réalité nationale appropriée pour une réponse efficace à la perte grandissante de la biodiversité. Le Projet s'aligne sur la « préservation des milieux » avec l'objectif 9 de l'Axe B ; sur la « valorisation économique des milieux » avec l'objectif 12 de l'axe B et l'objectif 14 de l'axe C ; sur le « soutien aux approches communautaires » avec l'objectif 13 de l'axe B ; sur la « sensibilisation et les inventaires » avec les objectifs 1 et 2 de l'axe A ; et sur « l'adaptation aux changements climatiques » avec l'objectif 10 de l'axe B.

142. Le Plan d'Action National pour la Lutte Contre la Désertification (PAN LCD) a traduit les engagements de 1994. Le Projet s'aligne également sur de nombreux objectifs notamment sur la « conservation et protection des écosystèmes fragile, des zones et de la biodiversité » avec l'action 1.3 de l'axe 1 et l'action 3 de l'axe 2.

143. Le Plan National d'Adaptation aux Changements Climatique, traduit les engagements de 1994. Le Projet s'aligne notamment sur l'objectif de « limitation de la vulnérabilité des acteurs et des milieux », avec l'axe 3.

144. Enfin, le Projet s'aligne (i) pour l'entrepreneuriat rural pour la lutte contre la pauvreté, sur le Plan National d'Investissement Agricole et le programme PAIJR de la Stratégie de Développement du Secteur Rural SDSR ; et (ii) pour la politique de finance rurale, sur le programme PAFSR de la SDSR.

145. **Alignement avec la Contribution prévue déterminée au plan national (INDC).** Le Projet est par ailleurs aligné avec les orientations stratégiques de l'INDC du Cameroun, présentées lors de la Conférences des Parties à Paris. Le Projet met en avant la promotion d'activités génératrices de revenus limitant les actions néfastes sur l'environnement tel que la déforestation, liée à l'orientation d'atténuation n°2 sur « l'intensification d'une production respectueuse de l'environnement et permettant de limiter la déforestation/ dégradation ». Le Projet s'attache aux problématiques d'adaptation aux changements climatiques en sensibilisant et formant les jeunes aux pratiques agro-éco-entrepreneuriales préservant les milieux naturels, il s'aligne avec les orientations d'adaptation, programme 16 du secteur agricole, programme 19 de la forêt et programme 6 du renforcement des capacités :

i. points d'alignement du Programme 16 – agriculture : « Développement d'une agriculture intégrée et résiliente face aux effet des changements climatiques » ; « Gestion des besoins en eau » ; et « développement de l'agriculture durable/ conservatoire » ;

ii. points d'alignement du programme 19 – forêt : « Réduction de la vulnérabilité des forêts au changement climatique au Cameroun : inventaires, gestion et conservations des blocs forestiers, reconstitution du couvert forestier » ; « agroforesterie villageoise », « conservation de la biodiversité ; gestion des trafics et du braconnage ; gestion des feux de brousse » ;

iii. points d'alignement du programme 6 – renforcement des capacités : « Education, formation professionnelle et renforcement des capacités sur le changement climatique : curricula et outils pédagogiques, formations spécialisées ; formation continue ; bourses d'études ; appui à la recherche ».

146. **Cadre institutionnel.** Le Projet s'appuiera sur des partenaires, notamment des centres de formation, des prestataires de services privés et des organisations non-gouvernementales pour capitaliser sur leur expertise, leur savoir-faire et leurs capacités d'intervention dans les régions cibles. Le Projet sera dans une dynamique d'appui aux interventions déjà existantes, en particulier celles du FIDA, pour développer la prise en compte des questions environnementales et de changements climatiques, mais également pour élargir les opportunités d'activités dans le secteur de l'écologie pour les projets en cours, tel que le PEA-Jeunes, le PADFA ou le PADMIR. Enfin, le Projet informera l'ensemble des parties du Comité Multi Partenaires Environnement[42] afin d'assurer une très forte coordination avec les projets existants et de créer des synergies et des complémentarités durables.

