REPUBLIC OF COTE D'IVOIRE

Union – Discipline – Travail

MINISTRY OF EQUIPMENT AND ROAD MAINTENANCE

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Abidjan the Urban Mobility Project

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ENVIRONMENTAL SAFEGUARDS INSTRUMENTS SUMMARY

February 28, 2019

1. Introduction

In the framework of the Abidjan the Urban Mobility Project three (03) safeguard policies were triggered. There are: OP 4.01 “Environmental Assessment” ; OP 4.11 "Physical cultural resources" and OP 4.12 "Involuntary Resettlement". Thus, three (03) environmental safeguard instruments have been prepared, reviewed by bank’s specialists, consulted upon and disclosed within the Cote d’Ivoire and at the World bank website. Those safeguard documents are:

- Environmental and Social Management Framework (ESMF), disclosed in Cote d’Ivoire and at the World bank website on February 22,2019.
- Environmental and Social Impact Assessment (ESIA) of the 4th bridge, disclosed in Cote d’Ivoire and at the World bank website on February 22,2019.
- Environmental and Social Impact Assessment (ESIA) of 3interchanges, disclosed in Cote d’Ivoire and at the World bank website on February 28,2019.

2. Outputs

2.1. Environmental and Social Management Framework (ESMF)

The Government of Côte d'Ivoire, with the support of the World Bank, has undertaken the preparation of Abidjan the Urban Mobility Project (AUMP) whose development objective is to improve urban mobility in Abidjan through (i) setting up a public mass transit system (BRT) on the Yopougon-Bingerville corridor through a public-private partnership (PPP); (ii) the strengthening of SOTRA's capacities and the reorganization of its lines in drawdown on the mass transport axes; and (iii) the modernization and professionalization of artisanal transport on the corridor concerned by the project, including support for fleet renewal. The total project cost is estimated at approximately $ 350 million and will be executed through the following components.

• Component 1: Establishment of an East-West BRT line between Yopougon and Bingerville;

• Component 2. Support for strengthening SOTRA and restructuring its network around mass transit lines (North-South metro and BRT East-West);

• Component 3. Support for modernization and professionalization of the artisanal transport sector;

• Component 4. Human capital development and operational support.

The environmental and social issues for the project area concern the management of solid and liquid wastes whose current mode (proliferation of "wild" deposits) does not meet the accepted practices in terms of environmental protection. With the construction of new infrastructures, the problem of waste management in urban areas could become a real concern if this mode of management persists.

The second major challenge that the project could face is the tenure issue. Realization of new investments could require land acquisition resulting in expropriations. Thus, these potential expropriations should be done by involving the administrative authorities of the concerned ministries, the district, the municipalities and customary leaders taking into account the texts in force in order to avoid conflicts.

The political and legal context of AUMP 's environmental sector and sectors of intervention is marked by the existence of relevant policy documents, including: the National Action Plan for the Environment, the Sanitation Policy, the Sanitary and Hygiene Policy, the National Development Plan (2016-2020), the National Strategy for the Conservation and Sustainable Use of Biological Diversity and the National Strategy for the Management of Living Natural Resources.

Implementation of these policies required prior definition of an institutional, legislative and regulatory framework in which environmental actions in Côte d'Ivoire are now taking place. Thus, on the legislative level, Law No. 96-766 on the Environment Code was promulgated on 3 October 1996 and at the regulatory level, Decree No. 96-894 of 8 November 1996 setting rules and procedures applicable to environmental impact assessment of development projects. Other relevant laws reinforce this legal corpus, namely Law No. 98-755 of 23 December 1998 on Water Code, Law No. 2014-138 of 24 March 2014 on Mining Code, Law No. 2014 - 427 of 14 July 2014 Forestry Code and regulations on expropriation for reasons of public utility; but, also international texts such as the conventions ratified by the country. Besides, the World bank's environmental and social safeguard policies may also be considered by the project. And, three safeguard policies were triggered. There are: (i) OP 4.01 "Environmental Assessment", (ii) OP 4.11 "Physical cultural resources" and (iii) OP 4.12 "Involuntary Resettlement".

Thus the Project is rated as a category "A" according to the Ivoirian legislation on Environment as well as the World Bank's environmental and social categorization criteria.

Activities under the AUMP are likely to generate both positive and negative impacts on the socio-economic and environmental components. The positive impacts include development of commercial activities (restoration activities and small shops), improvement of the living environment in the project area (removal of garbage dumps and rehabilitation of stagnant domestic waste water); facilitation of movement of goods and people, reduction of number of accidents, reduction of greenhouse gas emissions, improving people's access to basic infrastructure, creation of a recreational area, improving the port's attractiveness and increasing its competitiveness with other ports in the sub-region, job creation and poverty reduction.
The negative potential impacts include for instance dust flushes, production of waste, noise nuisance, disruption of traffic during work, risk of accidents during work, risks of sexual abuse of vulnerable persons (under-age girls, widows, women living with a disability), risk of conflict following the various expropriations, risk of loss of plant species and landscaped areas during the liberation of the rights of way.
In any case, the various alternatives, the organization of work and the technical capacity building of the actors will minimize these impacts.

The environmental and social impacts and risks listed above require different alternatives or measures for eliminating, reducing or compensating for these negative impacts. In addition to the organization of the site and the measures identified in the ESMP, it is necessary to:

(i) put in place a monitoring and evaluation system that ensures that the project activities guaranty protection of the physical and social environment;
(ii) implement a system for collecting, sorting and managing waste;

(iii) implement training programs and communication strategies tailored to each level of the service delivery chain for better accountability of actors in order to reduce various types of pollution;
(iv) implement measures to improve the positive environmental and social impacts of the Project, as the use of alternatives to reduce and recycle waste (industrial ecological approach);
(v) incorporate binding clauses in the tender documents and require that the company's Environmental Health and Safety Plan be approved before the work is actually started.

As part of the preparation of the ESMF, stakeholder consultation sessions were held with stakeholders including administrative managers, technical structures, populations of the Environmental Directorate and Sustainable Development (DESD) of the Autonomous District of Abidjan. (DAA), Municipalities of Bingerville, Adjamé, Yopougon, Cocody and Attécoubé. Following these meetings, the following recommendations were made:

- training of the officers of the Department of Environment and Sustainable Development (DEDD) of the Autonomous District of Abidjan (DAA) and their implications in all AUMP activities;
- sensitization of companies and populations for the non-exploitation of the banks of the Ebrié lagoon;
- involvement of customary and administrative leaders in the implementation of the project and in conflict management;
- provision of support to young people and women for Income Generating Activities as additional compensation to compensate for the permanent losses of property including land in the project area;
- involvement of customary chiefs and other resource persons in clearing graves and other cultural property identified in the project boundaries;
- the correction of technical imperfections related to the drainage of rainwater creating floods of houses along the MITTERAND boulevard going from Riviera 9 Km to the roundabout of the new Akouédo military camp;
- the forecasting of bypass roads and footbridges at certain places on MITTERAND Boulevard for better circulation of residents and the rallying of users at the various stations;
- making available to stakeholders the detailed timetable of the activities of the AMUP project;
- making available to local residents the documents to be provided for the compensation of the property affected.

Key indicators to be monitored include:
• Number of sub-projects that have been subject to environmental and social screening;
• Number of ESIAS carried out and published;
• Number of sub-projects that have been subject to environmental monitoring and reporting;
• Number of actors trained / sensitized in environmental and social management;
• Number of sensitization workshops carried out.

