ADAPTATION FUND

PROPOSAL FOR TOGO

Increasing the resilience of vulnerable communities in the agriculture sector of Mandouri in Northern Togo

July 2017

ADAPTATION FUND

DATE OF RECEIPT :	
ADAPTATION FUND PROJECT ID:	
(For Adaptation Fund Board Secretariat Use Only)	

PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category:	Regular project
Country/ies:	Togo
Title of Project/Programme:	Increasing the resilience of vulnerable communities in the agriculture sector of Mandouri in Northern Togo.
Type of Implementing Entity:	Regional Implementing Agency
Implementing Entity:	Banque Ouest Africaine de Développement (West African Development Bank) [BOAD]
Executing Entity/ies:	Ministere de l'Environnement et des Ressources Forestieres African Sustainability Centre (ASCENT)
Amount of Financing Requested:	10,000,000 (In U.S Dollars Equivalent)

1. Project Background and Context:

Fig. 1: Location & administrative divisions

Geographical and environmental context

Togo is a West African country located between latitudes 6^0 and 11^0 north, and longitudes 0^0 and 1.40^0 east. It is bounded to the north by Burkina Faso, to the south by the Gulf of Guinea, east by Benin and to the west by Ghana. With an area of 56,600 km², it stretches from north to south over a length of 600 km in a straight line and has a width that varies between 50 and 150 km. It has a coastline of about 50 km, which opens onto the Gulf of Guinea. It is divided into five administrative regions: Savanes, Kara, Central, Plateaux and Maritime where the capital Lomé is located (Figure 1).

Togo's relief consists of rugged terrain, except for the Atakora mountain range that crosses the country in a southwest to northeast line. The typical landscape is composed of deep and narrow valleys that individualize the plateaus. In the far north, a vast eastern plain furrowed by the Oti River and its tributaries extends between 9 ° 20' and 11° north. From the north, the eastern plain rises and extends to the south, giving the plateau bar of land overlooking the lagoon area, which covers more than two thirds of the Maritime Region.

Togo is under the influence of two major climatic patterns (Figure 2).

- The tropical north Sudanese regime (from the 8th parallel north) with a rainy season that goes from May to October and a dry season that goes from November to April. In this area, annual rainfall varies from 900 to 1100 mm and the plant growth period is less than 175 days;
- The Guinean regime tropical south (south of parallel 7) is characterized by two dry seasons and two rainy seasons of unequal durations. Annual rainfall ranges from 1000 to 1600 mm[1].

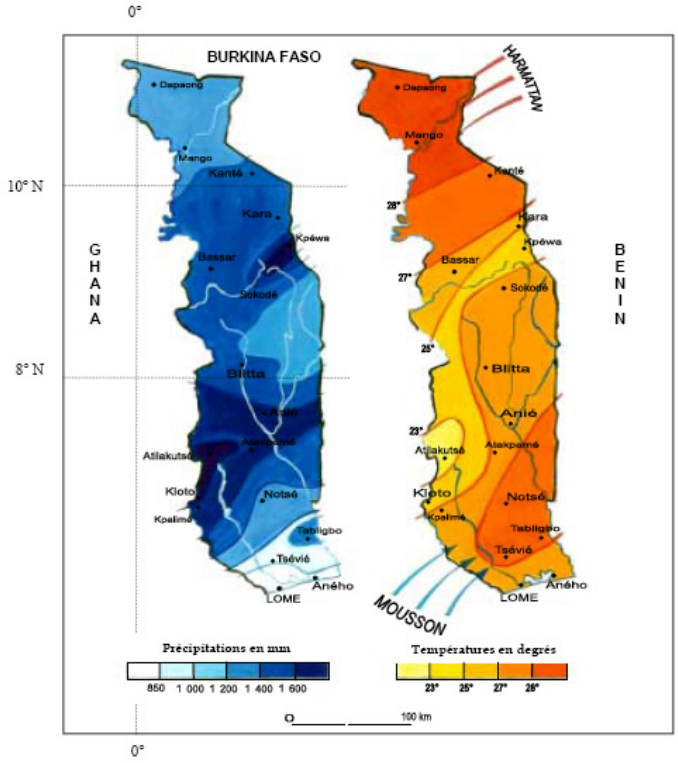


Figure 2: The two maps for climate[2] (precipitation and temperature)

Between the two regimes, there is a transition zone whose ombrothermic curve has a single rainy season with a slight decrease in rainfall in August or September. The average temperature is generally high: up to 28° C in northern areas, 27° C in the coastal zone and between 24[0] and 26° C in the other localities. The average relative humidity is high in the southern areas (73-90%) but low in northern regions (53-67%). The average wind speed is 1.93 m/s and the average duration of insolation is 6h37 minutes per day. The average evapotranspiration can be estimated at approximately 1,540 mm/year[3].

At the watershed level, Togo is divided into three large basins:

- The Oti basin and its tributaries cover about 47.3% of the territory. The high water period is between August and October, and the low water period is from December to June;

- Mono Basin occupies the central third and all of eastern Togo. By area (37.5% of the territory), it is the second basin in the country. There is only one high water period between July and October. The duration of the period without flow varies from 30 days to about 130 days;

- The coastal basin of Lake Togo has three components which Western Component that drains the

[1] Deuxième communication nationale du Togo (2010)
[2] Deuxième communication nationale du Togo (2010)
[3] Deuxième communication nationale du Togo (2010)

waters of Zio, the central component that drains the waters of the South and Haho component formed by the own basin of Lake Togo. The entire coastal basin covers an estimated area of 14.3% with a transitional equatorial regime in connection with the rains: two dry seasons alternating with two rainy seasons.

- The coastal basin of Lake Togo has three components, the western component which drains the waters of the Zio, the central component which drains the waters of the Haho and the southern component formed by the basin of Lake Togo. The whole coastal basin covers an area estimated at 14.3% with a transitional equatorial regime in connection with the rains, of two dry seasons alternating with two rainy seasons.

The National Water Policy (NEP) also reveals that despite a favourable situation in potential availability, Togo suffers from a lack of mobilization of its water resources and is struggling to meet the basic needs of populations, in supplying drinking water and mobilizing these resources for the promotion of a harmonious and coordinated development of the country. It reports also large regional differences in terms of availability and demand of the resource. The distribution of water resources in time and space does not necessarily follow the rules of needs and uses. They are abundant in some areas and sorely lacking in others. Sometimes the most deprived areas represent the most important use areas. Moreover, the problems of availability may be related to quality problems due to salinity, or pollution may arise locally[4].

Concerning flora, Togo has three major categories of natural formations: the dense forest formation (10% of the country), the open and wooded savanna formation (83% of the total area of the country), and riparian formation located in the more or less flooded main river valleys (2% of the total land area).

Togo's vegetation formations are located in a transition zone between the semi-deciduous dense forest and savanna and include:-

a. the Sudano-Guinean forest, degraded and currently mainly located in mountainous areas, especially in the West Plateaux region;
b. the gallery forest bordering the axes of the main drainage watercourse;
c. the dry dense forest or savannah consists of a stand of deciduous species, mainly in the central and north of the country;
d. Savannah southern and central part of the country until the ninth parallel and north of the Togo Mountains in the basins of the Oti and Kara, and in Danyi Plateaux, and Akposso the Akébou; and
e. The shrubby bush is mainly found on the earth bar trays and wet lowland depressions of the Lama.

All formations described above are highly degraded areas with high rural activities. This situation has worsened with the phenomenon of climate change which caused frequent drying up over the past decade in Togo. At the same time, productive savannas decreased at a rate of 6,000 ha/year and fallow increased by more than 22 000 ha/year[5]. The increasing erosion of plant formations including mountain forests is a great concern considering the important role they play in regulating water and rivers and also in the protection of watersheds. The climatic diversity of Togo flows from north to south by a diversity of ecosystems with their characteristic species. These flora and wildlife resource areas include terrestrial ecosystems and aquatic ecosystems[6].

The formations encountered are functions of the physical and geographical conditions, and are generally heavily degraded. The 1994 the National Forestry Action Program (NFAP) of Togo estimated that in 1970, dense forests covered 449,000 hectares, while in 1990 it reduced to 140,000 hectares with a deforestation rate of about 15 000 ha / year.

[4] Rapport final vulnérabilité et adaptation ressources en eau-Projet Troisième Communication Nationale (2014)
[5] Deuxième communication nationale du Togo (2010)
[6] Rapport final étude de vulnérabilité et adaptation au changement climatique –Secteur de l'agriculture, foresterie et affectation des terres- Projet Troisième communication (2015)

Tree cutting is the most devastating human activity that causes the destruction of forests throughout the national territory in general, and especially in the western part of the Plateau and Central Regions. This deforestation results from bushfires, pressure from farmers practicing slash and burn agriculture, timber operators, and wood energy especially for households in rural and urban areas. Indeed, firewood and charcoal are the two main types of fuel mainly used for cooking food. Ninety-four percent (94.4%) of rural households use firewood for cooking, while 75.4% of urban households used mainly charcoal[7].

2. Socio-economic development context

According to the 2010 Togo Census and Housing Report and its updated data, the country's population grew from 6,191,155 in 2010 to 7,121,673 people in 2015, composed of 51.4% women and 48.6% men.

With an average annual growth rate of 2.84%, the population density rose from 110 inhabitants per square kilometre in 2010 to 133 inhabitants per square kilometre in 2015. This population is predominantly rural (> 60%). Young people under 15 years and 25 years counts respectively for 40% and 60% of the total population.

The macroeconomic context is characterized by a Gross Domestic Product (GDP) which rose from 3.7 billion USD in 2010 to 4.5 billion USD in 2014[8].

The rural sector contributes 41.7% of the GDP of Togo and employs more than 40% of the active population. Agricultural production accounts for 70% of the GDP in this sector. Indeed, only 45% of arable land, i.e. 3.4 million ha, is currently exploited[9].The socio-political crisis that the country went through during the past years has deeply affected the performance of the sector. The trends are currently characterized by an average growth in agricultural production of 4.4% between 2002 and 2005 despite an increase in cultivated area of 3.4% over the same period. This reflects lower yields over the period.

The vast majority of the rural population consists of small producers. They are poorly monetized, as reflected in their low productivity and their inability to take advantage of market opportunities (national or international) to increase their income and to access a number of services that could improve their living conditions.

A 2009 study by IFPRI (International Food Policy Research Institute) on agricultural performance in Togo showed that halving the rural poor would require an annual growth of 9.6% in the agricultural sector during a five-year period. This constitutes a major challenge. Between 2005 and 2008, agricultural growth was 3.9% globally, and 4.8% for food production in particular. In 2009 agricultural growth reached a record level of 8.2%. This shows that significant progress can be rapidly achieved when decisive actions are taken. In the various sub-sectors, the following performances were recorded:-

In the crop production subsector, subsistence farming is the main source of poverty reducing growth both nationally and in rural areas for the next decade. Crop production can be divided into:

a. food crops (maize, sorghum, millet, rice, etc.), tubers (yams, cassava, etc.) and legumes (peanuts, beans, etc.), that in recent years have contributed to 66% of the agricultural GDP; and
b. export crops such as cotton, coffee and cocoa, contributing an average of 9% of agricultural

[7] Questionnaire des Indicateurs de Base du Bien-Etre (2011)
[8] Comptes nationaux du Togo 2010 and Word Bank (http://www.worldbank.org/en/country/togo)
[9] Rapport final étude de vulnérabilité et adaptation au changement climatique –Secteur de l'agriculture, foresterie et affectation des terres- Projet Troisième communication (2015)

GDP[10].

While grain is the main staple of the population, the cereal balance was in deficit between 2005 and 2008 with a coverage rate of domestic production between 87% and 97%. Since then, through incentives introduced by the Government as part of the Strategy for the revival of agricultural production (AFS), with notable outcomes including:-

a. fertilizer supply has increased from less than 11 000 tons in 2008 to 30 000 tons in 2010 with the key demand leading to the setting up of 110 stores;
b. food seed production recorded about 400 t in 2008 to more than 533 tons, an increase of 12.9% in twelve years, and 750 tons in 2009 and 2010 respectively, an increase of 33% in two years.

Sustainable Land Management (SLM) gradually restored seed production capacity by rehabilitating the Sotouboua seed farm; structuring of the seed sector; and training seed inspectors.

Among cash crops, cotton has suffered a continuous decline since 2005, going from 173,660 tons to 27,900 tons in 2009. Between 2002 and 2009, production in the coffee and cocoa experienced respective annual growths 39% and 79% to 11,000 tons and 13,200 tons in 2009. In addition to the agro-ecological potential available in the country, the Government has undertaken major restructuring to improve cash crops. There is ongoing restructuring and a coordination unit has been established to restore production potential through the close support to producers[11].

The sub-sector of livestock production has contributed to the agricultural GDP with an average of 13.4% in the last five years. The main species found in Togo are: Cattle, sheep, goats, pigs and poultry (chickens, guinea fowl, turkeys, and ducks). In 2009, livestock number estimates included - cattle (307,500 heads), small ruminants (sheep and goats 1,657,400 and 1,870,000 heads respectively), pigs (308,450 head) and poultry (13,878,000). This shows an annual growth of 3%, 10%, 3% and 39% respectively for the four species.

Despite this growth, meat production does no satisfy the demand. In 2009, meat production was at 49,689 tons for a demand of 70,000 tons, with a shortfall of 20,311 tons (30% of the needs) met by imports from the Sahelian countries, and from Europe. Through the National Agricultural Investment Program and Food Security (PNIASA), the Government aims to cover this demand through domestic production.

Over the last ten years, fish production (mostly artisanal) catered for 3.6%of agricultural GDP. In 2009, the average fish production was 27,025 tons, of which 81% comes from the ocean and 19% from rivers, lagoons and fish farming.

The coverage rate of domestic consumption in fisheries products is less than 50% and is likely to worsen in the future. Given the weakness of maritime resources and overexploitation of lagoon resources, the efforts of the Government, to reduce the deficit, are mainly focused on the development of fish farming and the establishment of adequate mechanisms for the sound management of maritime and continental fishery resources.

Socially, there are many conflicts between farmers and herders in Togo related to transhumance especially after crop harvesting. Generally, livestock comes in from the Sahelian countries (Burkina Faso, Mali, Niger, etc.) and Benin. This creates a set of problems with the local sedentary population. The root causes are that transhumance corridors still exist, but with climate change, livestock inevitably increase the pressure on natural resources, sometimes destroying stored crops. There are, however Transhumance Management Committees that hold regular meetings in the prefectures on this issue.

[10] Rapport final étude de vulnérabilité et adaptation au changement climatique –Secteur de l'agriculture, foresterie et affectation des terres- Projet Troisième communication (2015)
[11] Rapport final étude de vulnérabilité et adaptation au changement climatique –Secteur de l'agriculture, foresterie et affectation des terres- Projet Troisième communication (2015)

In socio-economic terms, despite the implementation of various economic and social policies, Togo's development indicators are far from satisfactory today. Togo is part of the category of Least Developed Countries (LDC) with a per capita income of 360 US dollars in 2005. The Togolese economy traditionally depends on the primary sector. This represents about 40% of GDP and employs over 70% of the workforce. The secondary and tertiary sectors represent approximately 23% and 36% of GDP in 2004. Agricultural production is primarily dependent on weather conditions and is dominated by small farms conducted using rudimentary techniques and tools. Togo has a liberal economy whose exports, focusing on phosphates, cotton, cement, coffee, and cocoa accounted for an annual average of 34% of GDP between 2002 and 2005, a level well below the average of 45% that prevailed in the 1980s. Also, the degradation of economic activities, followed by worsening poverty have ended up showing the limits of the actions of the state to respond effectively to people's needs. In addition, the skills gap also affects the private sector and civil society.

Clearly, human and social development indicators are lacklustre. Indeed, Togo's human development index of 0.495 ranks the country 147th in the world ranking (UNDP Report 2006). Based on data from the survey on well-being indicators (CWIQ, 2006), it was revealed that the incidence of poverty has increased. There percentage of poor households was 56.2% in 2006 (MEF, 2007) compared to 35.3% in 1998 (RNDHD, 2004). The Human Poverty Index (HPI-1) of Togo was 39.2% in 2006, ranking the country 72th in the world out of 102 developing countries (in 2003, the HPI-1 was 38.5%). The various surveys revealed that over 60% of the Togolese population lives below the poverty line. The incidence of poverty is very high in rural areas where three out of four households are poor against two in five in urban areas. The regions most affected by poverty are the Savanna region (90.5%), the Central region (77.7%) and the Kara region (75%). Moreover, poverty is strongly correlated with undernutrition to the extent that 64.2% of the poor population is undernourished[12].

The main determinants of household poverty are, firstly, household size, health status of members and household factors of production and on the other hand, the level of education, occupational status, sex, age and marital status of the head of the household.

The comprehensive strategy for poverty reduction that the Government intends to implement with the participation of all development actors and beneficiary populations, has the ultimate objective of effectively and sustainably improving people's living conditions by addressing main causes of poverty.

To do this, the government's goal is based on four (04) strategic pillars:
a. strengthening governance;
b. the consolidation of the foundations for strong and sustainable growth;
c. human capital development and,
d. reduction of regional imbalances and promoting development at the base.

These different pillars take into account the cross-cutting issues relating to the environment, AIDS, gender and human rights.

In terms of access to basic social services, there is a great disparity to the chagrin of the poor. In terms of access to education, guidance of public subsidies to education is unfavourable to the poor. The poorest 20% receive an equivalent of 5,607 FCFA as educational grant per head, while the richest 20% receive 10,376 FCFA per capita. Similarly, access to public health grants, is unfavourable to the poor. Indeed, the poorest 50% of the Togolese population has only 20% of public subsidies to University Hospital, and 30% of subsidies to hospitals and health centres. In rural areas that concentrate approximately 80% of the poor, access to health care is done through clinics or health centres. Health huts 9 (clinics) do not receive public subsidies.

[12] 12 DSRP-C Togo (2009-2011)

The analysis of the access to electricity in Togo shows that the poor do not have access. Only 11.1% of poor people have access to electricity, against 42.9% of non-poor.

As for access to safe drinking water, the divide between the poor and non-poor is relatively low. About 39% of the poor have access to safe drinking water against 53.5% of non-poor.

Women represent the larger fraction of the Togolese population (51.3%), and nearly 75% of the population in rural areas against only 25% in urban areas. In agriculture, they represent nearly 60% of the agricultural workforce and are present in all phases of agricultural production. They are responsible for 40% of ploughing and weeding; 70% of the harvesting; 80% of seeding; and 90% of agricultural processing and marketing activities. They are present in many other activities, and their role in domestic work predominates over that of men.

Compared to men, Togolese women face higher rates of illiteracy that affects their lives. The majority of women are not educated; the female literacy rate is 55.8% according to provisional data from the 2006 CWIQ survey. They rarely go beyond the primary level and even less the secondary level. This situation disallows women from being informed about all the favourable legal provisions present in the Convention on the Elimination of Discrimination against Women (CEDAW) for instance.

The different legal provisions in favour of gender equity and empowerment of women, demonstrate the Government's desire to promote equality and equity between the two components of society. The sociological factors, ignorance of the existence of these provisions, the lack of a clear appeals process, distrust, resignation, partly explain the non- exercise of rights. In general, beliefs and custom still dominate modern law in some areas and oppose the advancement of women and girls. This is, among others, early marriage; female genital mutilation; and the low-participation of women in decision-making. Added to this are the difficulties in accessing credit, land and inputs; easements ritual marked by the placement of girls in fetishist convents; some mourning rites for the widow; and gender-based violence.

To support and implement the commitments made in the framework of the various agreements, the Government of Togo in 1992 devoted to the principle of gender equality in the Constitution of the 4th Republic. Togo ratified all international instruments that protect the Woman (CEDAW), Convention for the Suppression of the Traffic in Persons and of the Exploitation of the Prostitution of Others, the Protocol to the African Charter on Human Rights and Peoples' Rights (ACHPR) on the Rights of Women). However, there are still obstacles that must be overcome to improve women's status and promote their equal participation in the development process. To this end, initiatives should be undertaken to:-

a. promote education and training of the daughter and wife,
b. improve the health of women,
c. ensuring the economic empowerment of women
d. improve and respect the legal and social status of women,
e. develop and take into account women's work, and
f. strengthen the participation of women in decision making spheres[13].

The extractive industries are mainly on phosphate and clinker. Manufacturing industries include the following industrial units: food, beverages and tobacco, textiles, clothing, wood and wood products, printing, paper, publishing, chemical, and metal products.

The overall objectives of the various sectoral policies implemented in areas related to climate change are as follows:

- In **agriculture**, it is to increase the income of farmers and contributing to improving the living conditions of rural people, in a perspective of sustainable development, with particular attention

[13] (UNDAF) (2007)

to the poorest populations or most vulnerable, including young people and women;

- In the **energy sector**, the general objective of the Government is to meet the energy needs of households and businesses. More specifically, it will effectively manage energy by reducing losses and waste, to establish an institutional and legal framework for development of the sector, to implement a promising alternative sources development plan for the production of energy, taking into account the environmental dimension and to promote the involvement of private operators;

- In the **forestry sector**, the guidelines of the National Forestry Action Plan (NFAP) concern the improvement of forest management and strengthening capacities of ecosystems for efficient carbon sequestration. People are called to create private forest areas, to protect existing forest stands and developing urban forestry, suburban and rural;

- In the **transport sector**, the objectives of the Government's policy focus on improving: road infrastructure; the effectiveness of the sector to support the economic recovery and contribute to economic growth; the competitiveness of Togolese products in domestic and foreign markets by reducing transport costs and a better quality of services and the mobility of goods and people and the reduction of poverty and the implementation of an autonomous and sustainable plan of the area;

- In the area of **health**, the general guidelines of the national policy designed to reform the health system in order to adapt to the new challenges of the health sector in Togo; ensure the adequacy of the health system to the needs of the most vulnerable and the poor; and promote physical, economic and policy favourable to health and advocacy to put health at the centre of economic and social development;

- In the field of **hydrology**, this is to enable all people to have access to drinking water in sufficient quantity and quality. To improve the management efficiency of this sub- sector, the Government will resort to the private sector, either through outright privatization or by privatizing some functions such as marketing;

- In the area of **sanitation**, the Government is aware that proper sanitation requires, among other things, public awareness, proper management of household and industrial waste, improving access to individual sanitation systems for households, the prevention of pollution of any kind;

- In the field of **urban planning and housing**, the Government policy aims to control urban development by facilitating access to housing for the most disadvantaged; capacity building of actors in the subsector; mastery of land issues; and institutional strengthening of the Planning Department and Housing;

- In the **environmental sector**, the Government has developed an environmental policy to promote a comprehensive and rational management of the environment, to improve the environment and living conditions of people in the perspective of economic development and social sustainability.

To do this, the Government intends to implement the following measures: -

a. reducing human pressure on natural resources;
b. the promotion of integrated management of the coastal zone;
c. strengthening of cooperation in regional and international environmental management matters;
d. strengthening national environmental management capacities;
e. prevention and fight against pollution and nuisances; and
f. prevention and management of risks and disasters.

In general, the degree of consideration of the issue of climate change in the policies initiated by the

Government is significant from one sector to another, but generally insufficient.

3. Climate Change and variability in Togo

- **Trends, climate risks and observed impacts**

Studies conducted in Togo in recent years indicate that there is generally a decrease in rainfall and number of days of rain[14]. The Rainfall-Potential evapotranspiration (P/PET)ratio which is the aridity index is also down, reflecting the trend of climate aridity. Temperatures are rising, those for the high temperature period (February, March and April) can exceed 35 °C (Table 1). Climatic data on climate change shows that the major climatic risks between 1961 and 2012 are summarized with paradoxically extreme situations of drought or flood. Thus, those contradictory extremes follow and create complete confusion on the country level communities. Between 1986 and 2012, observing data indicates also an agitated climatic period by the global warming phenomenon (tables 1 and 2). The warming phenomenon is felt differently from south to the north of the country.

However, since 2005, a resumption of rainfall was recorded in some stations. This recovery is reflected in the intensity and amount of rainfall, which would explain the recurrent floods recorded these last years in the country. This rainfall variability is not without consequences on the occupation and evolution of the ground.

Regions	Average T°C 1961-1985	Average T°C 1986-2012	Variations in T°C
Lomé 06° 10' N / 01°15' E	26,8	27,9	0,69
Atakpamé 07°35' N / 01°07 E	25,8	26,8	1,0
Sokodé 08°59'N / 01° 07' E	26,2	26,9	0,69
Mango 10° 22' N / 00° 28' E	27,9	29,1	1,2

Table 1: Warming evolution in various climatic zones in Togo[15]

Regions	Average rains (mm) 1961-1985	Average rains (mm) 1986-2012	Variations (mm)
Lomé 06° 10' N / 01°15' E	876,0	833,0	-43
Atakpamé 07°35' N / 01°07 E	1363,3	1360,0	-3,29
Sokodé 08°59'N / 01° 07' E	1380,7	1299,7	-81
Mango 10° 22' N / 00° 28' E	1085,1	1048,3	-41,8

Table 2: Evolution of precipitations in various climatic zones in Togo[16]

Following the recurring of floods in Togo and consequences recorded on the national economy and on the poorest people, the government set up Disaster Risk Reduction (DRR) as a national priority. This initiative will enable the government to respond appropriately to the risks of disasters, taking into account sustainability in interventions (NADP, 2010)[17].

Tables 1 and 2 above indicate that in the entire country, temperatures are rising and the annual

[14]Adjoussi et al, (2012), Adéwi (2012)
[15] Direction Nationale de la Météorologie, (2013) in (Scénarios climatiques-Troisième communication nationale 2014)
[16] Direction Nationale de la Météorologie, (2013) in (Scénarios climatiques-Troisième communication nationale 2014)
[17] Programme national de suivi de l'environnement au Togo (PNSET, 2012)

rainfall show a general downward trend. The rains are concentrated in a short time and dry periods are experienced hardest with temperature thresholds exceeding all averages.

➢ ***Climate projections and expected impacts***

Changes in annual temperature and precipitation were compared with changes from 1971 to 2000. Scenario studies reveal that climate change will already be perceptible by 2025, both in terms of temperatures and precipitation.

Indeed, there will be a variation in rainfall of 1% in the North from 11° N to -1.5% at Latitude 5 ° N in the south of the country. The Savannah Region will experience a small increase in rainfall, while the other regions (Maritime, Plateau, Central and Kara) will be marked by a decrease (0 to -1.5%). The average annual temperature will have a variation of 0.66 ° C in the South of the country at 0.80° C in the extreme north. On average, high temperatures will be recorded in the Savannah region in April (32.6° C)

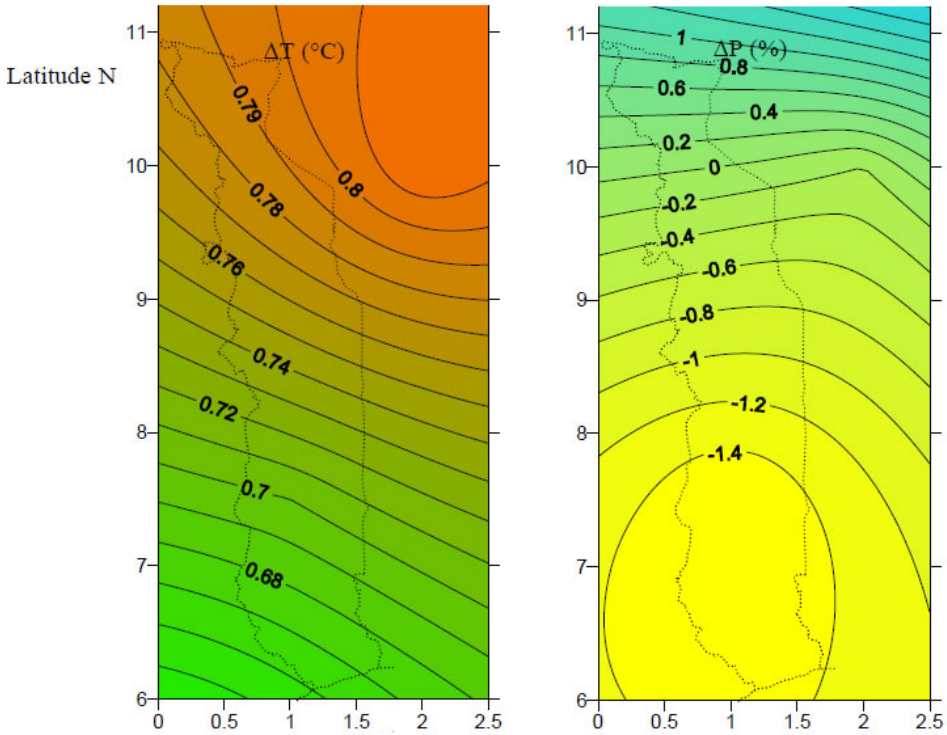


Fig. 3: annual variations of temperature and the rate of precipitation by 2025
(Source: Second National Communication 2011)

Reference scenario

The present time is represented here by the average of the 1986-2005 period atmosphere centred on 1995. The average annual temperatures "**TMean**" range between 21.22° C and 28.62° C with maxima "**TMax**" around 35.22° C in the extreme north and minima "**TMin**" of 16° to the west of the plateau region. The annual rainfall "**Precip**" vary between 850 and 1,715 mm with the lowest values in the maritime region and in the far north of the Savanna region.

Scenarios for 2025 (optimistic assumption RCP2.6)

Depending on the emission scenario defined by the concentration of GHG RCP2.6 trajectory, the highest temperatures will be registered in the extreme northeast with average maximum of almost 36° C. The average temperatures oscillate between 21°C and 29°C in general and the western plateau region is going to experience the lowest temperatures around 17° C on average. Compared to 1995,

the maximum temperature limit will increase by 2%.

Precipitation will change in the range 857-1,722 mm against 850-1,715 mm in the reference scenario.

Scenarios to 2050 (optimistic assumption RCP2.6)
The warming trend is noticeable throughout the country by 2050 with average maximum temperatures between 27° C and 36.24° C.

The change in rainfall is not very high compared to the levels of average precipitation in the baseline scenario. However, a slight increase in overall can be noted.

Scenarios for 2025 (worst case RCP8.5)
The results of the pessimistic scenario for 2025 are below:

27°C < TMax < 36.08°C
22°C < TMean< 29.5°C
17°C < TMin < 24.26°C
858.41 mm <Precip< 1,723.30 mm.