Renforcement des capacités

147. Des activités de renforcement des capacités sont prévues aux niveaux suivants :

i. Amélioration du cadre administratif et institutionnel de la gestion des aires protégées et de la conservation de la biodiversité ;
ii. Amélioration des connaissances des communautés rurales et des parties prenantes au Projet sur les défis écologiques et la manière d'y répondre (activités d'information, éducation et communication - IEC) ;
iii. Elaboration et mise à disposition des personnes intéressées de référentiels technico-économiques sur les activités et/ou des techniques vertes adaptées ;
iv. Formation et incubation de jeunes dans des métiers liés à l'agro-écologie ;
v. Appui-conseil technique et organisationnel à de jeunes promoteurs d'initiatives ou d'entreprises à dimension écologique et/ou d'adaptation aux changements climatiques.

Financement complémentaire

148. Les activités du Projet feront l'objet d'un financement par le Fonds D'adaptation ainsi que d'un cofinancement direct tant par le gouvernement du Cameroun que par les partenaires de mise en œuvre (ICRAF, UICN).

H. Suivi et évaluation

149. De manière intrinsèque au Projet ECO-Jeunes, des études de caractérisation des zones d'intervention seront réalisées dans les zones périphériques aux parcs nationaux ciblés, permettant après traitement de déterminer une situation de référence de ces zones sur les thématiques socio-environnementales. Le système de suivi environnemental devra être développé par les partenaires chargés de la mise en œuvre de la gestion des ressources naturelles. Ce système sera intégré au système de suivi-évaluation du Projet.

150. L'Observatoire National sur les Changements Climatiques a été créé en 2009, et l'AFD participe au renforcement des capacités de cette structure. L'observatoire développe trois activités d'intervention : (i) actions d'information des agriculteurs et des éleveurs sur les conditions climatiques et météorologiques ; (ii) suivi des indicateurs de biodiversité et environnementales (stockage de la biomasse / bilan carbone) ; et (iii) suivi des indicateurs sociaux. Cette logique d'intervention n'est pas encore opérationnelle mais devrait l'être lors de la mise en œuvre du Projet qui en bénéficiera pour le suivi des opérations.

151. L'ensemble des indicateurs en lien avec les différentes activités de conservation de la biodiversité, de la préservation de l'environnement et d'adaptation aux changements climatiques est identifié dans le cadre logique du Projet, présenté dans la note de conception.

I. Informations complémentaires pour affiner le ciblage

152. La note de conception détaille et approfondie les possibilités de partenariat ainsi que le montage institutionnel du Projet qui s'appuiera sur les acquis et les structures déjà fonctionnelles des

[42] La mission de conception n'a pu rencontrer ce comité qui ne siège que tous les trois mois mais elle a présenté le Projet au comité multi-partenaires Agriculture lors de sa session de juillet 2016.

autres projets en cours cofinancés par le FIDA dans la zone d'intervention, le PEA-J PADFA et le PADMIR. Elle approfondie l’impact d’activités similaires déjà réalisées dans les zones d’intervention du Projet et étaye la présente Note des leçons complémentaires apprises.

Annexe 1 : Questions servant à guider les choix dans l'examen critique du risque climatique

Question	Oui	Non	Complément d'explication à la réponse "Oui"
Est-ce que le groupe cible du Projet dépend de ressources naturelles sensibles au climat (cultures sensibles à la sécheresse, cultures pluviales, espèces halieutiques migratrices, etc.) ?	X		Agriculture de subsistance, non-irriguée en majorité Faible diversification des activités ou des sources de revenus
Est-ce que la zone du Projet a fait l'objet de phénomènes météorologiques extrêmes dans le passé (tels que inondations, sécheresse, tempêtes tropicales, vagues de chaleur) ?	X		Sècheresses dans l'Extrême-Nord et le Nord Inondations beaucoup moins fréquentes
Les changements de température, les précipitations ou les conditions météorologiques extrêmes pourraient-elles affecter l'impact du Projet, sa durabilité ou son coût pendant son cycle de vie ?	X		Perte partielle/totale de récolte par sécheresse ou inondation Perte des jeunes plants reboisés par sécheresse
Est-ce que la variabilité du climat pourrait affecter la productivité agricole dans le cadre du Projet (cultures/élevage/pêche) ou l'incidence des ravageurs et des maladies ?	X		La variabilité climatique va demander l'utilisation de variétés moins sensibles au stress hydrique. L'évolution de la pression parasitaire est difficile à prévoir, mais des techniques d'agroforesterie et de diversification de la production devrait la réduire
Est-ce que les aléas climatiques pourraient avoir un impact négatif sur des étapes clé des chaines de valeur identifies dans le Projet (de la production à la mise en marché) ?	X		Rupture de flux suite à de mauvaises récoltes
Est-ce que le Projet a un potentiel pour intégrer des mesures de résilience climatique sans des coûts supplémentaires importants (Exemple : application de normes de construction améliorées, extension des programmes de renforcement de capacités, intégration politique des enjeux lies aux risques climatiques) ?	X		Techniques d'agroforesterie, sinon les mesures antiérosives ou de reforestation entrainent toutes des coûts additionnels, mais créent en même temps de l'emploi et des revenus pour la population locale
Le Projet pourrait-il bénéficier d'une analyse des risques climatiques et de la vulnérabilité plus détaillés pour mieux identifier les populations rurales les plus vulnérables, améliorer le ciblage et identifier des mesures complémentaires d'investissement pour gérer les risques climatiques ?		X	Les populations les plus vulnérables socio-économiquement sont certainement les mêmes que celles vulnérables en premier aux changements climatiques.