The institutional framework for the implementation of the ESMF involves several actors and technical structures, the most significant of which are:

- Project Steering Committee (PSC): The Project Steering Committee will ensure the registration and budgeting of environmental and social due diligence in Annual Work Plans and Budgets (AWPB);

- The Project Management Unit (PMU): The PMU will ensure that environmental and social aspects and issues are taken into account in the implementation of project activities. That body will include an Environmental Safeguard Specialist (ESS) and a Social Safeguard Specialist (SSS);
- The National Environment Agency (NEA – "ANDE" in French): The ANDE will proceed with the examination and approval of the environmental classification of sub-projects, as well as the approval of environmental and social impact assessments (ESIAs). It will also provide external monitoring;
- The National Agency for Waste Management (ANAGED in French): ANAGED must ensure the monitoring of the hygiene on the work sites;
- The District of Abidjan and the Communes: they will participate in environmental and social monitoring through their services or technical directions ;
- Executing agencies (AGEROUTE): they will monitor the implementation of the ESMPs that will result from the ESIAs of each project activity;
- NGOs and community associations: in addition to social mobilization, they will participate in the awareness building among the populations concerned and the monitoring of the implementation of the ESMF by interpellation of the principal actors of the AUMP.

The Environmental and Social Management Plan (ESMP) includes the screening process, the key elements of environmental and social management (institutional and technical capacity building measures, training and sensitization measures, program of implementation and follow-up of the measures, institutional responsibilities, a budget which includes a provision for the realization of Environmental and Social Impact Assessment (ESIAs) including their implementation and follow-up / evaluation of the ESMF.

The environmental and social management will be carried out under the coordination of the monitoring missions and under the supervision of the Environmental Safeguard Specialist (ESS) and the Social Safeguard Specialist (SSS) of Project Management Unit (PMU) with the involvement of Environmental and Social Respondents (ESR) of technical services, NGOs and local beneficiary communities. The monitoring program will focus on ongoing monitoring, supervision and annual evaluation. External monitoring will be provided by ANDE. Members of the Coordination Committee and the World Bank will also be involved in missions of support for the project implementation.

The table below summarizes the institutional arrangements for the implementation of the ESMP.

Institutional arrangements for the implementation of the ESMP.

No	Steps/Activities	Responsible	Support/Collaboration	Provider
1.	Identification of the site location and principal technical characteristics of the sub-project	Municipalities Autonomous District of Abidjan	• Technical Services of the District and Municipalities; • Executing agencies (AGEROUTE); • Beneficiary • NGO	• AUMP

No	Steps/Activities	Responsible	Support/Collaboration	Provider
2.	Environmental selection (screening-filling out of forms) and determination of the type of specific safeguard instrument	Environmental Safeguard Specialist (ESS) and Social Safeguard Specialist (SSS) of AUMP	• Beneficiary : population • Municipalities • ESS - SSS/APMU • Executing agencies (AGEROUTE); • NGO	• Environmental Safeguard Specialist (ESS) and Social Safeguard Specialist (SSS) of AUMP • Environmental and Social Respondent of Municipalities and District
3.	Approval of the categorization by ANDE and the World Bank	Project Coordinator	Environmental Safeguard Specialist (ESS) and Social Safeguard Specialist (SSS) of AUMP	• ANDE • World Bank
4.	Preparation of the specific E & S safeguard instrument for Category A, B or C			
	Preparation and approval of the Terms of Reference	Environmental Safeguard Specialist (ESS) and Social Safeguard Specialist (SSS) of AUMP	Executing agencies (AGEROUTE);	• ANDE • World Bank
	Completion of the study including public consultation		Procurement Specialist (PS), ANDE ; Municipalities ,NGO • Executing agencies (AGEROUTE);	Consultant
	Validation of the document and obtaining the environmental certificate		Procurement Specialist (PS), Municipalities, District	• ANDE, • World Bank
	Publication of the document		Project Coordinator	• Media ; • World Bank
5.	Integration of all measures of the work phase to be contracted with the company within the Request for Proposal (RFP) file of the sub-; (ii) approval of the ESMF-construction site	Executing agencies (AGEROUTE);	• Environmental Safeguard Specialist (ESS) and Social Safeguard Specialist (SSS) of AUMP • PS	Environmental Safeguard Specialist (ESS) and Social Safeguard Specialist (SSS)
6.	Implementation of measures not contracted with the construction company	Environmental Safeguard Specialist (ESS) and Social Safeguard Specialist (SSS) of AUMP	• Procurement Specialist • Technical head of activity • Financial Management Specialist (FMS) • Municipalities Autonomous District of Abidjan • Executing agencies (AGEROUTE)	• Construction companies • Consultant • NGO • Others
	Internal monitoring of the implementation of	Environmental Safeguard Specialist	• M&E Specialist	Owner's Engineer

No	Steps/Activities	Responsible	Support/Collaboration	Provider
7.	environmental and social measures	(ESS) and Social Safeguard Specialist (SSS) of AUMP	• Financial Management Specialist (FMS) • Municipalities • District	
	Dissemination of the internal monitoring report	Project Coordinator of AUMP	Environmental Safeguard Specialist (ESS) and Social Safeguard Specialist (SSS) of AUMP	ESS-SSS/ AUMP
	External monitoring of the implementation of environmental and social measures.	ANDE	Environmental Safeguard Specialist (ESS) and Social Safeguard Specialist (SSS) of AUMP	Owner's Engineer
8.	Social and environmental monitoring	Environmental Safeguard Specialist (ESS) and Social Safeguard Specialist (SSS) of AUMP	• ANDE • Municipalities • Beneficiary • ESR of Autonomous District of Abidjan	• Laboratories / specialized centers • NGO
9.	Capacity building of actors for social and environmental implementation	Environmental Safeguard Specialist (ESS) and Social Safeguard Specialist (SSS) of AUMP	• Other ESS-SSS • Procurement Specialist • FMS	• Consultants • Competent public structures
10.	Audit of the implementation of social and environmental measures	Environmental Safeguard Specialist (ESS) and Social Safeguard Specialist (SSS) of AUMP	• ESS-SSS • Procurement Specialist • ANDE • Municipalities and Autonomous District of Abidjan • Executing agencies (AGEROUTE)	• Consultants

The project implementing entity, or any entity involved in the implementation, will not issue a Request for Proposal (RFP) for an activity subject to the Environmental and Social Impact Assessment (ESIA) development, without including the environmental and social management plan (ESMP) for the relevant phase of works and will not start such works until the ESMP of the contracted firm has been approved and integrated in the overall planning of works.

The roles and responsibilities as described above will be integrated into the Project Implementation Manual (PIM)

The costs of the environmental measures of **1 200 000 000FCFA** (**2 400 000**USD) are spread over the five (5) years of the funding of the Project.

The table below outlines the composition of the costs of the project activities:

The costs of the project activities

N°	Item	Unité	Qté	Coût Unité X 1000 000		Total X 1000 000		Source de financement			
				Local	US$	Local	US$	Etat X 1000 000		Bm X 1000 000	
								Local	US$	Local	US$
1	Preparation of specific safeguards instruments (ESIA, Environmental audit)	Nb	10	20,00	0,10	200,00	1,00			200,00	1,00
2	Stakeholders capacity strengthening (training in ES)	FF	1	90,00	0,18	90,00	0,18			90,00	0,18
3	Implementation of specific ESMP	Nb	10	75,00	0,15	750,00	1,50	750,00	1,50		
4	Mid-term assessment on the ES performance	Nb	1	10,00	0,02	10,00	0,02			10,00	0,02
5	Sensitization and awareness campaigns on HIV, Sexual and Gender Based Violence and the Grievance Redress Mechanism	FF	1	50,00	0,10	50,00	0,10			50,00	0,10
6	Close monitoring of the ESMP implementation by the municipal technical agents and by the autonomous Abidjan district and by the ANDE	An	5	10,00	0,02	50,00	0,10			50,00	0,10
7	Audit of the ES performance prior to the project completion	Nb	1	50,00	0,10	50,00	0,10			50,00	0,10
TOTAL						**1 200,00**	**2,40**	**600,00**	**1,20**	**600,00**	**1,20**

Ultimately, the environmental and social management of AUMP will be based on the implementation the current Environmental and Social Management Framework (ESMF). The ESMF will be supplemented by the Resettlement Policy Framework (RPF) elaborated in a separated document.