Scenarios to 2050 (worst case RCP8.5)
By 2050 the GHG concentration trajectory worst scenario RCP8.5 temperatures will change as below:

27.8°C < TMax < 37°C
22.8°C < TMean< 30.5°C
17.8°C < TMin < 25°C

Rainfall "**Precip**" are in the range from 862.7 to 1,732 mm.

The scenarios impacts on Agriculture
The IPCC Third Assessment Report of the Expert Group noted a loss of 2% to 4% for agricultural production for West and Central Africa regions. Moreover, studies for category B2 SRES showed that by 2080 the changes in meteorological factors will lead to a loss of agricultural potential. Land area for rainfed agriculture and grain production potential will decline remarkably.

Other risks that can be expected are the risks of erosion and declining agricultural product yields in rainfed areas and reduced crop growth periods. Climate variability, climate change and changes in socioeconomic variables can also have negative impacts on the fisheries and livestock especially the risk of pest invasions.

On the West African regional level, it is recognized that climate change has already led to a desert encroachment of 25-35 km to the South West Africa. Consequently, areas of arid and semi-arid regions will increase by 5% to 8%.

For Togo, the projections show that agricultural produce needs (namely food grains, tubers and legumes and protein) will continue to increase in the country to feed itself in the future. The population is estimated at 5,212,000 inhabitants in 2005, but projections are close to 8 million by 2050, and 17 million by 2100.

Thus the limiting factor for food production is the availability of arable land. The area of arable land is estimated at 2.5 million hectares. The arable lands still suffer from degradation due to the combined effects of human activities and climate change. Indeed, many areas of land have already lost their vegetation cover and exposed to leaching especially on hillsides and mountains of the Atakora chain, and observable laterisation process east of the Plateau Region namely the prefectures of Est-Mono, the Middle Mono and Notsé.

In Togo, degraded lands were estimated at 163,400 ha in 2005. The projections foresee around 4

million hectares of managed ecosystems, including agricultural land, irrigated areas, pastures and forest plantations in 2050. Thus, the achievement of this goal of 4 million hectares of landscaped space is impossible under business-as-usual circumstances. Socio-economic impacts are also numerous. There will be a decline in the contribution of the agriculture sector to Gross Domestic Product due to lack of arable land available after 2050.

According to the evaluation of GCE reports there will also be a decline in food production per capita, a situation that will force the country to depend more on imports for food.

4. Non-climatic vulnerabilities

The main environmental and social constraints are: land degradation, deforestation and biodiversity loss, pollution inputs, including pesticides and social conflicts related to land access. It is especially clear that the access to land by inheritance is difficult for women. Note, however, that apart from pollution by inputs that may be specific to cotton, other problems are common to the entire agricultural sector. The ecological impacts of land degradation are:

a. the increase in the planted area;
b. chemical pollution of water resources;
c. loss of agricultural productivity;
d. changing the flow regime;
e. deterioration of the landscape, and
f. the loss of plant cover and biodiversity. Habitat loss and terrestrial flora in Togo is largely due to forest clearing related to shifting cultivation system practiced by slash and burn farmers.

The sub-sector of plant production still faces a number of constraints, namely a low crop productivity due to –

1. low investment in the sub-sector,
2. the application of marginal technologies caused by the failure the extension system and agricultural advisory support and
3. an insufficiently oriented development research; edaphic and degradation of forest resources due to -
    a. over-exploitation in some areas,
    b. the low use of soil conservation techniques,
    c. the degradation of forest and tree resources, due to the extension of cultivation, overexploitation of firewood and charcoal, and cultural constraints of land for replanting, and
    d. Excessive dependence vis-à-vis a small number of export crops (cotton, coffee, and, marginally, cocoa) which sectors have the other fragilities in organizational terms and sensitivity to world prices.

Problematic

Togo's agriculture is rain-fed agriculture dominated by small producers. Indeed, it mainly depends on climatic conditions vary greatly disrupt agricultural activities. This high variability is characterized often by a late start and an early end to the rainy season compared to the usual crop calendar, the onset of dry spells and poor spatial and temporal distribution of rainfall. This strong climate variability disorients farmers in their usual crop often affecting crops in full vegetative phase and causing losses of significant returns.

The most northern regions (Kara, Savannah) are regularly affected by famine, a consequence of climate anomalies that significantly reduce agricultural production. This demonstrates the relatively high level of vulnerability of the agricultural sector of Togo to the adverse effects of change and climate variability reinforced by vulnerability studies conducted as part of the Second National Communication on Climate Change. Indeed, this study demonstrated only horizons 2025, 2050 and 2100, Togo would record losses of production of its main food crops (maize and rice) respectively 5% to 10% accompanied by huge losses in farm receipts small producers, thus weakening the country's food security. This situation will exacerbate rural poverty and significantly reduce the capacity to withstand climate shocks.

Yet despite, sufficient water resources and a potential irrigable land of about 86000 ha, control of water for irrigation is still in its infancy.

It is for this purpose that this project is an appropriate adaptive response to the strong climate variability through the water control to secure agricultural production activities of the communities. Beyond securing the production, this project intends to promote the diversification of livelihoods, the development of agricultural products and the improvement of local governance for better support adverse effects of change and variability climate[18].

5. Recommended adaptation measures

In connection with the analysis of climate, socioeconomic and environmental scenarios, the following adaptation measures are recommended at national level[19]:

- **Support to the Ministry of Environment and Forest Resources**

Main objectives - Awareness and training of local people on adaptation measures at local level: the development of social cohesion, confidence in oneself and savings opportunities.

- **Food security and agriculture sub-sector**

General objectives for agricultural development and food security:

- increase in crop yields, livestock and fisheries products, all economic regions of the country concerned;
- increase of spaces allocated to agricultural practices, all economic regions of the country concerned; and
- development of the Environmental and Social Management Framework in the implementation of agricultural intensification program.

The measures to adapt to climate change to limit the declines in output and yields of agricultural products

- Support to the Ministry of Agriculture, Livestock and Fisheries (MAEP) in its Agricultural intensification program with food security objectives.

The specific objectives are:

  - Introduction of livestock species adapted to drought,
  - Introduction of crops adapted to drought.
  - Development of water control mechanisms for crop diversification and for self-food sufficiency and activities generating incomes.

All economic regions are concerned but specifically savannah regions and Kara.

6. Project target area

The project will be located in Mandouri, capital Kpendjal prefecture in the Savannah region in Togo. The project area is located in the canton of Mandouri

The project site is located 2 km from the city of Mandouri and consists of 4 parcels of 36 ha each or 144 ha in total.

In general, beneficiaries are made up of the population of the prefecture Kpendjal including that of the Canton of Mandouri, about 155 091 inhabitants of which 80,628 are women.

[18] Rapport final étude de vulnérabilité et adaptation au changement climatique –Secteur de l'agriculture, foresterie et affectation des terres- Projet Troisième communication (2015)

[19] Etudes de la vulnérabilité et de l'adaptation aux changements climatiques – secteur de l'agriculture, Foresterie et affectation des terres (Troisième communication nationale)

Specifically, there are two (02) categories of direct beneficiaries which are:

- 576 farmers or 115 households. Given the average household size of 5 people per household, 2880 people will be directly affected;
- the population of the city of Mandouri (about 5203[20] inhabitants) that will benefit from social measures from the construction of mini water supply consisting of equipped drilling, a mini network, water tower and fountains powered by solar equipment. In addition, the project also includes the construction of three (03) latrines to improve sanitation at the village level.

The population of the Savannah region is estimated at 828 224 inhabitants, representing 13.4% of the total population of Togo. The population density is 96 people / km² and the annual growth rate in this region is 3.18%. The Savannah region is populated by 397,996 men and 430,228 women.

Kpendjal prefecture has a population of 155 091 inhabitants; by residence, the urban population is 5,203 inhabitants (3.35%) against 149 888 (96.65%) and rural population distribution is as follows: Men: 74,463 (48.01%) Women: 80,628 (51.99%). The population of the city of Mandouri is estimated at 5203 inhabitants.

The percentage of households owning land in the Savannah region is about 89.3%. An estimated 82.8% of households are owners of their home. The assessment of the food situation by WFP in 2008 found that the Savannah region was affected with 13.6% of households in severe food insecurity and 28.8% moderately[21] food insecure.

The climate is tropical Sudan type with two contrasting strongly seasons: a 5-month rainy season (May to October) and a dry season during the remaining seven months of the year. The temperatures vary between 17 and 39 °C in the dry season and between 22 and 34 °C during the rainy season.

6.1 Background of the target area of Mandouri

The site of Mandouri is located an area where flooding problems, poor access to drinking water, soil erosion, drought are the major constraints to development. This region also records the highest poverty rate in the country (90.5%) and thus remains highly vulnerable to adverse effects of the change and climate variability.

Indeed, the local economy is mainly based on smallholder agriculture which occupies 96% of the population of Kpendjal and depends on largely very variable weather conditions that are not mastered by producers. Moreover, the mode of production has accommodated a highly climate-sensitive type of subsistence farming and which essentially revolves around the cultivation of rice and corn. This situation, combined with a total lack of diversification of livelihood activities creates the high degree of community vulnerability worsened by lack of mastery of cropping calendar.

In terms of production, 56.4% of active people are women who play an important role and are the driver of agricultural development. Despite this importance in the development of agricultural activities in the community, they are marginalized and have little access to land of good quality, because it is only the men who own land. Young people are unemployed and are often lured into emigration from the rural areas. Particular attention will be paid to these groups in the development and implementation of this AF project.

The targeted beneficiary communities consist of structured smallholder families (women, youth, market gardeners, low-income workers).

The area of intervention is also an area of pastoral activities and ultimate passage of cattle transiting south in search of pasture and water points during the dry season. This is the source of often deadly

[20] Rapport du recensement général de la population et de l'habitat du Togo de 2010

[21] Enquête rapide sur la sécurité alimentaire des ménages dans les régions de la Savanes et de la Kara. Avril 2010[21]

conflicts between farmers and herders.

In this respect, particular attention should be given during the implementation of the projection, the management of conflicts between farmers and pastoralists.

In the project area, people draw their drinking water from rivers, boreholes and individual wells. Rural households have much less access than urban households with drinking water. The populations face two crucial problems:

- In the rainy season, surface water is polluted and exposes populations to waterborne diseases (diarrheal diseases, parasitic diseases, malaria) with very difficult health consequences for vulnerable populations. During floods (e.g. the period of floods in August 2013), the water of the rivers are muddy, but still consumed by people who have the river as the only source of water;
- In the dry season, people and animals lack clean water.

The indicator of access to drinking water in the region of savannas in 2007[22] is 38.4%. The drinking water is a problem in general in the prefecture of Kpendjal with an access rate of 14.1%. This rate of access to safe water is only 6.3% and 6.5% in the municipality and the canton of Mandouri respectively according to data from the Poverty Mapping[23]. Women have generally the responsibility in the household to collect water, which is time consuming and difficult task when they have to carry over long distances heavy buckets or water cans. They undergo consequences on their health, but also on education and income-generating activities. This situation, greatly contributes to their vulnerability to climate change.

6.2 Status of the agricultural sector and irrigation sub-sector

The agricultural sector in Mandouri

Agriculture is dominated by farms ranging from under 1 to over 5 hectares and characterized mainly by food crops. Agricultural employment concerns permanent family workers and paid labour. Solidarity is practiced frequently in the form of work against invitation to share meals, where the person who invite must provide food and drink to those who come to work in his farm. Paid work varies based on effort and equipment used:

- Sharecropping without food equivalent to 500 F or 600 F per day for all agricultural operations;
- Sharecropping with food is charged to 250 F or 350 F per day for all agricultural operations;
- Ploughing and ridging are respectively 10 000 F to 12 000 F per ha per operation.

Agricultural employment in the Prefecture is on average equal to 99.34%. Agricultural production is the main activity of the Prefecture: 96% of jobs and 90% of revenues. There are 30,000 farmers in Togo who exploit 110,000 ha annually. The highest land use is in the north. (+ 80%) sectors of available land are in the south. Women's participation in economic life is marked by work in the farms, processing and marketing of agricultural products.

The main food crops in the project area are: maize, millet (3 months, 6 months of millet), sorghum, rice, cowpeas, and soybeans. Millet of 3 months is used as solder culture. The main cash crops are: cotton and peanuts. It should be noted that in all over the Savannah Region, 28 000 hectares of cotton crops were planned, but 27,139 hectares were completed during the 2011/2012 agricultural year, with an achievement rate of 97%. Vegetable crops are composed of: onions, tomatoes, watermelons, carrots, okra, Guinea sorrel, cabbage, peppers...

Animal traction and use of tractors would allow obtaining significant yields. Unfortunately, agricultural equipment failures and lack of skilled labour for repairs as well as the weather and climate are bottlenecks for agriculture throughout the prefecture Kpendjal.

[22] Direction Générale de l'Eau et de l'Assainissement-2007
[23] Cartographie de la pauvreté, Lomé 2011

Status of the irrigation sub-sector
The irrigation sub-sector in the project area is not operational. The development studies and the exploitation of lowlands launched by the Support Project for Agricultural Development in Togo (PADAT) led to the identification of two types of lowlands.

It is estimated that about 718 hectares developable land in PADAT area are found in the prefecture of Kpendjal. The lowland experiences significant exceptional floods. That is why a type 2 development is needed to allow flood discharge from structures. For the lowland where type1 development is needed, there are no ravines or waterways. These are not rough lands. But their watersheds have significant topography and runoff is not grouped in flows during periods of flooding. In total, 156 lowlands were identified and selected in the Savannah Region to be developed with an area of 2520 ha. These lowlands are located in 129 villages within 24 cantons and 4 prefectures.

Mandouri City is not spared from the flooding caused by torrential rains that fall in the Savannah Region with property damage. Apart from roads and houses, there are thousands of hectares of maize, sorghum and rice which are flooded.

Livestock - Fishing
Kpendjal prefecture is an area where the breeding of animals is traditionally practiced. It has some advantages for the success of animal production:
- Villagers traditionally own cattle;
- Presence of Fulani herdsmen experienced in livestock keeping;
- Areas of low population density where herds can stay in dry season.

However, the following are on the flipside:
- An unfavourable health situation;
- There are areas where population density is very high and therefore causes the migration of cattle;
- The scarcity of water points;
- Insufficient food production to eventually allow food complement.

7. Project Objectives:

7.1 Overall objective:
To develop water management and irrigation technologies that reduces dependence on rainfall for agricultural production

The overall objective of the project is to improve the level of resilience of vulnerable actors in the agricultural sector in Togo, particularly in Mandouri (Savannah Region), by developing water management and irrigation technologies that reduce dependence on rainfall for agricultural production.

The Adaptation Fund project aims at increasing agricultural production while improving conditions and living standards of people in the project area to reduce the vulnerability of producers through the water control for production and promoting crop diversification for food security improvement and development of products for improved incomes.

7.2 Specific objectives:
More specifically, the project aims to:
a. help secure local rice production and reduce the national deficit in rice production by an additional 9,900 tons of paddy rice; and
b. promote, improve and diversify the incomes of beneficiary families.

This will involve:-
a. construction of a water network for the irrigation of 144 hectares of land;

b. a combination of basin and furrow irrigation techniques;
c. improvement of the availability of drinking water for people and;
d. promotion of diversification and valorisation of products to improve the income of beneficiaries' families.

7.3 Expected results

Expected results focus on the following aspects:

a. food self-sufficiency and sustainable land management through better water management for agricultural production is achieved;
b. resilience of producers is raised up by improving their income and promoting new income-generating activities ;
c. new agricultural production techniques are adopted by farmers, breeders and fish farmers ;
d. cooperative structures are boosted ;
e. technicians are trained and population is sensitized to the technical use of surface water for irrigation of crops ;
f. populations and local representatives of the region have a better understanding of climate change impacts and can become involved in the implementation of adaptation measures ;
g. Climate protection practices are prioritised at the local level and mainstreamed into policy development at the local scale systematically.

Project Components and Financing:

Table 4: Project components and financing

Project/Programme Components	Activities	Expected Concrete Outputs	Expected Outcomes	Amount (US$)
1. Improved planning and management of water resources and (agricultural) production	1.1 Develop 144 ha for agricultural production, equipped with a combined basin and furrow system, powered by a solar pumping system 1.2 Improve techniques and means of irrigated production 1.2.1 Acquire communal farm machinery and kits (one 75 hp tractor + 3 discs ploughs + one 10x10 drive sprayer + one sub-soiler with 3 teeth + one trailer + one harvester + one rotavater + one huller) 1.2.2 Train farmers in irrigation techniques and the proper use of agricultural inputs (technical itinerary) 1.2.3 Produce manuals / handbooks on irrigation, expected ecological & health hazards of irrigation and disseminate the knowledge 1.3 Design and implement training programs for actors responsible for the operation, maintenance and repair of equipment acquired for the beneficiaries.	**Output 1**: Construction of basin and furrow irrigation system on 144 ha of land powered by solar power **Output 2**: production yields improved through mechanized means of production and improved agricultural practices by:- - the purchase of equipment (2 vehicles for delivery of products are acquired to facilitate access to market; 4 agricultural production kits are made available to producers) - the training of at least 576 farmers in improved agricultural techniques - the training of 10 to 20 local technicians on driving, installation, repair and maintenance of irrigation and solar equipment	**Outcome**: food self-sufficiency and sustainable management of land through better water management for agricultural production improved	5,000,000
2. Support for the diversification of livelihoods and the improvement of the living conditions of the beneficiaries	2.1 Promote the development of income generating activities 2.1.1 Design and deliver capacity building programs to cooperatives and their members for diversification of income-generating activities (gardening, guinea-fowl rearing, bee-keeping, composting, etc.), the simplified financial management	**Output 1**: Income-generating activities are practiced and products are promoted and sold, i.e. - The surplus cereal production (rice and corn) and garden production (tomatoes, peppers, etc.), are processed for marketing - Credit lines dedicated to financing agricultural and other income generating activities are available	**Outcome**: Increased resilience of producers through the promotion of new income-generating activities, improvement of their income, and improvement of the living conditions of the beneficiary population through:	2,150,000

	and accounting, and the management of cooperative organizations 2.1.2 Establish the infrastructure and equipment needed to develop the values chain of agricultural production, processing, packaging and marketing, i.e. - Build a warehouse(s) - Build drying areas - Acquire corn and tomato mills - Train producers in processing, packaging and marketing techniques - Facilitate access to markets 2.2 Implement simplified funding mechanism for producers (micro-credit) 2.3 Build latrines for sanitation 2.3.1 Build social infrastructures 2.3.2 Build mini drinking water supply (DWS) network	from MFIs. **Output 2**: basic social infrastructure is realized for the beneficiaries. i.e. - Construction of a mini-network of drinking water supply coupled with fountains and 1 borehole equipped + 1 mini network + 1 water tower + 3 fountains + solar pumping system and 3 latrines will be built for the benefit of the beneficiary communities	- Improved availability of potable water for consumption - Improved sanitation of the city of Mandouri - Reduction of water-borne diseases	
3. Capacity building, environmental and social measures, and knowledge management	3.1 Design and deliver capacity-building programs: 3.1.1 Strengthen the technical capacity of local institutions in the prevention and resolution of climate risk issues (bush-fires, resource use and agricultural production conflicts, sustainable management of natural resources) 3.1.2 Organize information, education and communication (IEC) sessions toward local populations on risk management techniques related to climate change 3.1.3 Strengthen the capacity of cooperatives and employees of local institutions in the joint management of water resources and conflict management.	**Output 3.1**: local institutions and communities are more aware and climate change issues are better understood and taken into account in local development policies, i.e. - Capacity building programs are offered - The capacity of members of the Conflict Management Committee in conflict management and awareness strengthened - Mandouri and Kpendjal populations are sensitized on the joint management of water resources - Mandouri and Kpendjal populations are sensitized on conflict management on pasture, crop production-livestock production conflicts, etc. - The environmental and social management plan is implemented	**Outcome**: Improved knowledge of stakeholders (public, local elected officials in the region, officials of local institutions, etc.) for the building of resilience to climate change and the prevention and management of environmental and social risks.	1,317,125

	3.2 Implement measures of the Environmental and Social Management Plan 3.3 Establish a knowledge management system (production, capitalization, vulgarization, etc.)	and beneficiaries are aware and trained on the implementation of the ESMP and environmental monitoring (ecological and human health aspects, management of fertilizers and pesticides, etc.) **Output 2**: lessons learned from projects in progress at the national level are capitalized on and a system to disseminate the knowledge acquired in the project is implemented at the local level, i.e. - A system of information sharing of knowledge related to climate change is implemented - Information, education and communication programs related to climate change and the achievements of the project are developed and delivered to local people.		
Project Execution Cost				**804,380**
Total Project/Program Cost				**9,271,595**
Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)				**728,405**
Amount of financing requested				**10,000,000**

Projected Calendar:

Milestones	Expected Dates
Start of Project/Programme Implementation	December 2017
Mid-term Review (if planned)	July 2019
Project/Programme Closing	October 2021
Terminal Evaluation	July 2021

PART II: PROJECT / PROGRAMME JUSTIFICATION

A. Describe the project components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience. For the case of a programme, show how the combination of individual projects will contribute to the overall increase in resilience.

One of the most imminent threats that currently undermine economic and social development of Africa in general and West Africa in particular is climate change. This phenomenon impacts negatively all developing sectors of countries including agriculture, livestock and fisheries. These effects result in lower yields of crops, livestock and fisheries due to changes in rainfall, long droughts and / or floods, drastic reduction of water resources, reduction of pasture, accentuation of desertification, land degradation, etc.

In Togo, a major concern is the availability of drinking water. Water resources are not always easily accessible and of good quality due to the depth of the aquifers and the process of salinization. Moreover, the favourable situation of surface water is reduced by seasonal and regional variations as well as the filling of streams and their fast drying in the dry season. The balance between withdrawals and contributions that are made for the city of Lomé and the Maritime region is too precarious to ensure the water needs of the region that includes 40% of the population and 90% of the country's industries.

The Togolese economy is traditionally based on agriculture, which occupies a prominent place since it accounted for 35.1% of GDP in 2000 and 38% on average during recent years. It provided more than 20% of export earnings and sustains 2/3 of the workforce. In 2010, the added value of the sector was 394.9 billion remained almost stable compared to 2009. This is mainly due to the decline in food agriculture whose added value passes from 270.9 billion in 2009 to 237.7 billion in 2010, a decrease of 1.2%. This decline is attributed to adverse weather conditions.

The project of raising the level of resilience of the actors vulnerable to climate change of agriculture sector in Togo and more specifically in the area of Mandouri finds its justification by the central role played by agriculture in the national economy (41% of the GDP in 2012) in general and population food security in particular. About 70% of the population depend directly on agriculture. Moreover, at the local level, the vulnerability of the populations is accentuated by the weakness of their capacities; which prevents them from reacting to external shocks.

Indeed, the production activities are characterized by the small size of plots exploited, non- water control for the production and use of rudimentary production tools. The productions are quite low and highly dependent on rainfall variability and revenues generated are insufficient to meet the needs. Furthermore, the low diversification of production activities in the project area causes the growth of population vulnerability level and poses a real problem of food security.

The project is part of an overall objective to reduce constraints of dependence for production activities. Its implementation is consistent with the objectives of the Accelerated Growth Strategy and Employment Promotion (SCAP), the National Strategy for the long-term development based on MDGs and the National Action Plan for Climate Change Adaptation and the policy of agricultural recovery. Indeed, the development of irrigation system will control the water resources to support the economic recovery by increasing agricultural production. This will contribute to improving the food situation (fight against malnutrition and undernourishment), increasing the income of affected communities (poverty reduction) and thus to work for local development by reducing the vulnerability of communities involved in local agriculture.

For the purposes of the project, the site has been donated to the state of Togo by the beneficiaries of Mandouri. A mandate which copy is attached has been established for this purpose.

People mainly practiced rain-fed agriculture (see p18 and 19), whose future remains threatened because of the high variability within and between seasonal rainfall. Indeed, climate change is causing a shift of the rainy season and the crop calendar. The onset of the rainy season has moved from April-May to June or July during some years while the end occurs early (September).

In the northern region of Togo, which includes the area of this project, it has been observed between 1961 and 2012, a rise in temperature average of 1.2 °C and lower rainfall of 41.8 mm. Thus, people have had to change their farming and eating habits: the short-cycle maize (about 2 months) became a dominant culture substituting rice, millet and sorghum.

Other coping strategies consisted of the combination of several agricultural crops (millet maize and cowpeas) in the same plot in order to maximize the chances of harvesting at least one product at the end of the season. None of these strategies in place were robust enough to cope with the impacts of the strong climate variability that continues to be manifested through droughts, floods, higher average temperatures and lower rainfall.

In summary, the project aims to reduce the vulnerability of producers affected by a very high spatial and temporal variability of rainfall, by initiating water control, and diversification of production activities and strengthening of local governance for better management of issues related to climate change.

Thus, the practical adaptation actions will focus on the following activities:

Component 1: Improved planning and management of water resources and (agricultural) production

Expected Outcomes: *Improvement of food self-sufficiency and sustainable management of land through better water management for agricultural production*

The poverty reduction strategy paper indicates that the vulnerability rate is higher in rural areas (87.4%) with the savannah region (where the project site is located) still by far the poorest region of the country with an estimated incidence of poverty of 90%. The vulnerability is exacerbated by their low capacity to external climatic shocks.

Regarding information provided by the 2nd (pages 56-57) and the 3rd (pages 27-39) national communications to UNFCCC, combined with Togo's INDC Report (page 6), the project area is strongly vulnerable to climate change. It's expected that the extreme north-eastern part of Togo where the project area is located (Mandouri), will be affected by the increase of temperature (RCP 2.6: 28.8-29.3°C (2025), 35.6-36°C (2050), 35.6-36.2°C (2075), 35.6-36.2°C (2100);RCP8.5: 35.4-36.0°C (2025), 36.4-37.0°C (2050), 37.6-38.2°C (2075) and 39.0-39.6°C(2100). In the meantime, there will be rainfall upsurges, causing extreme weather and climate events such as floods, which will increase vulnerability of the Mandouri communities and landscape more than ever. In the same perspective, it's projected that agricultural sector will be affected by the loss of incomes, land degradation, loss of biodiversity, the invasion of insects harmful to crops and livestock, loss of wetlands, etc. imperilling once again Mandouri community and landscape resilience. In addition, Togo's INDC Report mentions that, in consideration of current and forecast demographic growth rates, the water supply would be severely affected, with a drop in stocks due to climate change and heavy pollution of drinking water reserves as a result of flooding, etc.

This project will bring adaptation strategies by providing the possibilities to develop and sustain rainfed agriculture by improved water management during the wet season, and diversification of agricultural activities in the dry season (because up to now, no gardening activities were possible during the dry season due to lack of proper water management). The warehouse will allow Mandouri's farmers to store their produce with a threefold advantage: first, access to crops during lean periods; then, keep them in a safe place that respect building standards, away from heat and moisture, and finally, do not discount their produce to get rid of them as in the past; all these issues will

contribute to food security in Mandouri and the country at large.

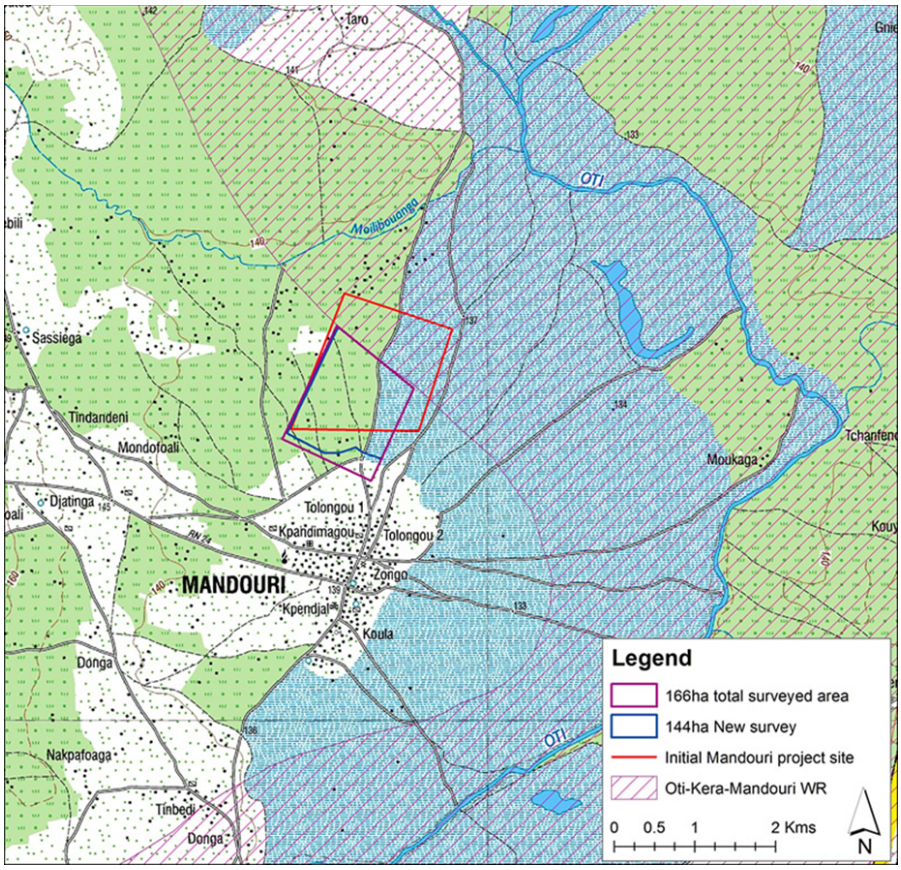
During the consultation process at local level, populations of Mandouri had raised a strong concern related to the difficulties agricultural production is facing in relation to strong climate variability (drought, floods). Water management and control would be a considerable asset to enable people to better manage changes and impacts of climate variability on the production activities.

The system designed for Mandouri will be a combination of basin and furrow irrigation with water delivery to the blocks via UPVC pipes. UPVC pipes are always buried, at a depth of between 1 and 1.2 m.

Expected Concrete Output 1: Construction of the combined basin and furrow irrigation system on 144 hectares of land powered by solar.

In the last survey of the project site (May-June 2017), an ASCENT technical team designed the Mandouri irrigation model. The model delineates a gross area of 106.38 ha with a net irrigation area of 100ha. There is an additional 38 ha potential area for future irrigation expansion. More information is given in separate irrigation design documents.