Annexe 2: Plan de Gestion Environnementale et Sociale

Paramètres	Activité	Indicateur de performance	Baseline	Responsabilité du Monitoring	Moyen de Monitoring
Biodiversité conflit cheptel /faune sauvage	Suivi du nombre de conflit	Nombre de conflit reportés	Rapport annuel de gestion des parcs	IUCN / ICRAF / parc nationaux	Analyse documentaire / visite de monitoring
Ressources forestière	Suivi de la ressource	Indicateur de couvert végétal	Rapport d'activité Plan de Gestion simplifié	IUCN / ICRAF / inspection forestières	Analyse documentaire
	Suivi des prélèvements	Quantité de produits vendus	Rapport d'activité Plan de Gestion simplifié	IUCN / ICRAF	Analyse documentaire
Ressources financière des communautés	Suivi des revenus issus de la gestion forestière	Revenus des activités	Rapport d'activité	IUCN / ICRAF	Analyse documentaire
Activités spécifiques des vulnérables	Suivi du nombre de vulnérables actifs des filières PFNL	%femmes %marginalisés	Enquêtes	IUCN / ICRAF	Visite de monitoring
Expropriation foncière des vulnérables	Suivi et résolution des conflits d'expropriations foncière des vulnérables	Nombre de conflit d'expropriation foncière résolu	Enquêtes	IUCN / ICRAF	Visite de monitoring et de soutien

Annexe 3 : Bilan carbone des zones d'intervention du Projet

Le bilan carbone du projet a été réalisé par l'utilisation du logiciel ExAct v7.0 de la FAO. En raison des caractéristiques particulières des différentes zones d'étude, trois bilans carbones ont été réalisés.

Région Extrême-Nord :

Nom du Projet	ECO-Jeunes	Zone climatique	Tropical (Sec)	Durée du Projet (en années)	20
Continent	Afrique	Type de sol dominant	Sols à argiles 1:1	Surface totale (ha)	10300

Composantes du projet	Flux bruts Sans	Avec	Bilan	Répartition du blian par type de GES Tous les GES en tCO2eq CO_2 Biomasse	Sol	Autre	N_2O	CH_4	Résultats par an Sans	Avec	Bilan
	Tous les GES en tCO2eq Positif=émission / négatif=puits										
Changements d'Usage											
Déforestation	0	0	0	0	0		0	0	0	0	0
Boisement	0	-70 448	-70 448	-18 858	-51 590		0	0	0	-3 522	-3 522
Autres CUT	5 021	-3 543	-8 564	-293	-7 973		-195	-103	251	-177	-428
Agriculture											
Annuelle	0	-6 090	-6 090	0	-6 090		0	0	0	-305	-305
Pérenne	0	-11 798	-11 798	-11 220	-578		0	0	0	-590	-590
Riz	0	0	0	0	0		0	0	0	0	0
Patûrage & bétail											
Patûrage	0	0	0	0	0		0	0	0	0	0
Bétail	0	0	0				0	0	0	0	0
Dégradation et gestion	400 539	-400 539	-801 077	-612 427	-188 650		0	0	20 027	-20 027	-40 054
Coastal wetlands	0	0	0	0	0		0	0	0	0	0
Intrants & Investissements	9 490	9 490	0			0	0	0	474	474	0
Fishery & Aquaculture	0	0	0			0	0	0	0	0	0
Total	415 049	-482 928	**-897 977**	-642 799	-254 880	0	-195	-103	20 752	-24 146	-44 899
Par hectare	40	-47	-87	-62,4	-24,7	0,0	0,0	0,0			
Par hectare et par an	2,0	-2,3	-4,4	-3,1	-1,2	0,0	0,0	0,0	2,0	-2,3	-4,4