2.2. Environmental and Social Impact Assessment (ESIA) of 4th bridge

The present Environmental and Social Impact Assessment (ESIA) is focused on the construction of Abidjan's 4th Bridge, its access roads and, the Bus Rapid Transfer (BRT), a part of the Urban Transport Project of Abidjan (PTUA). This project is funded by the African Development Bank (AfDB) through the PTUA for an amount of 241. 81 billion F CFA TAX EXCL.

In addition, the study addresses the environmental and social impacts of the future Bus Rapid Transit (BRT) line, which is approximately 20 km long and follows the fourth bridge's Central Reservation (TPC). The financing of the BRT line is planned by the World Bank, in the Urban Mobility Project of Abidjan (PMUA) currently being prepared.

This ESIA study does not include costs related to the expropriation procedures (compensation of affected persons, networks' relocation, Economic and Social Management Plan (ESMP) and monitoring of the implementation of the ESMP and the RAP).

In order to support the urban development of the city of Abidjan, the Ministry of Equipment and Road Maintenance has been long engaged in a general reflection on the main roads to be built in order to address the city's socio-economic requirements.

The main idea of the project is reducing the isolation of Yopougon district with the construction of a bridge over the Bay of Banco, while ensuring the following objectives:

The hierarchisation of traffic in Yopougon around a structuring road which crosses the entire district from West to East and which allows the establishment of a 2nd transversal East-West axis inside the municipality that would relieve the existing North-South roads connecting to the existing expressway (Autoroute du Nord);

The routing of traffic from the exit of the new 4th bridge to the eastern limit of the Plateau district in order avoid congestion of the district's current road network and ensure the traffic continuity towards the Mitterrand boulevard (East-West transversal axis in the agglomeration).

The project consists of the construction of an expressway which will link the districts of Yopougon, Attécoubé, Adjamé and Plateau, for a total length of 7.5 km.

Specifically, there will be built:

-a 2x3 lane carriageway that includes the construction of interchanges at the junction with the existing main roads on the Yopougon side over a length of 4.025 km;

-a 0.850 km-long toll platform on Attécoubé's side;

-a viaduct over Banco Bay, 0.794 km long;

3 interchanges or slip roads crossing "Boulevard de la paix" expressway (Interchange of Boribana: 0.603 km, - South slip road: 0.540 km, North slip road: 0.755 km);

-a 2x2-lane carriageway between the end of the Boribana-Indénié interchange, for a length of 0.875 km;

-a tunnel on Nandjui Abrogoua Boulevard ;

-a central reserved ground (20 m) which will constitute a reserve for the TUA2 Project, which will ultimately be used for the construction of a BRT line and its stations.

To properly build the viaduct, its slip roads and its shoulders, a study perimeter was defined as follows:

-120 meters from the main Boulevard in Attécoubé (Abidjan Santé);

-40 meters from Adjamé (Bromakoté) at the end of the project at Adjamé Indénié.

This right-of-way should allow, in addition to the construction of the road and its shoulders, to have enough space to create the detour roads, constituting a security provision for the residents and the road users.

However, its total or partial usage will depend on the nature of the civil works to be carried out (drainage and sanitation works and construction of the road platform).

The works planned under the project will be carried out in three (03) stages in accordance with the environmental protection regulations in Côte d'Ivoire.

Concerning the future BRT line, it is part of the Abidjan Urban Mobility Project (PMUA), worth an estimated US $ 350 million, which will be implemented through the following parts.

Part 1: Establishment of an East-West BRT line between Yopougon and Bingerville;

Part 2: Support to strengthen SOTRA and restructure its network around mass transit lines (North-South metro and BRT East-West);

Part 3: Support for the modernization and professionalization of the paratransit;

Part 4: Human Capital Development and Operational Support.

Preparatory stage

The preparatory stage of the implementation of this project will involve several tasks and activities whose execution is essential before the actual construction of the 4th Bridge and its access roads. These include:

-Expropriation procedures and land acquisitions,

-Awarding of contracts and staff recruitment,

-Site mobilization and installation of the workers' living area,

-Equipment procurement / Transportation of the materials / acquisition of the construction vehicles.

Construction stage

In general, project implementation will require significant civil work during its construction phase. The main civil works can be summarized as follows:

-Choosing and operating borrow sites and quarries,

-Operation of concrete mixing equipment, crushing equipment and asphalt mixing equipment,

-Drainage and sanitation works,

-Pavement construction,

-Road markings and signs, safety equipment, installation of public lighting,

-Water supply for the construction site,

-Fuel supply,

-Dismantling of the construction site.

Operation phase

The operational phase will consist of the opening, the operation and the maintenance of the newly constructed road.

The zone of influence of the 4th bridge project is determined in such a way as to consider all elements of the natural and human environment that can be affected directly or indirectly by the project. Thus, it can be broken down into two zones:

-the zone of indirect influence (extended study area), extending to the whole area of the District of Abidjan that is likely to be influenced by the project;

-the zone of direct or restricted influence that covers the districts of Yopougon, Attécoubé, Adjamé and Plateau.

As for the Urban Mobility Project of Abidjan (PMUA), it will intervene in the district of Abidjan and the concerned communes are Adjamé, Attécoubé, Cocody, Yopougon and Bingerville

Environmental issues are among the main concerns of the project and they are in line with the expressed concerns of the affected communities. At the stage of this report, the key issues of the project are:

-the geographical opening-up of the communities;

-the improvement of the living environment of the populations;

-the traffic disruption for residents accessing their properties;

-the partial sanitation of the project area through the development of a rainwater drainage network.

Environmental policy in the Republic of Côte d'Ivoire is under the auspices of the Ministry of Environment and Sustainable Development (MINEDD). The Ministry is responsible for setting national policies and strategies for the environmental protection and legislating for this purpose. The main determining principles of the national environmental policy are contained in the National Environmental Action Plan (1996 - 2010). The main policies to which the study refers to are:

-Sanitation policy

-Water policy

-Health and environmental health policy

-Decentralization policy

-Policy against poverty

-Policy for achieving gender equality and women's empowerment.

There are various institutions involved in the environmental and social assessment of the construction project, having a direct or indirect link with it. Those are:

Ministry of Environment and Sustainable Development (MINEDD) through:

National Agency for the Environment (ANDE):

In this project, ANDE will monitor the implementation of the corrective measures to be applied at different stages of the project. Before that, it validates the terms of reference (TOR) of the ESIA, conducts the public inquiries procedures and proceeds to the validation of this study before the Interministerial Committee for validation of this report.

Directorate General for Environment and Sustainable Development (DGEDD):

This Directorate is also responsible for scrupulously ensuring the integration of the principles and requirements of sustainable development in national sectorial policies; it has under its authority two directorates that can also intervene in this project. This is the Directorate of Policies and Strategies (DPS) which ensures compliance with national commitments to sustainable development, and the Directorate of Green Economy and Social Responsibility (DEVRS), responsible for promoting economical ways for using scarce or renewable resources.

Ivorian Anti-Pollution Center (CIAPOL):

In this project, CIAPOL will ensure that measures to control the impacts and risks associated with atmospheric, noise and vibration pollution, as well as all other types of waste, have been taken.