Map 1: Site survey areas, May-June 2017



The irrigation area is split into 5 blocks: 1, 2, 3, 4 and 5 as shown in **Fig. 4**. Sub-division of the area was based on the following:

- Topography – blocking of areas with similar topographical features;
- Existing drainage system (natural waterways/depressions) – used to form boundary between

blocks;

- Soil types – areas with similar soils grouped together as much as possible;
- Discussions and agreements with farmers' representatives on the boundaries.

Fig. 4: Irrigation blocks

The project site will be divided into a number of irrigation blocks and a combination of the two techniques (basin and furrow) will be used. In basin irrigation, water is applied to levelled surface units (basins) which have complete perimeter dikes to prevent runoff and to allow infiltration after cut off (**Fig. 5**). Basin size is limited by available water stream size, topography, soil factors, and degree of levelling required. Basin may be quite small or as large as 15 ha or so. Level basins simplify water management, since the irrigator need only supply a specified volume of water to the field. Suitable for close growing crops (e.g., paddy), though many other crops can also be grown in basins: e.g., maize, sorghum, trees.

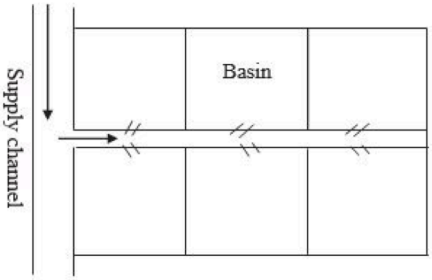


Fig. 5: Basin irrigation

A furrow is a small, evenly spaced, shallow channel installed down or across the slope of the field to be irrigated parallel to row direction (**Fig. 6**). In this method, water is applied to furrows using small discharges to favour water infiltration while advancing down the field. The furrow method is an efficient system if properly managed. For this method, fields must have a mild slope and inflow discharge must be such that advance is not too fast and produce excessive runoff losses, nor too slow to induce excessive infiltration in the upper part of the field. Alternatively, short blocked furrows with manually controlled water applications are practiced by traditional irrigators.

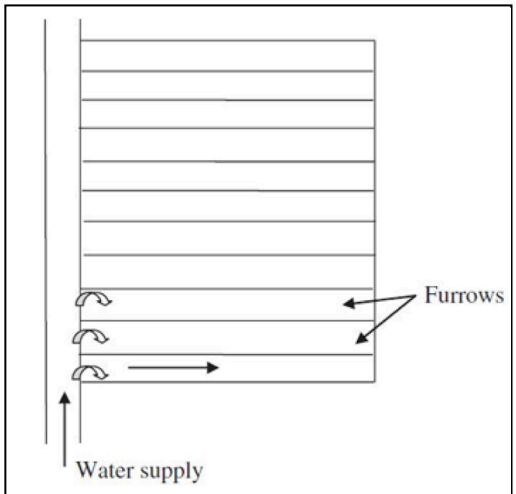


Fig. 6: Furrow irrigation

Furrow irrigation is best used for irrigating widely spaced row crops such as potato, maize, vegetables, and trees.

In implementing the combined basin and furrow irrigation systems, work will focus on:

1. irrigation network construction, drainage networks, trail networks;
2. the acquisition and installation of pumps and accessories;
3. the acquisition and installation of solar equipment, and
4. Additional works will consist of ploughing, clearing, planning and the delimitation of driving axes.

It is planned to install a basin and furrow type of irrigation system that is best suited to the context of the site because of the following considerations:

- rational use of water (reduction of losses through evaporation and infiltration);
- easy to use and require less maintenance.

The installation of the irrigation system will permit not only, rice production but also improve the yields and the practice of market gardening during the dry season. The gardening ultimately contributes to improve the nutritional value of food for populations and will increase and diversify population's incomes and reduce rural exodus. Besides, concerning rice cultivation, several high yielding varieties (average yield 6 t / ha with a potential of 10 t / ha), have been identified for the project site. These include ADNI 11, BG 90-2, the Wassa (IR 32000), irrigated Nerica, and Wat 310, to improve productivity.
NERICA lowland rice (IR 841) has been recommended in the irrigation model for Mandouri.

The main climate risk that could have an impact on these investments is flooding. However, the site dedicated to rice farming is not located in the river bed and the main irrigation facilities will be buried. To avoid this risk, everything will be done, thought and built, taking into consideration the risk of flooding.

Expected Concrete Output 2: production yields improved through mechanized means of production and improved agricultural practices

This will be the acquisition of farm machinery kits (one 75 hp tractor + one 3 discs plough+ one 10x10 drive sprayer + one sub-soiler with 3 teeth + one trailer + one harvester + one rotavator + one huller), 2 vehicles for delivery of products are acquired to facilitate access to market.

In addition, the project will support beneficiaries in selecting rice varieties and other adapted crops to produce. The production support will also focus on supporting producers on agro- pastoral, fisheries and forestry production techniques.

The acquisition of agricultural equipment aimed to improve productivity (better preparation of fields, capacity to cultivate on more land, etc.). Notwithstanding the use of high yielding varieties, and acquisition of farm equipment will also contribute to food security.

The main climate risk that could have an impact on these investments is flooding. To avoid this risk, agricultural equipment will housed on an area outside the flood zone, in consideration of local climatic conditions.

Component 2: Support for the diversification of livelihoods and the improvement of the living conditions of the beneficiaries

Expected Outcomes: Increase of the resilience of producers through the promotion of new income-generating activities, improvement of their income and improvement of the living environment of the beneficiary population

Expected Concrete Output 1: income-generating activities are practiced and the products are promoted and sold

Production activities have been defined by the beneficiaries during field consultations. They include: intensive cultivation of rice and maize in the irrigated area during the rainy season and gardening in dry season. The plant material will consist of selected rice varieties with high yield (average yield 6t/ha with a potential of 10t/ha), such as ADNI 11, BG 90-2, the Wassa (32000 IR), the irrigated Nerica, and Wat 310. For vegetable production, considered as diversification crops, the choice will be focused on the onion, tomato, pepper, with possibility of adding, at small scale, okra, carrot, ademe, cucumbers and cabbage.

Regarding diversification, in addition to gardening, the project will focus on: -
a. Support for the development and diversification of income-generating activities (grinders, guinea fowl rearing, bee-keeping, composting, etc.);
b. Improving access to micro-credit, and
c. The development of value chain and access to market.

The project will support fishing activities through the construction of the fish ponds, a drying area and assistance for fish production techniques. Fishing is practiced as a livelihood activity and drying is used as a method of preservation.
For agroforestry, the project will set up nursery stores.

Retained production options will allow farmers to ensure their living and generate income through the selling of products. This is also the focus of this project, namely: -
a. Improve food security of beneficiary populations, and
b. Promote, improve and diversify the sources of incomes of beneficiary families.

This component aims to strengthen the livelihoods of beneficiaries through the development of market gardening and poultry. Furthermore, the project will support the beneficiaries for conservation (storage rooms and drying structures i.e. two (2) warehouses and two (2) drying areas will be built); and also processing and marketing of market garden crops.

The construction of warehouses will offer people the following possibilities:-
a. The storage of their produce all year in a safe place;
b. Access and availability of surplus production that can cover food needs during the dry season, and
c. The selling of part of agricultural surpluses throughout the year in order to diversify incomes. Delivery vehicles will also be made available to producers to improve the transportation of goods to markets.

The main climate risk that could have an impact on these investments is flooding. To avoid this risk, the warehouse will be built out of a flood zone and will respect the climate norms in terms of orientation, airflow, and moisture.

Concerning the transformation and conservation, NGOs at the local level may be involved in strengthening community capacity and organizing them for better control of production activities.

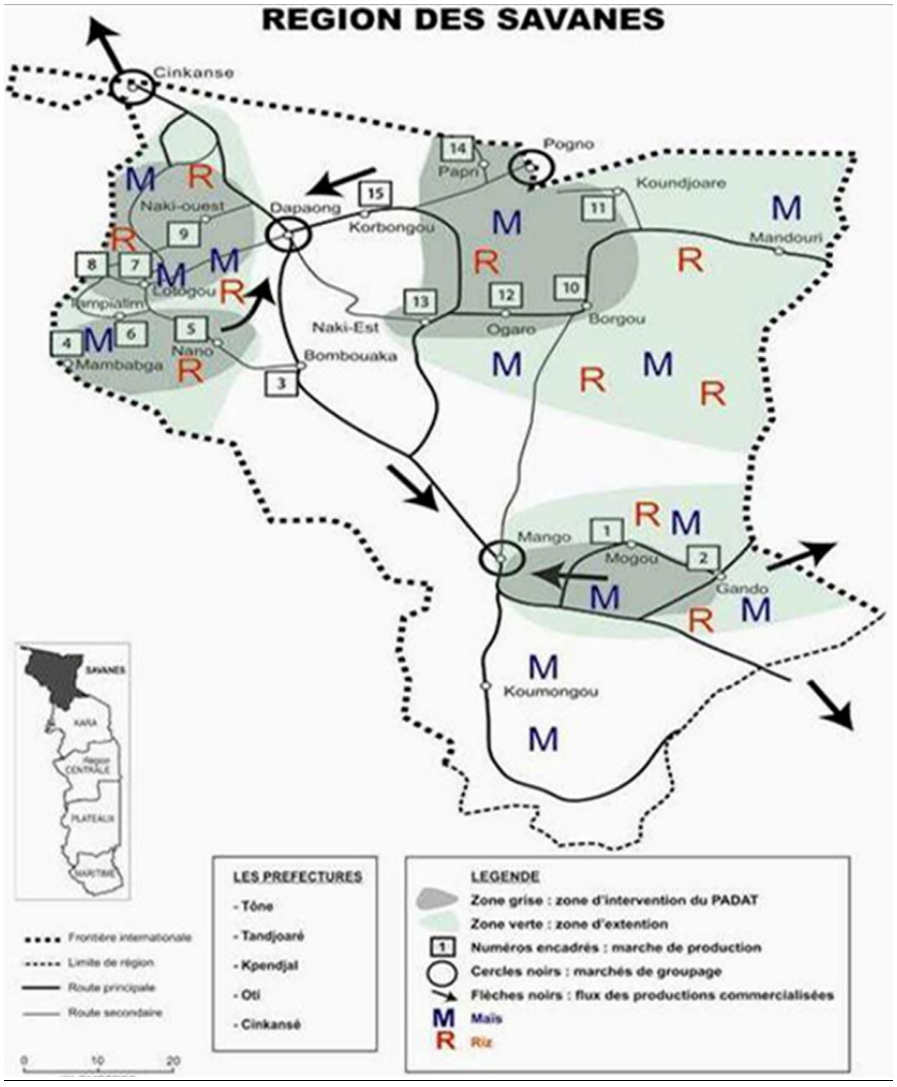
For marketing, the project will ensure strengthening the capacities of the populations on the information required for decision making and advantageously allow better interaction with the different actors of the chain for mutual benefit. Farmers will be trained in market investigation to ensure a balance between availability and demand of the local and national market. They will learn to recognize, understand and implement the components of the supply chain. They will also understand how to connect with consumers. At this level, production and knowledge management will be important. The project will identify all stakeholders in a participatory evaluation process of the market needs and identifying specific solutions.

The markets targeted by the project are:-

a. The Mandouri prefecture market (the biggest market in the prefecture),
b. the secondary cantonal markets, and
c. The Dapaong regional market that is accessible through the National Highway 24 under construction.

To date, it takes about 1 hour and 30 minutes to connect Mandouri to Dapaong. The finishing of the National Road is planned in 1 year and should improve access to markets, but at the moment all these localities are accessible through tracks. Farmers can access the different weekly markets of Mandouri (Thursday), Dapaong (Wednesday and Saturday), Koundjoaré (Tuesday) and Bagre (Monday).

Map 2: Production flows of goods sold in the Savannah region



Expected Concrete Output 2: Strengthening financial management of cooperatives and beneficiaries; maintenance of engineering equipment

This will involve strengthening the capacity of beneficiary communities regarding:-

a. Financial and simplified accounting management;
b. Cooperative organization; and
c. Training of local technicians in the installation and repair of irrigation and solar equipment.

The institutions with the skills to train farmers in various areas include:

- Institut de Conseiletd'Appui Technique (ICAT): with a mission to contribute to the support to the rural world. It works in the promotion of rural areas, through the dissemination of appropriate crop management and support for the structuring of professional organizations.

- The Centre d'AnimationRurale of Tambimong-Ogaro (CARTO): dynamic in the region, provides training and resettlement of young farm couples in their original environment. This centre has an accommodation capacity of 24 couples per year. The training is mainly focused on soil conservation techniques, improved fertility, animal traction, and peasant organization.

- The NGO Recherche Appui et Formation aux Initiatives d'Auto-développement (RAFIA): works in empowering grassroots organizations and increase their self-development; capitalized and support community development initiatives; form for capacity building at the grassroots; capitalize on and disseminate the experience gained in self-development; promoting community relations in economic and social self-development; support basic initiatives aimed at the protection and sustainable management of the environment; promote all income-generating activities for vulnerable populations, including young people and women.

- The Centre de Formation Rurale of Tami (CFRT): provides training to young rural couples to allow these families to improve their living conditions, and to achieve food self-sufficiency. It works for agricultural training, learning animal traction, the use of selected seeds and natural fertilizers, breeding, gardening. It also trains on literacy, mathematical ability, hygiene, childcare, sewing, knitting, cooking recipes.

- Coordination Togolaise des Organisations paysanneset de Producteurs Agricoles (CTOP): works in promoting and constantly defending the value of a professional agriculture, competitive, dynamic and sustainable for family farmers' farms. To do this, it undertook in particular to develop and implement rural information education and communication policy, support for the development of concerted and aggressive strategies of business development, supports its members in accessing and using new information and communication technologies (ICT), negotiate and link its members with banking institutions and decentralized financing, organization of seminars and thematic workshops training, conferences, etc., organizing debates and conferences on media.

- NGO IT-Village has a professional technical training school called Centre Bonita. This Centre trains young people on among other things, modern carpentry, masonry modern, beekeeping, agroforestry, business management accounting.

The target groups which will be trained and sensitized include:
- Agricultural producers including farmers' cooperatives;
- Associations of women and youth;
- Mandouri community;
- The mixed farmer- herders groups; and
- Decentralized technical services such as the prefectural Agriculture service, Livestock service and Fisheries service, the prefectural service for management of the environment and forest resources

Training kits, a communication strategy with a communication plan will be developed. These documents will define the main target groups, essential and specific messages and target group the training profile.

In order to facilitate access to inputs, a micro-credit scheme will be implemented. It will cover a funding of about USD 116,000 to be placed in micro-credit institutions in favour of producers, for the financing of agricultural activities and other income generating activities.

To date, the three microfinance institutions operating in the project area include:-
- Union des Caisses Mutuelles d'Epargne et de Crédit des Savanes (U-CMECS) ;

- Coopérative d'Epargne et de Crédit Mandouri (COOPEC MANDOURI) affiliated to FUCEC-TOGO Network ;
- Coopérative d'Epargne et de Crédit pour le Soutien aux Initiatives des Femmes pour l'Autopromotion (COOPEC SIFA) ; and
- Fonds National de la Finance Inclusive (FNFI).

The project will not create a microcredit institution. The objective is to facilitate access to credit for producers. To this end, the project will build on the most successful microcredit institutions in the project area. According to the socioeconomic study and consultations with people and the Togolese part, farmers face difficulties in ensuring a sustainable procurement of agricultural inputs mainly because of the cost of credit. Indeed, due to the impacts of climate change on production and yields, crops productions are no longer sufficient to supply food for consumption and selling. This causes delays in reimbursement or unpaid credit. In addition, the project area was remote, making it difficult to access markets for the selling of products.

As support, the project proposes to select the successful microcredit institutions with support from the Ministry for the Economy and Finance for the establishment of a more accessible financing system. The thoughts have focused on the establishment of a bonus system or guaranteed loans to farmers including the land users of the site and the product processing cooperatives.

In order to ensure the sustainability of the project, it is envisaged a loan bonus system that is aimed to reassign AF resources to selected institutions (for this purpose a loan contract at subsidized rate will be signed between the State and these microfinance institutions) to reduce credit interest rates. This will also help sustain the resources that will be restored gradually as repayments contrary to a guarantee fund, which could run out in the short and medium term.

For better loan repayment, there will be a capacity building of credit institutions for the management and monitoring of loans, and recipients (women's cooperatives, farmers, poultry, etc.). For recipients, the capacity building program will emphasize the mechanism and the need for ownership of a simplified financial management and value chain.

These funds will allow agricultural inputs supply and product processing. The construction of the Mandouri-Dapaong road will facilitate access to the regional markets.

Women's access to microcredits will be strengthened to improve their market gardening production and product processing. The access terms to credit for all beneficiaries (male, female and young) will be determined fairly with financial institutions to be selected, the Togolese authorities and beneficiaries and will take into account the AF gender policy.

Expected Concrete Output 2: basic social infrastructures are realized for the beneficiaries

The most common diseases in the project area are: malaria, waterborne diseases (diarrhoea and dysentery), respiratory diseases, meningitis, onchocerciasis or river blindness. Among the top ten causes of disease, malaria is a heavy burden with 12,145 cases, or 25%, followed by IRA 8,474 cases (17.1%), intestinal parasites 8.93%, STI (3.28%) with most often cases encountered at the Mandouri Hospital (360 STI cases). The frequent causes of hospitalization are: malaria 37.77%, snakebite (26, 25%) and infectious diseases (13.75%). The main causes of death are related to infectious diseases (50%), abdominal syndromes (16.6%) and severe malaria (16.6%). Concerning health facilities, latrines and modern water point, the situation needs improvement.

The drilling of a well for water consumption and latrines should improve the sanitary conditions of the beneficiary population. It is planned within the framework of the project, social measures will be implemented consisting of the construction of mini water supply composed of equipped borehole, a mini water network, water tower and fountains, powered by solar energy. In addition, the project also includes the construction of three (3) latrines to improve sanitation at the village level. These

investments will be accompanied by the sensitization of beneficiaries on the water management and sanitation, in order to minimize the health risks related to the spread of certain diseases related to water and food (malaria, cholera, etc.).

The irrigation system will certainly involve the use of pesticides; however, such agricultural inputs are subject to certification by the National Certification Committee, which takes into consideration the environmental standards. The Committee relies on national chemicals management programs such as the National Profile on Chemicals Management adopted and revised in 2013 and the national implementation plan of the Strategic Approach for International Chemical Products Management (SAICM) developed in 2015. Farmers will be trained on the optimal use of chemicals through strict adherence to spreading standards of each product.

The project has planned to support fishing activities through the construction of fishponds, a drying area and assistance for fish production techniques. Fishing is practiced as a livelihood activity and drying is used as a method of conservation. For agroforestry, the project will set up nursery stores.

Component 3: Capacity building, environmental and social measures and knowledge management

Expected Outcome: Improved knowledge of stakeholders (public, local elected officials in the region, officials of local institutions, etc.) for the building of the resilience to climate change and the prevention and management of environmental and social risks

Expected concrete output 1: local institutions and communities are more aware and climate change issues are better understood and taken into account in local development policies

The capacities of the different actors and stakeholders will be strengthened in order to move "from climate risk to resilience". It has been proven that, risk reduction can be a substantial contribution to adaptation to climate change. Therefore, **capacity building will be provided on risk assessment, risk reduction, vulnerability assessment, and adaptation technologies**.

In addition, this component will also focus on strengthening the technical, organizational and environmental actors regarding:
a. Environmental skills;
b. Joint management of water resources and conflict management, and
c. Environmental monitoring.

Regarding the environmental and social measures, the activities envisaged are:
1. Implementation of environmental measures prescribed in the Environmental and Social Management Plan (ESMP),
2. **Development of Risk Assessment and management plans**,
3. Implementation of the Resettlement Action Plan
4. Establishment of a restoration plan for the production zones
5. Establishment of the Stakeholder Engagement Plan to strengthen ownership of the project;
6. Establishment of the Grievance Resolution Plan in order to resolve any conflicts that might impair the operation of the project;
7. Implementation of an Integrated Pollution (from phyto-sanitary inputs) Prevention and Management plan.

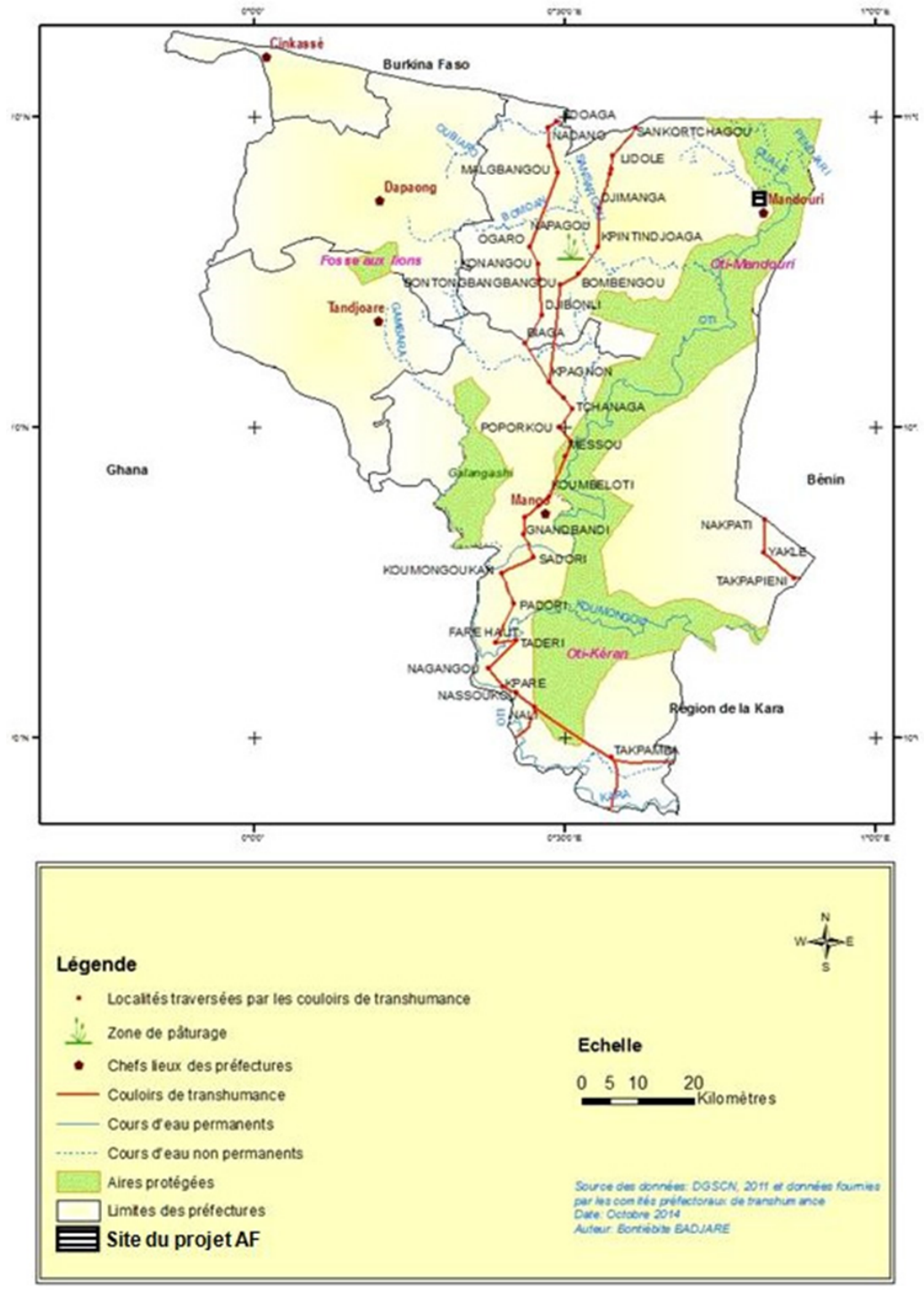
Conflicts between farmers and herders that were recorded in the Savannah area are those related to transhumance. To overcome these problems, Togo has developed a new map that defines transhumance corridors, reception areas and grazing areas (see Map 3).

The transhumance management is ensured by a national committee. The committee's work is done by a regional committee and at the prefecture level by a prefectural committee. Thus, the

committee of the Kpendjal prefecture is chaired by the Prefect and includes several actors including herders and farmers.

Transhumance corridors that have been clearly defined by the Togolese authorities in accordance with Regulation No. 0072007/cm/UEMOA related to the security of plants, animals and food in the UEMOA which Article 75 deals with cross-border transhumance states that "Member States implement the necessary procedures and actions to facilitate the movement of transhumance animals and, in particular, adopt international transhumance certificate of ECOWAS" published by the Council of Ministers of UEMOA dated April 6, 2007.

Map 3: Trans-humance corridors



Note that according to the map of transhumance corridors of the Savannah region, the project site is located far from the corridors. However, there are in the area of the project, conflicts from wandering animals in farming period. These conflicts are managed through consultation between farmers and herders. Strengthening the methods of storage of agricultural by-products for animal feeding will interest farmers in the project and prevent conflicts.

In any case, the project will rely on NGOs involved in the community, the local authorities and the experience of the existing committees in charge of settling disputes at the local level, to raise awareness. Moreover, the focus will be on boosting frameworks for dialogue between the various stakeholders and the project will assist in tracing and securing grazing areas to prevent and manage the risks associated with conflicts.

Follow up missions were conducted in January 2017 and May 2017 to the Project site. The former comprised of BOAD, government and EA representatives, while the latter consisted of government and EA technical team representatives. This was another opportunity for project developers to espouse on the success factors of the project, including the involvement and ownership of the project by all stakeholders. The project beneficiaries were actively engaged in both visits, including during the site-specific survey of the irrigation blocks in the latter visit.

Expected concrete output 2: lessons learned from projects in progress at national level are capitalized and a system to disseminate the knowledge acquired in the project is implemented at the local level

This will involve establishing synergies between the project and existing projects at the national level including:

- PGCIT project partially funded by the GEF5 regarding the operationalization of the early warning system;
- ADAPT GEF and IFAD, which aims to reduce the impact of climate change on rural vulnerable groups, as well as the natural resources essential to sustain agricultural production and increase food security.

Good agricultural practices that are adopted will be disseminated through training / awareness sessions, spots broadcast in local radio and documentary films. Information on the project will be produced and disseminated among the authorities, technical and financial partners and beneficiaries.

Moreover, a local database will be created for the collection and processing, preservation and dissemination of data sheets, educational tools and other training materials for their replication.

B. Describe how the project provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project / programme will avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

Economic benefits:
The current climate variability, particularly in rainfall patterns, with reduced precipitation in some years, or offset them against the crop calendar, cause a decrease in rice production, generating episodes of famine.

Rice cultivation is still the main source of food for the people of the area Mandouri, whose surplus production also serve as main source of income. The project will secure the supply of water in rice production in order to free it from dependence on increasingly changes in frequent rainfall / rainfall. It will also –

a. Increase the area currently under cultivation,
b. Diversify agricultural production through the development of market garden production especially in the dry season, and
c. Strengthen small livestock producers.

Accompanying people in their agricultural way will also improve yields and reduce input requirements. Securing rice production and increasing yields, and the diversification of agricultural production, will not only ensure food security but also generate income, reducing food shortages and enabling the poorest to have access to a food and minimum income.

Generally, in the prefecture of Kpendjal, animal traction and use of tractors has improved production through larger areas sowed. With regard to Mandouri, implantation area of the project, there is to date only one tractor for 50 ha in ZAAP perimeter. The project will contribute to the mechanization of agricultural production in Mandouri throughout the year as a result of the irrigation system, improve production to ensure better food security and selling of products (raw and processed), that would allow the generation and diversification of income.

The project will also diversify and increase revenue through the supports that will be made to improve farming.

Indirectly increased production will generate more activities and transactions that will have a beneficial effect on local employment, especially for young labour in the rice fields and women in market gardening production and trade. Support will be provided to encourage micro-credit that will benefit women's groups.

This project will also enable:

a. A more complete utilization of biomass with the use of agricultural residues (rice stalks, residues of market gardeners) mainly for cattle feed. This system will improve pastoral production (meat, milk) and contribute to the improvement of people's living conditions;
b. Improvement of inputs. : The development of livestock will enable the production of organic fertilizer which will enter in the soil amendment The use of organic manure will cause a decrease in the use of chemical fertilizers, thus lower production costs to the producer and the conversation of soil carbon;
c. Local firewood production: the introduction of trees and shrubs in plots contribute to meeting the food needs of the people first and also to meet the demand for fuel wood and timber used by local populations. This has the advantage of contributing to the conservation and preservation of heritage and wood existing biodiversity.
d. The introduction of an agricultural system in equilibrium with its environment. This system will bring local people to develop an economy based on the respect of environmental balances that enable them to sustainably produce at lower cost, while preserving natural resources for future

generations.

Social advantages:
The implementation of the project will enable the development of socio-economic activities in which young people will benefit (labour), the achievement of food self-sufficiency reducing food purchases, contributing to the improved health coverage (construction of health infrastructure), improving access to drinking water (repairing water towers), and strengthening women's economic capacity.

Women in the prefecture of Kpendjal constitute an important workforce. The majority of women are active in the agricultural sector where they are present at all phases of production. The Women Leaders Network's actions for Disaster Risk Reduction (DRR) are very visible in Mandouri. It may be noted to their credit, reforestation of 400 feet Palmyra in the prefecture. However, many barriers limit the active and effective participation of women in local development processes.

The implementation of Mandouri AF project will take into account the gender aspect by assigning a quota of developed plots to women and / or women's associations. The additional revenue generated by this project AF may be invested in the education of children.

A gender inequalities study is included in the project preparation phase and has identified the inequalities in term of land access, land ownership, labour, etc., and will mainstream the gender equity and women's empowerment issues in the project.

The new irrigation system will save time that can be reinvested to develop other economic activities, and increase the added value of agricultural production through primary processing such as husking rice.

