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AFRICAN DEVELOPMENT BANK GROUP

PROJECT : TOGO AGRO-FOOD PROCESSING PROJECT (PTA)

COUNTRY : TOGO

SUMMARY OF THE STRATEGIC ENVIRONMENTAL AND SOCIAL ASSESSMENT (SESA)

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1. INTRODUCTION

The Togo Agro-Food Processing Project (PTA-Togo) forms part of Togo's new Agricultural Strategy, which aims to create more value added through production, processing and marketing, while ensuring social inclusion and environmental protection. To this end, PTA-Togo is seeking to gradually pool various support (water, energy, transport, etc.), agro-industrial activity promotion and service development infrastructure (IT, finance, etc.) within one area.

In accordance with the requirements of the Integrated Safeguards System (ISS), the project has been classified under Category 1 due to the magnitude of the expected environmental and social impacts (project covering over 2000 ha of land for irrigation purposes or the expected construction of more than 50 km of road). The Togo Agro-Food Processing Zone Project provides for encroachment on a total area of 165 000 ha, within which provision has been made to build small dams and irrigation schemes of 1000 to 2000 ha, as well as feeder roads of at least 130 km.

However, at this stage of the project, not all the sites to be developed have been identified and not all the technical characteristics of the investments have been determined. It is against this backdrop that, in accordance with Law 2008-005 on the Environmental Framework Law of Togo and the procedures of the African Development Bank (AfDB), it was deemed necessary to prepare a Strategic Environmental and Social Assessment (SESA), to ensure that the environmental and social issues of future project activities are factored in from planning up to implementation, monitoring/evaluation for the entire production and processing zone.

The SESA environmental and social review procedure will form an integral part of the general activity approval and funding procedure. The implementation of the SESA will take into account the AfDB Group's safeguarding policies and will be conducted in compliance with the environmental laws of the Republic of Togo for each activity to be developed on the site. In this regard, Environmental and Social Impact Assessments (ESIAs), Resettlement Action Plans (RAPs) and Pest and Pesticide Management Plans (PMPs) are being prepared to study the impacts of the currently known sub-projects such as the Agropark infrastructure, infrastructure of the processing zone (small dams, feeder roads, irrigated and rain-fed areas, developed lowlands, and social infrastructure), as well as the transmission line (electricity, ICT). The SESA was approved by Togo National Environmental Management Agency (ANGE) on 23 February 2018.

The SESA summary presents: (i) the project; (ii) the environmental and social profile of the project's impact area as well as the environmental issues and constraints; (iii) the project's legal, administrative and institutional framework; (iv) analysis of alternatives; (v) public consultations; (vi) expected impacts, both positive and negative; (vii) proposed mitigation

measures; (viii) environmental and social management framework plan; (ix) institutional measures to be taken during programme implementation, including those relating to capacity building; and (x) the cost of technical monitoring measures.

1.1. Project Context and Components

The Togo Agro-Food Processing Project (PTA-Togo) forms part of Togo's new Agricultural Development Strategy, which aims to create value added along the agricultural value chain, notably production, processing and marketing, while ensuring social inclusion and environmental protection.

The PTA will comprise an Agropark intended for industrial units (located in Broukou) and a peripheral zone estimated at 165 000 ha, where the various stakeholders present in the project's impact area will carry out agricultural production in the key sectors.

The specific objectives are: (i) to promote private investment by implementing the PTA in Kara Region and provide attractive conditions and incentive measures for the development of industrial processing activities; (ii) promote value chains through stakeholder capacity building, and support infrastructure for production and processing.

In this regard, the PTA promotes agro-food processing areas where the primary factors of production (water, energy, transport, etc.), development and production support (agroindustrial units, development of services (IT, finance, etc.) are gradually made available to the stakeholder community. The complexity of such a programme warrants the identification of strategic thrusts, particularly in terms of the ecological and social dimensions.

This is the rationale behind the strategic assessment, which will focus on all potential environmental and social issues associated with the development of the PTA.

1.2. Methodology

In line with the principle underpinning the project described above, the inclusive approach which embraces all PTA stakeholders is essential. Through this approach, the different stakeholders' opinions and suggestions are incorporated as the operational strategy is fine-tuned, in strict compliance with the guidelines of the African Development Bank Group regarding the environmental and social assessment procedures as well as the policies and laws of Togo regarding the PTA.

The investigations were based on three key areas of intervention:

- 1. Basic data collection and documentary review;
- 2 Holding of institutional meetings with PTA decision-makers and beneficiaries, and the Technical Ministries;
- 3 Interviews and consultations with potential project targets.

1.3. Project Components and Sub-Components

PTA-Togo comprises the following four (4) components: (A) support policies for institutions tasked with promoting agro-food processing zones; (B) infrastructure development; (C) stakeholder capacity building; and (D) project coordination and management. Table 1 details the project sub-components.

Table 1: Project Components

Components	Description of the Components
A/ Support	A1/ Support policies and improvement of the PTA operational framework
policy,	• Support for the development of a legal, policy and regulatory framework to encourage
governance and	private investment and development of APZs
incentive	• Support for access facilitation and land tenure security
measures	A2/ Establishment of the Kara PTA Governance System
	• Technical support to the national structure for promoting APPs
	• Support for the start-up of the Broukou Agropark Management Company
	A3/ Strengthening State and non-State public institutions
	• Support for research and training institutes, as well as seed and food quality control
	services
	• Consolidation of financing facilities (LC, bonus fund, etc.)
	• Specifications / best practice guides for key sectors (including organic)
	• Support for the acquisition of civil status documents, especially for women/youth
B/Infrastructure	B1/ Broukou Agropark Infrastructure
for	• Infrastructure financed from public funds: (i) development works, roads and utilities
processing and	(water supply, electricity, telecom, etc.); (ii) an administrative block (including
accessing	residential block); (iii) a services block (laboratory, business incubator, maintenance,
inputs and	etc.); and (iv) social/public facilities (health centre, restaurant, etc.);
services	• Private processing units / services (rice, cashew nuts, poultry, etc.)
Ser vices	B2/ Infrastructure for aggregation and accessing agricultural inputs and services
	(agro-food processing centres - CTAs)
	• Construction/equipment of 10 CTAs (irrigation schemes, lowlands, rain-fed zones)
	• Rehabilitation of main (80 km) and secondary (50 km) roads
	B3/ Support infrastructure for agricultural production
	• Construction of 3 mini-dams (Agropark), and irrigation schemes;
	• Uprooting, light levelling and WSC works (lowlands and rain-fed zones)
C/ Capacity	C1/ Capacity building for agricultural producers
building for	• E-systems: (1) Identification of producers (e-Farmer); (11) Supply of inputs (e-
actors in priority	Inputs); (iii) Services management (e-Services); (iv) Harvest aggregation (e-
sectors	aggregation); and (V) Payments systems (e-Payments);
	• Support to producer networks, technical and management training (30% women) and acquisition of certified seeds for the first year of cultivation;
	• Livestock component: (i) broilers for women /youth (public funds) and SMEs (private
	funds); and (ii) fish ponds: women/youth and SMEs
	C2/ Community capacity building
	• Creation/ rehabilitation of DWS mini- networks (village centres) and mixed PMH;
	• Electrification of village centres hosting CTAs;
	• Reforestation of bare/eroded soil and manufacture of improved stoves (5000)
	C3/ Strengthening central and decentralized services
	• Action plans for the integrated management of protected areas and pesticides, and a
	master plan for wastewater and solid waste;
	• Capacity building in environmental and social management, gender and climate smart
	agriculture;
	Monitoring ESMP implementation
D/ Coordination,	(1) Steering and coordination; (11) administrative, financial and accounting management; (iii) manitaring and evolution ($M \approx E$)
monitoring and	
evaluation	

Only component B activities are likely to generate environmental and social impacts and thus require environmental work, as well as an environmental and social assessment as appropriate.

2. ENVIRONMENTAL AND SOCIAL PROFILE IN TARGET AREAS

The environmental and social profile presents the relevant aspects of the current environmental situation as well as its possible evolution. It summarizes the baseline data and presents, in particular, the environmental and social issues, mainly in the target areas of the project. The detailed environmental profile is appended as annex.

2.1. Geographic and Administrative Situation of the PTA-Togo Intervention Zone

A West African country, Togo lies between Latitudes 6° and 11° North, and Longitudes 0° and 1.6° East. It has a total area of 56 785 km2.

The country is divided administratively into five *Regions*: Savanes, Kara, Central, Plateaux and Maritime. The regions are divided into 39 *Prefectures*, which are themselves sub-divided into *Communes*. Togo has 116 communes. PTA-Togo concerns the Kara region. It covers four of its seven prefectures (Doufelgou, Kéran, Dankpen and Bassar) and 19 *Cantons*.



Figure 1: Project Impact Area

2.1. Identification of Environmental and Social Issues

The key environmental issues associated with the PTA-Togo intervention zone are detailed below. They concern the environmental components relating to soil resources, water, and biodiversity.