Ministry of Equipment and Road Maintenance (MEER)

The MEER as the project's client will be involved in the implementation of several proposed environmental actions. He will intervene particularly in:

-the recruitment of companies and consultants involved in the implementation of various environmental measures;

-the environmental supervision of the project through the Infrastructure Environment Unit.

Ministry of Construction, Housing and Town Planning

This ministry will intervene within the framework of the project providing their expertise regarding the -partial or total- building demolitions that will be necessary for the project. In addition, it will ensure the implementation of the elaborated RAP.

Ministry of Sanitation and Hygiene through the National Agency for Waste Management (ANAGED) and the National Office of Sanitation and Drainage (ONAD)

The main mission of the Ministry of Sanitation and Hygiene is to promote health and hygiene through awareness raising, educational programs and fighting against pollution. The sub-structures in charge of drainage and sanitation issues involved in this project are the National Office for Sanitation and Drainage (ONAD) and the National Agency for Waste Management (ANAGED).

As part of this project, AGEROUTE will work with the ONAD to ensure control of mitigation measures on drainage and sanitation facilities in the project area.

In this project, ANAGED will control the management of waste generated during construction work, including rubble, construction waste, inert waste, domestic waste etc.

Ministry of Transport through the Office of Road Safety (OSER) and the Observatory of Road Fluidity (OFT)

The Ministry of Transport is responsible for the development and implementation of the Government's transport and road safety policy. As such, he is responsible, among other things, for:

-evaluating and participating in the development and implementation of legislative or regulatory measures relating to road safety and accident prevention in liaison with the other concerned public entities;

-ensuring or controlling the organization and operation of road transport and road safety in liaison with other public entities.

The organizations under the supervision of this Ministry that is likely to be involved in this project are the Office of Road Safety (OSER) and the Observatory of the Transport Fluidity (OFT).

The purpose of the OSER is to tackle road accidents. In this project, it will be involved in the implementation or validation of signalling plans developed for the project sites during the works, to ensure the safety of users and sites.

In the context of this project, the OFT validates the traffic plans drawn up by the contractors before the launching of the civil works and their update according to the evolution of these works.

Ministry of the Interior and Security through the municipalities of Yopougon, Adjamé and Attécoubé as well as the National Office of Civil Protection (ONPC)

This ministry will also intervene during the public inquiry through the appointment of a Commissioner Investigator who will be responsible for recording the opinions and observations of the population on the draft ESIA report that will be submitted to them before the technical validation.

Ministry of Employment and Social Protection

The Ministry of Employment and Social Protection is responsible for monitoring the application of the Labor Code and international conventions ratified by Côte d'Ivoire, the development and implementation of the welfare policy and social security. It ensures the administrative control of the National Social Security Fund (CNPS). He intervenes as arbitrator in negotiations between the employer and the employees in case of conflict.

Ministry of Health and Public Hygiene

The Ministry of Health and Public Hygiene will be involved in this project by monitoring the implementation of the measures planned in the ESMP for the health of workers and nearby populations.

At the legislative and regulatory level, a number of conventions have been ratified by the State of Côte d'Ivoire. Those are:

-London Convention for the Conservation of Wild Fauna and Flora (1933),
-Algiers Convention on the Conservation of Nature and Natural Resources (1968),
-Vienna Convention for the Protection of the Ozone Layer (1985),
-Montreal Protocol on Substances that Deplete the Ozone Layer (1987) & London Amendment (1990),
-Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1989),
-United Nations Framework Convention on Biological Diversity (1992),
-Bamako Convention on the Import Prohibition of Hazardous Wastes in Africa (1991),

-United Nations Framework Convention on Climate Change (1992),

-Convention to Combat Desertification, particularly in Africa (1994),

-Stockholm Convention on Persistent Organic Pollutants (POPs) (2001),

-Kyoto Protocol on Greenhouse Gases.

At the national level, the main texts related to the project are listed as follows:

-Law No. 2016-886 of 8 November 2016 on the Constitution of the Republic of Côte d'Ivoire.
-Law No. 96-766 of 3 October 1996 on the Environment Code
-Law No. 2014-138 of 24 March 2014 on the Mining Code
-Law No. 2014-427 of 14 July 2014 on the Forest Code
-Law No. 2014-390 of 20 June 2014 on the Orientation on Sustainable Development
-Law No. 2015-532 of 20 July 2015 on the Labor Code
-Law No. 98-755 of 23 December 1998 on the Water Code
-Law No. 65-255 of 4 August 1965 on the protection of wildlife and the practice of hunting
-Law No. 98-750 of 23 December 1998 on the rural land area amended by Law No. 2004-412 of 14 August 2004
-Law No. 99-477 of August 2nd, 1999 on Social Welfare Code as modified by the Order No. 2012-03 of January 11th, 2012
-Law No. 2003-208 of July 07, 2003 on transfer and distribution of the competences of the State to the Territorial Communities (in terms of environmental protection and management of natural resources)
-Decree No. 71-74 of February 16, 1971 relating to State and Land Procedures
-Decree No. 95-815 of 29 September 1995 setting the compensation rules for crop destruction
-Decree No. 2013-441 of 13 June 2013 laying down the conditions and procedures for the classification and decommissioning of water resources, hydraulic works and structures and the granting of the public utility regime to water resources, facilities and hydraulic structures
-Decree No. 2013-507 of 25 July 2013 determining the periodicity of the inventory of water resources, development and hydraulic works in Côte d'Ivoire
-Decree No. 2014-25 of 22 January 2014 amending Decree No. 2013-224 of 22 March 2013 regulating customary land rights for general interest
-Decree n ° 2014-28 of January 22nd, 2014 on the Declaration of Public utility (DUP) of the surroundings of a highway
-Decree 2005-03 of 6 January 2005 on Environmental Audit
-Decree of 25 November 1930 on expropriation for public purposes, as amended by the decrees of 24 August 1933 and 8 February 1949
-Decree of 29 September 1928 regulating the public utility easements.
-Decree No. 2016-788 of 12 October 2016 on the application of Order No. 2016-588 of 3 August 2016 on occupancy rights of the public domain.

At the international level, the procedures and policies of development partners applicable to the project are listed as follows:
The reference framework specifies, in addition to the current Ivorian regulations and standards, the International Safeguard requirements and in particular those of the African Development Bank (AfDB). Also, in this case, the most relevant AfDB provisions applicable to the project are:

-Environmental and Social Assessment Procedures (November 2015),
-Integrated Safeguards System (December 2013) :
-Operational Safeguard 1: Environmental and Social Assessment,
-Operational Safeguard 2: Involuntary Resettlement - Land Acquisition, Displacement and Compensation,

-Operational Safeguard 3: Biodiversity, renewable resources and ecosystem services
-Operational Safeguard 4: Pollution Prevention and Control, Hazardous Materials and Resource efficiency,
-Operational Backup 5: Labour Conditions, Health and Safety;
Other AfDB requirements the present ESIA is addressing:
-Bank Group Strategy on Gender 2014-2018,
-Gender Policy (June 2000),
-AfDB Policy on Poverty Reduction (February 2004),
-Disclosure and Access to Information Policy (May 2013),
-Handbook on Stakeholder Consultation and Participation in AfDB Operations (2001),
-Consolidated Framework of Engagement with Civil Society Organizations (2012).

Positive impacts

Physical environment

The project will have no significant positive impact on the physical environment, in the preparation and installation phase, as well as in the construction phase. During the operation and maintenance phase, no positive impact is noticeable on the physical environment.

Biological environment

The project will have no significant positive impact on the biological environment, during the preparation and installation phase, during the construction phase and during the operation and maintenance phase.