Région Nord :

Nom du Projet	ECO-Jeunes	Zone climatique	Tropical (Humide)	Durée du Projet (en années)	20
Continent	Afrique	Type de sol dominant	Sols à argiles 1:1	Surface totale (ha)	81100

Composantes du projet	Flux bruts Sans	Avec	Bilan	Répartition du blian par type de GES Tous les GES en tCO2eq CO_2 Biomasse	Sol	Autre	N_2O	CH_4	Résultats par an Sans	Avec	Bilan
	Tous les GES en tCO2eq Positif=émission / négatif=puits										
Changements d'Usage											
Déforestation	0	0	0	0	0		0	0	0	0	0
Boisement	0	0	0	0	0		0	0	0	0	0
Autres CUT	5 241	-6 961	-12 202	-587	-11 460		-122	-34	262	-348	-610
Agriculture											
Annuelle	0	-15 400	-15 400	0	-15 400		0	0	0	-770	-770
Pérenne	0	-17 432	-17 432	-16 207	-1 225		0	0	0	-872	-872
Riz	0	0	0	0	0		0	0	0	0	0
Patûrage & bétail											
Patûrage	0	0	0	0	0		0	0	0	0	0
Bétail	0	0	0				0	0	0	0	0
Dégradation et gestion	5 108 124	0	-5 108 124	-3 901 791	-1 206 333		0	0	255 406	0	-255 406
Coastal wetlands	0	0	0	0	0		0	0	0	0	0
Intrants & Investissements	4 745	4 745	0			0	0	0	237	237	0
Fishery & Aquaculture	0	0	0			0	0	0	0	0	0
Total	5 118 110	-35 048	**-5 153 158**	-3 918 584	-1 234 419	0	-122	-34	255 906	-1 752	-257 658
Par hectare	63	0	-64	-48,3	-15,2	0,0	0,0	0,0			
Par hectare et par an	3,2	0,0	-3,2	-2,4	-0,8	0,0	0,0	0,0	3,2	0,0	-3,2

Région Nord-Ouest :

Nom du Projet	ECO-Jeunes	Zone climatique	Montagneux Tropical (Humide)	Durée du Projet (en années)	20
Continent	Afrique	Type de sol dominant	Sols Volcaniques	Surface totale (ha)	12700

Composantes du projet	Flux bruts Sans	Avec	Bilan	Répartition du blian par type de GES Tous les GES en tCO2eq CO_2 Biomasse	Sol	Autre	N_2O	CH_4	Résultats par an Sans	Avec	Bilan
	Tous les GES en tCO2eq Positif=émission / négatif=puits										
Changements d'Usage											
Déforestation	0	0	0	0	0		0	0	0	0	0
Boisement	0	-71 622	-71 622	-59 302	-12 320		0	0	0	-3 581	-3 581
Autres CUT	65 244	-6 912	-72 156	-6 160	-65 578		-384	-34	3 262	-346	-3 608
Agriculture											
Annuelle	9	-9 231	-9 240	0	-9 240		0	0	0	-462	-462
Pérenne	0	-12 445	-12 445	-11 220	-1 225		0	0	0	-622	-622
Riz	0	0	0	0	0		0	0	0	0	0
Patûrage & bétail											
Patûrage	0	0	0	0	0		0	0	0	0	0
Bétail	0	0	0				0	0	0	0	0
Dégradation et gestion	875 493	-875 493	-1 750 987	-1 229 953	-521 033		0	0	43 775	-43 775	-87 549
Coastal wetlands	0	0	0	0	0		0	0	0	0	0
Intrants & Investissements	29 171	29 171	0			0	0	0	1 459	1 459	0
Fishery & Aquaculture	0	0	0			0	0	0	0	0	0
Total	969 917	-946 533	**-1 916 450**	-1 306 635	-609 397	0	-384	-34	48 496	-47 327	-95 822
Par hectare	76	-75	-151	-102,9	-48,0	0,0	0,0	0,0			
Par hectare et par an	3,8	-3,7	-7,5	-5,1	-2,4	0,0	0,0	0,0	3,8	-3,7	-7,5

Annexe 4 : Hypothèses de calcul des bilans carbones

L'ensemble des hypothèses et des sources utilisées pour la réalisation des bilans carbones sont présentées ci-dessous par zone d'intervention :