> Regarding Natural Resources

Target Areas	Components	Issues
	Soil Resources	Poor farming practices reducing farm yields and the agronomic potential of farmland; Pedological diversity providing crop diversification opportunities.
Kara Region/ Prefectures (Doufelgou, Kéran, Dankpen and Bassar)	Water resources	A dense hydrographic network revealing many lowlands exploitable for agro-pastoral activities; A little known hydro-geological potential, exploitable through deep boreholes and sensitive to natural (evaporation) and anthropic (offtake) factors; Huge hydrological potential through irrigated and rain-fed agriculture.
	Biodiversity	High erosion, significant wildlife potential due to poaching activities; A plant diversity to preserve.
	Ecosystem	A huge ecosystem services niche (supply, cultural, regulation, etc.)
	services	for local communities.

Table 1: Overall Environmental Issues in the PTA Area

Environmental and Social Issues associated with the Implementation of PTA-Togo Components

The main environmental issues associated with the PTA components are summarized in the Tables below.

Table 3: Summary of Issues by Component

Infrastructure and Services	Issues	
B. INFRASTRUCTURE FOR PROCESSING AND ACCESSING AGRICULTURAL INPUTS AND SERVICES		
B1. Infrastructure of Broukou Agr	opark (Kara Region)	
Development works, roads and utilities	 Management of air quality and preservation of health from pollution (prevention of ARI) Prevention of traffic accidents Management of land disputes (easement clearance) 	
Construction works of the DWS treatment station	 Prevention of social risks Management of work accidents Sustainable management of effluents Management of land disputes (easement clearance) 	
MV power line works	 Pollutant (PCB and others) management and control Management and control of birdlife collisions and short circuiting Management of land disputes (easement clearance) 	
Telecommunications fibre optic works	 Management of accident risks during digging of pits Management of easement clearance –related social disputes 	

Infrastructure and Services	Issues		
	Management of land related disputes (assement algorance)		
	Management of natio-related disputes (easement clearance)		
	 Management of water of take and discharge issues, Sustainable waster management involving requeling reduction of 		
Agricultural products processing	• Sustainable waste management involving lecycling, reduction of		
units	• Prevent the transfer of pollutants to the environment (water air and		
	soil)		
	• Control of energy consumption:		
	• Reduction of emissions of greenhouse gas and other air pollutants;		
	• Occupational risk management (health and safety at work)		
Installation of a hatchery	Control of accident and/or explosion risks		
	Management of land disputes (easement clearance)		
Breeding unit for the production of	• Management and prevention of water offtake - related social risks		
fingerlings and fry for supply to fish	Management of carnivorous birds		
farmers	Management of liquid effluents from fishponds		
Installation of an egg production	Control of waste management		
unit	Prevention of animal diseases		
	 Control of accident and/or explosion risks 		
	Management of land disputes (easement clearance)		
Building of a distribution centre for	Prevention of product contamination		
retaction products and equipment	Prevention of risk of social conflicts		
protection products and equipment	• Control of accident and/or fire risks		
	• Waste management (solid and liquid) from poultry slaughter		
Slaughter unit (2000 chicken/hour)	Control of unpleasant smell		
and poultry meat processing and	Control of energy consumption		
packaging	Prevention of meat contamination risks		
	Management of land disputes (easement clearance)		
B2. Facilities for access to agricultu	ral inputs and services (CTA-focus villages)		
Stores and warehouses	Management and control of rodents		
	• Management and control of fungi that can degrade product quality		
	Prevention and control of building fires		
	Control and prevention of contamination of stored products		
	Management of land disputes (easement clearance)		
Rehabilitation of farm access roads	• Management of air quality and preservation of nearth from pollution (prevention of ARI)		
	Control of traffic accidents		
	• Management of land disputes (easement clearance)		
B3. Support infrastructure for agricultural, poultry and fish production			
	• Control of livestock contamination by plant protection products and		
Construction of small dams and	packaging		
irrigation facilities	• Flood control (dam failure)		
	Control of offtake and management of liquid effluents		
	Management of land disputes (easement clearance)		
Poultry farming	Control of nuisances (noise, air quality)		
	waste management and control Management and control of hird diseases		
	Initial agement and control of bird diseases Management of official and liquid offluents		
	Management and prevention of carnivorous birds		
Fish farming	Management of packaging waste (e.g. fishmeal)		
	 Control of the water supply and protective dykes (e.g. hreaking of 		
	dykes)		

3. ENVIRONMENTAL ASSESSMENT POLICY, ADMINISTRATIVE AND LEGAL FRAMEWORK

3.1. National and International Policy and Regulatory Framework Applicable to the Project

This study was conducted in accordance with the national and international policy framework and strategies and programs relating to agriculture and industry.

At the national level, the project is consistent with:

- Agricultural Policy Paper for the period 2016-2030
- Regional Planning Policy
- National Environment Policy
- National Water Policy
- National Equity and Gender Equality Policy
- Accelerated Growth and Employment Promotion Strategy 2013-2017
- National Implementation Strategy for the United Nations Framework Convention on Climate Change
- National Biodiversity Strategy and Action Plan
- National Sustainable Development Strategy (SNDD)
- National Environment and Natural Resources Investment Programme
- National Action Programme to Combat Desertification
- National Plan for Agricultural Investment and Food and Nutritional Security
- National Action Plan for the Water and Sanitation Sector Vision 2015
- National Action Plan for Adaptation to Climate Change
- National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants in Togo
- National Forest Action Plan
- National Environmental Action Plan
- National Profile to Assess Chemicals Management Infrastructure and Capabilities
- National Strategy for the Conservation and Sustainable Use of Biodiversity.

At the international level, the project is aligned on regional agricultural policies, strategies and programmes, notably:

- ECOWAS Agricultural Policy
- ECOWAS Environmental Policy
- West African Water Resources Policy
- ECOWAS Forest Policy
- WAEMU Agricultural Policy
- Common WAEMU Environmental Improvement Policy
- Regional Strategy for Poverty Reduction in West Africa
- Regional Strategy for the Promotion of Fertilizers in West Africa
- Detailed Programme of Development of African Agriculture
- Sub-regional Action Programme to Combat Desertification in West Africa and Chad
- Sub-regional Action Programme for Vulnerability Reduction in West Africa.

3.2. Safeguard Policies of the African Development Bank (AfDB)

The AfDB's long-term strategy (2013-2022) emphasizes the need to support regional member countries (RMCs) in their effort to achieve inclusive growth and transition to a green economy will be applied across the board.

Furthermore, the AfDB's new Integrated Safeguards System (ISS) will be considered to promote the sustainability of project outcomes by protecting the environment and people from the potential negative impacts.

4. **OPTIONS ANALYSIS**

Two variants were analysed:

- The "without project" scenario; and
- The "with project" scenario.

The "without project" scenario would mean maintaining the "status quo", where the agricultural potential of the area cannot be maximized owing to constraints in terms of access, storage, packaging and product processing. With this option, there is no development of the area's agricultural potential, no agribusiness investments, no commercial development of certain local agricultural products, etc.

Conversely, implementing the project will provide a key opportunity for the economic and social development of the area concerned. The "with project" option, known as inclusive, will foster the development of agribusiness while taking into account local producers, in a bid to preserve natural resources and prevent or considerably reduce social tensions, in particular those related to land disputes.

The expected positive effects are by far more significant thanks to rational water and land management through adapted facilities. At the social level, impacts will concern: contribution to food security; the fight against hunger; creation and development of agricultural jobs.

5. POTENTIAL IMPACTS AND MITIGATION MEASURES

5.1. Expected Positive and Negative Environmental and Social Impacts

5.1.1. Positive Environmental and Social Impacts

With the implementation of the PTA, it is reasonable to expect a strengthening and expansion of the primary sector (livestock, agriculture, fishing, etc.), improved access to key producing areas, improved transport system (rehabilitation of farm access roads), and storage facilities (construction of stores and warehouses) in the project area.