Human environment

The positive impacts of the project on the human environment during the preparation and installation phase will be:

-at the level of the population and of social life, there will be the development of emotional and economic interpersonal relations; the more or less significant demographic contribution and positive affection of the social balance of the work zone; the movements of visitors, people looking for work or offering various services.

-at the level of the economic activities, it will be the circumstantial development of the commercial activities, generating income including the restoration (the development of the activities of restoration around the base-life and in the zone of direct influence of the project); financial flow and temporary job creation at several levels; increased consumption of goods and services;

-the level of health and the living environment, there will be the establishment of private security and the conduct of a health check pre-employment and health assistance provided to the staff of the operator as well as subcontractor staff.

The positive impacts of the project on the human environment in the construction phase will be:

-at the level of population and social life: job creation for local populations on several levels, relative reduction of unemployment, significant human contribution that can contribute to the animation of social life and to form bonds of friendship in localities, enriching the cultural exchanges of the populations;

-at the level of economic activities: development of income-generating activities, installation of small businesses, increase of the consumption of several basic products, increase of the turnover of the different activities;

-at the level of safety and traffic: reinforcement of safety in the project area with the establishment of a system of intervention in case of disaster and the installation of new road signs in accordance with the traffic plan developed.

The positive impacts of the project on the human environment during the operation and maintenance phase will be at level of:

Equipment: improvement of the circulation and movement of personnel on the project site and use of appropriate personal protective equipment during the works and during the operation phase.

health and living environment: installation of the sanitation system that will facilitate the drainage of rainwater, treatment before discharge of wastewater.

Negative Impacts

Physical environment

The negative impacts of the project on the physical environment during the preparation and installation phase as well as during the construction phase will be at:

-air quality: increase of dust and other particles in the air that will be above the standards, The operation of vehicles and engines, are the main sources of gas emissions (CO2, CO, NOx, SOx, ...), the lifting of more or less intense dusts according to the different phases and the mode of work at the different execution platforms;

-noise: noise nuisance to residents. Taking into account the observations made on the initial state, which indicate average values within the tolerance thresholds in the project area, and the acoustic characteristics of the machines used, it is possible to conclude that the thresholds will not be exceeded for dwellings located 500 m from the main sources of noise. However, this impact is of short duration, localized scope and average intensity. The importance is therefore low considering the noise levels that will be generated;

-modification of the topography and the landscape in the project area;

-exposure of the soil to the effects of erosion and chemical pollution;

-erosion, destabilization and soil contamination;

-disturbance of the natural hydrological regime and pollution of the lagoon;

-shocks of local residents' constructions;

-landscape: modification of the usual view at the landscape level;

-Soil: Movements of motorized vehicles may cause erosion of loose soil and compaction on traffic soils. Since a rental agreement will be signed between the company and the owners, this impact will only be felt if the site is not restored by the company in accordance with the future uses envisaged by the owners. Its intensity is weak and its range is local. Its duration will be reduced to the phase between

decommissioning and actual rehabilitation allowing owners to use the site. The significance of the impact is considered low. However, non-compliance with commitments could change the intensity from low to medium and the duration from reduced to long which would lead to a medium impact.

-surface water: risks of soil pollution and the Ebrié Lagoon (in particular Banco Bay) by solid and liquid waste resulting from construction site activities; damage to various networks on and around the site; risks of obstruction of site sanitation facilities.

During the operation and maintenance phase, there may be: production of minor emissions of air contaminants; production of liquid effluents that could be a source of soil pollution; pollution of the aquatic environment by accidental releases or leaks from equipment, processes and storage areas and tanks; infiltration of liquid effluents into the underlying aquifers and pollution of the water table.

Biological environment

The project will have no significant negative impact on the biological environment, in the preparation and installation phase as well as in the construction phase.

Loss of vegetation cover is a negative impact of direct interaction. It is of low intensity considering the areas concerned and the density of the initial plant cover. Indeed, this impact is limited to an area of less than 5 ha depending on the space available in the project area. Its extent is local.

Considering the evaluation criteria, the absolute importance of the impact was assessed as minor. The impact being certain; almost irreversible and the highly valued assigned component, this makes it possible to weight the absolute importance; that is why the relative importance is average.

On the other hand, during the operation and maintenance phase, impacts on this environment could consist of: the degradation of aquatic environments by the mismanagement of hydrocarbons, effluents, hazardous materials and waste and the destruction of certain biotopes.

Human environment

The negative impacts of the project on the human environment in the preparation or installation phase as well as in the construction, operation / maintenance phases will be: exposure to dust and noise; disruption of movements and movements of populations in the area of influence; the potential for spread of HIV / AIDS and STIs; temporary disruption of neighboring activities and services at the site and the loss of all or part of the buildings or land assets;

Negative impacts on the socio-economic environment are presented as follows:

-disturbance of various networks (drinking water, electricity and telephony);

-loss of income following the relocation of several commercial activities;

-loss of buildings ;

-lisks of traffic accidents;

-exposure of construction workers and of citizens living close to the project’s site to accidents and diseases;

-conflicts related to the loss of buildings and land assets;

-risks of destruction of infrastructures and cultural heritage (Adjamé village);

-disturbance of car and pedestrian traffic in the project area;

-threats to the safety of road users and local residents;

-risks of disruption of the living conditions of women and vulnerable groups;

-possible damage to the safety and the health of the population.

Affected households

In total the project will affect 11,508 households, distributed as follows:

6,682 residential households including 4,869 tenants who were identified and surveyed around the bridge and its feeder roads. They are composed of a total of 26,082 people, an average size of 4 people per household, lower than the national average of 5.

1,760 households exercising income-generating activities have been identified in the three concerned municipalities as follows:

-Municipality of Yopougon: 437 households;

-Municipality of Attécoubé: 222 households;

-Municipality of Adjamé: 1101 households.

-Potentially affected buildings

In total, 6,967 buildings are potentially affected by the project. They are distributed as follows:

-4,119 built in the Municipality of Yopougon ;

-1,901 built in the Municipality of Attécoubé ;

-947 built in the Municipality of Adjamé.

Potentially affected land properties

In total, 628,200 m2 will be affected by the project in the municipalities of Yopougon and Attécoubé Ouest. The monetary estimate is 1,256,400,000 F CFA at the rate of 2,000 F CFA/m2 based on the decree on customary land and territorial rights due to the reservation of Parkway rights-of-way by the Government since the years 70.

In the municipality of Adjamé and the eastern part of Attécoubé, 26,250 m2 (servitudes excluded) of the current road will be allocated for a value of 787,500,000 F CFA at the rate of 30,000 F CFA/m2 based on the current average value of land in the municipality.

During construction of the bridge, activities related to the widening and acquisition of new rights-of-way will generate massive destruction of property including housing, land, crops and commercial or service activities. Given the importance of the properties that will be affected by the project, a Resettlement Action Plan (RAP) is also elaborated in a separate document and constitutes volume 2 of this document.

Risks of hazards, conflicts, gender-based violence, etc.

Various risks related to the implementation of the project during the preparation and works phases were identified:

-Occupational risks related to work accidents at height (height drop, mechanical handling, work equipment, physical workload) are of medium level;

-Risks of accidents related to the internal circulation of vehicles are of medium level;

- Risks related to product handling, emissions and waste are low:

-Risk of fire or explosion is low;

-Risks related to electricity are of average level;

Hazards of products (sulfuric acid, binders and hydrocarbons) during operation and maintenance:

-Occupational risks related to accidents at work, handling or exposure to these products;

-Conflict or gender-based violence is low.

A work accident can lead to a temporary stoppage of work, a permanent cessation of work or in the worst case a death.

The risks of accidents at work and the development of occupational diseases constitute a direct negative impact. The intensity was estimated average. This impact is punctual. It is long-term, since it can manifest itself during the entire phase of the installation phase and continue during the works.