Environmental benefits:
On the environmental level, the project will:-

- Improve the conservation of the ecosystem through the implementation of reforestation actions including planting trees to act as windbreaks area and hedgerows, and also the planting of multi-purpose trees than can yield wood for construction, fuelwood, fodder, and even fruits.
- Improve water management by reducing evaporation losses and making possible the availability of water in the dry season). The irrigation system will consist of buried pipelines that will take water to the irrigation blocks. This system saves water that could be lost through evaporation and will be built to withstand floods.
- Improve soil quality through the establishment of Soil Defence and Restoration works, to generally improve the productive potential in the project site.
- The use of organic fertilizers and biological pesticides will contribute to reducing the use of chemical fertilizers, and also in reducing water, soil and ecosystem pollution. The use of organic manure and biological pesticides also contribute to improving the quality of food products (organic products.

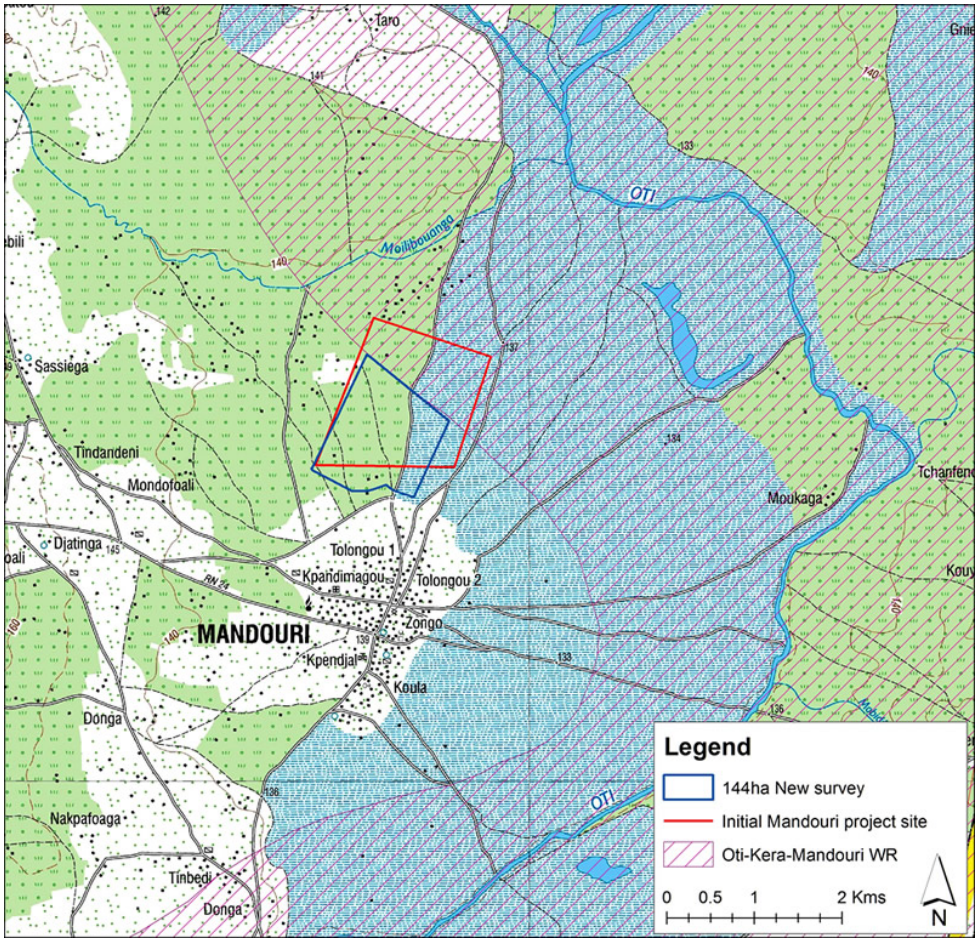
Regarding biodiversity conservation, the development of the Mandouri agrosylvopastoral perimeter will encourage populations move out of parts of the Mandouri-Oti-Keran Wildlife Reserve that they have entered in recent years. The development of this area will not generate additional deforestation because the right-of-way of the project was already exploited by the producers of the ZAPP project.

Regarding the conservation of biodiversity, the project will strengthen the efforts of the government and its technical and financial partners. Indeed, one of the major causes of the invasion of protected areas by local residents is the search for fertile land. This is a consequence of the extensive practice of slash and burn agriculture.

The project will be organized so farmers can concentrate farms on the same perimeter. This will prevent uncontrolled expansion of cultivated areas. Thus, the project falls within the framework of the development of accompanying actions of local populations of protected areas through the

development of land and improved cultivation techniques resilient to climate change. This is a complementary project to the "projet de Renforcement du rôle de conservation du système national d'aires protégées in Togo" (PARFT) funded by GEF, UNDP, UEMOA, FAO and the Government of Togo. The project site will not encroach on the new boundaries of the Oti-Kera-Mandouri complex as indicated in the Map 1 of the project site location out of the reserve.

Water will be transported in a pipeline from the River Oti uptake point through the nature reserve. This intake does not affect the conservation of the wildlife area. Care will be taken to minimize effects on biodiversity as per the ESMP requirements.



Map 3: Project site location

Reduction in the consumption of fossil fuels

In terms of CO_2 balance and the type of technology used, the use of solar panels for the pumping station will prevent the emission of greenhouse gases from a fossil fuel run generator(s). Besides pollution due to accidental spillage is limited to a very small extent in the construction and decommissioning project stages.

The designed power requirement for the irrigation project is 110 kW – 150 HP, to drive a pump of 600 m^3/hr with a total head of 40 meters. The PV power generation will require 848 260w solar panels.

Fuel (diesel) consumption estimates for a 100 kW generator /motor at full load is 7.4 gallons/hr[24] (28.012 litre/hr).

Assuming a 6 hour operation per day, fuel use is estimated at 28.012 x 6 = 168.072 litres/day or 5,042.16 litres/month. Pumping will be done for at least 6 months in the dry season, with an estimated fuel consumption of 30,252.96 litres of diesel.

The project by reducing fossil fuel consumption reduces GHG emissions resulting from their combustion in diesel motor pumps. Considering that the burning of a litre of diesel emits 2.68 Kg of CO_2[25] into the atmosphere, the project, through the 30,252.96 litres of fuel not consumed, would have reduced emissions by about 81 tons of CO_2 in one year. Additionally, these avoided emissions may be traded on the carbon market during the course of the project's operational life.

[24] 1 gallon = 3.78541 litres

[25] Independent Statistics & Analysis. US Energy Information Administration. https://www.eia.gov/~tools/faqs/faq.php?id=307&t=11

C. Describe or provide an analysis of the cost-effectiveness of the proposed project

The adaptation measures prescribed in the projected, are selected to mitigate the impacts of climate change and increase the resilience of the agriculture sector in Mandouri, Northern Togo. Changes in the weather conditions leading to more frequent extreme events such as floods and droughts and their costs and financial implications are taken into account. The project aims to diminish and in some cases avoid such costs.

Climate change affects negatively the yields in agriculture and crop patterns, as can be seen in the region due to unpredictable water resources. According to the documents available for Togo, mainly the third National Communication (2015) to the UNFCCC[26], the NAPA[27] and the 2015 INDC[28], changes in temperature and precipitation are expected to reduce yields and disturb crops.

Table 5: Project cost-effectiveness

Existing climate threats	Activities designed to mitigate threats
Decreased precipitation, disruption of the rainy season and the crop calendar. Indeed, the start of the rainy season has moved from April-May to June or July, while the end occurs early (September).	• Mobilization of water to compensate the water deficit in the crop cycle via irrigation. • Development of agricultural area (Mandouri perimeter) to help farmers increase their productivity. • Diversification i.e. increased crop production in the dry season, value addition and income generating activities (IGAs)
Drinking water shortage especially in the dry season.	• Provision for a mini water supply system through boreholes and a mini water network in the project.
Between 1961 and 2012, a rise in average temperature of 1.2 ° C and lower rainfall of 41.8 mm have been observed for the northern part of Togo	• Creation of nurseries of multi-purpose tree species (fruit, food, fodder etc.) to encourage reforestation based on trees species adapted to new climatic conditions • Irrigation technology (basin and furrow) to enable crop production in the dry season • Dry season farming through irrigation will result in diversified crop production, and potentially create more jobs for women and the youth.
Risk of flooding due to the increase in the intensity of rainfall	• Buried pipes in the basin and furrow irrigation system to withstand flooding

The mode of irrigation adopted is justified by the need to rationalize the use of water. The combined basin and furrow system significantly reduces losses by seepage and evaporation, compared to the open channel system which exhibits relatively large losses. Compared to other solutions (sprinklers, drips), the latter in spite of their real benefits in saving water, require more expensive equipment and a higher level of maintenance.

The Adaptation Fund investment will cover 144 ha of land, introducing sustainable adaptive practices in agriculture and natural resources management. This will include water and land management. In addition, interventions will also include policy improvements with the integration of climate change related considerations and training materials, which will indirectly benefit the entire savannah region. The resources from the Adaptation Fund will be mainly allocated to field activities, by promoting the

[26] http://unfccc.int/resource/docs/natc/tgonc3.pdf
[27] http://unfccc.int/resource/docs/napa/tgo01f.pdf
[28] http://www4.unfccc.int/submissions/INDC/Published%20Documents/Togo/1/INDC%20Togo_english%20~ version.pdf

adoption and replication of best practices by the local communities of Mandouri and its vicinities. The interventions will strengthen the experience of the country, in terms of adaptation and environmental policy, for a scaling-up at the national level. It is planned that the activities will mainly benefit the local communities of Mandouri. This priority given to the final beneficiaries should enable an optimal cost effectiveness of the project. The table below summarizes these social and economic benefits.

Table 6: Social and economic benefits

Social benefits	Economic benefits
576 farmers will be benefiting from plots managed with adaptive methods	144 ha will be developed using sustainable adaptive techniques for water management and irrigation, and improved production techniques will be introduced such as short cycle seeds, high production varieties, etc.
Rural communities will be trained and better organized around income-generating activities including diversified crop production in the dry season, value addition to produce, etc.	The communities will benefit from demonstration centres both technically but also economically, as they will consider various income-generating activities such as shops to sell products with high added value.
Participation of the civil society, through the involvement of NGOs, including women's groups already mentioned above will increase the attractiveness of the region, together with consultations of stakeholders in the decision making process related to climate change, and to the reduction of land degradation and information and awareness activities.	Microfinance activities will enable people to invest in agricultural production techniques related to the changing climatic context of the region.
Stakeholders will be formed to monitor, promote and develop the integration of climate change in agriculture. The population will not find themselves as "abandoned" (considering that Mandouri is an extremely isolated site)	In the long term, food security will be improved following the implementation of adaptation practices. This will come from increased production in the agriculture sector (e.g. by introducing innovations such as high yielding / drought resistant crops).
576 farmers will be benefiting from plots managed with adaptive methods	144 ha will be developed using sustainable adaptive techniques for water management and irrigation, and improved production techniques will be introduced such as short cycle seeds
Rural communities will be trained and better organized around income-generating activities	The communities will benefit from demonstration centres both technically and also economically, as they will consider various income-generating activities such as shops to sell products with high added value. With availability of solar energy, value addition to agricultural produce can be taken to the next level for instance to run a communal bakery, tomato pulp/paste making installations, etc.
Participation of the civil society, through the involvement of NGOs, including women's groups already mentioned above will increase the attractiveness of the region, together with consultations of stakeholders in the decision making process related to climate change, and to the reduction degradation land, and information and awareness activities	Microfinance activities will enable people to invest in agricultural production techniques related to the changing climatic context of the region. Agricultural production will be possible in the dry season, presenting job opportunities for women and youth who raised concerns on the lack of opportunities for almost half of each year due to drought.

Social benefits	Economic benefits
Stakeholders will be formed to monitor, promote and develop the integration of climate change in agriculture. The population will not find themselves as "abandoned" (considering that Mandouri is an extremely isolated site)	In the long term, food security will be improved following the release of adaptation practices. This will come from increased production in the agriculture sector (e.g. by introducing innovations such as early maturation / crops resistant to drought)

The water control was proposed because it best meets the concerns of the people of Mandouri who can no longer control their cropping calendar due to recurring floods and droughts that affect all production activities. The proposed method will enable them to secure production activities by storing and redistributing water even in times of floods or droughts.

During the project design process, studies have been conducted to establish the baseline. This has better demonstrated the benefits and cost-effectiveness of the project as well as adaptation measures recommended. The irrigation project will be powered by solar power. During the rainy season, there is plenty of water. While at the same time the solar component generates power. This power can be channelled to other uses like a planned communal bakery form the project, as well as other income generating activities like preparation of tomato pulp (value addition). In the drier season, irrigation will be practised for cultivation of vegetables and other crops. This not only complements the diets in the project area, but it is also a source of income from the sale of the agricultural produce.

D. Describe how the project is consistent with national or sub-national sustainable development strategies, including, where appropriate, national adaptation plan (NAP), national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist.

This project fully reflects the priority measures identified by the Togolese Republic in its NAPA and Strategy for Accelerated Growth and Employment Promotion (SCAPE) 2013- 2017, and contributes to the development and success of the country as to the achievement of key objectives of the new program for sustainable development, following the MDGs.

The national action plan for adapting to climate change has identified agriculture as one of the priority areas that need to implement urgent adaptation measures. Among the recommended measures include:

- The adaptation of agricultural production systems in three regions including the savannah region in the implementation of cultivation techniques integrating climate change and improving the agro-meteorological information;
- Development of small irrigation in lowland areas for groups of existing gardener of Central, Kara and Savannah likely to slow down the rural exodus.

This measure will:

a. improve the living conditions of vulnerable communities in Central, Kara and savannah (area of the project area) with the development of vegetable crops against- season through increased food availability during the lean season;
b. increase the income of producers,
c. develop against-season crops and
d. strengthen the capacities of producers.

According to PANA, adaptation measures developed by local people in the savannah region to cope with climate change are:

- Crops association;
- Adapting cropping calendars;
- Varieties resistant to drought;
- Introduction of improved breeds;
- Storage of agricultural by-products for animal feed;
- Colonization and exploitation of lowlands;
- Change in eating habits;
- Movement of populations in search of good land;
- Implementation of erosion control devices.

Agriculture, the main livelihood activity and one of the driving forces of Togo's economy, is a top priority for the government which, through the national agricultural development policy of Togo (PNDAT) 2013-2022 and national Program for Investment and Agriculture for Food Security (PNIASA), was involved in a number of programs, such as:

- Promotion of efficient varieties resistant to climate change;
- Strengthening the management of integrated soil fertility;
- Mapping and establishment of zones and transhumance corridors;
- Construction and / or improvement of reservoirs for micro-irrigation and watering livestock in rural areas in all regions;
- Support mapping of vulnerable areas to climate change;
- Support for the dissemination of good agro-ecological practices;
- Promotion of rice production systems with very low water consumption and low greenhouse gas emissions (ISR: rice intensification system).

In addition, the Government of Togo has demonstrated its commitment to integrating environmental considerations in its public policy of economic development. This politic is illustrated, among others, in the National Environmental Action Plan (NEAP); the National Environmental Management Program (NEMP); the National Strategy for Sustainable Development (December 2011); National Capacity Building for Environmental Management Strategy (October 2008); the National Strategy for Disaster Risk Reduction in Togo (December 2009); the National Medium-Term Priorities Framework (NMTPF) for Togo (2010-2015) and the National Action Plan for the management of coastal and marine environmental resources.

Therefore, the main environmental issues are integrated into the Accelerated Growth Strategy and promotion of employment as a development framework for filling the General Policy Statement of Togo (DPG) based on the MDGs, and finally with the ODD.

E. Describe how the project meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.

Togolese national standards will be applied to the project. Those standards are the ones concerning the obligation to ESIA, infrastructure construction standards, the water code, including those concerning the use and sharing of water in the case of joint management of the resource for irrigation, agricultural development guidelines, standards on the protection of biodiversity, the master plans of the territory and those of local authorities will be considered to ensure consistency with the proposed hydro-agricultural development.

In addition, projects entering the BOAD's portfolio are analysed to ensure not only their compliance with national standards, but also with BOAD's environmental and social safeguards standards, which are aligned with international standards (World Bank Environmental and social safeguards policies and the IFC Performance Standards). BOAD also operates the ESIA's quality control before allowing projects to continue through the internal project cycle.

The ESIA for this project was carried out in accordance with:

a. Decree No. 2006-058 / PR establishing the list of work, activities and planning documents submitted to the environmental impact study and the main rules of this study;
b. Order No. 013 / MERF regulating the procedure, methodology and content of environmental impact studies; and
c. Order No. 018 / MERF laying down the terms and procedures for informing and consulting the public in the environmental and social impact study process.

This present project Adaptation Fund will be carried out in accordance with the following:

- For water, environment, forestry: the water code (Act No. 2010-004 with Water Code), the Environmental Code (Act No. 2008-005 of 30 May 2008 with Framework Law on Environment) and the forestry Code of Togo. (Act No. 2008-009 of 19 June 2008 on the Forest Code);
- For spatial planning: Law No. 2007-011 of 13 March 2007 on decentralization and local freedom, Order No. 12 of 6 February 1974 on agricultural land reform ;
- For working conditions: Act No. 2006-010 of 13 December 2006 on the Labour Code.

F. Describe if there is duplication of project with other funding sources, if any.

The project does not overlap with or support activities that are already supported with other funding sources. Furthermore, the project will complement, build on and learn from a number of ongoing projects, where opportunities for mutual exchanges or synergies exist. These initiatives already existing or under implementation include:

- Project to support agricultural development in Togo (PADAT) co-financed by BOAD; the Agricultural productivity Program in West Africa - Togo project (WAAPP - Togo);
- the Project to support the agricultural sector (PASA); and
- the initiatives planned for agricultural Development Zones (ZAPP).

Furthermore, the project activities will be in synergy with those of the regional project for the promotion of smart agriculture in West Africa promoted by BOAD and the ECOWAS, as regards the mastery of good agricultural practices, and collection and use of weather data.

The project will support the population through the establishment of plant nurseries for the development of fruit trees. In this context, the project will build on the Women Leaders Network for Disaster and Risk Reduction for the implementation and management of this component. It should be noted that the issue of the provision of fruit plants is a request of the population.

Table 7: Projects with similar interventions

Project	Objective	Components	Possible Synergies
Project to Support Agricultural Development in Togo-PADAT (2011-2016)	• To contribute to the improvement of food security and incomes of small farmers through the improvement of production and productivity of the targeted farms rice, maize and cassava as well as through the promotion and marketing targeted agricultural production.	• supporting production and productivity • promotion of products • adaptation of agricultural production to climate change	• adaptation to climate change component; • Integrated soil fertility management component; • development of lowlands and watersheds; • establishment of storage and marketing infrastructure; • diversification (market gardening, small livestock and fish farming) • Environmental Protection; • management of pastoral areas for transhumance operation(water points, reception area, • transhumance corridor);
Planned areas for agricultural development (ZAPP)	• Occupation of land all year • Avoid pressure on the forest during the dry season • Exceeding 6 tons / hectare production of rice often obtained from the site, ZAAP Mandouri	• Development and Support for the production and processing	• Partnership with products that enhance the forest
Project to support the agricultural sector (PASA)	• Rehabilitate and strengthen the productive capacities of targeted *beneficiaries in selected sectors • Promote an institutional environment suitable to the development of the agricultural sector in Togo.	• Promotion of strategic food crops, export crops and inland fish production • Revival of the livestock sub-sector • Support for capacity building and sectoral coordination	• diversification (cash crop, livestock, fish); • institutional and actors capacity building; • Environmental Protection development and • dissemination of technologies resistant to climate change

Project	Objective	Components	Possible Synergies
Agricultural Productivity Program in West Africa – Togo Project (PPAAO - Togo)	• Generate, adapt and disseminate a range of improved sustainable production technologies of the main plant products (corn, rice, sorghum, cassava, yam, cowpea, groundnut, tomato, pineapple, cashew) and animals (poultry, small ruminants and swine); • Improve the efficiency and performance of agricultural research by strengthening agricultural research institutions capacity in technical, administrative, financial and planning field; • Enhance the efficiency, performance and sustainability of agricultural extension services to make them more operational.	• Promotion of conditions for sub regional cooperation in the creation, dissemination and adoption of agricultural technologies • Strengthening adaptive technology transfer and research capacity. • Support for demand-driven technology Support for demand driven technology generation, dissemination and adoption, via the priority-based funding agricultural research and advisory services in the participating countries, and complementing the activities of the core program	• dissemination of the system of rice intensification(SRI);
Project for the strengthening of the role of conservation of the national system of protected areas in Togo (PARFT)	• Strengthen the management of the system of protected areas of Togo in order to improve its contribution to the conservation of biodiversity by applying effective approaches for the rehabilitation and management of AP.	• Improvement of the framework of action, legal and institutional framework of the field of AP covering approximately 578.000 hectares; • To promote the effective management of the complex of AP OKM (with 179.000 ha in area of protected areas) to counter the threats that the poaching, the lights not controlled and grazing pose on biodiversity.	• Sustainable management of protected areas
Hydro-agricultural development projects • PARTAM • PBVM • PDPRK • PDRPD • PDRI-Mô • PATA - OTI	• Increase agricultural production; • Contribute to improving incomes and living conditions of the beneficiary populations.	• Study, monitoring and • control and overall project supervision Rehabilitation works and areas development • Support to Agricultural Production Environmental measures and support • Awareness, organization, training and support	• irrigated land; • Rice; • Management development; • organization of producers, • microcredit
Project of hydro-agricultural development - PATA-OTI	• Increase agricultural production, including rice and contribute to the improvement of incomes and living conditions of the beneficiary populations.	• Development and rehabilitation of the perimeters • Support to agricultural production (rice) • Construction of rural tracks • Awareness, extension and training	• Agricultural Sector / vegetable production and fishing
Draft hydro in agriculture in the lower valley of the River Mono (PBVM)	• Contribute to the improvement of the food security and to the reduction of the poverty of rural	• Amenities in the perimeters and related equipment • Monitoring and control of	Agricultural Sector/vegetable productions: cereals (rice, maize), legumes (peanut, cowpea) and vegetables

Project	Objective	Components	Possible Synergies
	populations through the increase of agricultural production of food crops, particularly rice	the work • Support to the development and commercialization	
Project for the development of rice production in the Kara (PDPR-K)	• Increase the income of producers in the rice sector and reduce the level of imports through the improvement of the self-supply the national market	• Strengthening the organizational capacity of the producers of the chain • Hydro-agricultural • Support to the development of sites • Marketing and valuation of products	Rice
Integrated Rural Development Project (IRDP) of the plain of mô	• Contribute to the reduction of poverty through the improvement of access to basic social services and in agricultural incomes in the conditions of sustainable development, with particular attention to the disadvantaged.	• Structuring of village organizations • Sustainable development of agriculture • Strengthening of infrastructure	Agriculture, Livestock, transport, education, health, environment, crafts, water, AGR, sanitation,
Program of Rural and Agricultural Development (ProDRA)	• Ensure the establishment of pilot models for the agro-food carriers, micro-rural enterprises and promote sustainable production systems	• Promotion of Carrier Sectors • Promotion of small and medium-sized enterprises as well as capacity building of attendants • Promotion of the production of biomass and of agroforestry • Support-council in the regulatory framework and in the planning	Support to agricultural production -Training, Awareness, and extension
Presentation of the draft rural development of the plain of the ITO, Zone 4 and Zone 5 (PDRO-4)	• To intensify agricultural production mainly rice, diversify the speculation, while improving access to basic social services;	• Development of irrigated agricultural lands • Support to agricultural production • Training, Awareness, and extension	Rural infrastructure and agriculture
Development of the plain of Djagblé	• Intensify the culture of rice and the achievement of related works with a view to contribute to the creation of wealth	• Development of Agricultural Land • Support to agricultural production • Training, Awareness, and extension	Rural infrastructure and agriculture
Project for the development and rehabilitation of agricultural land in the area of Mission Tové (PARTAM)	• Increase agricultural production, including rice and contribute to the improvement of incomes and living conditions of the beneficiary populations.	• Development and rehabilitation of the perimeters; -support to agricultural production • Awareness, extension and training	Agricultural Sector / vegetable production and fishing
National project for the promotion of rural entrepreneurship and medium (PNPER)	• Diversify and strengthen the instruments for the development of the rural entrepreneurship;	• Facilitation of access to non-financial services • Facilitation of access to	Rural Entrepreneurship upstream and downstream of the carrier sectors

Project	Objective	Components	Possible Synergies
	• Improve the supply of quality services in training, support Council, intermediation by NGOS, private firms and the public structures; • Increase the production of quality goods and services by the members	financial services	
Draft Education and Technical and Vocational Training (Agricultural EFTPA)	• Ensure the anchor of a sustainable system of qualification and training of farmers in the PNIASA.	• Improved the skills of stakeholders for the development of a policy EFTPA. • The capitalization and dissemination of good practices in the field of agricultural training in Togo • Development of Priority Reforms EFTPA in cooperation with relevant public institutions, the private sector and the OPA.	Entrepreneurial training and agriculture
Project for the integrated management of disasters and land (PGICT)	• Strengthen the institutional capacity of the targeted institutions to manage the risk of flooding and land degradation in rural and urban areas targeted. • Extend the sustainable land management (GDT) in the targeted landscapes and in areas vulnerable climatically of Togo	• Restoring the natural channels of the water flow by dredging rivers • Bank stabilization by reforestation with Rhizophora and bamboo; • Channelling of waters of rain by the construction of gutters in areas vulnerable to flooding • Promotion of good practices of sustainable management for the improvement of agricultural yields thus allowing to recover the degraded land or uncultivated • Securing the vegetation cover existing on the promotion of community forestry with improvement of governance, the valorisation of forests by the development of beekeeping, and ecotourism • Extension the vegetative cover on the bare land by the reforestation of the flanks of the mountains, banks, rural land etc. • The promotion of improved homes	• Sustainable management of the land • Sustainable management of forests • Disaster Risk Reduction

Mandouri project's micro-credit facility

As mentioned in **Part II: Component 2**, a micro-credit scheme will be implemented in the Mandouri project to the tune of USD 116,000 in order to facilitate access to inputs for agricultural and income generating activities. These funds will be placed in micro-credit institutions.

To date, the three microfinance institutions are operating in the project area. These include:-
- Union des Caisses Mutuelles d'Epargne et de Crédit des Savanes (U-CMECS);
- Coopérative d'Epargne et de Crédit Mandouri (COOPEC MANDOURI) affiliated to FUCEC-TOGO Network;
- Coopérative d'Epargne et de Crédit pour le Soutien aux Initiatives des Femmes pour l'Autopromotion (COOPEC SIFA), and
- Fonds National de la Finance Inclusive (FNFI).

From discussions with community members at the project site, issues raised concerning micro-credit included –
- High interest rates of up to 18%.
- Loans given too little i.e. FCFA 30,000 or approximately USD 50.

A key weakness of most micro-credit institutions is the fact that many cooperatives for instance are promoted by outsiders, and are overly dependent on government or donor support[29]. Other weaknesses of microfinance institutions (MFIs) include the fact that microfinance is not is not financially sustainable for the MFIs, especially those that also want to serve the very poor. Microfinance is also potentially harmful to women's well-being as domestic abuse may result from husbands' jealousies of their wives' new financial power[30].

The Mandouri micro-credit scheme thus will have to be different to be sustainable and make meaningful impact for the local communities. It will have the following embodied tenets -

- A "Strategy for self-sustainability" will be included with development a collective asset base. To become sustainable, the identified partner MFIs should identify more members and form clusterization groups whereby they can identify dynamic markets and commercialize in a close and open circle all their produces.

- Development of capacity for business analysis and risk taking, through training of both MFIs/cooperatives and the targeted community members

- Avoid being isolated in its / their business operations mostly in their communities, by getting resourceful (useful) contacts and networks beyond their community. This will expand their resource base especially in terms of human and social capital, in turn expanding the scope of ventures and ability of the MFI/cooperatives progressing in a sustainable manner.

- Work hard to have certification of their products. This means, be more engaged in GAP (Good Agricultural Practices), therein they will be able to conquer internal and external markets.

[29] Enabling rural cooperatives and producer organizations to thrive as sustainable business Enterprises Collection of contributions received. Discussion No. 82 from 12 July to 3 August 2012
http://www.fao.org/fsnforum/sites/default/files/file/82_cooperatives/PROCEEDINGS_82_Rural_cooperatives.pdf
[30] Microfinance in Africa. Overview and Suggestions for Action by Stakeholders. UN office of the Special Adviser on Africa. February 2013. http://www.un.org/en/africa/osaa/pdf/pubs/2013microfinanceinafrica.pdf

G. If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.

The project idea is based on building community capacity regarding climate risks analysis and climate change impacts, integration into local and national policies and cultural practices in order to improve people's means of livelihoods. Thus, the component 1 of the project includes a subcomponent dedicated to the establishment of "Knowledge Management and Learning" system in the project.

This will concretely consist of -

a. Assessing the existing knowledge,
b. Collecting all the sheets and training modules for all capacity building activities carried out under the project for dissemination, in order to replicate them throughout the region;
c. Dissemination of knowledge on project activities through, workshops, scientific for a, etc. and
d. Establishment of a computerized system for the collection and management of meteorological information.

A map index with simplified financial management and crop techniques adapted to climatic shocks will be made available to agricultural cooperatives for duplication of good management practices and crop techniques with water control.

The project will organize study trips for the benefit of farmers, in areas with the same problems of vulnerability and the area of direct intervention of the ongoing projects in Togo including PADAT project, to understand the strategies that have been developed there in order to replicate them.

This will allow interactions and experience exchanges between Mandouri's farmers and other farmers. In addition, BOAD as RIE will, through the executing entities and NGO in charge of capacity building, report all activities and educational tools in order to ensure that the community will benefit and use day to day lessons learnt and other knowledge coming from the project.

Furthermore, BOAD will conduct a final evaluation of all projects six months after the end of the project in order to draw lessons learned on the project. The conclusions of this evaluation are disseminated at the country level and projects and lessons are systematically taken into account in the following projects:

ASCENT periodically conducts retrospective evaluation of projects to measure their performance and their impact on the beneficiary communities. This assessment is validated at the end of a workshop of information sharing with beneficiaries; the findings are disseminated to all stakeholders and on various websites.

The knowledge acquired in the project will be posted on the MERF, BOAD and ASCENT's websites.

H. Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with particular reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

Stakeholders were consulted during the development phase of the project feasibility study. The meeting minutes show the presence of key stakeholders in discussions on the project design. The project feasibility phase allowed the stakeholders and direct beneficiaries to express their views. There is a consensus on the usefulness of the project, not only on the part of beneficiaries whose livelihoods will no longer depend on weather conditions, but also from institutional who see the consistency of the project with national development that have targeted this area, until recently recluse, as part of local development priorities.