Table 4: Summary of the Positive Impacts of Providing Infrastructure for Processing and Accessing Agricultural Inputs and Services

Infrastructure and services	Positive impacts		
B. INFRASTRUCTURE FOR	PROCESSING AND ACCESSING AGRICULTURAL		
INPUTS AND SERVICES			
B1. Broukou Agropark (Kara) Infrastructure			
Development works, roads and	• Improved mobility of people and goods		
utilities	• Improved living environment for the communities		
	Access to quality water facilitated		
	• Promotion of development of other activities (agriculture,		
	stockbreeding, etc.)		
	• Reduced waterborne diseases attributable to the		
	consumption of unsafe water (untreated surface water)		
	• Less drinking water supply problems, especially for women		
Construction works of the DWS	Improved living conditions of the populations		
treatment station	Improved hygiene conditions		
	Improved post-harvest techniques		
	• Qualitative and quantitative improvement of production and		
	services		
	• Decreased difficulty associated with work (especially for women)		
	• Project's sustainability factor		
	• Control of diseases such as bilharzia		
	Promotion of access to electricity		
	• Development of other services		
	Promotion of modern equipment use		
	• Clean, quiet and inexhaustible energy provided		
	• Improved hygiene conditions (preservation of product		
	• Improved post-harvest techniques (processing, products		
MV nower line works	conservation)		
in power line works	• Qualitative and quantitative improvement of production and		
	services		
	• Decreased difficulty associated with work (notably for		
	women): use of mill and other equipment		
	• Improved income due to better value of products		
	Reduction of agricultural product losses		
	Project's sustainability factor		

Infrastructure and services	Positive impacts
	• Access to new information and communication technologies
	(NICT) facilitated
	Access to information facilitated
	• Job creation and improvement of temporary and permanent
	income during the preparatory phases and works
	• Improved quality and conditions of access to
	telecommunication services
Telecommunications fibre optic	• Improved access to regions (link-up with other geographic
works	and administrative entities, population census, etc.)
	• Creation of permanent jobs and improvement of the people's
	living standard and environment
	Improved social cohesion
	• Improved teaching, research and education quality
	• Accelerated economic growth and market adaptability;
	• Economic opportunities and strengthening of social
	networks in rural areas;
Dusiness in substan	• Contribution to the reconstitution of the genetic potential
Business incubator	• Development of village schemes
	Promotion of agricultural product development
Agricultural product processing	Poverty reduction
units	Local product development
	Promotion of local employment
	Poverty reduction
Installation of a hatchory	Development of income-generating activities
instantion of a natchery	• Fight against malnutrition through the intake of animal
	protein
Breeding unit for the production of	Poverty reduction
fingerlings and fry for supply to fish	Development of fish farming
	Poverty reduction
Installation of an egg production unit	 Development of income generating activities
Puilding of a distribution contro for	Improved vields
fertilizers crop and livestock	Development of agricultural activities
protection products and equipment	 Improved working conditions of producers
Sloughter unit (2000 shiskons/hour)	Poverty reduction
and poultry meat processing and	Fight against malnutrition
packaging	i igni ugunist munution
	Improved storage conditions for agricultural products
Cold store chain	 Fight against fresh produce harvest losses
B2. Facilities for access to agricultur	ral inputs and services (CTA-focus villages)
	Production secured
Stores and warehouses	• Improved storage conditions for products
	• Fight against rodent and pest attacks
	Mobility of people and goods facilitated
	• Contribution towards improved access to localities and
	production sites
	• Time savings: decreased work difficulty (especially for
Rehabilitation of farm access roads	women)
	• Qualitative and quantitative improvement of production and
	services
	Reduced agricultural product losses
	Access to basic social services facilitated
B3. Support infrastructure for agric	ultural, poultry and fish production

Infrastructure and services	Positive impacts
	• Improved living conditions of the population
	A framework conducive for product production and
Construction of small dome and	marketing
construction of small dams and	Optimal water resource management
inigation facilities	Development of lowlands
	Reduced rural exodus
	Contribution to improved access
	Poverty reduction
Doultry forming	• Improved living conditions of the population
	Fight against malnutrition
	Increased income of the population
	Poverty reduction
Fish farming	Contribution to food security
	• Development of fishing potential

5.1.2 Negative Environmental and Social Impacts of PTA Implementation

The following activities may have negative environmental and social impacts:

- Development , roads and utilities of the Agropark
- WWTP and the DWS treatment station construction works
- MV power line supply works
- Telecommunications fibre optic works
- Development of business incubators
- Building of processing units (eggs, poultry meat slaughtering and processing, fertilizer, distribution of crop protection products, livestock health products, fish products, cereals, rice, cashew nuts, sesame seeds)
- Provision of a hatchery
- Provision of a breeding unit for the production of fry to supply fish farmers
- Provision of stores and warehouses
- Rehabilitation of farm access roads
- Construction of a dam and irrigation facilities
- Poultry activities
- Fish farming activities

The project's negative environmental and social impacts as a result of project activities will mainly concern Components B-Infrastructure for processing and for accessing agricultural inputs and services at the level of Sub-components B1-Infrastructure of the Kara agro-food processing zone (APZ), B2- Infrastructure for accessing agricultural inputs and services (CTA

focus centre villages) and B3-Support Infrastructure for agricultural, poultry and fish production.

Table 5: Summary of Negative Impacts of Activities relating to the Provision ofInfrastructure for Processing and for Accessing Agricultural Inputs and Services

Infrastructure and services	Negative impacts		
B. INFRASTRUCTURE FOR PROCESSING AND FOR ACCESSING AGRICULTURAL INPUTS AND			
SERVICES			
B1. Broukou (Kara) Agropar	k Infrastructure		
Development works, roads and utilities	 Degradation of air quality and risk of respiratory disease (ARIs) Increased risk of accidents Loss of plant diversity Risk of social conflict (compensation of PAPs) Risk of diseases such as STIs/HIV/AIDS Road wear and tear over time 		
Construction works of the DWS water treatment plant and WWTP	 Degradation of air quality and risk of respiratory disease (ARIs) Increased risk of accidents Risk of conflicts around new water points Increased risk of accidents Risk of social conflict (compensation of PAPs) Risk of diseases such as STIs/HIV/AIDS Risk of breakdown of facilities 		
MV power line and telecom fibre optic supply works	 Social conflicts related to easement clearance, Risk of land disputes, etc. Risk of wildlife electrocution and/or collision with possible loss of life are to be feared, Greenhouse gas emissions (e.g. PCBs in transformers), etc. Frustration where village electrification criteria are not objective, equitable, transparent and well understood by project area dwellers. 		
Business incubator	Risk of proliferation of harmful species		
Agricultural product processing units	 Impacts on water consumption Degradation of air quality and risk of respiratory disease (ARIs) Increased risk of accidents Loss of plant diversity Risk of social conflicts (compensation of PAPs) Risk of diseases such as STIs/HIV/AIDS Waste generation Risk of soil and water pollution Risk of technological and industrial accidents Risk of diseases such as STIs/HIV/AIDS 		
Setting up of a hatchery	• Risk of accidents and/or explosions due to the presence of the		
Breeding unit for the production of fry to supply fish farmers	 Loss of plant diversity following easement clearance, accident risks, Risk of accidents due to the presence of machinery, Risk of conflicts due to use of water resources, Risk of pollution of water resources due to discharge of liquid effluents, etc. 		

Infrastructure and services	Negative impacts
Provision of an egg production unit	 Waste management (broken eggs, droppings, packaging products); Management of various nuisances (smells and noises); Risk of bird diseases, Accident risks (fire),
Provision of a distribution centre for fertilizers, crop and livestock protection products and equipment	 Soil contamination risks, Accidents and/or explosion due to the presence of machinery, Risk of social conflict in the absence of transparency in management and distribution
Slaughter unit (2000 chickens/hour) and poultry meat processing and packaging	 Risk of degradation of the living environment: waste management (feathers, viscera of chickens, etc.), Risk of pollution of water resources by liquid effluents (washing water containing blood), Occupational hazards (work accidents)
Cold chain unit	 Atmospheric degradation (greenhouse effect) due to use of refrigerant fluids, Risk of explosion due to the presence of machinery
B2. Infrastructure for acce	ssing agricultural inputs and services (CTA-focus villages)
Stores and Warehouses	Impacts on biodiversity
	Land disputes related to acquisition of the site
	Risk of occupational accidents
	• Degradation of the living environment due to generation of inert waste
	Health risks related to packaging and storage flaws
	• Risk of proliferation of rodents and other pests (e.g. fungi)
	• Degradation of air quality and risk of respiratory disease (ARIs)
	Increased risk of accidents
Rehabilitation of farm	Loss of plant diversity
access roads	Risk of social conflict (compensation of PAPs)
	Risk of diseases such as STIs/HIV/AIDS
	Risk of traffic accidents
	• Wear and tear of farm access roads over time
D2 Support infrastructure	Kisk of respiratory diseases AKIs
Do. Support mirastructur	Risk of disturbance of stream spawning areas
	 Deforestation, soil degradation through erosion, habitat destruction during clearing
Construction of a dam and	Destruction of micro fauna and organic matter
irrigation facilities	• Loss of grazing land (encroachment on sylvo-pastoral areas)
	Increase in water-borne diseases
	High land and water stress with increased development
	Possible loss of income or property during construction
	Risk of diseases such as STIs/HIV/AIDS
	Noise and dust emissions
	Accident risks Dodily iniumy
Poultry farming	 Doutiny injury Degradation of air quality
	Bird diseases
	Emission of odours due to droppings
	Health risks for employees
	• Inconveniences and nuisances due to the presence of chicks
	• Fire hazards due to the presence of sawdust

Infrastructure and services	Negative impacts	
Fish farming	 Loss of plant diversity Degradation of soil quality Disturbance of surrounding ecosystems (streams, bodies of water, soils) Development of insects and other vectors of water-borne diseases (malaria, bilharzias) Increased competition over water use Risk of social conflict with the local population Downstream water use problem Destruction of vegetation Water pollution by liquid effluents 	

5.1.3. The Cumulative Negative Impacts of Project Activities

Significant cumulative effects here are changes in the environment due to project activities coupled with other past, present, and future human activities. There are two possible cases: (i) more of similar (identical) projects, being implemented simultaneously or successively and having the same minor or moderate negative effects on a given area, but the cumulative effect of which may prove detrimental to the environment; (ii) implementation of different projects, generating minor or moderate negative individual impacts, but whose cumulative effect may be harmful for the community. For instance, the development of a depression (lowland) in a watershed could have a limited impact. However, the development of the majority of natural depressions could change the nature of the watershed, thus warranting a broader assessment.