This impact will have a strong intensity, because these accidents can reach the workers in a serious and lasting way. Depending on the severity of the accident, it will also extend after completion of the work, hence its average absolute importance. In the event of an accident at work or an occupational disease, the duration of treatment can be quite long, making it difficult to control the health impact at the project level.

Stakeholder consultations

The information and consultation process of the public follows a methodical approach which is as follows:
-presentation of the Project, its components (objectives, planned activities, areas of intervention, etc.) and its impacts;
-gather the viewpoints, concerns and suggestions made during the various public consultation sessions.
In this Project, the public consultation sessions targeted the following entities:
-the entities concerned mainly for the implementation of Project activities;
-Local elected representatives at the municipal level in Yopougon, Attécoubé and Adjamé (mayors, municipal councillors, technical directors, etc.);
-Local organizations (Chiefs of villages and lands, "Notables", District Chiefs, etc.) ;
The people likely to be affected by the project.
Organization of information and consultation meetings

As part of this study, stakeholder consultation was organized according to the schedule below through meetings with the following entities:

-Scoping meeting with the municipal authorities (05/04/2016) ;
-Launch meeting of the study in the municipalities of Yopougon and Attécoubé (05/04/2016) ;
-Information and launch meeting of the study in the municipality of Adjamé (05/04/2016) ;
-Awareness tour with the Attécoubé Town Hall in the Boribana, Fromager and Jean Paul II en Haut neighborhoods (20/04/2016) ;
-Village Chief of Adjamé village and his "Notables" (12/04/2016) & (27/04/2016) ;
-Village Chief of Abidjan Health and "Notables" (27/04/2016) ;
-Head of Boribana district and office (26/04/2016) ;
-Head of the district Santé 3 or Mossikro and his cabinet (20/04/2016) and (27/04/2016) ;
-Head of the Fromager district and his cabinet (20/04/2016) and (27/04/2016) ;

-Chief of the Jean Paul II en Haut district and his cabinet (27/04/2016) ;
-Head of the neighborhood Quartier Annexe and his cabinet (29/04/2016) ;
-Head of Doukouré district and his cabinet (26/04/2016) ;
-Chief of Yaosséhi and Mamie Faitai neighborhoods and his cabinet (27/04/2016).

These exchange sessions between the populations and the project managers were attended by 2,500 people, including 500 women, representing the different social groups of the affected populations. (See lists of participants by locality in the appendices of the meeting minutes).

During these different meetings, after the different presentations of the project by the representative of the Infrastructure Renaissance Project of Côte d'Ivoire (PRICI) and the presentation of the project's impacts by the Consultant, the concerns of the populations and local and political administrative authorities have focused on several points (see reports of the various sessions in the appendices), the most important of which are presented as follows:

-the involvement of the inhabitants of the districts and villages concerned in the studies and field surveys;
-the procedures and technicalities for acquiring the different sites ;
-the compensation procedure for affected persons (or compensation for impacted assets) ;
-the employment of local labor during the works;
-the rapid implementation of the project to improve the living conditions of the beneficiary populations ;
-the efficient monitoring of Project activities with the involvement of the concerned population groups.
Following the concerns expressed by the people during the various information sessions and consultations of the stakeholders, the urgent provisions retained by the Client are:

-Issue a decree on the Declaration of Public Utility of the project implementation and implementation zones;
-Apply according to the existing measures, the resettlement and/or the compensation of the affected people;
-Communicate the execution schedule of the works to the populations and to all local authorities;
I-nvolve the people and the political, municipal and customary, authorities in all phases of the project;
Select NGOs to provide social support to the Project.

In particular, it will be for the Client to act upon certain concerns of the consulted communities. Finally, the connection of the production sites to the drinking water network is necessary to ensure social cohesion in the area of influence of the project.

Environmental and Social Management Plan (ESMP)

Measures to manage negative impacts and risks, including:

The measure addressing each significant or moderate impact (proposed actions/physical activities, proposed system and management unit) and activity management criteria as appropriate;

<u>Biophysical environment</u>

Landscape and soil protection measures

Soil protection measures against the risk of exposure to erosion consist of strictly limiting stripping of top soil to the work areas.

As for soil and subsoil protection against uncontrolled releases of rubble, litter, petroleum products and other pollutants, it will be necessary to ensure:

-The signing of a contract with a company approved by CIAPOL for the recovery and treatment of hydrocarbon waste, oils, filters, irons and other non-biodegradable waste;

-Having drums or labelled bins for solid waste collection at the base of the site;

-Sensitizing workers and cleaning up contaminated soils after work if necessary.

Measures to preserve air quality and tackle noise pollution

During this stage of the project, two types of emissions will affect the quality of the air. These are the emissions of dust particles and gaseous emissions.

To reduce the nuisance due to dust and vehicles exhaust emissions, the company in charge of the work will make the following arrangements:

-use machines and vehicles in good condition according to the technical standards required by the Ivorian Society of Technical Inspection of Motor Vehicles (SICTA) ;

-regularly maintain vehicles and machines ;

-regularly water the unpaved circulation areas ;

-avoid debris and land deposits around residential areas ;

Preventive measures against pollution of surface waters

The measures proposed for soil and landscape protection are valid for the prevention of surface water pollution. This involves, among other things, installing the bases (industrial base, life base, etc.) of the company in charge of the works and arranging the disposal sites (materials and waste) away from watercourses and wetland areas.

Measures to protect the local flora and fauna

To minimize the extent of the environmental impact, it is recommended that the Company in charge of the works limits its interventions only to the necessary perimeter for the realization of the works. Concerning the shrubs and trees to be cut, the Company will take the following measures:

-Cut the branches into slices of about 1.5 meters and crush them in specific places;

-Make these units available to people who would feel the need to use them;

-Limit felling of timber and clearing to the minimum necessary;

-Restore the plant cover through a compensatory reforestation;

-Carry out landscaping and tree planting along the bridge, access roads and on road medians to compensate for felled trees;

-Rehabilitate the sites of the construction facilities.

Socioeconomic environment

Measures to mitigate the impacts of the loss of buildings and land, the relocation of economic activities and the management of social conflicts

Most of the measures advocated can be summarized as follows:

-inform and sensitize the different owners before the start of the works ;

-proceed to the fair and equitable compensation of the affected owners before starting the works ;

-resettle the affected persons, at their request, under conditions that are better or identical to their initial conditions ;

-ensure the economic rehabilitation of relocated persons ;

-finance the resettlement costs of the people affected by the project using the resources of the project's beneficiary;

-provide assistance and special attention to vulnerable people.

Measures for the relocation of various networks (drinking water, electricity and telephony)

The following measures should be implemented to better manage this relocation:

-financing of relocation expenses using the resources of the Project Owner;

-provide a common corridor along the facilities for the repositioning of all existing and future networks ;

-inform beforehand, via the mass media (television, radios, newspapers), all the population groups benefiting from the services of these networks about the periods of works and possible interruptions, at least two weeks before the start of the displacement works;

-limit the time required for the networks' displacement to a minimum in order to limit the time that the provision of these services is suspended.

Measures to ensure people health and safety

To reduce all relative risks, the following measures will need to be implemented:

-set up protection signs (tags) and signs around hazardous areas or danger zones (workstations, holes, demolished areas, etc.) to limit traffic accidents ;

-sensitize residents of construction sites about safety measures ;

-respect the speed limits, which are: 20 km/h in the construction and quarry sites and 35km/h in temporary traffic diversions ;

-provide the workforce with appropriate personal protective equipment (safety shoes, dust and noise masks, helmets, etc.).