Zone Extrême-Nord						**Source**
Zone climatique Tropical sec Sol : Sol à argile 1 :1 (LAC) Phase d'implémentation : 5 ans Phase de capitalisation : 15 ans						Atlas MINEPAT FAO – ExAct Durée du projet
Avant Projet	**Avec Projet**	**Sans Projet**	**Type**	**Unité**	**Calcul**	**Source**
2. Utilisation des sols						
Reboisement (terres arbustives tropicales Z4)						
600 ha terrain dégradé	= forêt arbustive	= terrain dégradé	Surface Etat	Ha	Reboisement de 200 ha pour 3 nouvelles forêts communautaires : 3 x 200 ha = **600 ha**	• **PAN/LCD** • **Annexe 4** • **Annexe 10**
Aménagement de sous-bassins versants - Régénération Naturelle Assistée						
100 ha culture annuelle (coton)	= Agroforesterie	= terrain dégradé (hardéisation)	Surface Etat	Ha	2000 ha avec une densité de 20 arbres à l'hectare contre 400 arbres dans le logiciel, d'où une **surface de calcul** de 2000 ha x 0.05 = **100 ha**	• **Annexe 10** • **PAN/LCD** • **Annexe 4**
3. Terrains agricoles						
1200 ha pratiques agronomiques et de gestion des engrais TBD	= amélioration des pratiques TBD	= sans amélioration des pratiques TBD	Surface Etat Rendement culture	Ha Kg/ha	2ha par exploitation pour 600 bénéficiaires : 2 ha x 600 = **1200 ha**	• **Annexe 4** • **Annexe 10**
5. Dégradation et gestion de forêt						
8400 ha modéré	= faible	= forte	Surface Dégradation	Ha	3 nouvelles forêts communautaires de 3000 ha moins les 600 ha de reboisement = **8400 ha**	• **Annexe 4** • **SPANB II** • **PAN/LCD**
7. Intrants						
Engrais ***l basé sur la culture de Sorgho***						
2,2 kg/ha	=	=	Poudrette de bovin - N	Kg/ha	1 tonne x 2,2 kgN/t = **2,2 kgN**	• **Annexe 10** Fertilisation par hectare d'un

4,4 t 10 kg/ha 5 kg/ha 5 kg/ha 9,3 kg/ha **18,6 t** **20 t** **10 t** **10 t**			Total N compost NPK – N NPK – Po NPK – K Urée - N Total urée - N fabriqué Total NPK – N fabriqué Total Po fabriqué Total K fabriqué	tonne Kg/ha Kg/ha Kg/ha Kg/ha tonne tonne tonne tonne	2000 ha x 2,2 kgN = **4,4 tN** 20% x 50 kgN = **10 kgN** 10% x 50 kgPo = **5 kgPo** 10% x 50 kgK = **5 kgK** 20 x 46,7%N = **9,3 kgN** 2000 ha x 9,3 kgN = **18,6 tN** 2000 ha x 10 kgN = **20 tN** 2000 ha x 5 kgPo = **10 tPo** 2000 ha x 5 kgK = **10 tK**	champ de sorgho : 150 sacs de 50 kg de fiente bord champ 50kg de NPK (20:10:10) 20kg de urée • **Annexe 4** • **ADEME** Poudrette de bovin : 2,2 kgN/t ; 1 kgP/t ; 3 kgK/t. Sac NPK (20:10:10) Urée : 46,7% N • **CIRAD** 1tonne/ha de poudrette de bovin est enfouis en région cotonnière ou en culture dans les régions semi-arides
Herbicides ***I basé sur la culture de sorgho***						
0,16 kg/ha **0,16 kg/ha** **0,54 kg/ha** **1720 kg**	=	=	Herb. liquide Herb. solide Herb. grains Herb. total	Kg/ha Kg/ha Kg/ha Kg total	0,3 L/ha x (0,5 kg/L + 0,038 kg/L) = 0,16 kg/ha 0,2 L/ha x (0,75 kg/L + 0,040 kg/L) = 0,16 kg/ha 1 L x (0,5 kg/L + 0,038 kg/L) = 0,54 kg/ha 2000 ha x (0,16 kg/ha + 0,16 kg/ha + 0,54 kg/ha) = **1720 kg**	• **MINADER** ATOLL liquide (Atrazine 500 g/L ; Isoflutole 37,5 g/L) HERBIMAIS solide **(**Atrazine 750 g/L ; Nicosulfuron 40 g/L) • **Annexe 10** produit pour un hectare de culture : Herbicide liquide 0.3 L/ha 1 L de traitement

						grains 0,2 kg herbicide solide
Insecticides ***l basé sur la culture de Sorgho***						
400 kg	=	=	Principe actif	Kg total	0,2 kg/ha x 2000 ha = 400 kg	• **MINADER** Insecticide CYPERCAL 200 EC/ Cyperméthrine 200 g/L • **Annexe 10** Utilisation de 1 L/ha