A concerted approach with projects in the area should create the conditions for a fruitful synergy for the monitoring and efficient management of such cumulative impacts.

5.2. Measures to Mitigate Negative Impacts

The following mitigation measures are proposed for managing the negative impacts of PTA activities as well as enhancing the sustainability of the positive effects.

The mitigation measures concern:

- Negative impacts of the Broukou Agropark facilities;
- Negative impacts of support infrastructure for agricultural, poultry and fish production;
- Negative impacts of infrastructure for accessing agricultural inputs and services (CTA-focus villages).

Table 6: Measures to Mitigate the Negative Impacts of the Broukou (Kara) Agropark Infrastructure

Activities	Negative Impacts	Mitigation Measures				
Development works, roads and utilities	• Degradation of air quality and risk of respiratory disease (ARIs)	• Regular watering to prevent the raising of dust				

Activities	Negative Impacts	Mitigation Measures			
	• Increased risk of accidents	Supply appropriate PPE			
	• Loss of plant diversity	• Carry out compensatory reforestation			
	• Risk of social conflict (compensation of PAPs)	• Sensitize and compensate PAPs			
	• Risk of diseases such as STIs/HIV/AIDS	 Raise awareness about risk 			
	• Road wear and tear over time	STIs/HIV/AIDS			
	• Degradation of air quality and risk of respiratory disease (ARIs)	• Provide hedgerows when crossing inhabited areas to reduce dust emission			
	• Risk of affecting water resources (over-exploitation of water tables and pollution of	• Provide speed bumps when crossing inhabited areas			
	surface and ground water resources)	Carry out compensatory reforestation			
Construction works of the	• Risk of conflicts around new water points	 Raise awareness about risk of diseases such as STIs/HIV/AIDS 			
Dw5 treatment plant	• Increased risk of accidents	Compensate all PAPs			
	• Loss of plant diversity	 Monitor and maintain dikes 			
	• Risk of social conflict (compensation of PAPs)				
	• Risk of diseases such as STIs/HIV/AIDS				
	• Risk of breakdown of facilities				
	• Deforestation and loss of plant diversity	Carry out compensatory reforestation			
Construction works of the	• Risk of social conflict (compensation of PAPs)	Compensate all PAPs			
(WWTP)	• Risk of affecting water resources (production of	 Pre-treatment and pre- discharge characterization of wastewater 			
	effluents)Unpleasant smell	• Location of facilities based on prevailing winds			
MV power line and telecom	• Social conflicts related to easement clearance	Raise awareness and pay the costs			
fibre optic works	• Risk of land disputes, etc.	• Put up scarecrows on power lines to avoid collision with			

Activities	Negative Impacts	Mitigation Measures			
	 Risk of wildlife electrocution and/or collision, with possible loss of life is to be feared, Greenhouse gas emissions (e.g. PCRs in transformers) ata 	 birds Put in place a hazardous waste (e.g. PCB) 			
	 Frustration where village electrification criteria are not objective, equitable, transparent and well understood by project area dwellers. 	 Raise awareness about the objectives of electrification and access to the telecommunications network 			
Business incubator	 Risk of proliferation of harmful species Impacts on water consumption 	 Provide a borehole capable of accommodating (optimal flow) the water consumption of the Agropark Combat pest attacks 			
	• Degradation of air quality and risk of respiratory disease (ARIs)	• Make regular allocations of appropriate PPE (masks) to Agropark employees			
	Increased risk of accidentsLoss of plant diversity	• Educate employees about accident risks and collective and individual prevention methods			
Agricultural product processing units	 Risk of social conflicts (compensation of PAPs) Waste generation 	• Carry out compensatory reforestation for revegetation purposes			
	 Risk of soil and water pollution Risk of technological and industrial accidents Risk of diseases such as 	• Educate communities and employees about the risk of diseases such as STIs/HIV/AIDS			
	STIs/HIV/AIDS Risk of accidents and/or	Put in place an emergency			
Setting up of a hatchery	explosions due to the presence of the machinery	planConduct periodic internal audit of equipment			
Breeding unit for the production of fry to supply	• Loss of plant diversity following easement clearance, risk of accidents	carry out compensatory reforestation for revegetation purposes			
fish farmers	• Risk of accidents due to the presence of machinery	Put in place a PIOConduct internal audits on			

Activities	Negative Impacts	Mitigation Measures
	 Risk of conflicts due to use of water resources, Risk of pollution of water resources due to discharge of liquid effluents, etc. 	 equipment status Put in place a water discharges management procedure
Provision of an egg production unit	 Risk of deterioration of living conditions (broken eggs, droppings, packaging products); Risk of various nuisances (smell and noise); Risk of bird diseases, Risk of accidents (fire) 	 Put in place a waste management procedure Track subjects to prevent animal diseases
Provision of a distribution centre for fertilizers, crop and livestock protection products and equipment	 Risk of soil contamination Accidents and/or explosion due to the presence of machinery Risk of social conflict in the absence of transparency in management and distribution 	 Waterproof product depots areas (fertilizers, crop protection products, etc.) Put in place a management committee to avoid the risk of social conflict
Slaughter unit (2000 chickens/hour) and poultry meat processing and packaging	 Risk of degradation of the living environment: waste management (chicken feathers, viscera, etc.), Risk of pollution of water resources by liquid effluents (washing water containing blood), Occupational hazards (work accidents) 	 Put in place a waste management procedure Put in place a liquid effluent management procedure Raise employee awareness on collective and individual prevention methods Make regular allocations of adapted PPE
Cold chain unit	 Atmospheric degradation (greenhouse effect) due to use of refrigerant fluids, Risk of explosion due to the presence of machinery 	 Use certified refrigerants Conduct an internal audit of equipment

Table 7 : Measures to Mitigate the Negative Impacts of Support Infrastructure for
Agricultural, Poultry and Fish Production

Activities	Negative impacts	Mitigation measures
Construction of small dams and irrigation facilities	 Risk of disturbance of stream spawning areas Deforestation, soil degradation through erosion, habitat destruction during clearing Destruction of micro fauna and organic matter Loss of grazing land (encroachment on sylvo-pastoral areas) Increase in water-borne diseases High land and water stress with increased development Possible loss of income or property during construction Risk of diseases such as STIs/HIV/AIDS 	 Raise awareness about the risk of diseases such as STIs/HIV/AIDS Carry out compensatory reforestation for revegetation purposes Develop transhumance corridors to allow livestock access to grazing areas Provide crop residues for livestock
Poultry farming	 Noise and dust emissions Risk of accidents Bodily injury Degradation of air quality Bird diseases Odour emissions due to droppings Health risks for employees Inconveniences and nuisances due to the presence of chicks Fire hazards due to the presence of sawdust 	 Control of bird diseases Provide appropriate PPE Put in place a waste management procedure Provide fire extinguishers to fight fire outbreaks Carry out periodic medical consultations for employees
Fish farming	 Loss of plant diversity Degradation of soil quality Disturbance of surrounding ecosystems (streams, bodies of water, soils) Proliferation of insects and other vectors 	 Carry out compensatory reforestation Carry out disinfection campaigns on water bodies to control germs Put in place transhumance

Activities	Negative impacts	Mitigation measures
	of water-borne diseases (malaria, bilharzias)	corridors in agreement with the various stakeholders
	• Increased competition over water use	• Provide temporary drinking troughs to facilitate water
	• Risk of social conflict with the local population	access for livestock
	• Downstream water use problem	
	• Loss of vegetation	
	• Water pollution by liquid effluents	

Table 8: Measures to Mitigate the Negative Impacts of Infrastructure for Accessing Agricultural Inputs and Services (CTA-focus villages)

Activities	Negative impacts	Mitigation measures
Stores and Warehouses	 Loss of plant diversity Risk of land disputes related to the acquisition of the site Risk of occupational accidents Degradation of the living environment Consumer health issues due to product packaging conditions Risk of proliferation of rodents and pests 	 Degradation of air quality and risk of respiratory disease (ARIs) Increased risk of accidents Loss of plant diversity Risk of social conflicts (compensation of PAPs) Risk of diseases such as STIs/HIV/AIDS Risk of traffic accidents Wear and tear of farm access roads over time Risk of respiratory diseases (ARIs)
Rehabilitation of farm access roads	 Degradation of air quality and risk of respiratory disease (ARIs) Increased risk of accidents Loss of plant diversity Risk of social conflicts (compensation of PAPs) Risk of diseases such as STIs/HIV/AIDS Risk of traffic accidents Wear and tear of farm access roads over time Risk of respiratory diseases (ARIs) 	 Impose watering when crossing settlements in the construction phase Provide hedgerows when crossing settlements Compensation for PAPs Awareness campaigns on risk of diseases such as STIs/HIV/AIDS Conduct awareness campaigns on the risk of traffic accidents Provide speed bumps to reduce the risk of traffic accidents Install traffic signs on farm access roads

6. PUBLIC CONSULTATIONS AND VIEWS EXPRESSED

The specific objectives of the consultations extended to potential beneficiaries, elected representatives and institutional actors were: to provide true and relevant information on the project to the parties involved; invite the actors to share their views on the proposed solutions and establish dialogue, and lay the groundwork for concerted and sustainable implementation of the actions provided for under the project.