Priorization of Labour-based methods, recruitment of local populations and integration of the gender approach

To make the measure more effective, the Client could set a rate of recruitment of local residents among the site staff. The Company will set up a transparent recruitment process based on:

-the publication of its recruitment needs (number of employees, vacancies, duration of employment, etc.);

-the communication of the list of potential candidates to the village chiefs and the communities that are concerned;

-the communication of the list of successful candidates and the name of the village of their provenance;

-the imposition of a subcontracting quota for local SMEs that recruit more nearby dwellers for labor-based works.

Environmental and Social Management Plan (ESMP)

The Environmental and Social Management Plan (ESMP), which is a separate report, will be structured in four stages (preparation phase, construction phase, operation and maintenance phase and phase out phase). It will allow for the optimal management of all the impacts of the Project on its environment and its areas of influence.

The implementation of the ESMP will require the recruitment of an Environment Manager by the Company in charge of the works and an Occupational Health and Safety Expert by the project's Owner's Engineer, to ensure compliance with the environmental protection measures, and to respond quickly to resolve any unforeseen circumstances. They will be assigned a vehicle to enable them to perform their responsibilities.

The monitoring and control of environmental measures for the execution of the Project will be carried out respectively by the awarded Contractor, the National Agency for the Environment (ANDE) and the PTUA Coordination Unit housed within AGEROUTE.

The main sources of verification that will be used to monitor and control environmental provisions will be:

-Environmental and social oversight reports,

-Environmental and social monitoring reports,

-Survey results.

Specific EHS clauses to be included in works contracts, in particular: (i) general Occupational ,Health and Safety (OHS) rules on construction sites (ii) sensitization on STDs - HIV in corridors (iii) relations management between employees and people living around construction sites with emphasis on the protection of minors and other vulnerable population groups (iv) gender and gender-based-violence issues (v) management of any discoveries of buried cultural heritage;

The contracts of the companies awarded the works and their subcontractors will include clauses related to hygiene, health and safety and the sensitization on STIs and HIV-AIDS. In addition, they will take into account the exploitation of minors in accordance with the national legislation, sexual exploitation, prostitution and gender-based violence. To do this, a code of conduct will be signed by all employees of the site before the start of the work.

Regarding the protection of physical cultural resources, the ESIA includes a mechanism related to the proper management of incidental discoveries. All employees will be made aware of what to do in the event of discoveries of cultural property before starting work.

Grievance Redress Mechanism (GRM)

The main objective of the Complaints Management Mechanism is the friendly settlement of any complaints that may arise during the implementation of the project. However, in case of non-satisfaction of a complainant at the end of the process of the friendly settlement, he may appeal to the competent national courts.

Friendly Settlement

Institutional plan of the Complaints Management Mechanism

The proposed Complaints Management Mechanism is based on three levels of intervention, depending on the seriousness of the complaint. These levels of intervention are as follows:

-Owner's Engineer (MdC) and contractor;

-Local committees (Adamé, Attécoubé and Yopougon), responsible of managing the complaints;

-Coordination Unit of the PTUA.

The complaint handling process according to the three (3) levels of intervention is as follows:

Level 1: Supervision Missions and Contractor

The first level of complaint handling, the Owner's Engineer and the Contractor, are responsible for recording all complaints related to the civil works and classifying them into sensitive and non-sensitive categories. For the non-sensitive complaints, they listen to the complainants and deliberate within seven (7) days. The results of the deliberation are communicated to the complainant in writing (meeting minutes, mail, etc.).

For sensitive complaints, they are forwarded to the municipal committee or the PTUA Coordination Unit no later than three (3) days from the date of the receipt of the plant. They notify the complainant in writing.

The local committee meets within 3 days after the registration of the complaint. The committee after hearing the complainant deliberates. The complainant will be informed of the decision taken and notified by the members of the committee. If the complainant is not satisfied with the decision then he will be able to refer to the municipal level.

Level 2: Municipal Committees

Local committees are responsible for the registration, examination and handling of sensitive complaints at first instance. They may refer to the control mission and/or the PTUA Coordination Unit for information on the complaint. The municipal committees have no more than fourteen (14) days to conduct investigations and deliberate. The results of the deliberations are notified to the complainant in writing (Minutes or mail etc.).

The committees make a background report on the complaints recorded and treated or not every two (2) weeks at the Coordination Unit of the PTUA. If the complainant is not satisfied, then he/she may contact the PTUA Coordination Unit.

Level 3. PTUA Coordination Unit

This team participates in the examination of complaints, the investigation and treatment of complaints that could not be dealt with at the level of the Owner's Engineer and the municipal committees. However, depending on the sensitivity of certain complaints, the PTUA Coordination Unit can participate directly in the complaint management sessions of the municipal committees.

The Coordination Unit has at least two (2) weeks to process registered complaints and inform the complainant in writing.

It is in charge of reporting, communicating, monitoring and archiving the recorded and processed complaints.

Different ways of access are possible to file a complaint:

-Complaint forms ;

-Formal mail ;

-Phone call ;

-Sending an SMS;

-Social networks ;

-Email ;

-Website of the PTUA

Contacts of the PTUA Coordination Unit:

Geographic address

POB: 08 BP 2604 Abidjan 08

Tel: 22 51 01 51

Fax: (225) 20 225 10 23

Website: WWW. Ageroute.ci

Email: ageroute@ageroute.ci and copy to mameite@ageroute.ci and isouattara@ageroute.ci

Summary of roles and responsibilities within the Project Implementing Entity (EMOP), the organizational framework for the efficient implementation of measures;

For the application of measures other than those relating to the compensation of property and people affected by the Project, several entities are involved:

Project Coordination Unit (PTUA):

The Environmental Specialist of the PTUA will ensure the development of the construction site ESMP and its approval by the Environmental Specialist of the Owner's Engineer and AGEROUTE. In addition, he will be in charge of the implementation of this ESMP and of the respect of the environmental and social clauses contained in the contract of the company.

AGEROUTE:

In collaboration with the Environmental Specialist of the PTUA, the Environmental Specialist of AGEROUTE will follow up the implementation of the ESMP and all the environmental and social diligences of the Project.

National Environmental Agency (ANDE):

It will carry out surveillance (or control) in accordance with the provisions applicable in Côte d'Ivoire. In addition, it will be responsible for leading the public inquiry and verifying the application of ESIA in the field, as well as ensuring the compliance with national regulations.

General Directorate of Mines and Quarries:

It will be responsible for issuing the company a license for quarrying. It will also have to monitor the correct rehabilitation of quarry sites in association with ANDE.

Road Safety Office:

In partnership with the Project Coordination Unit, the Road Safety Office will intervene in the awareness and informational campaigns on the security provisions and the traffic plan proposed by the company to mitigate the risk of disturbances.

Contractor:

The Environmental Manager of the Contractor (EMC) must have a good understanding of current environmental concerns, in general, and a proven competence in Occupational, Health and Safety (OHS) issues, in particular. This will allow him to understand the ESIA report and the ESMP before following their application in the field.

The role of the EMC is to monitor daily the application of various environmental, health, safety and social measures in the field. He is the first contact person of the Owner's Engineer.

The activities assigned to the EMC will be:

-Develop the Contractor's Environmental and Social Management Plan (ESMP-C) that the Company is committed to respecting, with particular emphasis on the management of hydrocarbons, solid waste management, local population protection, respect for the natural and human environment, health protection and staff safety, management of the removal of the equipment and rehabilitation of sites;

-Develop Site Environmental Protection Plans (SEEP) for the most sensitive areas of the site;

-Develop an occupational Safety plan (HSP)

Owner's Engineer:

Through its Environmental Expert, it will provide environmental and social monitoring. More specifically, it will be responsible for ensuring compliance with the environmental and social measures provided for in this study. In addition, it will prepare the monthly environmental and social monitoring reports and will transmit them to AGEROUTE and PTUA.