In accordance with BOAD, projects cycle instruction, a team of experts in the areas of adaptation, environmental and social and Rural Engineering conducted a field visit and was able to confirm that there was not social blockage or technical constraints that could question the feasibility of the project.

The BOAD evaluation team put a lot of emphasis during site visits, in meeting women groups, to ensure that their views had been taken into consideration during the stakeholder consultation phase of the feasibility study.

The main consultations were held as follows:

- For the project feasibility phase, consultations were held at the regional, prefectural and village levels. They have included environmental data collection (impact and environmental measures) and discussions with beneficiaries. Three (3) public consultations have been undertake to date. They included -
    - Individual interviews with officials of the Ministries of Environment and Forestry Resources (Regional Director, Director and Head of Post Prefectural Forest);the Ministry of Agriculture and its specialized departments (Regional Director, Director and Head of Prefectural CITA);Projects and Programs teams; NGOs and associations working in the project area; and key informants from diverse backgrounds. These interviews focused on the project components.
- For the ESIA Phase: The talks focused on the organizational framework of the implementation of the identified development and environmental measures planned in the Environmental and Social Management Plan. These consultations were also held at the regional, prefectural and villagers.
- Village public workshops were held for each village involved in the project. These workshops brought together: -
    a. the managers of local technical services (agricultural representative, representative ICAT, DP Farmer, Chief ranger station),
    b. the district chief and his secretary,
    c. members of the Village Development Committee,
    d. farmer groups and women representatives.
- Discussions with local populations focused on project activities; the positive and negative impacts of the project; and mitigation measures.

During each of the consultative sessions, an attendance list was prepared and these are attached as **Annex 2**.

I. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

Regarding information provided by the 2nd (pages 56-57) and the 3rd (pages 27-39) national communications to UNFCCC, combined with Togo's INDC Report (page 6), the project area is strongly vulnerable to climate change. It's expected that the extreme north-eastern of Togo where the project area is located (Mandouri), will be affected by the increase of temperature (RCP 2.6: 28.8-29.3°C (2025), 35.6-36°C (2050), 35.6-36.2°C (2075), 35.6-36.2°C (2100); RCP8.5: 35.4-36.0°C (2025), 36.4-37.0°C (2050), 37.6-38.2°C (2075) and 39.0-39.6°C (2100). In the meantime, rainfall is likely upsurge, causing extreme weather and climate events such as floods, etc. that will increase vulnerability of Mandouri community and landscape more than ever. In the same perspective, it's projected that agricultural sector will be affected by the loss of incomes, land degradation, loss of biodiversity, the invasion of insects harmful to crops and livestock, loss of wetlands, etc. jeopardizing once again Mandouri community and landscape resilience. That's why, this project will improve adaptation strategies by providing the possibilities to develop and sustain rainfed agriculture by water control during the wet season, diversification (because up to now, no gardening activities were possible during the dry season due to lack of water control). The warehouse will allow Mandouri's farmers to store their crops with a threefold advantage: first, access to crops during lean periods; then, keep them in a safe place that respect building standards, away from heat and moisture, and finally, do not discount their crops as in the past; all these issues will contribute to food security concern in Mandouri.

The project plans to go deeper in vulnerability issues with appropriate tools at the beginning and realize a baseline study for better quantifying vulnerability assessment of project site.

Component 1: Improved planning and management of water resources and production (without the project):

In general, the levels of productivity and crop yields are low, for both food crops and cash crops. They vary from 1 to 2 tons / ha for cereals; from 0.5 to 1 ton / ha for pea family crops and about 10 ton / ha for tubers (yam and cassava). These yields are less than 50% of the levels achievable in optimal culture conditions. The result is a low level of value of production per hectare, which is between 330,000 and 440,000 FCFA / ha. The best value gross returns per hectare are crops of yam about 1.8 million FCFA / ha. Production has increased substantially with the extension of cultivated areas and much less with improved yields[31].

ABIP (Agri-Business Information Point) at constant prices per agricultural worker in 2014 is 315,378 FCFA substantially equal to the GDP per capita (326,689 FCFA[32]).

The years 2007 and 2008 were particularly marked by the disastrous floods with social and economic consequences for the country: it was noted the loss of human lives, the massive destruction of roads, residential houses and fields. These phenomena, formerly located in the Maritime Regions (Gulf, Zio Lakes) and Savannah (Kpendjal) have become widespread in recent years across the country. However, the two above-mentioned areas remain the major risk areas and vulnerable.

At the prefecture of Kpendjal Mandouri which is the County Headquarter, irrigated agriculture in the project area remains to be developed. In addition, agricultural production is still characterized by low levels of agricultural mechanization and malfunctioning of some equipment and the effect of weather conditions. The planning studies and development of lowlands launched by the Support Project for Agricultural Development in Togo (PADAT) led to the identification of several sites whose construction has not yet been realized.

In September 2007, the drama endured by the populations of prefectures Kpendjal to Tône and Oti,

[31] Ecowap+10, 2015
[32] Chiffres du comité de PIB

caused the death of 20 people and caused several wounded, 24,000 displaced people, destroyed 22,129 boxes, 111 broken bridges and culverts, smashed or swept away. Also 46 educational institutions (schools and colleges) were damaged or destroyed, 3 clinics were closed. In 2007, the number of flood victims throughout the national territory was estimated at more than 231,147 (flood report in February 2008).

Situation with the project: The project will enable people to adapt to Climate Change by improving the access and the control of water for the production, with total water control throughout the year. In addition, the project will provide to the beneficiaries agricultural equipment and assistance for the adoption of good agricultural practices for improving rice yields, expected to reach 6 to 10 tonne/ha. For this purpose, synergies will be created, including the regional project, to promote smart agriculture promoted by BOAD and some ongoing projects in Togo especially ADAPT.

Component 2: Support to the diversification of livelihoods

Baseline: To date, the crop calendar in the project area is completely dependent on rainfall. Moreover, the remoteness of the area imped the correct flow of goods and the lack of infrastructure for storage, force producers to sell at a loss. Their production obtained during good rainy seasons. On the top of that it should be noted that the supply of input is not ensured due to the fault rate of payment and the debt ratio of the population. For these reasons the population has very limited access to micro agricultural credit.

Situation with the project: with better management of water resources, crops can be diversified and can be produced throughout the year. This will ensure the producers' food security, through better means of subsistence. Through innovative funding mechanisms such as microfinance activities oriented towards new farming techniques, new seed varieties, access to micro-credit will be facilitated to ensure a sustainable supply of inputs and yields will be improved. The strengthening of capacities planned in Component 3 sensitizes beneficiaries on how to use these credits funds and the necessity to reimburse them. For this purpose, simplified financial management training will be provided.

Component 3: Institutional support, capacity building and knowledge management

Reference scenario: local institutions and rural communities are not sufficiently sensitized to the problems which climate change posed in the agricultural sector in Togo. Given the non- existence of this type of project in the project area, the response capabilities of the actors are insufficient regarding to the variability of rainfall and the production, the processing and marketing of products.

Situation with the project: The project will allow:

- Managers of national administration and local decision-makers to take full extent of these impacts on agricultural output and food security;
- Producers to understand the impacts of climate change and learn managing strategies.

The project will also capitalize on the experience of adaptation projects underway in Togo and to make available to communities one of the good practices database that will be broadcast through local media, exchange sessions.

J. Describe how the sustainability of the project outcomes has been taken into account when designing the project.

The sustainability of the project results will be done through a close collaboration with communities to ensure that their needs in terms of adaptation to climate change and variability have been properly taken into account. The innovation in the project is the fact that the project is not thought for the communities but thought with communities in order to solve their problems. Communities were involved together to identify the main constraints and solutions to them on the basis of their expertise in the early stages of project identification. At this level, consultations were held with all communities across different groups (old adults; women; youth) to ensure that everyone's needs are properly addressed. The diagnosis based on endogenous dynamics of communities is an important pillar of sustainability of the project results.

In addition, the project area is characterized by the existence of some development projects which can induce a low level of population susceptibility. To this end, the project beneficiaries should receive support throughout the project to improve the structure and capacity building through awareness and training sessions on management and local governance to allow greater participation in implementation and ownership of the results of the sustainability pledge project.

There are already organized and functional groups in various areas in Mandouri and its surroundings. The daily management of the infrastructures will be assigned to these groups, like other similar projects in the areas or drinking water supply projects. The mechanism is the following: the groups will be trained and supported by existing support organizations (ICAT, NGOs, etc. ITRA) in technical and financial management (use and servicing), books and rural organization (setting up of management and advice committees). A revolving fund will be set up and supply by regular contributions of group members (beneficiaries) under conditions defined by them. These funds will be used for expenses related to the management and maintenance of infrastructures. For major repairs, state technical organizations will be solicited.

This mechanism described **Part II, A. Component 2 Expected Concrete Output 2: Strengthening financial management of cooperatives and beneficiaries; maintenance of engineering equipment**, is envisaged to ensure the sustainability of the facility. It has two advantages namely:

- For micro credit institutions: as the project resources are donations, they will improve their ability to respond;
- For beneficiaries: the mechanism will allow access to credit at a reduced rate. Finally, to support the implementation, monitoring and sustainability of the mechanism, the parties directly involved will benefit from capacity building.

Table 8: Sustainability measure per project output

Project Components	Expected Concrete Outputs	Sustainability measures
1. Improved planning and management of water resources and (agricultural) production	1.1 Construction of the basin and furrow irrigation system powered by solar power on 144 ha of land 1.2 Production yields improved through mechanized means of production and improved agricultural practices by:- 1.2.1 The purchase of equipment (2 vehicles for delivery of products are acquired to facilitate access to market; 4 agricultural production kits are made available to producers) 1.2.2 The training of at least 576 farmers in improved agricultural techniques 1.2.3 The training of 10 to 20 local	• The project will support the scaling up of farm-based pilots where these are producing surpluses and providing benefits to people, linking them to markets to improve returns. This bottom-up approach which rewards successes with economic benefits will be self-sustaining. • Mainstreaming adaptation practices into the existing systems of the Ministry of Agriculture / extension services supports scaling up and sustainability.

Project Components	Expected Concrete Outputs	Sustainability measures
	technicians on driving, installation, repair and maintenance of irrigation and solar equipment	
2. Support for the diversification of livelihoods and the improvement of the living conditions of the beneficiaries	2.1 Income-generating activities are practiced and products are promoted and sold, i.e. 2.1.1 The surplus cereal production (rice and corn) and the garden production (tomatoes, peppers, etc.), are processed for marketing 2.1.2 Credit lines dedicated to financing agricultural and other income generating activities are available from MFIs.	• The project will support the scaling up of farm-based pilots where these are producing surpluses and providing benefits to people, linking them to markets to improve returns. This bottom-up approach which rewards successes with economic benefits will be self-sustaining.
	2.2 Basic social infrastructure is realized for the project beneficiaries. i.e. 2.2.1 Construction of a mini-network of drinking water supply coupled with fountains and 1 borehole equipped + 1 mini network + 1 water tower + 3 fountains + solar pumping system 2.2.2 Three (3) latrines are built for the benefit of the beneficiary communities	
3 Capacity building, Environmental and Social Measures, and Knowledge Management	3.1 Local institutions and communities are more aware and climate change issues are better understood and taken into account in local development policies, i.e. 3.1.1 Capacity building programs are offered 3.1.2 The capacity of members of the Conflict Management Committee are strengthened in conflict management and awareness 3.1.3 Mandouri and Kpendjal populations are sensitized on the joint management of water resources 3.1.4 Mandouri and Kpendjal populations are sensitized on conflict management on pasture, crop production-livestock production conflicts, etc. 3.1.5 The environmental and social management plan is implemented and beneficiaries are aware and trained on the implementation of the ESMP and environmental monitoring (ecological and human health aspects, management of fertilizers and pesticides, etc.)	• The project will design innovative education and awareness materials that will be educational, desirable, and re-useable.
	3.2 Lessons learned from projects in progress at the national level are capitalized on and a system to disseminate the knowledge acquired in the project is implemented at the local level, i.e. 3.2.1 A system of information sharing of	• Capacity building activities will use the Action Learning approach, which is tied to practical implementation. This will extend the reach of the project beyond its own activities, as all who participate will be empowered to take climate

Project Components	Expected Concrete Outputs	Sustainability measures
	knowledge related to climate change is implemented 3.2.1 Information, education and communication programs related to climate change and the achievements of the project are developed	change adaptation into their own work. • Providing platforms for lessons-sharing will catalyse learning, sharing and networking, investing in the development of a culture that supports adaptation. This will support learning beyond the project.

K. Provide an overview of the environmental and social impacts and risks identified as being relevant to the project

The ESIA carried out within the framework of the development of the project has identified some potential adverse environmental and social impacts as presented below. Despite the fact that these potential adverse impacts appear not to be significant as they are few in number, not widespread, reversible and can be mitigated, it should be noted that the project site of more than 100 hectares is located in a Sudanese climate region and adjacent to the sensitive Oti-Kera-Mandouri wildlife reserve. Water intake of the project will be made via a buried pipe passing through the Oti-Kera-Mandouri wildlife reserve.

Based on the above characteristics of the potential negative impacts, and, because of the size of the project and the significant potential impact of the water intake located in the sensitive Oti-Kera-Mandouri wildlife reserve, the project is classified in category A according to the standards of environmental safeguards of AF as well as BOAD's Environmental and Social Policy. In addition, based on principle 8 (Involuntary Resettlement) of AF environmental safeguards, the project will cause a temporary restriction of land use during the land preparation for agricultural purposes.

Project impacts were re-examined during the update of the existing ESIA at the full proposal stage of the project. The water uptake system will consist of a mixture GI and UPvc pipes for conveyance from the River Oti and distribution at the site. Since there is no open water channel through the wildlife reserve, there will be minimal damage to biodiversity, except for a little distraction when laying down the pipe. The buried pipe will also minimize on evaporation and also on water-borne disease vectors.

Baseline data on flora and fauna indicate that, the Oti-Kera-Mandouri is today a pale shade of its former glory due to the socio-political disturbances that the country had in the 1990s. A few animals have been reported including the Kob (Kobus kobkob), the desert warthog (Phacochorus aethiopicus), teals and wild ducks.

The site of the project is a grassy savannah in which we distinguish two strata of plants:

- a shrub layer, scanty and very poor in plant species. The few species encountered are: Lophinalanceolata, Piliostigmathonningii.
- a herbaceous layer, more abundant and dominated mainly by three species: Panicum maximum, Cyperussp, and Sporoboluspyramidalis.

Positive impacts of installation on the environment

The full implementation of the perimeter facilities, will have the following impacts:

- intensification of counter season crop and market gardening ;
- strengthening producers' capacities and their overarching structures ;
- jobs creation during the construction phase;
- increasing incomes of the population through the exploitation of the perimeter;
- Improvement of the local budget revenues by levying taxes (pickups aggregates, water abstraction, clearing taxes, operating taxes perimeter, etc.);
- strengthening health coverage through the construction of health infrastructure;
- improving access to drinking water;
- intensification of agriculture through application of technological packages;
- Intensification of livestock by the use of crop residues (rice stalks, etc.).

Negative impacts of installation on the environment and their responses

Table 9: Environmental impacts and their mitigation

Domain	Issues	Responses
Social	• Cohabitation between Fulani stockbreeders and farmers ;	• Conflict resolution committees for dialogue between farmers and Fulani stockbreeders
	• Increasing the phenomenon of immigration by the economic attraction of the zone	• Control of immigration by the village committee
	• The exacerbation of the conflicts • between established groups	• Management by the village Committee and establishment of codes of conduct
	• Monopolization of the plots by the financial elites to the detriment of local populations not assignees of plots	• Establishment of Committee of plots attribution
	• Exacerbation of the land pressure	• Strict control of the zone of irrigation • Support with the organization and the territorial installation of the zone to avoid land speculation
	• Propagation of the HIV/AIDS by the arrival of the workers out of zone	• Awareness campaigns on health among the populations
	• Development of diseases related to the stagnation of water	• Awareness campaigns on health among the populations • The combined basin and furrow system of irrigation will limit the development of parasites along open water channels.
Environmental	• Destruction of the biotopes by places in particular those of the birds	• Implementation of the Environmental and Social Management plan
	• Destruction of the soil and groundwater contamination by the pesticide residues and chemical fertilizers	• Implementation of the Environmental and Social Management plan • Development of a Fertilizer / Pesticide Integrated Management Plans at project inception • Support to develop the organic manure • Water quality monitoring
	• Reduction in the flow of River Oti	• Preliminary analyses of the capacities of sampling • Conservation of the ecological flow
Climatic	• The planned actions integrate protective measures and practices.	• Dimensioning of the works

Risks and dangers

Risks and hazards associated with project activities in all phases include:

- Minor accidents at construction phase;
- accidents related to the use of vehicles and trucks;
- contamination of water and soil by waste from the construction site during the construction phase and;
- transmission of STIs, HIV-AIDS and other communicable diseases, due to the arrival of workers.

Analysis of project activities against the principles of the Adaptation Fund

Table 10: Project activities analysed against AF principles

Checklist of environmental and social principles as per AF Policy	Potential impacts and mitigation measures	No further assessment required for compliance	Further assessment and management required for compliance
Principle 1 : Compliance with the law	The project will comply with Togolese national law and possibly international when national standards are lacking, as described in Section E of Part I.		X The ESIA update ESIA update done (May-June 2017) has notably assessed and proposed mitigation for project impacts on natural habitat and biodiversity in the target area, as well as ensuring that relevant national permit requirements and international laws are respected.
Principle 2 : Access and Equity	The project will not impede access to basic health services, clean water and sanitation, energy, education, housing, safe and decent working conditions to any group of the population. The pressure on the distribution of land could be at the origin of conflicts. The Local Advisory Committee (LAC) as presented in Section A of Part III will notably ensure a fair and equitable access to the project benefits. Priority in loans and distribution of plots will be given to local villagers. This committee will also be in charge of settling conflicts. Further assessment will be carried out in order to mitigate discrimination and inequalities regarding access to micro-credit loans, taking into consideration the gender inequalities study.		X Vulnerability studies and stakeholder mapping done (May-June 2017), covering potential gender inequalities Vulnerability studies and stakeholder mapping done (May-June 2017), covering potential gender inequalities
Principle 3 : Marginalized and vulnerable groups	The project will not impose any disproportionate adverse impacts on marginalized and vulnerable groups including children, women and girls, the elderly, indigenous people, tribal groups, displaced people, refugees, people living with disabilities, and people living with HIV/AIDS. The poor, women, young, old will have the opportunity to improve their income and living conditions due to the project.	X	
Principle 4 : Human rights	The project does not have potential risks with regard to human rights The project area is not located on transhumance corridors defined by the Togolese authorities (as	X	

Checklist of environmental and social principles as per AF Policy	Potential impacts and mitigation measures	No further assessment required for compliance	Further assessment and management required for compliance
	shown on map 2 at page 31). Particular attention will be given during the implementation of the project on the management of conflicts (e.g. conflicts between farmers and herders). In case of conflicts between farmers and herders, the Local Advisory Committee will help to settle issues.		
Principle 5 : Gender Equity and Women's Empowerment	Women and men will be able to participate fully and equitably in the project and both will receive comparable social and economic benefits. Women's access to financial services will be strengthened notably through a preferential support that the project will provide to the existing women micro-finance. In addition, the project plans to assign a quota of plots to women and / or women's associations.		X Vulnerability studies and stakeholder mapping done (May-June 2017), covering potential gender inequalities.
Principle 6 : Core Labour Rights	The project will be managed with respect to the Togolese labour law which forbids forced labour, children's labour and discrimination, and which allows freedom of association.	X	
Principle 7 : Indigenous people	There is no indigenous peoples present in the project implementation area	N/A	
Principle 8 : Involuntary Resettlement	The project will not generate involuntary resettlement as there will not be physical displacement (relocation or loss of shelter) or permanent economic displacement (loss of assets or access to assets that leads to loss of income sources or other means of livelihood). The beneficiaries of this project live together in the village. Some plots used currently for agricultural production areas will be temporarily disturbed during the construction works, and affected populations will be assigned temporary plots until the end of works.	X	

Checklist of environmental and social principles as per AF Policy	Potential impacts and mitigation measures	No further assessment required for compliance	Further assessment and management required for compliance
Principle 9 : protection Natural Habitats	The potential of the project to impact upon natural habitats is low, as the project area is located in a highly disturbed area where, for many years, local populations are settled and have been practicing agricultural production, although the position of the site is closed to the boundaries of a wildlife reserve. The Togolese government is in the process of declassifying a part of this reserve and redefines the boundaries of the wildlife Reserve.		X The ESIA update ESIA update done (May-June 2017) has notably assessed and proposed mitigation for project impacts on natural habitat and biodiversity in the target area as well as water extraction from River Oti through the Oti-Kera-Mandouri wildlife reserve; and the possible contribution of the project to local emissions.
Principle 10 : Conservation Biological Diversity	The project will not generate significant or unjustified reduction or loss of biological diversity or the introduction of known invasive species. The project area has been exploited for many years and biological diversity is already low. The project will not significantly disrupt the current biodiversity. Reforestation activities in the project area will improve biodiversity. No invasive species will be introduced into the area, and the type of crops to be used in the project are those currently used.		X Additional technical studies done (May-June 2017) and the perimeter of the boundary of the 144 ha actualized, taking into considerations the Oti-Kera-Mandouri wildlife reserve. ESIA update done (May-June 2017) with and assessment and mitigation of project impacts on natural habitat and biodiversity in the target area as well as the water extraction from River Oti through the Oti-Kera reserve and the possible contribution of the project to local emission done.
Principle 11 : Climate Change	The project activities will not result in a significant or unjustified increase in greenhouse gas emissions or other drivers of climate change. The project will minimize the production of greenhouse gas by adopting solar energy instead of thermal power for pumping water from the River Oti and conduct it to the farm sites. Rice is the currently cultivated crop on the planned site for the project, using the natural seasonal flooding. The project will extend the currently exploited surfaces, but at the same time a better rationalization of the flooding of crops offset the expansion of rice fields and extra methane emissions from rice cultivation. Furthermore, plantations of shrubs and planned reforestation will capture CO_2 and capture surplus of greenhouse gases.	X	

Checklist of environmental and social principles as per AF Policy	Potential impacts and mitigation measures	No further assessment required for compliance	Further assessment and management required for compliance
Principle 12 : Pollution Prevention and Resources Efficiency	The project will maximize its energy efficiency by using solar energy instead of thermal power for pumping water. The combined basin and furrow irrigation system will allow real water savings by avoiding infiltration and evaporation during transportation and streamlining distribution. This system will minimize the use of water. All rice fields infrastructures are made from locally building materials. Inorganic amendments can be precisely distributed in the irrigation system, thus limiting to the quantities strictly necessary. For better pollution management, a pesticides management framework will be adapted at local level. Building local capacity to use organic manure will limit the use of chemical inputs and enable effective recycling of agricultural and livestock by-products in a circular ecology system.		X
Principle 13 : Public Health	The environmental and social impact assessment of the project has identified some potential health impacts of the project, mainly during the construction phase (e.g. impact of dust, noise, STD/AIDS propagation with the arrival of foreign workers to the zone). These impacts are subject to mitigation measures presented in the Environmental and Social Management Plan. The project also plans to build up the capacity of health services at the village level and improve access to potable water that will reduce water-borne diseases and improve hygiene. The choice of combined basin and furrow type of irrigation system will limit the development of waterborne parasites as there won't be any open water channels.	X	

Checklist of environmental and social principles as per AF Policy	Potential impacts and mitigation measures	No further assessment required for compliance	Further assessment and management required for compliance
Principle 14 : Physical and Cultural Heritage	The project and its components are not in an area known to have physical cultural resources, cultural sites, and sites with unique natural values. In case of discovery of any cultural resources, the Togolese Ministry of Culture will be notified for further dispositions.	X	
Principle 15 : Lands and Soil Conservation	Measures to prevent mitigate or control soil erosion and degradation will be implemented during the implementation of the project. For example, the project will include anti-erosion measures such as protection of banks of rice fields with shrubs that will prevent soil degradation. The project will also contribute to the restoration of soil fertility by promoting the use of organic manure instead of chemical fertilizers. The existing soils are in most cases already used for agricultural purposes, there will be no significant change on land use.	X	

PART III: IMPLEMENTATION ARRANGEMENTS

A. Describe the arrangements for project implementation.

Contracting authority and Promoter

The contracting authority of the project is the Government of Togo (GoT), represented by the Ministry of Environment and Forest Resources (MERF). The Executing Agency is appointed by the MERF or AF Focal Point. BOAD is obliged to contract the Executing Agency (EA)[33] appointed by the Government of Togo through the Adaptation Fund Focal Point. The EA reports to BOAD and coordinates all project activities.

Division of Responsibilities:

- **BOAD** is the **Implementing Agency (IA)** for this AF project. BOAD shall in its role of AF Implementing Agency as a Multilateral Implementing Entity (MIE) accredited by the Adaptation Fund Board, provide project oversight to ensure that AF policies and criteria are adhered to and that the project fully meets its objectives and achieves expected outcomes in an efficient and effective manner. It shall also in partnership with the Ministry of Environment and Forest Resources, Ministry of Agriculture, AGETUR and other key project partners engage in promoting the project to mobilize resources and create partnerships.
- Project supervision missions by the Task Manager shall constitute part of the project supervision plan. BOAD will perform the liaison function between Togo and the AF Secretariat and report on the progress against milestones outlined in the approval letter to the AF Secretariat. BOAD shall inform the AF Secretariat whenever there is a potentially substantive implementation change (i.e. one affecting the project objectives, the underlying concept, scale, scope, strategic priority, conformity with AF criteria, likelihood of project success, or outcome of the project). It shall rate, on an annual basis, progress in meeting project objectives, project implementation progress, risk, and quality of project monitoring and evaluation, and report to the AF Secretariat through the Project Implementation Review (PIR) report prepared by the Executing Agency (EA).

- **Africa Sustainability Centre (ASCENT) is the Executing Agency (EA)** In line with the relationship between the Ministry of Environment and Forest Resources (MERF) and ASCENT. ASCENT is the premier African sustainability think-tank providing solutions to foster innovation and interdependence in Africa.

  ASCENT will participate fully in the successful implementation of the Project and in close collaboration with BOAD in order to achieve all Project Objectives and in strict compliance with the budget lines. Under the direction of BOAD, ASCENT will be able to represent it where necessary, in accordance with the Protocol governing their relations. The Project Coordinator and more generally the project management unit are under the authority of the Executing Agency.
  The Executing Agency (EA) shall take responsibility to ensure that the project is implemented in accordance with the agreed objectives, activities and budget and deliver the outputs and demonstrate its best efforts in achieving the project outcomes. For that purpose the EA will sign a MOU with the relevant national stakeholders.

  ASCENT will also advise all stakeholders including the PSC in line with institutional capacity development.

- **AGETUR Togo** will assist the contracting authority in the implementation of the engineering activities.

[33] The Government of Togo has appointed an Executing Agency who will have a contract with BOAD to execute it on BOAD's behalf

The management setup of the project will comprise of the following bodies: -

A national Project Steering Committee (PSC) responsible for the strategic direction, monitoring and supervision of the implementation of the project will be established to oversee the AF agricultural resilience project in Togo. As an indication, the PSC will consist of:

Members

- Minister of MERF or representative (Chair)
- AF – Operational Focal Point (OFP);
- Representative of farmers organisation
- GEF Operational Focal Point
- Representative of the AGETUR
- Ministry of Agriculture, Livestock and Water (MAEH);
- A representative of each of these ministries:
    - Ministry of Territorial Administration and Decentralization and Local Government to involve local administrative officials in assisting beneficiary communities
    - Ministry of Economy and Finance (MEF);
    - Ministry of Development Planning (MPD);
    - Ministry of Social Action, Advancement of Women and Literacy (MASPFA);
    - Ministry of Commerce, Industry, Promotion of the private sector and Tourism;
- Representative of the Private Sector, elected by peers
- Project Coordinator (as rapporteur);
- Executing Agency as appointed by BOAD
- Two representatives of civil society chosen by the stakeholder platforms to be established in the project area
- Representative of researchers

The Project Steering Committee (PSC) will be chaired by MERF, and will meet twice a year, or extraordinarily as may be warranted to from time to time. The Steering Committee is composed of representatives of key stakeholders. The NSC provides general supervision, guidance, inter-sectoral coordination and monitoring of compliance of project activities with national sector policies and strategies. The two times a year meetings are to review and approve the Work Programmes and Annual Budgets and the activity reports and audit of Project accounts. The PSC reports to the President of the CPP, the Minister of the Environment and the BOAD.

The roles of the PSC include:

a. Provide overall guidance and ensure coordination between all parties;
b. Provide monitoring of project implementation progress;
c. Review and adopt the annual work plans and budgets prepared by the Project Coordinator and Technical Adviser, in conformity with the project objectives and subject to the rules of AF and BOAD;
d. Review the biannual progress reports to be prepared by Project Coordinator and oversee the implementation of corrective actions, when necessary;
e. Enhance synergy between the AF project and other initiatives being implemented in the project areas; and
f. Provide advice on policy and strategic issues to be taken into account during project implementation.

INTERNAL MANAGEMENT STRUCTURE

A Project Management Unit (PMU): The Executing Agency (EA) will create a PMU which will be responsible for project implementation. The PMU will be lodged in the city of Dapaong. The management of the project will be provided by the Project Management Unit equipped with an administrative and financial autonomy. This Unit will be headed by a Project Coordinator who meets the requirements set out in the TORs appointed by EA, approved by the PSC, and assisted by a Financial Manager / Project accountant as well as a Rural Development expert-Agronomist/agricultural engineer and a Monitoring, Evaluation and learning expert to work to follow

on technical activities and to document and promote the project's evidence to a wider audience.

The Project Coordinator will provide overall direction for contractual, technical and administrative aspects of the project, in accordance with annual work plans and budgets adopted by the Project Steering Committee. The Project Coordinator, who will respond to the EA, will be responsible for day-to-day operational and administrative aspects of the project within the Project Area and for ensuring the achievement of project outcomes, the delivery of project outputs and the realization of project activities and expenditures in accordance with the Annual Work Plans and Budgets (AWPBs) approved by the Project Steering Committee. The Project Coordinator will lead the development of the project M&E plan to be adopted by the PSC.