Consultants have been holding public consultations with the various project stakeholders as part of this assessment since July 2017 during the different ongoing missions:

• During the national seminar to present the APZ concept in Togo held on 7 and 8 July 2017 in Kara: consultation of the national, regional and local authorities

and civil society representatives who attended the workshop.

- During public consultations held in Kara with the representatives of the authorities and local populations on 7/7/2017 on the sidelines of the national seminar mentioned above.
- Public consultation meeting held at the Léon village centre on 09/07/2017 with the Léon Canton head and some notables and beneficiaries of the Léon ZAAP.
- Public consultation meetings held at Broukou village on 19/6/2017; 20/6/2017 and 9/7/2017 with notables of the village.
- Public consultation meetings held at Guerin-Kouka on 9/7/2017 with the representative of ICAT, the President of *Groupement de Femmes* (Women's Association) and ZAAP beneficiaries.
- Meeting and personal interviews with Regional Directors in Kara on 10/7/2017: Meeting with Regional Directors of Agriculture, Water, Agricultural Research and Technical Support Council, and discussion with the Regional Director for Environment and Forest Resources.

These public consultations were followed by a second series of meetings:

- Public consultation meeting held in Alloum /Broukou Nord on 29/7/2017
- Public consultation meeting held in Broukou Sud on 29/7/2017
- Public consultation meeting held in Misséouta on 29/7/2017
- Public consultation meeting held in Leon on 30/7/2017
- Public consultation meeting held in Agbassa on 30/7/2017
- Public consultation meeting held in Awassan on 30/7/2017.

These consultations, carried out before the start of the ESA preparation, were supplemented by a few other meetings:

- Consultation and discussions with consultants preparing environmental assessments and with the Technical Committee, held on 5/1/18
- Meeting and personal interviews with the Heads of ESMP and ANGE's ESIA/ESA Service held on 5/1/18
- Public consultation meeting held in Broukou on 7/1/2018
- Public consultation meeting held in Misséouta on 8/1/2018
- Public consultation meeting held in Kpasside (dam site) on 8/1/2018
- Public consultation meeting held in Bidjande (dam site) on 8/1/2018
- Meeting and personal interview with the Director of ITRA held on 9/1/18

- Consultation meeting with Kara Regional Technical Services on 9/1/18
- Public consultation meeting held with the NGO *Santé Rurale en Afrique* (SAR Afrique) on 9/1/2018
- Public consultation meeting held with the NGO *Eau Vive* Kara Branch on 9/1/2018
- Meetings and personal interviews with the Director of Sanitation, Water Resources held on 11/1/18
- Consultations held with ANGE on 12/1/18.

The content analysis reveals considerable interest on the part of actors in this project that could, to a large extent:

- Solve several problems of accessing natural resources;
- Support the ambitions of the local communities concerned to structure and modernize their agricultural activities;
- Strengthen the capacity of the technical actors of the authority having prerogatives in the management of the risks and the environmental and social impacts of development operations.

This project's essential concern is environmental and social impacts, and risk management. The recommendations made to this end require the institutional actors tasked with planning and implementation to:

- Sign agreements with the landowners who will surrender the land
- Ensure proper management of empty agri-phyto product packaging
- Avoid the introduction of GMOs in the system
- Envisage soil quality monitoring and conduct water quality assessments.

This SESA will also be disseminated to the same stakeholders as part of ANGE's approval process.

7. ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK PLAN (ESMFP)

7.1 Mechanism for Including Social and Environmental Aspects in the PTA Cycle

The environmental selection process will be conducted for any physical investment supported by the project and included in the annual work plan. It will then be possible to further specify these measures to suit the sites of the works planned. Preliminary sorting is necessary in one form or another, and may result in one of the following four outcomes:

• No EIA is required (application of simple measures as appropriate) and no RAP is required

- No EIA is required (application of simple measures as appropriate), but a RAP is required
- A simplified EIA is required (accompanied by a RAP as appropriate)
- An in-depth and detailed EIA is required (accompanied by a RAP as appropriate).

7.2 Strategic Environmental and Social Measures

- The land issue is central to the implementation of the PTA and the sites potentially usable as private investor support or for building infrastructure must first enjoy tenure security. The possibility of a long lease between investors and landowners is under study. Land tenure security will be obtainable through this type of lease, previously tested in the context of another agricultural development project in the Kara area (PDPR-K), through similar arrangements concerning land, i.e. grant, lending, leasehold or sale.
- Supporting women's groups holding unquestionable assets to participate fully in achieving food self-sufficiency is essential for developing a project intervention strategy that mainstreams gender. Such support will take several forms, including organizing women agricultural producers into groups structured according to sector, with the aim of allocating them at least 30% of developed land. Support will further consist in facilitating women's access to modern agricultural equipment for agro-food production and processing. Lastly, it will involve sharpening the entrepreneurial skills of members of women's groups in the areas of production, storage, processing, packaging and sale of agricultural products, and also in developing business plans, marketing and accessing finance.

7.3 Specific Measures for the Agro-food Processing Zone (Agropark)

- They mainly concern:
- Management of wastewater and storm water that must be properly controlled both in terms of discharge as well as treatment
 - Preparing a comprehensive technical DD-level study on storm water drainage network, enabling the APZ Promotion and Development Agency (APDA) to invite bids for the corresponding works;
 - Preparing a charter spelling out the obligations of all parties in terms of wastewater treatment level requirements prior to its discharge into the Agropark outfall;
- Easement management: a 200 m safety zone around the edge of the Agropark property will be required.
- Control and intervention wherewithal in case of accident/incident
 - Construction of firefighters' barracks or fire department
 - Provide for wall hydrants and fire hydrants

Table 9 : Agropark Environmental and Social Management Strategy

Environmental Dimension							Financial Estimate	Respo	nsibility
	Issue	Constraint Description	N°	Management Strategy	Indicators	Timetable	Estimate	Implementation	Verification
				Comply with Sections 38 and 129 of Law No. 2008 – 005 on the Environmental Code Framework Law (prior authorization with obligation to perform an ESIA / accident risk assessment + classified establishment file) for each host company, if necessary	 Number of enterprises having conducted an ESIA before establishment; Number of Classified Installations (A /D) on the APZ, with classified 	Before establishment and operation of Classified Installations	РМ	Host enterprises	APDA/ APZ Administrator and ANGE
ENVIRONMENT			E2	Require the environmental audits of companies and industrial units	 establishment files Number of CIPE (A/D), with certificates of environmental compliance; 	After 4 years of operation; Upon ceasing activity	CFAF 25 000 000 per enterprise every 4 years	Host enterprises	APDA/ APZ Administrator and ANGE
			E3	Prepare an EHS audit of the APZ	Certificate of environmental compliance	Every 5 years	CFAF 50 000 000	APDA / APZ Administrator	ANGE
	Conservation of natural and cultural heritage, sustainability of ecological services The zone plays a significant role through the ecological services it provides. Conserving the natural heritage to ensure the sustainability of ecological services is essential as implementing the APZ could generate biodiversity loss and a resultant loss of the ecological services.	Conservation of natural and cultural heritage, sustainability of ecological services Conserving the natural heritage to ensure the sustainability of ecological services is essential as implementing the APZ could generate biodiversity loss and a resultant loss of the ecological services.	B1	Comply with forest regulations regarding the payment of the felling tax with the safety strip to be deforested to prevent bushfire spread	Felling taxes are paid prior to any deforestation	Before any felling	Protocol to be	APDA	Directorate of Forestry (DEF)
IVERSITY		B2 B3	Carry out compensatory reforestation of the area deforested in view of the APZ Circumscribe deforestation to avoid affecting species in areas not needed	Area compensated by the project Area preserved by the project	CFAF 3 000 000 per hectare reforested During works	forestry authorities	APDA /APZ Administrator in close collaboration with DEF		
BIODIVERSI			B4	Blend the developments to be made with the landscape and provide roadside green spaces (parking areas, roundabouts,) in the APZ, 3-level hedgerows along the fence	 Number of actions for architectural landscaping of common/private spaces Number of trees planted/year on public spaces % of local tree species 	Before establishment and operation of Classified Installations	Estimate CFAF 7500 per m ² developed	APDA /APZ Administrator in close collaboration with DEF	Directorate of Forestry (DEF)