Zone Nord						Source
Zone climatique Tropical humide Sols : Sol à argile 1 :1 (LAC) Phase d'implémentation : 5 ans Phase de capitalisation : 15 ans						Atlas MINEPAT FAO – ExAct Durée du projet
Avant Projet	**Avec Projet**	**Sans Projet**	**Type**	**Unité**	**Calcul**	**Source**
2. Utilisation des sols						
Aménagement de sous-bassins versants - Agroforesterie						
100 ha culture annuelle (mais)	= Agroforesterie	= terrain dégradé	Surface Etat	Ha	1000 ha avec une densité de 40 arbres à l'hectare contre 400 arbres dans le logiciel, d'où une **surface de calcul** de 1000 ha x 0,1 = 1**00 ha**	• **Annexe 10** • **PAN/LCD** • **Annexe 4**
3. Terrains agricoles						
1000 ha Pratiques agronomiques et de gestion des engrais TBD	= Amélioration des pratiques TBD	= Sans Amélioration des pratiques TBD	Surface Etat Rendement culture	Ha Kg/ha	1 ha par exploitation pour 1000 bénéficiaires : 1 ha x 1000 = **1000 ha**	• **Annexe 4** • **Annexe 10**
5. Dégradation et gestion de forêt						
80 000 ha Modéré	= modéré	= forte	Surface Dégradation	Ha	Plan d'aménagement des zones d'intérêts cynégétique à gestion communautaire **80 000** ha (15% prairies arbustives ; 15% Mosaïque de culture ; 70% savane de forêt arbustive)	• **Annexe 4** • **SPANB II** • **PAN/LCD** • **Occupation des sols (Atlas forestier Cameroun)**
7. Intrants						
Engrais ***I basé sur la culture de maïs***						
2,2 kg/ha **2,2 t** 10 kg/ha 5 kg/ha	=	=	Poudrette de bovin - N Total N compost NPK – N NPK – Po NPK – K	Kg/ha tonne Kg/ha Kg/ha	1 tonne x 2,2 kgN/t = **2,2 kgN** 1000 ha x 2,2 kgN = **2,2 tN** 20% x 50 kgN = **10 kgN** 10% x 50 kgPo = **5 kgPo** 10% x 50 kgK = **5 kgK** 20 kg x 46,7 %N = **9,3 kgN**	• **Annexe 10** Fertilisation par hectare d'un champ de mais : 150 sacs de 50kg de fiente bord champ 50 kg de NPK (20:10:10) 20 kg de urée • **Annexe 4** • **ADEME** Poudrette de bovin : 2,2 kgN/t ; 1 kgP/t ; 3 kgK/t. Sac NPK (20:10:10) Urée : 46,7% N

5 kg/ha 9,3 kg/ha **9,3 t** **10 t** **5 t** **5 t**			Urée - N Total urée - N fabriqué Total NPK – N fabriqué Total Po fabriqué Total K fabriqué	Kg/ha Kg/ha tonne tonne tonne tonne	1000 ha x 9,3 kgN = **9,3 tN** 1000 ha x 10 kgN = 1**0 tN** 1000 ha x 5 kgPo = **5 tPo** 1000 ha x 5 kgK = **5 tK**	• **CIRAD** 1tonne/ha de poudrette de bovin est enfouis en région cotonnière ou en culture dans les régions semi-arides
Herbicides ***/ basé sur la culture de maïs***						
0,16 kg/ha **0,16 kg/ha** **0,54 kg/ha** **860 kg**	=	=	Herb. liquide Herb. solide Herb. grains Herb. total	Kg/ha Kg/ha Kg/ha Kg total	0,3 L/ha x (0,5 kg/L + 0,038 kg/L) = 0,16 kg/ha 0,2 L/ha x (0,75 kg/L + 0,040 kg/L) = 0,16 kg/ha 1 L x (0,5 kg/L + 0,038 kg/L) = 0,54 kg/ha 1000 ha x (0,16 kg/ha + 0,16 kg/ha + 0,54 kg/ha) = **860 kg**	• **MINADER** ATOLL liquide (Atrazine 500 g/L ; Isoflutole 37,5 g/L) HERBIMAIS solide **(**Atrazine 750 g/L ; Nicosulfuron 40 g/L) • **Annexe 10** produit pour un hectare de culture : Herbicide liquide 0.3 L/ha 1 L de traitement grains 0,2 kg herbicide solide
Insecticides ***/ basé sur la culture de maïs***						
200 kg	=	=	Principe actif	Kg total	0,2 kg/ha x 1000 ha = 200 kg	• **MINADER** Insecticide CYPERCAL 200 EC/ Cyperméthrine 200 g/L • **Annexe 10** Utilisation de 1 L/ha