Individual roles:
- Project Coordinator
- Rural development expert- Agronomist/agricultural engineer
- Environmental officer
- M, E & Learning Expert
- Financial Management Officer/Project Accountant (locally recruited).
- An expert in procurement
- Driver (ideally a Ministry Staff).

The internal management roles are further elaborated in **Annex 6 - Consultants to be hired for the project.**

- **The Project Coordinator** and the Financial Management Officer/Accountant will be recruited competitively by a joint selection committee whose members are representatives of ASCENT, BOAD and 1 or 2 identified key stakeholders. (MERF?).

- **MERF – EA – AGETUR Tripartite quarterly coordination Process**: A quarterly coordination meeting is established between the 3 agencies to ensure that the project is delivering as planned but most importantly delivering according to the national project objective and in line with the deliverables agreed between the 3 entities. This meeting will provide corrective measures as necessary in consultation with BOAD. The EA may represent either by its Chairman or the Project Coordinator. The 3 institutions can also conduct joint monitoring of project activities.

- **Fiduciary responsibilities:** The financial management and procurement responsibilities will be defined by the provisions of the Project Coordination Agreement (PCA) between BOAD and the Executing Agency (ASCENT). The BOAD ensures that procurement and accounting of funds and equipment is carried out in accordance with the procedures and agreements in force between the executing agency and the BOAD.

- **ASCENT** through the Project Coordinator will be jointly responsible for ensuring that procurement, and accounting for project funds are conducted in accordance with national executing agency (EA) procedures and agreement signed with BOAD.

Technical Committee (TC)

The Technical Committee (TC) includes representatives of major technical bodies involved in the implementation of the project. The Technical Committee provides technical monitoring of the implementation of project activities and make recommendations to improve project implementation and report to the Project Steering Committee. It includes representatives of the MERF, AGETUR, MEF, the Ministry of Agriculture, Livestock and Water (MAEH), ANGE, MFIs and their support structures and control (CASIMEC and APIM), local relay Agencies (RLA).
To implement the project, the TC will be expanded to Promotion Agency of the SME Guarantee and Financing / PMI (ANPGF). The TC is chaired by the AGETUR.

EXTERNAL STRUCTURE

- **Collaboration with other projects:** The project has been prepared, and will be implemented, in close coordination with other projects working in the area. Coordination with other key projects by the relevant ministries will be achieved at the Steering Committee Meetings and by holding regular technical coordination meetings to ensure administrative efficiency, streamlining of budgeted annual work-plans and close coordination of activities. The project will establish a technical working group on specific thematic issues and the Steering Committee will guide the project team in choosing the appropriate

- **Engagement of local CSOs, Service Providers and Private Sector.** Many CSOs, service providers and private sector actors are active in the Project area although there are only one or two active around some of the PAs. They are key implementing partners for activities. The PMU will engage the services of CSOs / service providers and the private sector as needs arise. The Project will "contract" CSOs / local service providers / private sector to support local community groups to implement agreed activities on the ground. ASCENT will negotiate Conventions with these organizations / service providers using procedures adopted in the PSC.

- **Engagement with local stakeholders:**
  At local level, various stakeholders groups will play important role in the project execution. These include among others:

  - **Community based organizations (CBOs)**

  These are various local organizations in the project region whose role is important in the social balance of the communities. Under the project, their role will be to:

  a. Bring together the social conditions for the execution of the project in their respective localities and offer to draft a framework for dialogue and Community Exchange.
  b. Create a basis for commercialising smallholder farming to run agro-based businesses
  c. Contribute to the resolution of possible conflicts in the context of the implementation of the project
  d. Help the beneficiaries of the project in decision-making activities

  - **Youth groups**

  These groups will play an important role in project activities. They will specifically:

  a. Contribute to the planning of activities targeting the youths particularly components 2 and 3.
  b. Stimulate and encourage the participation of youth in capacity-building and knowledge sharing sessions.
  c. Participate in the follow-up of the activities of the project and collection of necessary information related to youth involvement in the project
  d. The management of assets, equitable access to community facilities acquired or installed through the project.

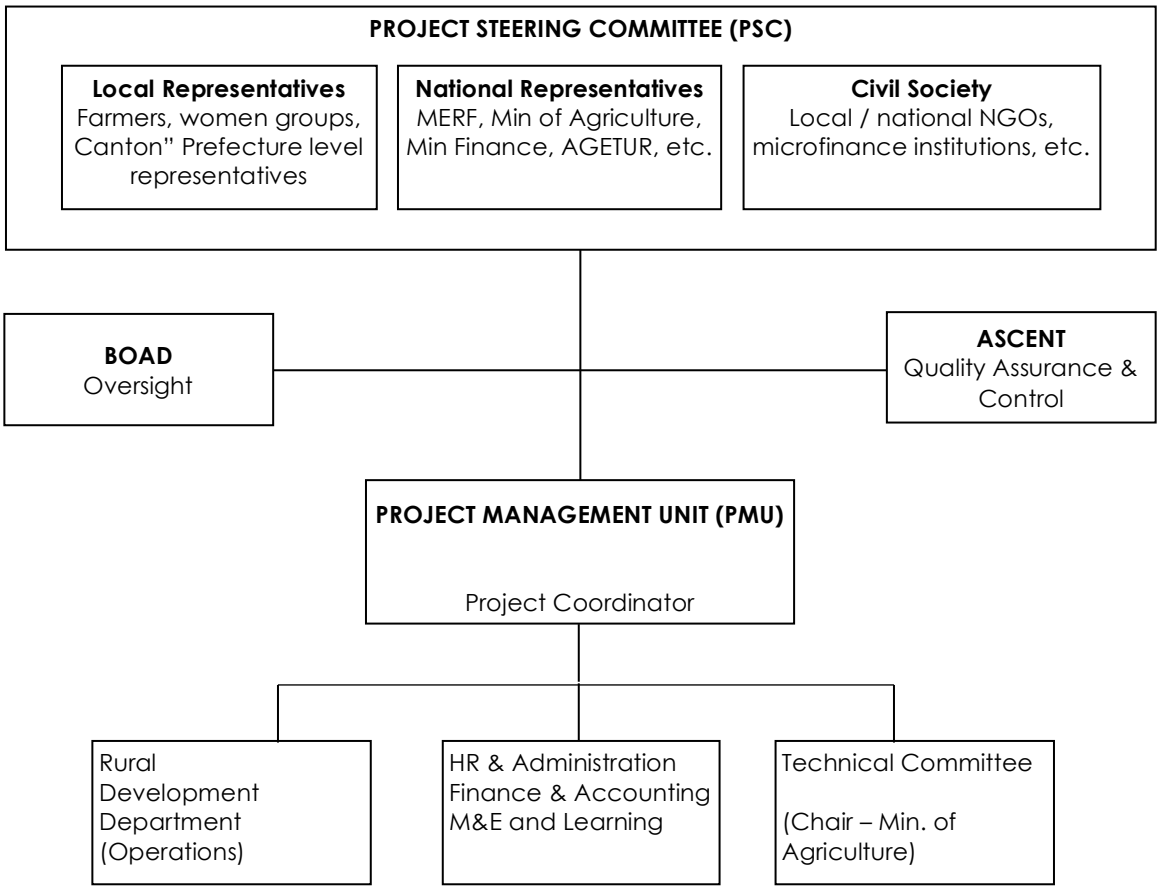
  - **Organised women groups:**

  These groups will be important in ensure that the activities designed for women of properly carried out and the expected results are fully achieved. Their role will be specifically to:

  a. Contribute to activities for women by ensuring equitable membership and participation of women in organised groups and the participation of these groups the activities to be performed.
  b. Stimulate and encourage the participation of women in capacity-building, business development and knowledge sharing programmes and sessions. For this purpose women's groups will participate in the diagnosis leading to the identification and evaluation of their training needs in order to effectively design appropriate capacity-building programmes.
  c. Participate in the follow-up of the activities of the project through their availability to collect and provide the necessary information related to women and the project activities in which they are involved

d. The management of assets, equitable access to community facilities acquired with the project. These groups of women will be adequately trained to do so.

Fig. 7: Project organizational structure



- **Coordination:** The following components will require close coordination with other Ministries, Projects and partner organizations. The relationship between the GEF Project and these partners will be governed by Memorandums of Understanding (MoUs) to be negotiated during Project Inception phase.

  During implementation, ASCENT will draft MoUs for the implementation of the various sub-components listed above where BOAD/AF project intends to collaborate with other partners (as identified above) and negotiate with identified partners as required.

OVERSIGHT MECHANISM

The project Steering Committee will receive periodic reports on progress and will make recommendations to BOAD concerning the need to revise any aspects of the Results Framework or the M&E plan.

Project oversight to ensure that the project meets BOAD and AF policies and procedures is the responsibility to the Task Manager in BOAD-DEFIC. The Task Manager will also review the quality of draft project outputs, provide feedback to the project partners, and establish peer review

procedures to ensure adequate quality of scientific and technical outputs and publications.

Details of Project Monitoring & Evaluation, including external evaluations are provided in various other sections.

A national technical planning workshop will be organized once a year, prior to the first session of the Project steering Committee. This workshop will bring together all actors involved in the technical implementation of the project.

PMU Launching of tender documents
This involves the preparation, approval and launching of Tender Documents. Given the specificity of equipment, implements and of installation, work will be done by the PMU. During this stage, the PMU will select, in accordance with the regulations in force in Togo and procedures of AF and BOAD, companies for the acquisition of equipment, development work and accompanying infrastructure. To ensure the quality of work and guarantee the operation of equipment, the Technical Committee will comprise consulting engineers to be recruited by the project. Within the framework of the project the irrigation equipment (semi-California channel network, solar panels and accessories), the surface preparation of land, the planting as well as monitoring and supervision of works are fully covered. Component 2 and 3 covers enabling of farmers to commercialise and diversify agricultural practices. An aspect of creating a framework for MFI arrangement is also factored with seed capital availed by the project to specifically offer credit to smallholder farmers.

Implementation of the Project
The perimeters and hydraulic work arrangements will be performed by selected companies. The training will be provided by the competent technical services and/or by external service providers. The other operations (reforestation, IGA of women, institutional support) will be carried out by the Project Management Unit with, if necessary, the support of local technical services (water and forestry services, rural engineering, hydraulics in particular) on the basis of memoranda of understanding. Short-term loans will be made by financial institutions present in the area on their own resources, with, if necessary, the contribution of the beneficiaries of the project. The investments, including the rehabilitated and developed areas, will be given to beneficiary organizations which will be organized for their operation with the support of competent technical consulting services for their care and maintenance. A network of craftsmen maintainers will be set up at each administrative area concerned in order to ensure the monitoring and maintenance of solar equipment.

Roles and stakeholders' interventions

- The Ministry of Environment and Forest Resources (MERF) through the Directorate of Environment and Forestry Resources and the National Agency of Environmental Management (ANGE) ensure the effective implementation of the project, environmental monitoring, the analysis of environmental parameters and the implementation of the environmental and social management Plan (ESMP). The Ministry also has the AF FP, and is a member of both the PSC and TC.

- The Ministry of Mines and Energy (MME), will speak through its Directions notably through the Directorate General of Energy (DGE), the Electric Power Company of Togo (CEET) and the Sector Regulator Energy (ARSE). These agencies will be involved in ensuring conformity and standards of the power infrastructure set up by the project for both electrification and water pumping.

- The Ministry of Economy and Finance (MEF) will assist in the establishment and operationalisation of financial mechanisms and incentives, as well as domestic banks. It will also intervene in the context of the monitoring of decentralized financial systems (SFD) through the Support Unit and Mutual Institutions Monitoring and Savings and Credit Cooperatives (CAS-IMEC) whose mission is to supervise and control the SFD. It will also help to support and facilitate the financing of businesses through the National Agency for the promotion and guarantee of funding for SMEs and SMIs (ANPGF).

- The Ministry of Agriculture, Livestock and Water (MAEH) will participate in ensuring agricultural practices are in accordance with the policy. The implementation of construction of the elaborate irrigation and water supply systems as well pesticide and fertiliser usage also falls under this Ministry. A member of the CT.

- The Ministry of Development Planning (MPD) will participate in the program through its Regional Directorates and the Directorate General of Statistics and National Accounting (DGSCN) that intervene in the monitoring and evaluation system through the realization of starting investigations , mid-term and end of execution;

- The Ministry of Social Action, Advancement of Women and Literacy (MASPFA) intervene for the integration of gender aspects and functional literacy beneficiaries through the Directorate of Literacy and non-formal education (DAENF).

- The Ministry of Commerce, Industry, Promotion of the private sector and Tourism will participate in the program by promoting private sector development mechanisms. A member of the PSC.

- Domestic banks and micro-finance institutions participate in the implementation of measures facilitating access to credit for businesses, youth and economic interest groups.

The beneficiaries will participate in the design and implementation of the project.

B. Describe the measures for financial and project risk management.

Financial and project risks measures will be assessed as an on-going process throughout the implementation of the project. The primary financial, project and institutional risks, their significance and associated response measures are described in Table 11.

Table 11: Financial, project and institutional risks.

Risks		Degree of perception	Measures
FINANCIAL	Ineffective management of project funds affects project implementation.	Low	A Financial and Admin officer will be appointed to strengthen the PMU, and ensure appropriate management of project funds. In addition, RIE oversight audits and EE quality control will ensure that there is no ineffective use of project funds.
	Delays in the disbursement of funds, procurement and institutional inefficiencies (e.g. lengthy approval processes result in delayed recruitment of staff and delayed project implementation.	Low	The RIE and PMU will work closely to ensure optimum conditions for timely disbursement of funds, contracting, monitoring and financial reporting. The Project Coordinator and the Financial and Admin officer will develop and regularly update a Procurement Plan in line with BOAD guidelines. Key project staff will be in place prior to the project inception meeting.
	Fluctuations in exchange rate (USD - F CFA) which could affect the funding available for implementation and lead to budgetary constraints.	Medium	The Financial and Admin officer to closely monitor USD – F CFA exchange rate and communicate any implications to the Project Coordinator, for adaptive project management. The PMU and UMDM officials will collaborate closely with the RIE should exchange rates fluctuate to the extent that budget reallocations are required.
	Difficult access to credit inputs supply	Low	The project will introduce a guarantee fund for loans to farmers to facilitate their access to finance. Moreover, capacity management capabilities and financial planning will improve monitoring and repayment of loans. The project will also ensure a sustainable supply of inputs to farmers.
	Insufficient training in financial management	Middle	The project will implement measures to strengthen capacities of actors in the areas identified for improving knowledge and good practices.
PROJECT	Non acceptance or non-support of the project by the population	Low	The project was designed on the basis of a consultation of the concerned population and the identification of their different needs. All the project activities and the work plan of the PMU will be defined by a committee composed of local authorities, NGOs and population representative.
	Insufficient training in water management and farming techniques.	Middle	The project will implement measures to strengthen capacities of actors in the areas identified for improving knowledge and good practices.
	Climate risk	Middle	The main climate risk that could have an impact on these investments is flooding. To avoid this risk, the warehouse will be built out of a flood zone and will respect the climate norms in terms of orientation, airflow, moisture. The same observations are valid for the parking station of agricultural equipment. In addition, site dedicated to rice farming is not located in the river bed and the main irrigation facilities will be buried; everything will be thought, done, and built taking into consideration the risk of flooding.

	Failure to involve adequate representation of vulnerable communities, particularly women, and therefore failure to create ownership of the project at the community level at project sites.	Low	The project will avoid a "top down" approach and create community ownership of the project interventions by building the capacity of community members at an early stage in the project. Engagement and capacity building will adopt a gender-sensitive approach. The development of detailed implementation plans will be undertaken in a participatory manner, encouraging input from all community members, including women.
INSTITUTIONAL	Lack of awareness of communities and stakeholders on climate change and its potential impacts	Low	The project will conduct awareness activities on climate change issues and strengthen the capacity of stakeholders on adaptation and mitigation and their impacts. This activity will involve all the beneficiary communities.
	Low capacity, awareness and acceptance on tackling climate change impacts among key stakeholders will limit the support for the project and also the likelihood of project outputs being mainstreamed into plans and budgets.	Low	The project includes a capacity building programme for project beneficiaries, local elected officials in the region, officials of local institutions, etc. on the importance of mainstreaming adaptation responses into planning, budgeting and policy development processes.
	Poor coordination with other climate change projects in the Prefecture / Country limits the potential to learn from and build on the experiences of related projects.	Low	The relevant institutions will be invited to the inception workshop, and the PMU and Mandouri community, with assistance from the EE where necessary, will facilitate the signing of the required data sharing agreements at the inception phase of the project.
	Limited capacity of project partners to coordinate and deliver project outputs.		Project partners all have experience in coordinating, implementing and delivering outputs in their relevant spheres of expertise, as demonstrated by the successful implementation of previous projects. Additionally, the NIE will play an oversight role, providing further expertise if required.

C. Describe the measures for environmental and social risk management, in line with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

Based on a screening against the stipulated principles in the AF ESP, the project is adjudged to be a Category A i.e. a project likely to have significant adverse environmental or social impacts that are for example diverse, widespread, or irreversible. Indeed, the project is anticipated to have numerous economic, social and environmental benefits (see Section II.B for a summary of such benefits).

Based on the above characteristics of the potential negative impacts, and, because of the size of the project and the significant potential impact of the water intake located in the sensitive Oti-Kera-Mandouri wildlife reserve, the project is classified in category A according to the standards of environmental safeguards of AF as well as BOAD's Environmental and Social Policy. In addition, based on principle 8 (Involuntary Resettlement) of AF environmental safeguards, the project will cause a temporary restriction of land use during the land preparation for agricultural purposes.

An Environmental and Social Risk Management Plan has been described in **Part II. Component 3. Expected concrete output 1: local institutions and communities are more aware and climate change issues are better understood and taken into account in local development policies to ensure that risks are avoided**, and that, where this is not the case, they are timely detected and appropriately mitigated; and that all positive impacts are enhanced.

An Environmental and Social Risk Management Plan has been developed (see **Annex V**) to ensure that risks are avoided, and that, where this is not the case, they are timeously detected and appropriately mitigated.

D. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan, in compliance with the ESP and the Gender Policy of the Adaptation Fund.

The project will be monitored through the following M&E activities.

Project start:
A Project Inception Workshop will be held within the first 2 months of project start with those with assigned roles in the project organization structure, BOAD and where appropriate/feasible regional technical policy and programme advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan.

The Inception Workshop should address a number of key issues including:

a. Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of BOAD staff vis-à-vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff will be discussed again as needed.
b. Based on the project results framework and the relevant AF M&E tools if appropriate, finalize the first annual work plan. Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks.
c. Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled.
d. Discuss financial reporting procedures and obligations, and arrangements for annual audit.
e. Plan and schedule Project Board meetings. Roles and responsibilities of all project organization structures should be clarified and meetings planned. The first PSC meeting should be held within the first 12 months following the inception workshop.

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

Periodic Monitoring through site visits:
BOAD will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the PSC may also join these visits. A Field Visit Report/BTOR will be prepared by BOAD and will be circulated no less than one month after the visit to the project team and PMC members.

Mid-term of project cycle:
The project will undergo an independent Mid-Term Review at the mid-point of project implementation. The Mid-Term Review will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the Mid-Term Review will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-Term Review will be prepared by BOAD based on guidance from the AF. The management response and the evaluation will be uploaded to BOAD corporate systems. The relevant AF M&E tools will also be completed during the Mid-Term Review cycle.

End of Project:
An independent Final Evaluation will take place three months prior to the final Project Board meeting and will be undertaken in accordance with BOAD and AF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the Mid-Term Review, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental

benefits/goals. The Terms of Reference for this evaluation will be prepared by BOAD based on guidance from the AF.

The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response which should be prepared.

The relevant AF M&E tools will also be completed during the final evaluation.
During the last three months, the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

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

The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyse, and share lessons learned that might be beneficial in the design and implementation of similar future projects.

Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

Audit Clause:
The project audit will be conducted in accordance with applicable BOAD audit policies.

The costs associated with implementing the M&E system are detailed below.

Table 12: Budgeted M&E system

Task	Responsible parties	Timeframe	Budget US$
Inception workshop and Report	Project coordinator, BOAD	Within the first 1 month after project start up	5,000
Monitoring project site visits	Project Coordinator; PSC representatives	Twice per year (in rainy and dry periods)	50,000
Quarterly progress / status reports	Project coordinator	End of each quarter	None
Annual progress reports (Annual Project Review – APR / Project Implementation Reports - PIR)	Project coordinator, BOAD	End of each year	5,000
Meetings of the Project Steering Committee (PSC)		Every 6 months	25,000
Mid-term Evaluation (MTE)	Project Coordinator; Technical Adviser; BOAD; External evaluation team (international and national consultants).	Mid-point of project implementation	25,000

Task	Responsible parties	Timeframe	Budget US$
Final Evaluation (FE)	Project Coordinator; Technical Adviser; BOAD; External evaluation team (international and national consultants).	At least 3 months after end of project implementation	25,000
Project Terminal Report	Project Coordinator; Technical Adviser; BOAD	At least 3 months after end of the project	None
Learning and knowledge sharing (Project publication, publicizing in scientific workshops, etc.)	Project coordinator; M&E and Learning officer	After year one	20,000
Financial audit	Project coordinator, BOAD	End of project	15,000
TOTAL COST			**175,000**

E. Include a results framework for the project proposal, including milestones, targets and indicators.

Table 13: Results framework, milestones, targets and indicators

Project Objective(s)	Indicator(s)	Baseline	Target	Means of verification
To improve the level of resilience of vulnerable actors in the agricultural sector in Mandouri (Savannah Region) by developing water management and irrigation technologies that reduce dependence on rainfall for agricultural production.	Number of people with reduced risk to climate change-driven floods, fires and drought, as a result of project interventions.	0 women and 0 men.	Direct beneficiaries: 2,880 rural population (48% men, 52 % women); Other beneficiaries: 5,203 urban population (Mandouri town)	Review of project training and implementation material; gender-sensitive field surveys undertaken with representative populations of the target areas.
		87.4% vulnerability	Lower vulnerability value	
Component 1: Improved planning and management of water resources and (agricultural) production				
Outcome 1.0: Improvement of food self-sufficiency and sustainable management of land through better water management for agricultural production	Increase in yield from farms and home gardens as a result of project interventions.	Average of 1-2 t/ha for cereals from current farms in project area. Average of 0.5 – 1t/ ha for pea family	Between 6 t/ha to 10 t/ha for rice from climate resilient farms in project area; and over 2 t/ha for the pea family.	Crop sampling/analysis from representative farms / community gardens in the target areas.
	Increase in access to markets for Mandouri farmers as a result of project interventions.	0 access to markets for farmers	50-100 % increase in access to markets for farmers in Mandouri.	Gender-sensitive field surveys undertaken with representative populations of Mandouri
Output 1.1: construction of the semi combined basin and furrow irrigation system on 144 hectares of land powered by solar.	Area of farms/community land in target areas in which climate-resilient project interventions are being implemented	0 ha.	144 ha	Gender-sensitive field surveys undertaken on representative populations of the project site / area. Field inspections
	Number of small scale farmers in target areas benefitting from climate resilient agricultural practices Introduced through the project.	0	Direct beneficiaries - 576 farmers (115 households) or 2,880 people Mandouri town residents (5,203 people)	
Output 1.2: production yields improved through mechanized means of production and improved agricultural practices	Area of project site under irrigation in the dry season	0 ha	144 ha	Gender-sensitive field surveys undertaken on representative populations of the project site / area. Field inspections
	No of households with improved livestock production	0 (minimal)	115 households	
Component 2: Support for the diversification of livelihoods and the improvement of the living conditions of the beneficiaries				

Project Objective(s)	Indicator(s)	Baseline	Target	Means of verification
Outcome 2.0: Increase of the resilience of producers through the promotion of new income-generating activities, improvement of their income and improvement of the living environment of the beneficiary population	Percentage of population living above the poverty line ($ 2 per day) (90.5% poverty incidence for the Savanna region)	0	115 households	Gender-sensitive income and livelihood survey undertaken on representative populations of the project site / area.
Output 2.1: Income-Generating Activities (IGAs) are practiced and the products are promoted and sold	No of households with IGA activities	0 (minimal)	115 households	
Output 2.2: Strengthening of the financial management of cooperatives and beneficiaries and maintenance of engineering equipment	No of cooperatives with credit facilities	0 (minimal)	3 Cooperatives are boosted (to administer project credit fund)	Gender-sensitive field surveys undertaken on representative populations of the project area.
	Community members / groups trained on book-keeping, and access to credit	0 (minimal)	At least: 3 women groups; 3 men groups; 3 youth groups are trained on credit outlets and management	
	No of community members trained as technicians	0 (minimal)	20 Technicians are trained on maintenance of equipment	
Output 2.3: basic social infrastructures are realized for the beneficiaries	No of households with access to potable water connection	0 (minimal) households {6.0% of Mandouri canton rate of access}	1 Mini water supply network consisting of equipped drilling; solar powered	Gender-sensitive field surveys undertaken on representative populations of the project area.
	No of household / population with access to modern toilets	0 communal modern latrines in Mandouri	3 latrines to improve sanitation at the village level.	
	No of bread making outlets in the project area	0 (minimal)	1 large communal bakery powered by solar	
Component 3: Capacity building, environmental and social measures and knowledge management				
Outcome 3.0: Improved knowledge of stakeholders (public, local elected officials in the region, officials of local institutions, etc.) for the building of the resilience to climate change and the prevention and management of environmental and social risks	Percentage of community members in target area with increased awareness as a result of the project, of climate change adaptation and options to enhance climate resilience.	0 beneficiaries trained.	80 % (for both women and men) of beneficiaries with increased knowledge on climate change adaptation and options to enhance climate resilience.	Pre-training and end-of project assessment of representative sample of project beneficiaries
Output 3.1: local institutions and communities are more aware and climate change issues are better understood and taken into account in local development policies	Number of project beneficiaries trained on climate change adaptation and options to enhance climate resilience.	0 beneficiaries trained.	At least: Community leaders – 10 Women groups – 5 Men groups – 5 Youth groups – 5	Review of learning material; Summary reports from training experts.

Project Objective(s)	Indicator(s)	Baseline	Target	Means of verification
			trained	
	Percentage of beneficiaries with improved knowledge of climate change adaptation and options to enhance climate resilience.	No improvement in knowledge.	Training workshop certificates issued	Review the certificates
	Manuals and toolkits on different aspect of irrigated irrigation, crop production, livestock production and human health produced	0 manuals and toolkits	Manuals on – Phytosanitary chemicals' use Irrigation and vector borne diseases Pests and invasive weeds, etc.	Gender-sensitive field surveys undertaken on representative populations of the project area.
Output 3.2: lessons learned from projects in progress at national level are capitalized and a system to disseminate the knowledge acquired in the project is implemented at the local level	Number of platforms to share project outputs and experiences.	0 platforms.	At least: 8 reflection workshops; 3 learning exchanges; and 3 conferences.	Review of proceedings/summary reports from reflection workshops, learning exchanges and conferences.
	Number of national policy conferences and scaling up workshops based on project lessons learned.	0 conferences or scaling up workshops.	At least: 3 national policy conferences; and 3 scaling up workshops.	Review of proceedings/summary reports from reflection workshops and conferences.

F. Demonstrate how the project aligns with the Results Framework of the Adaptation Fund

The project will be in harmony with the Strategic Results Framework of AF, whose general purpose is to "**assist developing country Parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change in meeting the costs of projects and concrete adaptation programs to implement resilient to climate change**."

Table 14: Alignment of results framework to Adaptation Fund

Project Objective(s)[34]	**Project Objective Indicator(s)**	**Fund Outcome**	**Fund Outcome Indicator**	**Grant Amount(USD)**
The overall objective of the project is to improve the level of resilience of vulnerable actors in the agricultural sector in Togo and in particularly in Mandouri (Savannah Region) by developing water management and irrigation technologies that reduce dependence on rainfall for agricultural production.	Number of people with reduced risk to climate change-driven floods, storms, fires and drought, as a result of project interventions.	Output 1.1: construction of the combined basin and furrow irrigation system on 144 hectares of land powered by solar. Output 1.2: production yields improved through mechanized means of production and improved agricultural practices	Improvement of food self-sufficiency and sustainable management of land through better water management for agricultural production	5,000,000
Project Outcome(s)	**Project Outcome Indicator(s)**	**Fund Output**	**Fund Output Indicator**	**Grant Amount (USD)**
Increased resilience of producers through the promotion of new income-generating activities, improvement of their income and improvement of the living environment of the beneficiary population	Percentage of population living above the poverty line ($ 2 per day) (90.5% poverty incidence for the Savanna region)	Output 2.1: Income-Generating Activities (IGAs) are practiced and the products are promoted and sold Output 2.2: Strengthening of the financial management of cooperatives and beneficiaries and maintenance of engineering equipment Output 2.3: basic social infrastructures are realized for the beneficiaries	Increase of the resilience of producers through the promotion of new income-generating activities, improvement of their income, and improvement of their living conditions of the beneficiary population	2,150,000
Improved knowledge of stakeholders (public, local elected	Number of platforms to share project outputs and	Output 3.1: local institutions and communities are more	Percentage of community members in target area with	1,317,125

[34]The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the overall principle should still apply.

officials in the region, officials of local institutions, etc.) for the building of the resilience to climate change and the prevention and management of environmental and social risks	experiences.	aware and climate change issues are better understood and taken into account in local development policies	increased awareness as a result of the project, of climate change adaptation and options to enhance climate resilience.	
		Output 3.2: lessons learned from projects in progress at national level are capitalized and a system to disseminate the knowledge acquired in the project is implemented at the local level		

G. Include a detailed budget with budget notes, a budget on the Implementing Entity management fee use, and an explanation and a breakdown of the execution costs.