Environmental Dimension							Financial	Respo	nsibility					
	Issue	Constraint Description		Management Strategy	Indicators	Timetable	Estimate							
			N°					Implementation	Verification					
			В5	Cover 10% of non-built space on the plots of host companies with plants (to be included in the criteria for approval as Classified Installations)	Number of parcels with landscape design representing 10% of the non-built space	After establishment of enterprises	PM	Host enterprises	APDA					
	Rational management of resources, preservation of water quality, flood risks.	Rational 1. Risk of water resource management of degradation resources, preservation of water quality, lood risks	EA1	Authorization from competent authority before any hydro-geological resource offtake	 Static level in the project footprint Total annual drinking 	Before commencement of drilling	Authorization, fees and taxes for drilling and operation of the borehole	APDA/ APZ Administrator /Operator	ANGE/Directorate of Water Resources (DRE)					
	erosion issues		EA2	Prohibition of drilling/wells on the site of the industrial zone by the host enterprises	 water consumption in the activity area (m3 / year); Consumption breakdown 	Throughout APZ life	NA	APDA/ APZ Administrator /Operator	ANGE / DGEA					
		EA3 EA4 EA5	-						EA3Provide for a drinking water supply network for sanitary purposes and a water network for industrial use(public/common fa companies);EA3Number of con having received	 (public/common facilities, companies); Number of companies having received and 	ies nd Upon carrying out	РМ	APDA/ APZ Administrator /Operator	ANGE
	2. Water resources pollution risk due to APZ activities		EA4	Mandatory connection for all enterprises established, with consumption monitoring by type and based on agreements	implementing the Water Discharges and Usage Reduction Plan	road and utility works	Cost of development (road and utility works)	APDA/ APZ Administrator /Operator	ANGE					
ATER			Set up a water table surveillance and monitoring system by installing a piezometer in the activity area	 Piezometer network mapping in the project area 	Before starting pilot phase works	CFAF 7 500 000 per piezometer	APDA/DGEA	ANGE/ DGEA						
M		EA				EA6	Adopt a general plan for discharge reduction at source and water usage control			РМ	APDA/ APZ Administrator /Operator	ANGE/ Directorate General of Water and Sanitation (DGEA)		
		2. Water resources pollution risk due to APZ activities EA8	EA7	For "service" water needs, ¹ focus on alternative supply sources such as rainwater harvesting or treated water reuse		Before establishment and operation of Classified Installations	CFAF 5000 per linear m of piping + installation of a small relay station (20 Million)	APDA/ APZ Administrator /Operator	ANGE/ DGEA					
			EA8	Characterize industrial wastewater for each host enterprise in conjunction with the WWTP operator for 3 months, and subsequently, once a month	 Total annual volume of liquid discharges from the industrial zone Breakdown of liquid discharges 	Throughout APZ life	(400 mille/month for the three months) and (100 mille/ month subsequently	Host enterprises	APDA / DGEA /ANGE					
				Adopt a pre-treatment system based on the characterization and results of the environmental assessment (decantation, de-	(enterprises/common areas)	Before establishment and operation of			APDA / DGEA /ANGE					

¹ i.e. water intended for use against fires, for cleaning the facilities and roads, and irrigation of green spaces

Environmental Dimension								Financial Estimate	Respo	nsibility
	Issue	Constraint Description	N°	Management Strategy		Indicators	Timetable		Implementation	Verification
			EA9	oiler) as needed	•	Number of days per year of non-compliance of discharge parameters	Classified Installations	CFAF 15 000 000	Host enterprises	
		EA10	Provide for a main network and secondary networks remote from the industrial units	y -	 Measures concerning effluent quality upon exiting the WWTP: MES, BOD5, COD, overall N, P, greasy substances, pH, flow, temperature No standing water around the site and existence of a functional drainage network around the site Number of actions in providing storm water treatment facilities (decanter, de-oiler) Number of host enterprises with a storm water management system 	Before commencement of works	To be included in the road and utility works	APDA	APDA /DGEA/ANGE	
			EA11	Quantity monitoring (flow meters, valves) and payment of a sanitation fee		BOD5, COD, overall N, P, greasy substances, pH, flow, temperature	Before establishment and operation of Classified Installations	CFAF 2 500 000	Host enterprises	APDA / DGEA /ANGE
		Change in storm water quality and flow conditions	EA12 EA13	Provide for a buffer pond equipped with a sealed geo-membrane for regulated flow before treatment by hydrocarbon separator and discharge into the ditches to flow into the "Misseouta" watercourse		No standing water around the site and existence of a functional drainage network around the site	Before establishment and operation of Classified CFAF 50 000 000 Installations	APDA/ APZ Administrator /Operator	APDA / DGEA /ANGE	
			EA14	 For each host enterprise manage storm water as follows: Creation of a waterproof storage pond designed based on the waterproofed space size; Installation of a safety valve at the basin exit to contain any accidental pollution; Installation of a hydrocarbon separator downstream of this basin before discharge of treated water into the ditches 		 providing storm water treatment facilities (decanter, de-oiler) Number of host enterprises with a storm water management system 	Before establishment and operation of Classified Installations	CFAF 35 000 000 per enterprise	Host enterprises	APDA
			EA15	Explore the findings of the topographic studies to determine the natural capacity of the "Misseouta" watercourse compared to the expected water volumes and provide, as needed, additional facilities to contain the water and prevent it from overflowing			Before establishment and operation of Classified Installations	CFAF 20 000 000 (Facility design) + 50 000 000 development works	APDA	ANGE
SOILS and WASTES	Soil quality management and waste management	1. Industrial activities can generate soil pollution; such pollution may result from poor storage, leakages, or accidental spills.	SD1 SD2 SD3	Secure transportation of hazardous materials in public common spaces Monitor particularly risky enterprises Adopt a polluted soils prevention and management plan	•	Monitoring the frequency of inventories, the places and quantities of storage of toxic or dangerous substances (quantity and typology);	Throughout APZ life	PM (include in	APDA / APZ Administrator /Operator	

Environmental Dimension							Financial	Respo	nsibility			
	Issue	sue Constraint Description		Management Strategy	Indicators	Timetable	Estimate	Implementation	Verification			
			SD4	Provide leak-proof retention basins for all stored hydrocarbons	 Number of soil remediation interventions per year); 		engineering studies)		ANGE			
			SD5	Prevent the emergence of uncontrolled dumping and treat polluted soils on public spaces								
			SD6	Adopt a system for monitoring concentrations of heavy metals (Pb, Cu, Zn) in the topsoil at given points of the surrounding area (human settlements bordering the APZ)	Pb, Cu, Zn content in topsoil	Throughout APZ life	CFAF 35 000 000	APDA/ APZ Administrator /Operator	ANGE			
	2. The various types of waste generated (inert, ordinary industrial waste (OIW), special industrial waste (SIW), toxic waste, require suitable disposal channels	2. The various types waste generated (inert, ordina industrial wasta (OIW) speci	2. The various types waste generated (inert, ordin industrial waste (OIW) spe	2. waste industria	SD7	Each host enterprise must submit to the APZ administrator/operator a Plan for Storage Leakage and Spill Control, Cleaning and Handing over of Waste	 Annual quantity of waste generated by the common areas: packaging, OIW, SIW, HWDQ, green waste (t-m3 / year); 	Before establishment and operation of Classified Installations	РМ	Host enterprises	APDA ANGE	
		industrial waste (OTW), special industrial waste (SIW), toxic waste, require suitable disposal channels	industrial waste (SIW), toxic waste, require suitable disposal channels	industrial waste (SIW), toxic waste, require suitable disposal channels	industrial waste (SIW), toxic waste, require suitable disposal channels	industrial waste (SIW), toxic waste, require suitable disposal channels	industrial waste (SIW), toxic waste, require suitable disposal channels	dustrial waste (SIW), toxic waste, quire suitable disposal channels SD8 Each host company should submit to the Administrator / Operator a solid waste management plan Annual amoun generated enterprises:	 Annual amount of waste generated by the enterprises: packaging, 		РМ	Host enterprises
				SD9	Each host enterprise must submit to the APZ Administrator a plan to prevent accidental spraying of chemicals	OIW, SIW, HWDQ, green waste; % of companies sorting their waste internally;		РМ	Host enterprises	APDA ANGE		
			SD10	Solid waste should be sorted and collected in suitable containers labelled and with a harmonized colour code for the entire area	 Rate of waste recycling by enterprises and by managers: recycling, 		РМ	Host enterprises	APDA ANGE			
			SD11	Adopt criteria for dangerous cargo screening, entry authorization and transportation	 reuse; Number of enterprises in synergy (waste exchange) 	Throughout APZ life	РМ	APZ Administrator /Operator	APDA ANGE National Civil Protection Agency (ANPC)			
			SD12	Adopt a harmonized storage system based on the hazardous waste and comply with labelling standards and provide for a procedure			РМ	Host enterprises	APDA ANGE			
AIR	Preservation of air quality (sound environment and	The air quality issue concerns: - Atmospheric pollution - Noise pollution	A1	Set up an ambient air quality monitoring system (baseline situation, system design, implementation and monitoring)		Before start of development works						