Zone Nord-Ouest						Source
Zone climatique montagneuse tropicale Sols : Sols volcaniques Phase d'implémentation : 5 ans Phase de capitalisation : 15 ans						Atlas MINEPAT FAO – ExAct Durée du projet
Avant Projet	**Avec Projet**	**Sans Projet**	**Type**	**Unité**	**Calcul**	**Source**
2. Utilisation des sols						
Reboisement (système montagneux tropical Z1)						
400 ha jachère	= forêt	= terrain dégradé	Surface Etat	Ha	Reboisement de 100 ha pour 6 nouvelles forêts communautaires : 6 x 67 ha = **400 ha**	• **PAN/LCD** • **Annexe 4** • **Annexe 10**
Aménagement de sous-bassins versants - Agroforesterie						
100 ha culture annuelle (mais)	= Agroforesterie	= terrain dégradé	Surface Etat	Ha	1000 ha avec une densité de 40 arbres à l'hectare contre 400 arbres dans le logiciel, d'où une **surface de calcul** de 1000 ha x 0,1 = 1**00 ha**	• **Annexe 10** • **PAN/LCD** • **Annexe 4**
3. Terrains agricoles						
600 ha Pratiques agronomiques et de gestion des engrais 3,5 t/ha	= Amélioration des pratiques 5,5 t/ha	= Sans Amélioration des pratiques 3,5 t/ha	Surface Etat Rendement culture de mais	Ha tonne/ha	1 ha par exploitation pour 600 bénéficiaires : 1 ha x 600 = **600ha** Possibilité de faire deux saisons de maïs par an	• **Annexe 4** • **Annexe 10** Culture de mais
5. Dégradation et gestion de forêt						
11600 ha modéré	= faible	= forte	Surface Dégradation	Ha	6 nouvelles forêts communautaires de 12000 ha moins les 400 ha de reboisement pour ces forêts = **11600 ha**	• **Annexe 4** • **SPANB II** • **PAN/LCD**
7. Intrants						
Engrais ***I basé sur la culture de maïs***						
263 kg/ha **263 t** 10 kg/ha	=	=	Fiente de bord de champ - N Total N compost NPK – N NPK – Po	Kg/ha tonne Kg/ha	150 sacs x 50 kg x 35 kgN/t = **263 kgN** 1000 ha x 263 kgN = **263 tN** 20% x 50 kgN = **10 kgN**	• **Annexe 10** Fertilisation par hectare d'un champ de maïs : 150 sacs de 50 kg de fiente bord champ 50 kg de NPK (20:10:10) 20 kg de urée • **Annexe 4**