Table 15: Detailed budget showing execution costs

		Budget notes (USD)	USD
1. Improved planning and management of water resources and (agricultural) production			**5,000,000**
1.1	144 ha developed for agricultural production, equipped with a solar powered irrigation system	[35]*Pump - 110 kW – 150HP, 600 m3/hr, pump shed (10,000); Backup pump?; GI Pipe medium, uPVC piping for conveyance, main lines and sub-main lines to bring water from R. Oti to site and across the irrigation blocks;; end caps; couplers (2,536,000)*	*4,154,000*
		[36]*383 260w PV modules; module mountings, cabling, switches, auxiliary components; Inverters ; transformer; switchgear; etc. (1,318,000)*	
		Block preparation x7 blocks (2000,000)	
		Close protection of site work (fencing, tree planting, etc.) (100,000)	
1.2	Improve techniques and means of irrigated production		***796,000***
	1.2.1 *Acquire farm machinery kits (one 75 hp tractor + 3 discs plough + one 10x10 drive sprayer + one sub-soiler with 3 teeth + one trailer + one harvester + one rotavator + one huller)*	*75 hp tractor (45,000)*	*535,400*
		Tractor accessories (3 disc plow = 2,000;, subsoiler-2m, 7 tines=1,800, 10m mounted boom sprayer – 800 litre = 2,200, trailer-18 ton tandem axle=27,000, harvester-trailed, 2 row=35,200, rotavator – 1.8m=5,800, huller; manure spreader – 3.0 c mu=6,300 (77,600) 4 farm machinery kits i.e. (45,000+77,600) x 4 = 490,400 + Contingency (shipping, currency fluctuations, etc.	
	1.2.2 *Train farmers in irrigation techniques and the proper use of agricultural inputs*	*Train 576 farmers in improved agricultural techniques (110,600)* *Train 10 to 20 local technicians on driving, installation, repair and maintenance of irrigation and solar equipment (100,000)*	*210,600*
	1.2.3 *Produce manuals / handbooks on irrigation, expected ecological & health hazards of irrigation and disseminate the knowledge*	*Manuals & toolkits (50,000)*	*50,000*
1.3	Design and implement training programs for actors responsible for the operation, maintenance and repair of equipment acquired for the beneficiaries.	*Design of training program for 1.2.2 above (50,000)*	***50,000***
2.	**Support for the diversification of livelihoods and the improvement of the living conditions of the beneficiaries**		***2,150,000***
2.1	Promotion of the development of income generating activities		*1,246,000*
	2.1.1 *Design and deliver capacity building*	*Capacity building needs analysis and design*	100,000

[35] See separate Mandouri irrigation project design report
[36] See separate Mandouri irrigation project design report – solar component

		Budget notes (USD)	USD
	programs to cooperatives and their members for diversification of income-generating activities (gardening, guinea-fowl rearing, bee-keeping, and composting, etc.); and simplified financial management and accounting, and the management of cooperative organizations.	*on IGA and diversification (10,000); Training of farmer cooperatives (20,000); Training of farmers-herder groups (20,000); Training of women and youth groups (20,000)* *Training of decentralised services (agriculture extension, livestock, fisheries, etc.) (20,000)*	
2.1.2	*Establish the infrastructure and equipment needed to develop the values chain of agricultural production, processing, packaging and marketing, i.e. build a warehouse(s), build drying areas, set up corn and tomato mills, train producers in processing, packaging and marketing techniques; and facilitate access to markets.*	*Build warehouses* *Build drying areas* *Set up corn and potato mills* *Set up tomato pulp maker* *Train producer in processing, packaging and marketing* *Access to markets / marketing*	*1,146,000*
2.2	Implement simplified funding		***604,000***
2.2.1	*Build social infrastructures*	*Set up IGAs – crop diversification, guinea fowl rearing, bee keeping, composting for organic fertilizer, etc.* *Set up revolving fund (116,000)* *Build fish-ponds* *Build fish drying area* *Set up a tree nursery for agro-forestry*	*304,000*
2.2.2	*Build mini drinking water supply (DWS) network*	*Set up an equipped borehole?, a mini network, water tower and fountains all solar powered*	*300,000*
2.3	Build latrines for sanitation		***300,000***
		Build 3 latrines	*300,000*
3	**Capacity building, environmental and social measures, and knowledge management**		**1,317,125**
3.1	Design and deliver capacity-building programs		***606,000***
3.1.1	*Strengthen the technical capacity of local institutions' agents in the prevention and resolution of climate risk issues (bush-fires, resource use and agricultural production conflicts, sustainable management of natural resources)*	*Develop a Resettlement Action Plan* *Develop a Restoration Plan for the production zones* *Develop a Stakeholder Engagement Plan* *Set up a Grievance Resolution Plan*	*416,000*
3.1.2	*Organize information, education and communication (IEC) sessions toward local populations on risk management techniques related to climate change*	*Information dissemination on Climate Change, Risk Assessment & Management Plans*	*90,000*
3.1.3	*Strengthen the capacity of cooperatives and employees of local institutions in the joint management of water resources and conflict management*		*100,000*
3.2	Implement measures of the Environmental and Social Management Plan	*Develop Risk Assessment & Management Plans* *Develop Integrated Agricultural Inputs (fertilizers / pesticides) Management plans* *Capacity building on ESMP implementation*	*400,000*
3.3	Establish a knowledge management system (production, capitalization, vulgarization, etc.)	*Create a local database for the collection, preservation and dissemination of*	*311,125*

	Budget notes (USD)	USD
	datasheets, educational tools and training materials (45,000) *Knowledge sharing workshops with decision makers* *Explore and build synergies with other projects & similar interventions* *Share disseminate via radio spots and film the good practices from similar interventions* *Create partnerships with tertiary institutions that support students to study project interventions* *Provide platforms for project stakeholders to share experiences nationally and internationally* *Setup of a regional spatial database / GIS-Training (30,000)*	
Total Project Cost		**8,467,125**
Execution costs		***804,380***
Implementation costs		***728, 495***
Amount of Financing Requested		**10,000,000**

Execution Costs – Budget (USD)

YEAR	2017	2018	2019	2020	
Staff	48 364	87 055	87 055	87 055	
Travel Expenses	25 137	45 246	45 246	45 246	
Equipment	120 657	0	0	0	
Monitoring & Evaluation	33 331	59 996	59 996	59 996	
Total	227 489	192 297	192 297	192 297	804 380

IE Management Fee – Budget (USD) – {BOAD to fill!}

YEAR	2017	2018	2019	2020	
Staff	Sept-2017	Dec-2017	Dec-2018	Dec-2019	
Travel Expenses					
Monitoring & Evaluation					
Equipment and materials					
Audit					
Skill building					
Total	A	B	C	D	A+B+C+D

H. Include a disbursement schedule with time-bound milestones.

Table 16: Disbursement schedule

	Upon Agreement Signature	End of Year 1	End of Year 2	End of Year 3	End of Year 4	Total (USD)
Schedule Date (Tentative)	Sept-2017	Dec-2017	Dec-2018	Dec-2019	Dec-2020	
Project Funds	5 404 000	1 289 198	1 289 198	1 289 198	0	**9,271,595**
Execution cost	227 489	192 297	192 297	192 297	0	**804,380**
IE Fee						**728,495**

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

A. Record of endorsement on behalf of the government[37]

Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:

Thiyu ESSOBIYOU Directeur de l'Environnement du Togo	January 7th, 2016

B. Implementing Entity certification

Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address

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 (PANA), Stratégie de Croissance Accélérée et de promotion de l'Emploi (SCAPE), Politique Nationale de Développement Agricole du Togo (PNDAT), programme national pour l'Investissement et l'Agriculture pour la Sécurité Alimentaire (PNIASA) and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social 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/programme.	
Almamy MBENGUE Directeur de l'Environnement et de la Finance Climat (DEFIC) Implementing Entity Coordinator	
Date: January 10th, 2016	Tel. :+228 22 23 25 24 email:ambengue@boad.org
Project Contact Person: Mrs Fatoumata T. SANGARE	Tel. :+228 22 23 27 96 Email: ftoure@boad.org

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

Annex1: Letter of Endorsement

REPUBLIQUE TOGOLAISE
Travail Liberté Patrie

Ministère de !'Environnement et des Ressources Forestières

Direction de l'Environnement

ADAPTATION F U N D

Letter of Endorsement by Government

Lomé, 7th January, 2016

To: The Adaptation Fund Board

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

Subject: Endorsement for Project "INCREASING THE RESILIENCE OF VULNERABLE COMMUNITIES IN THE AGRICULTURE SECTOR OF MANDOURI IN NORTHERN TOGO"

In my capacity as designated authority for the Adaptation Fund in Togo, I confirm that the above project 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 Togo.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by Banque Ouest Africaine de Développement (BOAD) and executed by Direction of Environment.

Sincerely,

Direction de l'Environnement
Le Directeur

Thiyu K. ESSOBIYOU
Director of Environment
Adaptation Fund National Designated Authority

Annex 2: Participant lists for meetings with communities

a. ESIA update - interview sessions, 21-22 May, 2017

Number of people interviewed 9 key informants and 41 stakeholders.

Name	Contacts / Cell no
Key informants	
1. GEVAPAF?	KADA Odane, Program manager, 20285278
2. Prefecture	KOLANI Yempabe, 90011797
3. Prefecture	Gnoithe DOUTI, Manager, 99291599 / 90346815
4. Local Authority	DJAKPERE Tignoiti, Canton Chief, 90312436
5. DPAEH / Kpendjal (Regional Directorate of Agriculture, breeding and Hydraulics/ savannas (DRAEH/S))	NADJAGOU KanfieniLalle, 90200945
6. Prefecture Department of the Environment and Forest Resources	GBENIN Kodjo Benjamin, Director
7. Committee of breeders	BARRY Arzouma, Vice-chairman, 98553444
8. Livestock market	AMADOU Amidou, Assistant Treasurer, 98555572
9. School	MAMA I Ababeni, Teacher, 90843492

Name	Sex	Cell no.
Other stakeholders		
1. LAMBONI Yendou	M	None
2. KOMBATE Syli	M	None
3. TAMBIAGA Bogra	M	90759657 / 99507352
4. KOMBATE Badi	M	90001404 / 99003908
5. ARZOUMA Boukhari	M	97489166
6. GANGA Tango	M	97239757
7. DOUTI Gnoithe	M	None
8. YALO Boudandja	M	None
9. KOMBATE Digaguibe	M	None
10. KOLANI Bayé	M	99877110
11. KOMBATE Kolanbigua	M	None
12. SANWOGOU Mary	F	90367198 / 97657911
13. Sakina OMOROU	F	90589819
14. KOMBATE Awa	F	91989387
15. MAMOUDOU Issa	M	97465881
16. KOLANI Mr. Joseph	M	90147159 / 98634722
17. KOMBATE Bibate	M	93805963
18. ABDOULAYE Dramane	M	90346978
19. GNAGOU Nanfangue	M	99805179
20. TALATA Karimou	M	None
21. Achetou ARBILA	F	93575670
22. MOUSSA Adama	M	None
23. NATCHEMBATE Dapauguidi	M	99929909
24. KOUMONGUA Dramane	M	None
25. NATCHENDE Songuimpale	M	98519533
26. SAMBIANI Goumpouguini	M	90981069 / 98049091
27. ILIASSOU Idrissou	M	99769885
28. Sabime slab	M	None
29. SANWOUGOU Dimounoba	M	99956638
30. KOUMONGUA Fataou	F	97245005
31. MAMAH Abibah	M	91092027
32. ARZOUMA Soule	M	90724346 / 99997129
33. DRAMANI Oumorou	M	None

Name	Sex	Cell no.
34. SAMBIANI Pouguimba	F	None
35. YEMBLIMA Souguetemba	M	98707480
36. ISSARBA Kambirba	M	99450079
37. NATCHEMBATI Djanle	M	96386352
38. KOMBATE Kolitchieme	M	98224453
39. SAMBIANI Boundandja	M	None
40. LAMBONI NabonleBarthelemy	M	98019257
41. SAMBIANI Boulo	F	None

b. Initial community consultations

Liste de présence à Mandouri : 11.07.2015

Liste de présence à Mandouri

date: 11/07/2015

N°	Nom et Prénom(s)	Localité/ Fonction	Contact et signature
45	Djakpéré Tignoati CCOT.		90.31 24 36
01	Kombaté Badi	Menuisier	90-00 14 04
02	Koulambik Lamboni	Cult	-
03	Natchemboté Dapouguidi	"	99.92 99 05
04	Bomsoma Seydou	"	97-44-86-29
05	Kpala Tadja	"	99-31-68.42
06	Lamboni Kanlefei	"	
07	Kombaté Seidou	"	90-70-21-87
08	Natchemboté Diayable	"	-
09	Douti Birname	"	-
10	Djamone Tignoati	"	-
11	Alassani Atirwa	Ménagère	97.44-76-68
12	Omorou Dia	Ménagère	
13	Sanwogou Coumi	"	91-36-71-98
14	Issarma Tindampoa	"	-
15	Lamboni Yaa	"	-
16	Lamboni Kakoa	"	-
17	Sanwogou Tampandi	Cult - Ménagère	-
18	Djakpéré Kossia	Ménagère	-
19	Nanchiare Mimpouguibe	"	-
20	Boureima Awa	"	-
21	Amadou Ano	"	-
22	Tambiaga Kpampoa	"	-
23	Douti Lamatou	"	-
24	Douti Boagen	"	-
25	Tintolgou Issarma	Cult - Ménagère	-
26	Bigou Djolimpoa	Ménagère	-
27	Dermane Fatouma	"	-
28	Yemblima Fatouma	"	-
29	Soulé Aichatou	"	-
30	Omorou Fati	"	-
31	Kompa Tadampo	"	-
32	Adama Pognanfa	"	-
33	Yamba Salamata	"	91-55-21-82
34	Kéré Mémouna	"	-
35	Tchindo Amina	"	-
36	Koffi Adissétou	"	-
37	Kombaté Samandja	Cult - Ménagère	98-21-18 02
38	Lamboni Yemboani	Ménagère	
39	Djakpéré Kanna	"	97.39-75 65
40	Ondagou Eli	Cult	99.80-51.79
41	Sanwogou Emile	"	97-72-09-56
42	Sambiani Komi	"	
43	Tambiaga Bogra (Psdt de la coopérative des producteurs de riz de ...)	"	99-50-73-52
44	Ganga Dambo		97 23-97.57

MINISTERE DE LA PLANIFICATION DU DEVELOPPEMENT

REPUBLIQUE TOGOLAISE

Travail-Liberté-Patrie

SECRETARIAT GENERAL

DIRECTION GENERALE DE LA MOBILISATION DE L'AIDE ET DU PARTENARIAT

DIRECTION DE LA COOPERATION MULTILATERALE

Réunion : Restitution de la mission BOAD d'évaluation du Projet de relèvement du niveau de résilience des acteurs vulnérables du secteur agricole.

DATE : 15 juillet 2015

LISTE DE PRESENCE

N°	NOM ET PRENOM	TITRE ET STRUCTURE	CONTACT (TEL +MAIL)	EMARGEMENT
1	DJOBO Gaba	Chargé Dossier BOAD : MPD	91337755 djobogaba@yahoo.fr	
2	LEBIGAZA Meinolou	DT AGETUR-TOGO	90100890 meindou@Yahoo.fr	
3	AZIAKA Messan	DFC/AGETUR-TOGO	90055480 maziaka-gil62@gmail.com	
4	TAMAKLOE Melissa	DGMAP, chargé OCDE	9034 8077 leofils1@gmail.com	
5	KOUGBLENOU Koffi	DFCEP ; chargé d'étude	91-94-56-90 / 22-19-28-46 ballaektime@gmail.com	
6	M'GBOUNA L. Bagnibafela	DAF/DGTCP/MEFPD	90936834 christbagui@gmail.com	

7	KOULOUMA Patchali	DGB/DAP/DGTCP/MEFPD	22381042 Kouloumac@yahoo.fr	
8	AGBAVO Sophie	DPPD / MPD	91591261 Sophie_agbavo@yahoo.fr	
9	ITAABA-KASSOU Baya	CAS-IMEC/MEFPD	96986782 bayakas@yahoo.fr	
10	BAKATIMBE Tchamba	DE/MERF	90385874 bakatim2006@yahoo.fr	
11	ESSOBIYOU Thiyu	DE/MERF	90021935 essobiyou@hotmail.com	
12	FALL Boubacar	BOAD/DEFIC/BEI	boubafall@yahoo.fr	
13	BERGER Ronald	BOAD/DEFIC/AT BEI	ron_berger@hotmail.com	
14	MOUSSA Mamou	BOAD	22329595 mmoussa@boad.org	
15	AILECHI Sylvie	BOAD	sylyi@boad.org	
16	SANOGARE Fatoumata	BOAD	ftoure@yahoo.fr	
17	ATCHOLI K. Eglin	MPDAT/ACB	atchochrist83@yahoo.fr	

MINISTERE DE LA PLANIFICATION DU DEVELOPPEMENT

SECRETARIAT GENERAL

DIRECTION REGIONALE DE LA PLANIFICATION,
DU DEVELOPPEMENT ET DE L'AMENAGEMENT
DU TERRITOIRE DES SAVANES
DAPAONG
BP : 04 Tél : Fax : 27-70-83-09
N°_____/2015/MPD/SG/DRPDAT – RS

REPUBLIQUE TOGOLAISE
Travail – Liberté – Patrie

Dapaong, le 10 /07/2015

REUNION D'ECHANGE ENTRE LA MISSION D'EVALUATION DU PROJET DE RELEVEMENT DU NIVEAU DE RESILIENCE DES ACTEURS VULNERABLES DU SECTEUR AGRICOLE DE KPENDJAL ET LES ACTEURS REGIONAUX DE DEVELOPPEMENT

DATE : **le 10 Juillet 2015**
LIEU : **DRPDAT / Savanes**

LISTE DE PRESENCE

N°	Nom et Prénoms	Structure	Fonction	Contact	Mail	Signature
1.	ALLECHI Solange	BOAD	Env.	+228 22232646		
2.	MOUSSA MOROU	BOAD	Ing G.R	22232595	mmoussa@boad.org	
3.	FALL Boubacar	BOAD/DEFIC	Consultant	97588361	boubafall@yahoo.fr	
4.	BERGER Renaud	BOAD/DEEC	Consultant	93440533	roo_berger@hotmail.com	

5.	Jean Baptiste LARE	Croix-Rouge	Point Focal	90243669	damgale1971@yahoo.fr	[signature]
6.	LABANDE Idrisson	PAM	Resp. Rég°	90256070	ilalande@yahoo.fr	[signature]
7.	IKOUPOKPA Kossi	Environn.	Repn. DR..	93399682	–	[signature]
8.	DERMANE Moutala	MDBAJEJ/S	Responsable Régional	90937759	dertala@yahoo.fr	[signature]
9.	MOUIDAGUETE Kanlanfai	Hydraulique	Sociologue	90-19-62-61	timotheemouidaguete@yahoo.fr	[signature]
10.	BAKONA. Batobakou	DRAEP	Repr. DR Agri	94858201	bakonaherve@yahoo.fr	[signature]
11.	LARE Dodi	UCMECS	Responsable Exploitation	90936806	ladoulille2@yahoo.fr	[signature]
12.	POUNPOUNI Koumoi	Act° Sle	DRAS PF-A	90457203	protectiondelenfant@yahoo.fr	[signature]
13.	BIGNANG Kiziouvei	Chef Projets	AGERDUTE-TG	90057275	kbignangjp@yahoo.fr	[signature]
14.	BAKATIMBE Tchannibi	Aménagiste forestier	DE/MERF	90385874	bakatim2006@yahoo.fr	[signature]
15.	NAM Pakedame	DRPDAT-RS	DR	90104845	nampakedam@gm	[signature]
16.	DJOBO Gouba	Ministère Plan	chargé Dossier BOAD	91337750	djobogouba@yahoo.fr	[signature]
17.						
18.						
19.						
20.						
21.						
22.						
23.						
24.						
25.						

MINISTERE DE LA PLANIFICATION DU DEVELOPPEMENT

SECRETARIAT GENERAL

DIRECTION GENERALE DE LA MOBILISATION, DE L'AIDE ET DU PARTENARIAT

DIRECTION DE LA COOPERATION MULTILETERALE

REPUBLIQUE TOGOLAISE
Travail – Liberté- Patrie

Lomé, le 7/07/2015

LISTE DE PRESENCE

Prise de contact ; Mission BOAD d'evaluation du projet de relèvement du niveau de résilience

N°	Nom Prénoms	Fonction/Structure	Emargement	Téléphone	E-mail
1	DJOBO Gaoua	Chargé Dossier BOAD DE DPIRD		91 33 77 50	djobogaoua@yahoo.fr
2)	AWADE Essobozou	Directeur de la Coop Multilatérale		90 05 78 22	pierreawade@hotmail.com
3	KPIZING Esodong	Coordonnateur CAS-IMEC MEF		90 09 60 63	kesodong@gmail.com
4	BOLOR [illegible]	bolorjean@yahoo.fr		90 09 65 42	bolorjean@yahoo.fr
5	ANIMAOU Tchiou	[illegible] Directeur / ENSEED		90 02 29 58	ratchiou@yahoo.fr
6	MAWUENA Komlan	chargé d'etude à la DGMAP		90 81 73 44	mawuena2020@yahoo.fr
7	LITABBA-KASSOU Baya	chef de service contrôle des 3FD /CAS-IMEC/MEF		90 98 67 82	bayakas@yahoo.fr
8.	YAOU Méry	chef Division Direction de l'Environnement		90 14 87 44	ymery6@yahoo.fr

MINISTERE DE L'ENVIRONNEMENT
ET DES RESSOURCES FORESTIERES

SECRETARIAT GENERAL

DIRECTION DE L'ENVIRONNEMENT

REPUBLIQUE TOGOLAISE
Travail-Liberté-Patrie

LISTE DE PRESENCE A LA REUNION DE SYNTHESE DE LA MISSION DE TERRAIN/BOAD/ADAPTATION

****

DATE : 13 juillet 2015
LIEU : Salle de réunion de la direction de l'environnement

N°	Nom et Prénom(s)	Institution	Fonction	Contact et adresse E-mail
1	BAKATIMBE Tchamnibi	DE/MERF	Aménagiste forestier	90385874 bakatim2006@yahoo.fr
2	SALIFOU Daoudou	DAENA/MAEH	Agronome	90885015 jadaoud14@gmail.com
3	DJOBO Gamba	DCM/MA	chargé Dossiers BOAD	91337750 djobogamba@yahoo.fr
4	MOUSSA Moro	BOAD	Ingénieur Génie Rural	22232595 mmoussa@boad.org

N°	Nom et Prénom(s)	Institution	Fonction	Contact et adresse E-mail
5	BIGNANG Kizitouvei FALL Boubacar	AGETUR-TOGO BOAD/DEFIC	chef de Projets Consultant	90057275 kbignangjp@yahoo.fr boubafall@yahoo.fr
6	ALLECHI Solange	BOAD	Environnementaliste	22232646 sgaji@boad.org
7	SANOGARE Fatoumata	BOAD/DEFIC	Analyste financier	22232796 ftoure@boad.org
8	BERGER Ronald	BOAD/BEI	consultant DEFIC	ron.bergen@hotmail.com
9				
10				
11				
12				

MINISTERE DE LA PLANIFICATION DU DEVELOPPEMENT

SECRETARIAT GENERAL

DIRECTION GENERALE DE LA MOBILISATION, DE L'AIDE ET DU PARTENARIAT

DIRECTION DE LA COOPERATION MULTILETERALE

REPUBLIQUE TOGOLAISE
Travail – Liberté- Patrie

Lomé, le 7/07/2015

LISTE DE PRESENCE

Prise de contact ; Mission BOAD d'evaluation de projet de relèvement du niveau de résilience

N°	Nom Prénoms	Fonction/Structure	Emargement	Téléphone	E-mail
1	DJOBO Gauba	Chargé Dossier BOAD DCE/PI/MD	[signature]	91 33 77 50	djobogauba@yahoo.fr
2)	AWADE Essobozou	Directeur de la Coop Multilatérale	[signature]	90 05 78 22	pierreawade@hotmail.com
3	KPIZING Esodong	Cordonnateur CAS-IMEC MEF	[signature]	90 09 60 63	kesodong@gmail.com
4	BOLOR Koffi	bolorjean@yahoo.fr	[signature]	90 09 65 42	bolorjean@yahoo.fr
5	ANIMAOU Tchiou	atchiou@yahoo.fr	[signature]	90 02 29 58	atchiou@yahoo.fr
6	MAWUENA Koulan	Directeur / ENSEED		90 81 73 44	mawuena2020@yahoo.fr
7	LITABBA-KASSOU Baya	chargé d'études à la DGMAP → chef de service contrôle des SFD/CAS-IMEC/MEF	[signature]	90 98 67 82	bayakas@yahoo.fr
8.	YAOU Méry	chef Division Direction de l'Environnement	[signature]	90 14 87 44	ymery69@yahoo.fr

mmeuble du CASEF, 7ème étage, Côté Plan, B.P. 1667 Lomé, Tél. (+ 228) 22 20 67 25, Fax (+228) 22 20 67 23, e-mail : micodevat@yahoo.fr /minplandat@yahoo.fr

MINISTERE DE LA PLANIFICATION DU DEVELOPPEMENT

SECRETARIAT GENERAL

DIRECTION GENERALE DE LA MOBILISATION,
DE L'AIDE ET DU PARTENARIAT

DIRECTION DE LA COOPERATION MULTILETERALE

REPUBLIQUE TOGOLAISE
Travail – Liberté- Patrie

Lomé, le

LISTE DE PRESENCE

N°	Nom Prénoms	Fonction/Structure	Emargement	Téléphone	E-mail
	BAKATIMBE Tchamiibi	DE/MERF		90385874	bakatim2006@yahoo.fr
	BAMALI Tahontan Didier	DE/MERF (PNA).		90201666	dibamail@yahoo.fr
	KOUGBLENOU Koffi	DFCEP/MEF		91945690 22193246	ballacktime@gmail.com
	AGBAVO Sophie	DPPD/MPDAT		91591261	sophie_agbavo@yahoo.fr
	M'GBOOUNA L. Bagui Béfélé	DDP/MEFPD		90936834	christbagui@gmail.com
	KOULOUMA Patchali Bèma	DGD/DDP/MEFPD		22381042	Koulouma@yahoo.fr
	LEBIGAZA Maindou	DT/AGETUR		90100890	maindou@Yahoo.fr
	BIGNANG Kizionvèi	chef de Projets		90057275	kbignangjp@yahoo.fr
	FALL Boubacar	Consultant BOAD		97588361	boubafall@yahoo.fr
	BERUER Ronald	Consultant BEI/BOAD		93446193	ron_berger@hotmail.com
	MOUSSA Malou	Ing. G.R BOAD		92429803	mmoussa@boad.org

MINISTERE DE LA PLANIFICATION DU DEVELOPPEMENT

SECRETARIAT GENERAL

DIRECTION GENERALE DE LA MOBILISATION,
DE L'AIDE ET DU PARTENARIAT

DIRECTION DE LA COOPERATION MULTILETERALE

REPUBLIQUE TOGOLAISE
Travail – Liberté- Patrie

Lomé, le

LISTE DE PRESENCE

N°	Nom Prénoms	Fonction/Structure	Emargement	Téléphone	E-mail
	ALLECHI Solange	BOAD		+229 22732646	syayi@boad.org
	AZIAKA Messan	DPC/AGETUR-TOGO		22261446	maziaka.gil62@gmail.com

MINISTERE DE L'ENVIRONNEMENT
ET DES RESSOURCES FORESTIERES

SECRETARIAT GENERAL

DIRECTION DE L'ENVIRONNEMENT

Division de la Lutte contre les Changements Climatiques

REPUBLIQUE TOGOLAISE
Travail-Liberté-Patrie

Atelier de validation du document du « Projet de relèvement du niveau de résilience des acteurs vulnérables du secteur de l'agriculture à Mandouri, au nord du Togo » : LISTE DE PRESENCE

Date: 29 Juin 2017 **Lieu** : Salle de conférence de la BOAD à Lomé

N°	NOM ET PRENOMS	TITRE	STRUCTURE REPRESENTEE	COORDONNEES	SIGNATURE
1	Nom : BAMALI Prénoms : PA Tahaston	Point focal PNA	Direction de l'environ.	Tél : 90201666 E-mail : dif.mail@yahoo.f	
2	Nom : YOUA Prénoms : YACOUBA	Préfet de KPENDJAL	Préfecture de KPENDJAL	Tél : 90057206 E-mail : pharmaciedelasauvegarde@gmail.com	
3	Nom : ASSOGBA Prénoms : Akouvi	Assistante Financière	DE/MERF	Tél : 96180782 E-mail : assolga2006@yahoo.fr	
4	Nom : AMENUNYA Prénoms : Kokou Elolo	GR	DAEMA	Tél : 91819886 E-mail : godsonamenunya@yahoo.com	
5	Nom : DJAMESSI Prénoms : Kofi Agbémehia	Chef section	DGMAP/MPD	Tél : 90304940 E-mail : djamesihermann@gmail.com	

N°	NOM ET PRENOMS	TITRE	STRUCTURE REPRESENTEE	COORDONNEES	SIGNATURE
6	Nom : ZOUPOJA Prénoms : Kutun	Coordonnateur Scientifique Suivi Evaluation	ITRA	Tél : 90026856 E-mail : ekozoupoja@yahoo.fr	[signature]
7	Nom : KOUDAHE Prénoms : Komlan	Chargé d'études	ADA Consulting Africa	Tél : 90819769 E-mail : Koudahe_Komlan@yahoo.fr	[signature]
8	Nom : ADANI Prénoms : Afiya	chargée d'études	Direction des Filières Végétales	Tél : 90908559 E-mail : adanihilarion@gmail.com	[signature]
9	Nom : BEIGUE ALFA Prénoms : P'ham	Biologiste, Assistant au chef section Promotion des Pêches	Direction des Pêches et de l'Aquaculture (DPA/DAEA)	Tél : 90052298 E-mail : ibn_fabrice@yahoo.fr	[signature]
10	Nom : Okoumen Prénoms : Katchiy	Chef Division APF	DRF	Tél : 90124051 E-mail : [illegible]	[signature]
11	Nom : BIGNANG Prénoms : Kiziouvèi	Chef de Projet	AGETUR-TOGO	Tél : 90057275 E-mail : kbignangjp@gmail.com	[signature]
12	Nom : BAKATIMBE Prénoms : Tchaanmb	Ingénieur DES Eaux et Forêts	DF	Tél : 90385874 E-mail : bakatim2016@yahoo.fr	[signature]
13	Nom : YAOU Prénoms : Méry	chef Division LCC	DE	Tél : 90 14 87 44 E-mail : ymery69@yahoo.fr	[signature]
14	Nom : DITOATOU T. Prénoms : Kanfitine	Chargé d'études	SG/MERF	Tél : 90 96 81 39 E-mail : ditoatou@yahoo.fr	[signature]
15	Nom : LAMBONI Prénoms : Matéyendou	Chef Section Agropastoralisme	Direction de l'Elevage	Tél : 90 85 17 89 E-mail : lambon@hotmail.fr	[signature]