Environmental Dimension							Financial	Respo	nsibility
	Issue	Constraint Description	N°	Management Strategy	Indicators	Timetable	Estimate	Implementation	Verification
	air quality) Noise pollution	Vehicles, combustion plants and specific industrial processes release into the atmosphere compounds such as CO2, CO, SO2, and VOCs that can be hazardous and must be limited.	A2 A3	 Envisage a development plan enabling reduced noise and smell pollution (green screen, artificial mounds, phonic requirements in the design of the industrial buildings) Establish the baseline noise situation at the property limits and ambient air quality before commencement of the Agropark development works 	 Number of complaints processed; Intensity of noise emissions at the edge of the zone (dwelling) Emergence (3db max at evidele a back back) 	Before establishment of the CIPE Before start of development works	Covered in the ANGE – APDA Protocol	APDA/ANGE	APDA
		With respect to noise, the noise emitted by established enterprises and that emitted by the zone itself must be considered	A4	Develop and disseminate a Transport Management Plan (traffic movement and parking within the Agropark and securing the transportation of workers and communities) to host enterprises	 Number of complaints processed Annual quantity of dust and particles/VOC/NOX/SO2 emitted (t/year); Concentration of atmospheric pollutants; 	After zone development works	CFAF 25 000 000	APDA, Agropark Manager	ANGE Directorate of Transport
			A5	For projects planning to produce more than 25,000 tonnes of CO2 equivalent per year, it will be mandatory to quantify GHG emissions annually in accordance with internationally recognized methodologies and best practices directly from the facilities of each project and the indirect emissions associated with off-site energy production used by the project.	Proportion of units with annually quantified GHG emissions	After zone development works	Operational costs	APDA, Agropark Manager	ANGE Ministry of Environment
	Industrial and natural risks		R1	Provide for a fire intervention and safety centre within the industrial zone (fire station)	 Number of CIPE (A/D), with classified 	Before operating the Agropark	РМ		
			R2	Develop a Special Emergency Response Plan	establishment file on the Agropark		РМ	APDA/ National	ANGE
	R3	R3	Require Emergency Plans for classified installations in accordance with Section 132 of the Law of 2008 - 005 : Framework Law on the Environment Code	 Number of vehicle/pedestrian accidents per year Number of traffic 	3 months after starting operation	CFAF 7 500 000 per host enterprise	Agency		
LATION A			R4	Design and disseminate to host enterprises, a Local Hiring Plan	accidents in the area per yearNumber of signage	Before commencement of works	РМ	APDA	Directorate of Labour
IU404			R5	Design a management plan for population movements near the Agropark (secure	measures	Before starting to operate the	PM		/Cantons

Environmental Dimension		Constraint Description N°							Financial	Respo	onsibility
	Issue		Management Strategy N°		Indicators	Timetable	Esumate	Implementation	Verification		
				easements)	•	Number of intervention/evacuation	Agropark		APDA		
			R6	Design a corporate social investment plan as part of corporate social responsibility	•	 drills per year Frequency of monitoring and control of emergency 	drills per year Frequency of monitoring and control of emergency	PM			
			R7	Design an IGA development plan for former owners and farmers of the APZ Agricultural Zone	•	equipment Proportion of awareness and prevention actions	ent tion of awareness revention actions	PM	enterprises		
			R8	The APZ Administrator will require host companies to comply with the Labour Code	-	relating to the management of industrial and natural risks per year	Before the establishment of the CIPE	APDA	(APDA)	Directorate General of Labour / Labour Inspectorate	
			R9	Develop a communication plan for residents on the APZ's flood risk management arrangements	•	Proportion of validated emergency plan and safety exercise session Average response time of the emergency services in the event of a fire Number and characteristics (degree of severity) of rescue/security services (firefighters, police, etc.) per year Existence of a communication plan		CFAF 10 000 000	Service providers	ANGE	

7.4. Measures to strengthen the policy and institutional framework for environmental and social management

• Strengthen the policy framework to improve environmental and social assessment laws, regulations and procedures

The implementation of the PTA involves several technical departments of ministries at all stages of the project's life. The PTA will strengthen the ESM policy framework by helping in the drafting of decrees on strategic environmental assessments, Action plans and Resettlement plans, as well as guides to the preparation of environmental monitoring and follow-up reports and strategic environmental assessment reports.

• Strengthening the environmental and social expertise of the future "APZ Promotion and Development Agency" (APDA)

The future "APZ Promotion and Development Agency" will be responsible for the technical and financial implementation of project activities. This agency is yet to be structured and its staff recruited. However, it is recommended that there be two full-time experts - an environmental expert and a social science expert responsible for land issues - to ensure the inclusion of environmental and social issues in the preparation and implementation of project activities.

• Strengthening the environmental and social expertise of the Agropark Administrator/ Operator

The administrator or the operator of the APZ will recruit a Health, Safety and Environment (HSE) expert who will be responsible for all the environmental and social aspects of the common areas of the APZ.

• Strengthening the environmental and social expertise of future industries

To facilitate dialogue with the Agropark Administrator/Operator on environmental management, each industrial enterprise established, and in particular the institutions subject to impact assessment, will be required to designate from among their senior staff an HSE manager. Sensitization/training sessions will be held periodically to enhance the capacity of the Environmental Managers of newly established enterprises.

7.5. Technical strengthening measures

The technical strengthening measures concern the studies to be conducted, the guides to be produced, the establishment of a baseline situation and the establishment of a database with a view to improving scientific knowledge on environmental and social issues.

7.6. Natural resources management and environmental protection measures:

They are as follows:

- Natural resources management and biodiversity conservation
- Hygiene and sanitation measures
- Assistance measures for the promotion of clean technologies

7.7. Surveillance, monitoring and evaluation measures

The monitoring programme will concern ongoing monitoring, supervision, mid-term evaluation and annual evaluation. In addition, monitoring will require physicochemical, biological and bacteriological, toxicological and health analyses. Agricultural producers and local communities must be involved in local monitoring. Lastly, the project must include a final evaluation (at the close of the project).

7.8. Training of the project implementation actors

The PTA involves several categories of institutional and socio-professional actors, whose environmental and social management capacities are either non-existent or highly inadequate. Training should also familiarize stakeholders with national environmental assessment regulations; the guidelines of the African Development Bank and; environmental follow-up and monitoring.

Qualified training consultants in environmental and social assessment will be recruited by the Agency, with the assistance of ANGE, to conduct such trainings. The capacity building programme should be conducted to ensure the sustainability of the measures taken, through the following modules:

- Environmental and Social Assessment
- Environmental and social monitoring
- Pesticide management
- Good agro-processing practices
- Land management

7.9. Public and stakeholder information and awareness

This will involve organizing information and activity sessions at each targeted site; organizing public rallies at each site, through NGOs or previously trained local coordinators. Awareness will also focus on the concept of "agribusiness"; land issues, conflict management; vulnerability factors such as HIV/AIDS, malaria and intestinal and urinary bilharzia.

7.10. Environmental and Social Monitoring and Evaluation Program

This aims to define the overall monitoring framework of the environmental and social management strategy and to propose indicative monitoring indicators for the environmental components to be specified by the ESIA/RAP that will be conducted:

- Strategic indicators to be monitored by the PTA Steering Committee
- Indicators to be monitored by the Agency's Environment and Social Experts
- Indicators to be monitored by the Environment Focal Points

Components	Types of Indicator and Details to be Collected	Periodicity	Responsible
Water	Physical, chemical, biological and bacteriological analysis of water	Once per year	DGREA ANGE
Soils	 Developed areas Discontinued areas Sensitivity to water erosion (area affected) 	• Annual	Ministry of Agriculture
Vegetation Wildlife	 Rate of degradation Reforestation rate Encroachment rate in protected areas 	• Annual	• DEF
Production systems	 Volume of inputs consumed (pesticides, herbicides, fertilizers) Rate of adoption of integrated pest management methods Organic manure consumption Areas under organic cultivation Waste management (liquid, solid) from processing activities Recovery rate of by-products of processing industries. 	• Annual	 Ministry of Agriculture Ministry of Industry and Tourism
Human environment	 Observance of hygiene measures on the site Waste management practices Actions against waterborne diseases Prevalence of STIs/HIV/AIDS Port of adequate protective equipment Presence of disease vectors Prevalence rate of water-related diseases (malaria, bilharzia, diarrhoea, schistosomiasis, etc.), Number of intoxications due to pesticides use Availability of safety instructions in the event of an accident Number and type of claims 	• Annual	• Cantons

Table 10 : Indicators and Monitoring Mechanism

These indicators will be regularly monitored during the implementation and progress of investment projects and will be included in the PTA Implementation Manual.

7.11. Institutional Implementation and Monitoring Arrangements

Under the Project, the "environmental and social" function will be necessary both for implementation and for monitoring. Institutional arrangements are proposed for the project with respect to implementation and monitoring roles and responsibilities at the following levels:

- Coordination and external supervision
- Preparation and "internal" monitoring of implementation
- Conduct of activities
- "External" environmental and social monitoring.

Under the Project, the "environmental and social" function will be provided as follows:

• By the Board of Directors of the Agency, for strategic coordination (ensure that all stakeholders are truly involved and have roles to play); this committee will bring together all the institutions involved in monitoring. Within the framework of this committee, the member structures will carry out supervision missions

• By the Environmental and Social Experts who will be recruited by the PTA. These experts will coordinate local monitoring, in conjunction with the environmental managers of the local institutions and the technical services concerned

• By ANGE, which will carry out external monitoring of the ESIA implementation.