5 kg/ha 5 kg/ha 9,3 kg/ha **9,3 t** **10 t** **5 t** **5 t**			NPK – K Urée - N Total urée - N fabriqué Total NPK – N fabriqué Total Po fabriqué Total K fabriqué	Kg/ha Kg/ha Kg/ha tonne tonne tonne tonne	10% x 50 kgPo = **5 kgPo** 10% x 50 kgK = **5 kgK** 20 kg x 46,7 %N = **9,3 kgN** 1000 ha x 9,3 kgN = **9,3 tN** 1000 ha x 10kgN = **10tN** 1000ha x 5 kgPo = **5tPo** 1000 ha x 5 kgK = **5 tK**	• **ADEME** Fiente : 35 kgN/t ; 37 kgPo/t ; 24 kgK/t Sac NPK (20:10:10) Urée : 46,7% N
Herbicides ***/ basé sur la culture de maïs***						
0,16 kg/ha **0,16 kg/ha** **0,54 kg/ha** **860 kg**	=	=	Herb. liquide Herb. solide Herb. grains Herb. total	Kg/ha Kg/ha Kg/ha Kg total	0,3 L/ha x (0,5 kg/L + 0,038 kg/L) = 0,16 kg/ha 0,2 L/ha x (0,75 kg/L + 0,040 kg/L) = 0,16 kg/ha 1L x (0,5 kg/L + 0,038 kg/L) = 0,54 kg/ha 1000 ha x (0,16 kg/ha + 0,16 kg/ha + 0,54 kg/ha) = 860 kg	• **MINADER** ATOLL liquide (Atrazine 500 g/L ; Isoflutole 37,5 g/L) HERBIMAIS solide **(**Atrazine 750 g/L ; Nicosulfuron 40 g/L) • **Annexe 10** produit pour un hectare de culture : Herbicide liquide 0.3 L/ha 1L de traitement grains 0,2kg herbicide solide
Insecticides ***/ basé sur la culture de maïs***						
200 kg	=	=	Principe actif	Kg total	0,2 kg/ha x 1000 ha = 200 kg	• **MINADER** Insecticide CYPERCAL 200 EC/ Cyperméthrine 200 g/L • **Annexe 10**

						Utilisation de 1 L/ha

Annexe 5 : Analyse SWOT des parcs nationaux objet du Projet ECO-Jeunes

Des analyses Forces / Faiblesses / Opportunités / Contraintes ont été réalisées pour chaque parc national et zone périphérique afin de cibler les interventions du Projet et maximaliser leur efficacité.

Analyse SWOT du parc national de Waza	
Forces	**Faiblesses**
Importance bioécologique	Statut foncier du Parc
Potentialités écotouristiques	Absence d'un programme de recherche adapté
Existence d'un cadre légal et institutionnel assez développé	Ressources humaines, logistiques et financières insuffisantes
	Coordination et collaboration institutionnelles insuffisantes
	Faible implication des populations locales et autres acteurs
	Absence de collaboration transfrontalière
	Présence des villages à l'intérieur du Parc
Opportunités	**Contraintes**
Partenariat avec les instituts de formation et de recherche	Insécurité transfrontalière
Promotion de la gestion participative	Manque d'eau à l'intérieur et à l'extérieur du parc
Existence d'un cadre institutionnel et réglementaire adéquat	Porosité du parc
Présence des projets et partenaires	Proximité des installations humaines
Mise en place en cours d'une initiative transfrontalière entre le Cameroun et le Nigéria – inscription sur la liste des Réserves de Biosphère de l'UNESCO et comme site Ramsar	Mode de vie des Populations
Facilité d'accès au site	Transhumance
	Modes d'exploitation des ressources naturelles
	Braconnage
	Conflits entre les populations locales et la faune sauvage
	Déforestation
	Circulation frauduleuse de produits forestiers et fauniques
	Exploitation pétrolière et autres chantier

Analyse SWOT du parc national de la Bénoué	
Forces	**Faiblesses**
Connaissances et Inventaires	Les corridors fauniques officiels sont fortement dégradés
Délimitation physique	Limite fluviale du parc non définit avec précision
Infrastructures pour l'éco-tourisme	Les infrastructures immobilières sont insuffisantes
Ressources humaines	L'entretien des pistes rencontre des lacunes et ces dernières semblent en mauvais état
L'aire protégée dispose d'un système efficace de contrôle et d'évaluation	Les armes dont disposent les éco gardes sont obsolètes
Processus de cogestion avancée malgré les précédents disfonctionnements	Le plan d'aménagement du parc est arrivé à terme en

	2008
Opportunités	**Contraintes**
Partenaires et projets locaux Braconnage transfrontalier limité	Géométrie du parc national et importances des effets de bords Diversité des pressions anthropiques

Analyse SWOT du parc national de Kimbi-Fungom	
Forces	**Faiblesses**
Potentiel bioécologique très important Implication des populations riveraines	Documents de gestion inexistants Données d'inventaire insuffisantes Moyens et infrastructures quasiment inexistantes Infrastructures routières dégradés et insuffisantes
Opportunités	**Contraintes**
Milieu peu exploité et peu dégradé	Difficulté d'accès Début de pressions anthropiques transfrontalières