N°	NOM ET PRENOMS	TITRE	STRUCTURE REPRESENTEE	COORDONNEES	SIGNATURE
16	Nom : AGOUDA Prénoms : Kpadja	Chef de Division	Direction des Ressources en Eau	Tél : 90 26 62 86 E-mail : agoudakpadja@yahoo.fr	[signature]
17	Nom : ESSOBIYOU Prénoms : Thiyu Kokoza	Directeur	Direction de l'Environnement	Tél : 90 02 19 35 E-mail : essobiyou@hotmail.com	[signature]
18	Nom : LITAABA-KASSOU Prénoms : Baya	Coordonnateur	CAS-IMEC	Tél : 90 98 67 82 E-mail : bayakas@yahoo.fr	[signature]
19	Nom : BASSAN Prénoms : Koffi A	Enseignant/Chercheur	Ecole Supérieure d'Agronomie UL	Tél : 91 00 59 55 E-mail : koffibassan@yahoo.fr	[signature]
20	Nom : KARAMON Prénoms : Arouna	Environnementaliste	AGETUR-TOGO	Tél : 91 52 26 79 E-mail : arounakaramon@gmail.	[signature]
21	Nom : ASSIH Prénoms : Hodabalo	chargé d'étude	Direction Générale de l'Energie	Tél : 90 18 13 98 E-mail : h.assih2@gmail.com	[signature]
22	Nom : SEMEGLO Prénoms : Komlan A.	Chef service Suivi PGES	ANGE	Tél : 90969774/99041511 E-mail : martinnozi@yahoo.fr	[signature]
23	Nom : BOUKARI Prénoms : Bassoumiyi	PDS - Kpendjal	Conseil Préfecture Kpendjal	Tél : 91421917 E-mail : —	[signature]
24	Nom : BANAZE Prénoms : Anissaounton	Chauffeur	D.E	Tél : 92-49-22-01 E-mail :	[signature]
25	Nom : Prénoms :			Tél : E-mail :	

Annex 3: Photographs from public consultation

a. 19-22 January, 2017 – MERF Mandouri site visit

Main meeting under the big tree

Discussion with women

Discussions with men

Farm land (project area) in the dry season

b. Technical studies 26 May – 2 June 2017

Farm land just before the rainy season (End of May-June)

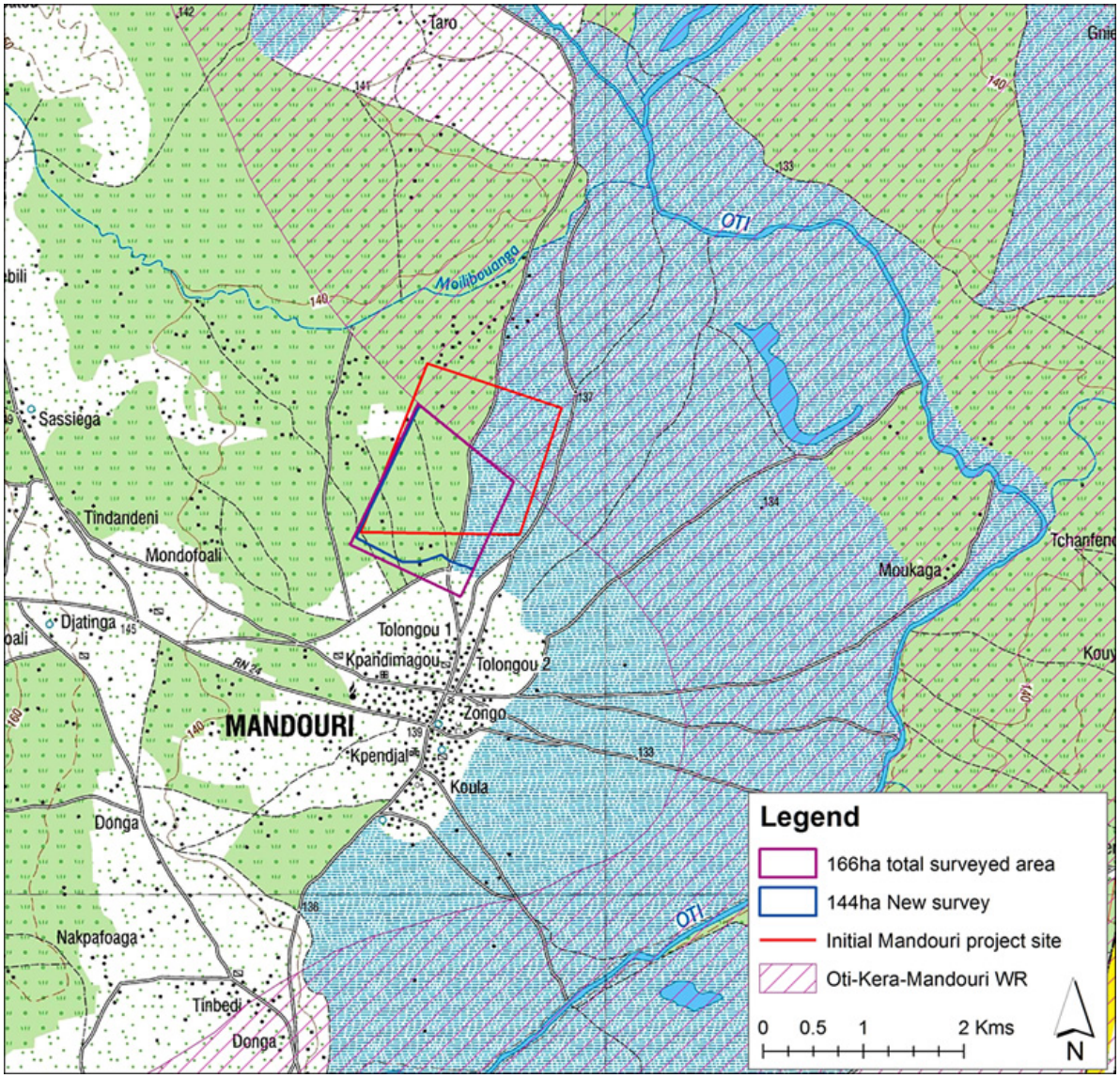
Cattle in Mandouri

Survey team

Survey team recce

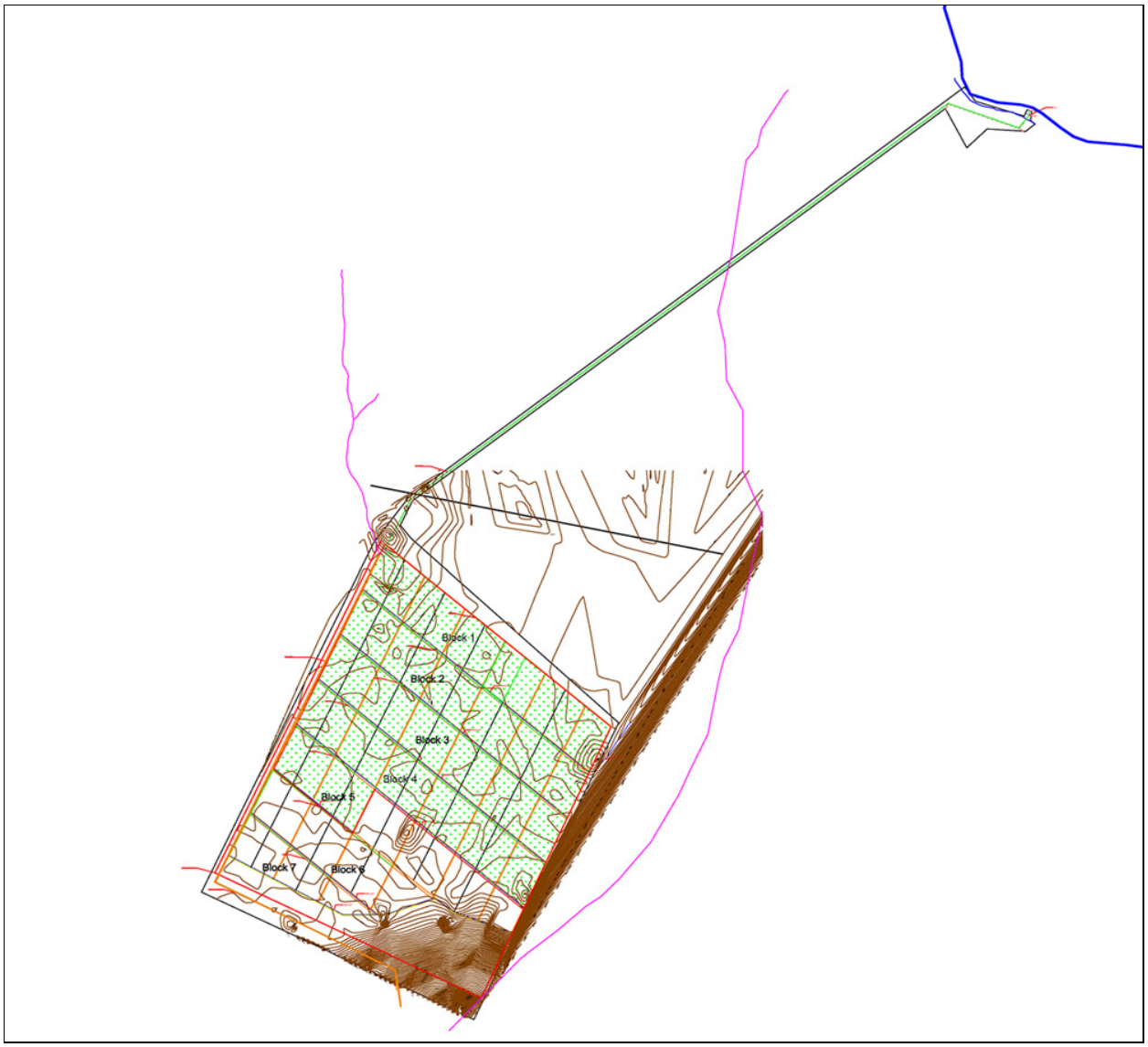
Annex 4. Irrigation project technical design

a. New surveyed blocks on topo map of Mandouri

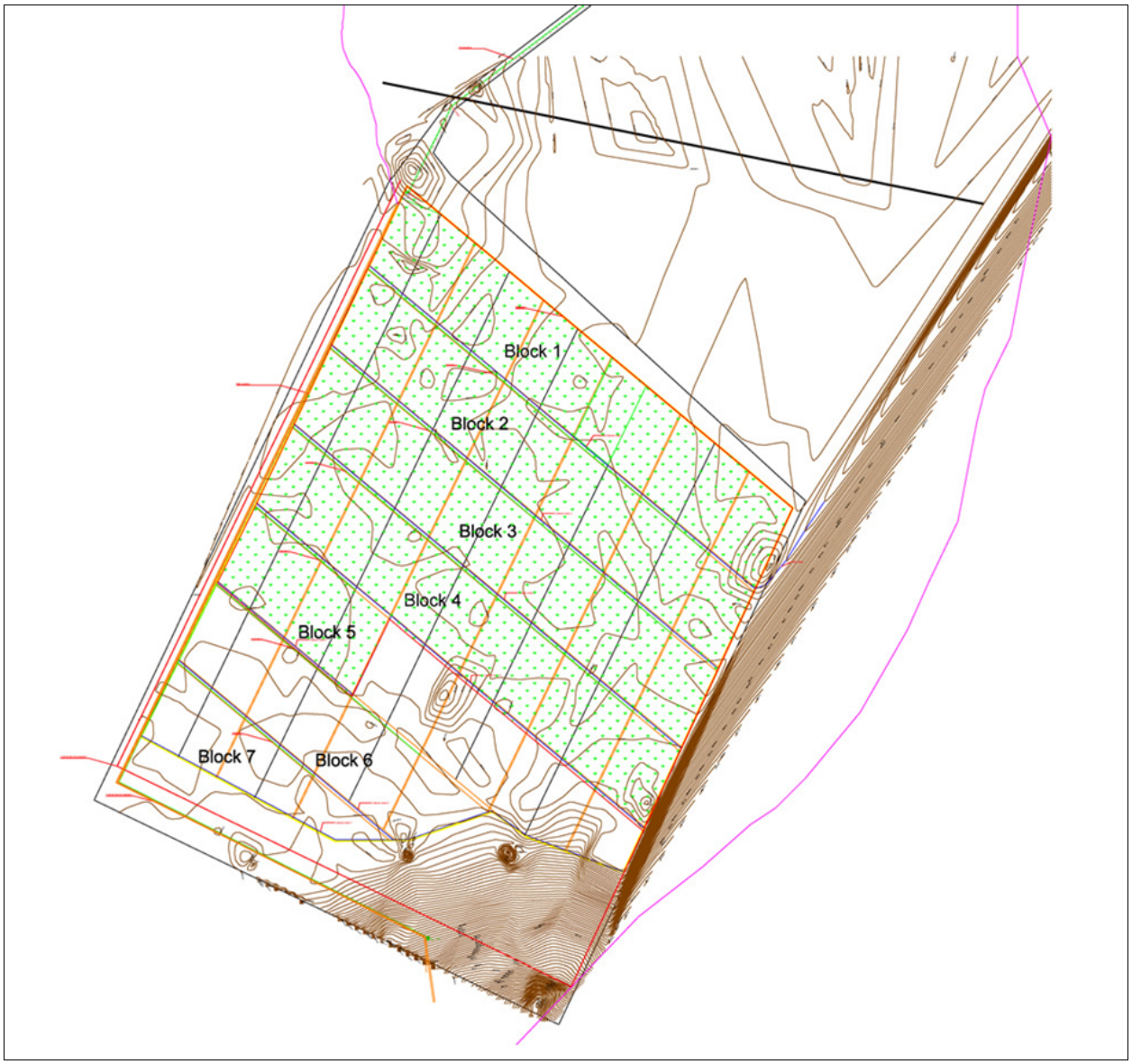


There is need for a definitive clarification on the Oti-Kera-Mandouri wildlife reserve boundary. Is this boundary from DE source the final one?

b. New survey from June 2017 showing water offtake from River Oti (Blue line - NE)



c. New survey June 2017 showing the 144ha irrigation blocks 1-7,



The system designed for Mandouri will be a combination of basin and furrow irrigation with water delivery to the blocks via GI and UPvc pipes[38]. The UPVC pipes will be buried, at a depth of 1 m and 1.2 m.

[38] For detailed information see separate report on irrigation design.

Annex 5. Mandouri Agricultural Resilience Project Environmental and Social Risk Management Plan

The NIE has noted its responsibility to ensure compliance with the Adaptation Fund Environmental and Social Policy (ESP). It will manage this by providing relevant materials and training during project inception, and by ensuring that all project forecasting, monitoring, evaluation, reporting and governance processes are able to detect such risks timeously so that they are managed accordingly. The Mandouri Agriculture Resilience project has been carefully designed to beneficiate local communities and the environment in its focus areas and is not expected to result in any adverse social or environmental impacts. This Environmental and Social Risk Management Plan has been developed to ensure that any unintended adverse impacts are avoided, and that, where this is not the case, they are timeously detected and appropriately mitigated.

The plan will ensure that:

- adequate capacity building for risk management is provided at project start-up;
- activity forecasts are screened for potential risks and that associated disbursement is not approved where these arise;
- project reporting processes have a particular focus on detection of environmental and social risks;
- the project oversight and governance processes are designed to ensure that risks are avoided where possible and appropriately mitigated in the unlikely event of these occurring; and
- stakeholders are aware of a mechanism to raise concerns relating to risks with the Project Coordinating Committee (PCC) and the National Implementing Entity (NIE) Steering Committee should concerns relating to risks not be adequately addressed by the Executing Entity (EE).

This is elaborated as follows:-

Project Start-up

During the project start-up phase, the NIE will engage directly with the EE and other project partners on the operating procedures that will apply to the management of the project, and that will be necessary to ensure compliance with ANGE and AF policies and procedures.

An Operating Procedures Manual will be developed to support this process.
Focus will be placed on the AF ESP, and a dedicated capacity building session will be held to ensure that the EE and other project partners are able to competently detect environmental and social risks in future project planning, monitoring, evaluation and reporting processes.

In this regard, attention will be given to ensuring that projects do not impact adversely on any priority biodiversity areas or ecosystem support areas, and that there are no negative impacts on local communities, including vulnerable groups and indigenous people. No such adverse impacts are anticipated.

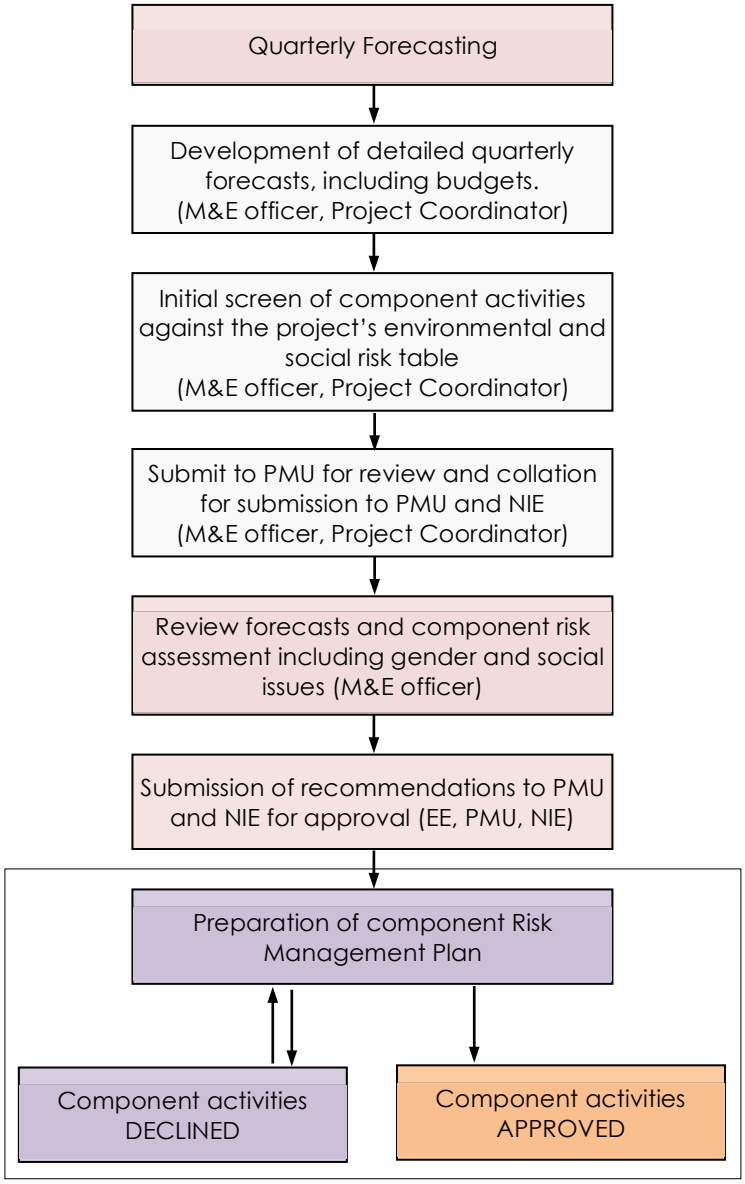
Roles and Responsibilities:
NIE – lead capacity building for risk screening.
EE, sub-Executing Entities and partners, PMU – participate in and develop competencies to give effect to risk screening.

Empowerment of local communities

During the participatory planning processes that are described throughout the project, local communities will be empowered to detect and mitigate environmental and social risks, as set out in the AF ESP and the project's Environmental and Social Risk Management Plan. Processes to build local community capacity to do this will be integrated in the capacity building activities that are envisaged during the early stages of each project component, and will be essential in ensuring that local communities understand the intentions of the project and can contribute to the design of subcomponent activities accordingly, know their rights and are aware of the recourse they may have for raising any risk-related issues should these arise.

Forecasting and Screening
The project's forecasting and risk management plan is set out in Figure 1 and described below.

Figure 1: Mandouri Agriculture Resilience project risk assessment plan.



In order for funds to be disbursed, the EE will need to submit detailed quarterly forecasts to the NIE that are built up from anticipated project activities.

In an effort to strengthen risk screening, and to ensure that no unintended negative impacts are caused or not mitigated, the project coordinator and M&E officer will be required to submit a basic environmental and social risk table with their forecasts. These tables will need to be submitted to the PMU as part of the forecast approval process.

In the lead up to project inception, the EE will modify the AF"s ESP table for this purpose. All risks will be

included, but the table will be elaborated upon to create a set of clear and easy to understand activities that will need to be cross checked. This risk screening process will ensure compliance with the principles of the AF ESP and National legislation.

Project activities that pose social or environmental risks that are not easily mitigated will not be approved during the detailed quarterly forecasting process.

Quarterly forecast review and risk assessment
All quarterly forecasts, including risk assessments, will be reviewed by the PMU with support of the M&E officer. These reviews will be tabled with recommendations to the PMU and NIE for approval.

Risk Management
Where minor risks that can easily be mitigated are detected, the EE may be required to develop a sub-Environmental and Social Risk Management Plan, commensurate with the severity of the risk associated with the relevant sub-component activity. The EE will need to know that costs associated with this can be provided within the project budget, and this will need to be approved by the NIE.

Reporting
Particular attention will be given to the monitoring of unanticipated environmental and social risks in the quarterly reporting process. The EE will be expected to scrutinize National Executing Entity reports for such risks, and to provide the PMU and NIE with their appraisals for verification. The NIE will work closely alongside the EE to ensure that PMU staff have the capacity to undertake the required screening, and to provide the necessary scrutiny.

Roles and Responsibilities:
EE, National Executing Entities and partners – risk screening.
PMU – risk screening oversight.
NIE – capacity building, risk screening scrutiny and verification.

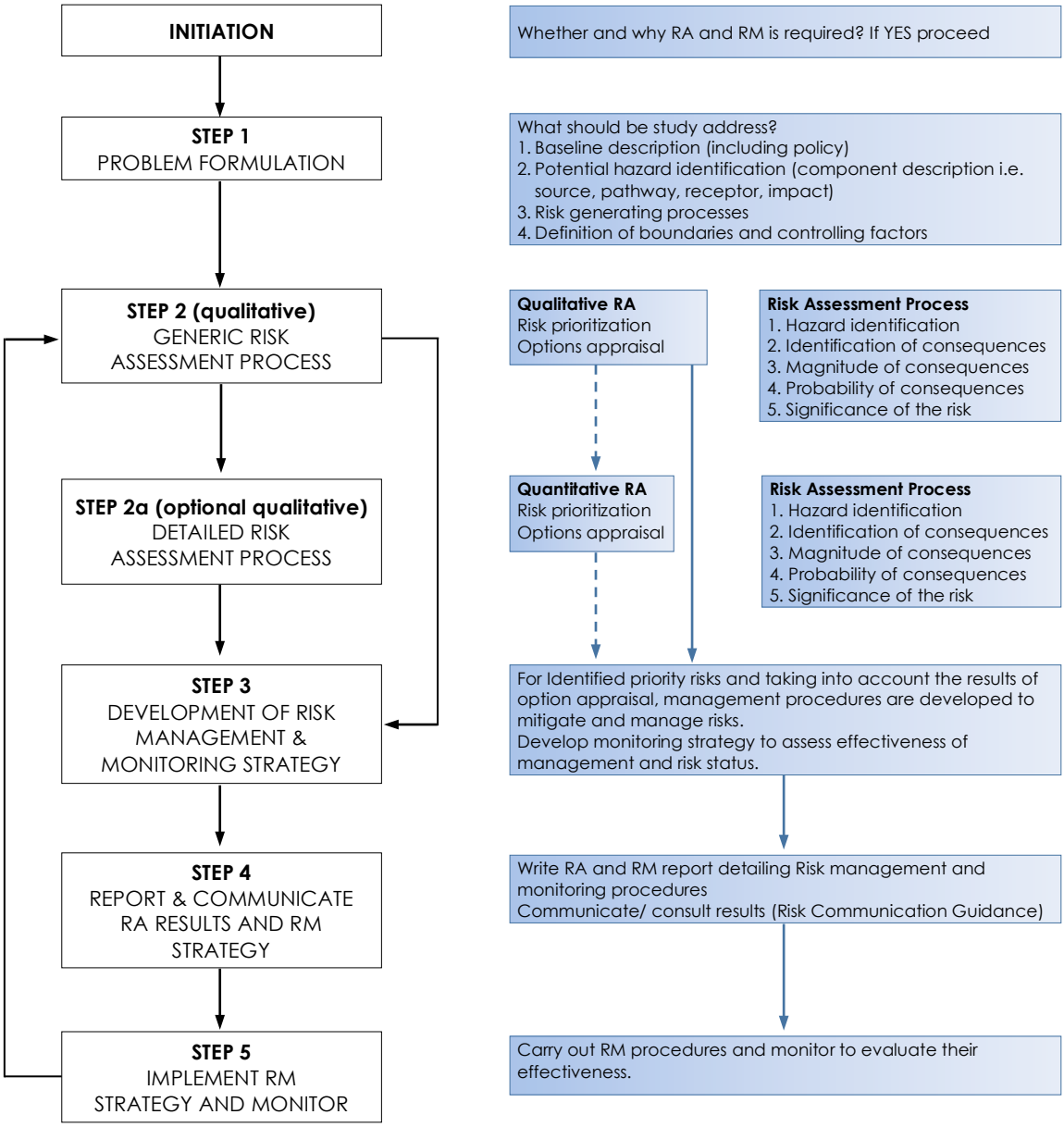
Mid-term and terminal evaluations
Mid-term and terminal evaluations will include a focus on environmental and social risks, and ensure compliance with no-risk assessments in terms of the AF ESP.

Roles and Responsibilities:
Consultants – risk evaluation.
EE, National Executing Entities and partners – risk management responses (in the unlikely event that these should arise).
PMU – risk management oversight.
NIE – risk management verification.

Governance and Oversight
The EE will report any unintended social and environmental risks that are detected through the project monitoring, evaluation and reporting processes to the NIE via the PMU, together with a proposed risk management plan that shows how these risks will be mitigated. In response to this, the NIE and PMU may propose the redirection of project funds to risk management activities, or the withholding of the next tranche of payment until satisfactory risk management actions are determined and agreed.

Grievance Procedures
During project inception workshops and the component launch workshops, stakeholders will be informed that any concerns relating to the design or management of the project, including social and environmental risks, should be raised with the EE. Where these are not adequately addressed, these may be escalated to the PMU and if necessary the NIE Steering Committee.

Fig. 2: General framework on Risk Assessment and Risk Management



Source: Ecological Risk Management Framework for the Irrigation Industry. 2005

Annex 6. Key consultants to be hired for the project using Adaptation Fund resources

Position Titles	*$/ Person Month**	*Estimated Person Months***	*Tasks to be performed*
FOR PROJECT MANAGEMENT			
Key personnel			
Project Coordinator	2,500	36	- Coordinate and manage the project team, and project activities in line with the project document; - Initiate and manage partnerships with other projects and programs; - Prepare periodic project activity plans and technical reports for internal and external reporting; - Consult regularly with ASCENT's president for the proper implementation of activities; - Manage consultants to be recruited under the project. - Contribute to the recruitment of experts; - Facilitate technical and managerial project meetings and prepare reports of these meetings; - Prepare TORs for services and expert for services to be outsourced; - Provide technical control of the results produced by the experts and other providers; - Provide periodic monitoring and evaluation.
Environment and Social Safeguards Officer	2,000	36	- Oversee environmental awareness and climate change mainstreaming in the project. - Conducting field visits and supporting in community consultation on environmental and social issues - Assisting in assessment of environmental and social safeguard issues in project activities; - Formulation of risk assessment and management plans - Implementation of Environmental and Social Management Plan (ESMP) - Development of Integrated Agricultural Inputs' Management Plans (fertilizers, invasive species, pests)
M&E and Learning Expert	2,000	36	- Supervise regular data collection through implementing partners and ensure quality of the data by random verifications and validations; - To record, manage and preserve monitoring and evaluation data in a safe and accessible way; - Analyse and discuss findings based on regular monitoring data; - Provide technical support on M&E and evidence-based recommendations to the relevant Project Manager and Partners. - Ensure that implementation of field activities adheres to project's monitoring and evaluation system; - Support partners in conducting baseline surveys; - Participate actively in program planning processes, budgeting, quality assurance and fundraising;
Financial Management Officer / Accountant	2,000	36	- Implement Finance and administrative systems of the Project - Preparation of periodic budgets and procurement plans; - Ensure payments are promptly remitted, received, processed and filed in an accessible manner - Facilitate preparation and carrying out of audits on the project as may be required by AF/BOAD;

Position Titles	*$/ Person Month**	*Estimated Person Months***	*Tasks to be performed*
			- Participate in meetings and other activities relating to the project;
Water supply and irrigation engineer			- Assessment of future water demands, - Oversee agricultural activities and irrigation technologies, - cooperative farming and agricultural marketing, - training on water use and agronomic practices to the community-based organizations - to create conditions for promotion and expansion of income-generating activities - including marketing of products **Required qualifications** An advanced degree in fields related to water resources management, and water supply schemes, notably as they relate to agricultural use. Experience in working at the community level is an essential requirement of the post.
Short-term consultants			
Agricultural Business development expert	2,000	6	- Develop an agricultural business plan for the project covering diversification in agriculture, Income generating activities (IGAs) and value addition of produce
Sociologist / Community worker	2,000	6	- Develop a Stakeholder Engagement Plan - Develop a Resettlement Action Plan - Develop a Restoration Plan for the production zones - Develop a Grievance Resolution Plan
Procurement expert	2,000	6	- Devise and use fruitful sourcing strategies - Negotiate with external vendors to secure advantageous terms - Approve the ordering of necessary goods and services - Assist financial Management officer in coming up with procurement plans
International			
Justification for travel, if any:			
FOR TECHNICAL ASSISTANCE			
Local			
International			
Justification for travel, if any:			

117. *Agriculture Resilience Project, Mandouri - Togo*