The Environmental and Social Experts of the PTA and the other structures do not have environmental and social autonomy. They will work in close collaboration with ANGE and under its supervision. To this end, the Agency will establish a protocol of collaboration with these structures, including support to facilitate their tasks.

The institutional arrangements below are proposed for the project with respect to implementation and monitoring roles and responsibilities. These arrangements fall within the framework of the core missions of each of the targeted structures.

Other Actors Participating in External Environmental Monitoring

The structures mainly involved in the PTA (Directorate of Agriculture, Industry, etc.) will appoint Environmental Manager focal points, who will participate in the external monitoring in the sector of activity.

- Directorate of Nature Conservation (monitoring reforestation activities)
- Directorate of Industry of the Ministry of Industry and Tourism: monitoring of product processing activities
- Directorate of Feeder Roads of MIT: monitoring feeder roads
- CEET: monitoring of electricity networks
- Directorate of Water Resources: monitoring water resources
- CEET for power lines
- Directorate of development, equipment and agricultural mechanization: irrigation facilities.

External monitoring will involve the following non-governmental actors:

- Cantons: follow-up of works; social awareness and mobilization
- NGOs: awareness and social mobilization
- Local civil society organizations: follow-up of the IEC; involvement of the public.

There will be three types of interrelationship flows at the institutional level, namely:

- Type 1: operational control concerning the strategies defined in this study (APDA) Administrator / Operator of the zone Host companies
- Type 2: Assistance to the Agency (APDA) and pooling of resources in the monitoring of strategic measures (environmental surveillance and monitoring), and the regulatory control of promoters and host enterprises
- Type 3: public participation and mass communication

These three types will be linked and will interact through strategic and communications monitoring. These flows are illustrated in the flowchart below.



The total cost of environmental measures is CFAF 851 500 000 or USD 1 591 588.79. Details are given in the table below. All costs will be included in the cost of the PTA-Togo project.

Table 11: Cost of Technical Monitoring Measures

Acti	vities	Quantity	Unit Cost	Total Cost (CFAF)	
Strengthen the policy framework to improve environmental and social assessment laws, regulations and procedures					
•	Strengthen the policy framework to improve the laws, regulations and procedures for Environmental and Social Assessment	2 decrees on ESAs and 2 Guides	25 000 000	50 000 000	
•	Strengthen the technical capacity of ANGE in environmental monitoring (measuring equipment + 4x4 vehicle)			75 000 000	
Stre	ngthening environmental and social expertise:				
•	Recruitment of two experts (environment and social) + a GIS expert for 5 years 3 x 60MH	3 x 60 h-m	750 000	135 000 000	
•	Recruitment of an HSE expert for the PTA 1 x 60 MH	1 x 60 h-m	750 000	45 000 000	
Mea	sures to strengthen scientific and technical knowledge:	L		L	
•	Update of ESIAs and completion of new ESIAs	10	20 000 000	200 000 000	
•	Provision for the preparation of a Resettlement Policy Framework (RPF)	1	15 000 000	15 000 000	
•	Development of a manual of good agricultural practices for investors	1	15 000 000	15 000 000	
•	Manual of good practices - environmental charter manual	1 manual	15 000 000	15 000 000	
•	Baseline situation and establishment of a database (air quality, noise, water)	1 campaign	25 000 000	25 000 000	
•	Preparation of land use plans (LUP)	1	25 000 000	25 000 000	
•	Strengthening knowledge of water resources in the project area	3	7 500 000	22 500 000	
Strengthening knowledge of water resources in the project area					
•	Construction or rehabilitation of sanitation infrastructure	PM PDC			
•	Revegetation and protection of natural hillside and shoreline habitats	20 ha	3 000 000	60 000 000	
•	Sustainable land management (SLM)	1	25 000 000	25 000 000	
•	Clean technologies promotion assistance measures	1	20 000 000	20 000 000	
Surveillance, monitoring and evaluation					

Activities			Quantity	Unit Cost	Total Cost (CFAF)
Ongo	Ongoing monitoring of PRODAT			10 000 000	50 000 000
• Suppo up	• Support for Environment Managers (EM) in the follow- up			5 000 000	25 000 000
• Final mid-term evaluation of the PTA-Togo			2	10 000 000	20 000 000
Training Me	easures :			•	<u> </u>
 PROI Envir Points Techr 	DAT onmental Focal s nical Services	 Training in environmental and social management National environmental legislation and procedures 	One national workshop for Environment Managers (EM)	10 000 000	10 000 000
		 Monitoring of environmental measures Monitoring of hygiene and safety norms AfDB Safeguard policies, etc. 	1 regional workshop for the other technical services	10 000 000	10 000 000
Information and Awareness Measures:					
 Mayo Invest Comm Local (APOs, etc) 	rs tors nunities, associations c.)	 Information and awareness campaigns on the nature of the work, involvement of local stakeholders, environmental and social issues (pesticide management, health) Awareness campaigns on safety and hygiene during project works. 	One campaign 3 times	-3 000 0000	9 000 000
Total					CFAF 851 500 000

8 CONCLUSION

The implementation of the PTA-Togo project will yield substantial socio-economic dividends, but also generate significantly adverse impacts on the biophysical and social environment. However, these adverse impacts are preventable or largely mitigable through a strict implementation of the management measures recommended in the SESA, during preparation, implementation monitoring and operation of the infrastructure and schemes provided. Establishing an appropriate institutional framework as proposed is crucial to the project's success.

ANNEX: ACRONYMS AND ABBREVIATIONS

ſ

AFD	French Development Agency
AfDB	African Development Bank
AIDS	Acquired Immuno-deficiency Syndrome
ANGE	National Environmental Management Agency
APDA	Agropole Promotion and Development Agency
APO	Agricultural Producer Organizations
ARP	Abbreviated Resettlement Plan
ARI	Acute Respiratory Infection
AVC	Agricultural Value Chain
APZ	Agro-processing Zone
BD	Bidding Documents
BOD5	Biochemical Oxygen Demand for Five Days
CBC	Communication for Behavioural Change
CBO	Community Based Organization
CDP	Community Development Plan
CEPW	Civil Engineering and Public Works
CIPE	Classified Installation for the Protection of the Environment
COD	Chemical Oxygen Demand
CRD	Regional Development Council
CRP	Comprehensive Resettlement Plan
CSP	Country Strategy Paper (from the Bank)
СТА	Technical Centre for Agricultural and Rural Cooperation
Cu	Chemical symbol for copper
DD	Detailed Design
DESIA	Detailed Environmental and Social Impact Assessment
DEEC	Directorate for the Environment and Classified Establishments
DGE	Directorate General for the Environment
DPA	Agricultural Policy Paper (2016-2030)
DWS	Drinking Water Supply
ECOWAS	Economic Community of West African States
EFP	Environment Focal Point
EHS	Environment, Health and Safety
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESSS	Environmental and Social Safeguards Specialist
GCF	Green Climate Fund
GHG	Greenhouse Gas
GRNE	Natural Resources and Environmental Management
HDI	Human Development Index
HIV	Human Immunodeficiency Virus
HSE	Health, Safety and Environment
IBAP	Institute of Biodiversity and Protected Areas
ICAT	Technical Advice and Support Institute
IEC	Information Education and Communication
IGA	Income-Generating Activity
ISS	Integrated Safeguard System
INFA	National Institute of Agricultural Training

ITR A	Togo Institute for Agronomic Research
IUCN	International Union for the Conservation of Nature
LDP	Local Development Plan
MDG	Millennium Development Goals
MV	Medium Voltage
N	Chemical symbol of nitrogen
NGO	Non-Governmental Organization
NICT	New Information and Communication Technologies
NOX	Nitrogen oxides
NR	Natural Resources
OP	Operational Policy
	Operational Safeguards
D	Chemical symbol of phosphorus
	Project affected Persons
	Processable Agricultural Produce
Dh	Chamical symbol of load
PU DCD	Delyahlaringtad Dinhanyla
PCD	Project Coordination Unit
PCU	Project Coordination Unit
PD	Preliminary Design
pH DD(Potential of Hydrogen
PIM	Project Implementation Manual
PMU	Project Management Unit
PNAE	National Environmental Action Plan
PPE	Personal Protective Equipment
PPF	Project Preparation Fund
PRODAT	Togo Agropole Development Programme
PRSP	A gray food Dragossing Drainet
PIA	Agro-rood Processing Project
RAP	Resettlement Action Plan
RU	Regional Councillor
RMC	Regional Member Countries
RU	Roads and Utilities
SEADD	Secretary of State for Environment and Sustainable Development
SME	Small- and Medium-sized Enterprises
SNDD	National Sustainable Development Strategy
SO2	Sulphur Dioxide
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
STP	Sewage Treatment Plant
ToR	Terms of Reference
VOC	Volatile Organic Composites
WAEMU	West African Economic and Monetary Union
WB	World Bank
WH	Wall Hydrant
WSC	Water and soil conservation
Zn	Chemical symbol of zinc