Municipalities of Plateau, Adjamé, Yopougon and Attécoubé:

The Municipalities of Plateau, Adjamé, Yopugon and Attécoubé will be in charge of monitoring the implementation of the ESMP that results from this ESIA. The Municipal Technical Services Departments will thus ensure close environmental and social monitoring of the works that will be carried out on their respective municipal territories.

In addition, they will carry out educational and sensitizing activities on security, environmental and social issues.

Utilities operators:

It is likely for a network relocation to be needed, since the civil work take place in an urban setting. In this case, the contract-holders may be (CIE, SODECI and CI-Telcom and the Cellular Operators). They will have to make the maximum effort to speed up the displacement of the networks and minimize the disruption of the services provided during this displacement.

NGOs and CSOs:

They will intervene alongside the municipalities of Plateau, Adjamé and Attécoubé in organizing educational and awareness-raising activities regarding security, environmental and social issues. They will also participate in environmental and social monitoring to correct PTUA, AGEROUTE, the Owner's Engineer and the municipalities on their shortcomings in the implementation of the ESMP.

Tableau 1 : Matrix of the Environmental and Social Management Plan in the Preparatory Phase

Preparation and installation stage	Nature of the impact	Who is affected?	Mitigation measures	Execution Schedule	Responsible		Sources of Verification	Tracking indicator
					Implementation	Monitoring		
Site Preparation and Installation Stage	Displacement / relocation of population	Population	Compensate and assist in the resettlement;	Permanent monitoring of the progress of the compensation procedure	PTUA, AGEROUTE,	-PTUA, -Owner's Engineer, -ANDE -Municipalities of Plateau, Adjamé, Yopougon, Attécoubé, -NGO's and CSO's	-RAP implementation report; -Environmental and social monitoring report	-Compensation paid at 100% before work begins -Environmental and social monitoring report
	Demolition of buildings (trade, dwelling, place of worship)	Habitat / equipment						
	Loss of agricultural land along roads	Land						
	Loss of urban or village land							
	Loss of land related to quarrying			Respect of the agreement protocol between the company and the owner (s)	Company	-AGEROUTE, -Owner's Engineer, -PTUA, -ANDE - Municipalities of Plateau, Adjamé,Yopougon, Attécoubé		-Compensation paid at 100% before work begins -Number of Complaints received and treated

Preparation and installation stage	Nature of the impact	Who is affected?	Mitigation measures	Execution Schedule	Responsible		Sources of Verification	Tracking indicator
					Implementation	Monitoring		
	Discovery of cultural heritage	Culture and religion	-Avoid encroaching on prohibited parts -Follow the procedure for managing fortuitous discoveries	Permanent monitoring of the MoU	Company	-AGEROUTE, , -Owner's Engineer, -ANDE -Municipalities of Plateau, Adjamé, Yopougon, Attécoubé, -PTUA	Environmental and social monitoring report	-Number of times application of the management procedure for the -number of cultural items discovered and preserved
	Risk of traffic accident	Security / health	-Mark the site during the demolitions; -Sensitize the worksite staff - Develop and implement a deviation and circulation plan	Start of the construction; during the demolitions;	Company,	-PTUA, -AGEROUTE, -ANDE, -OSER, -Owner's Engineer	-Kick-off Report -Environmental and social monitoring report	-existence of a valid deviation and circulation plan by the OSER and the Owner's Engineer; -number of awareness sessions on the circulation in the environment of the site - number of reports of incidents /

Preparation and installation stage	Nature of the impact	Who is affected?	Mitigation measures	Execution Schedule	Responsible		Sources of Verification	Tracking indicator
					Implementation	Monitoring		
								accidents; -number of complaints recorded and processed
	- Disturbance of various networks (electricity, drinking water, fiber, optics, telephony etc.)	Populations and contract-holders	Perform network relocation before work begins	Beginning of the construction	Company, SODECI CIE,Telephone Companies	-PTUA -AGEROUTE, -ANDE, -Owner's Engineer -Municipalities of Plateau, Adjamé, Yopougon, and Attécoubé	-Relocation Report - Environmental and social monitoring reports	-100% of the networks relocated before the beginning of the works -Complaints received
	Modification of the topography Modification of landscape aesthetics	Landscape	Avoid installing the work base near sensitive areas	Monitoring of the choice of the different sites	Company	-PTUA, -Owner's Engineer, -Municipalities of Plateau, Adjamé, Yopougon and Attécoubé -ANDE	-Environmental and social monitoring report - Report of the Directorate of Health	Number of Complaints Received and Processed

Preparation and installation stage	Nature of the impact	Who is affected?	Mitigation measures	Execution Schedule	Responsible		Sources of Verification	Tracking indicator
					Implementation	Monitoring		
						-NGO's and CSO's		
	Exposure of soil to the effects of erosion; Exposure of soil to chemical pollution ; Surface water pollution.	Soils / Surface water	-Pave the washing and maintenance facilities; -Restore the lands at the end of the work	Daily monitoring during the duration of the civil works & monthly evaluation	Company	-PTUA, -Owner's Engineer, -ANDE, -AGEROUTE, - Municipalities of Plateau, Adjamé, Yopougon and Attécoubé	-Environmental and social monitoring report -Detailled report	-Number of spills found -Number of complaints received and processed
	Degradation of air quality, Noise pollution	Air quality and soundscape	-Water in dry weather ; -Cover trucks with tarpaulins; perform noisy work during the day ; -Respect working hours ; -Enforce the wearing of PPE	-Daily monitoring during the work: - Monthly evaluation ;	Company ;	-PTUA, -Owner's Engineer, -ANDE, -AGEROUTE, - Municipalities of Plateau, Adjamé, Yopougon and Attécoubé	Environmental and social monitoring report	Rate of Respect of the watering planning; -number of waterings per day; -number of complaints received and processed; -number of sanctions related to non-wearing of

Preparation and installation stage	Nature of the impact	Who is affected?	Mitigation measures	Execution Schedule	Responsible		Sources of Verification	Tracking indicator
					Implementation	Monitoring		
								PPE; -number of consultations due to respiratory diseases.
	Destruction of the local flora and fauna	Flora and fauna	Limit felling to the minimum necessary; Restore the vegetation cover.	Duration of the project: quarterly evaluation	Company, AGEROUTE, NGO's	-PTUA, -Owner's Engineer, -ANDE, -AGEROUTE, - Municipalities of Plateau, Adjamé, Yopougon and Attécoubé	-Environmental and social monitoring report - Final reception report	- deforested area (ha); -number of trees actually felled; - reforested area (Ha); -number of plants planted;

Tableau 2 : Matrix of Environmental and Social Management Plan during the Construction Phase

Construction Stage	Nature of Impact	Affected Environment Component	Impacts Mitigation Measures	Implementation Schedule	Lead		Sources of Audit	Tracking indicator
					Implementation	Monitoring		
Construction Phase	Job creation and development of economic activities	Employment and economy	Prioritize local recruitment, especially for LPIWs;	During the construction phase: monthly evaluation	Company	-PTUA, -Owner's Engineer, -ANDE, -AGEROUTE, -Municipalities of Plateau, Adjamé, Yopougon and Attécoubé -NGO's and CSO's	Environmental and social monitoring report; Staff List	Number of people employed per community;
	STI & HIV / AIDS risk Risk of accidents	Health/security	-Organize the awareness campaigns for project stakeholders and residents; -Strictly respect the wearing of PPE;	During the entire duration of the project: daily monitoring, monthly/semi-annual evaluation	Company	-PTUA, -Owner's Engineer, -ANDE, -AGEROUTE,	Environmental and social monitoring report;	Number of sensibilization meetings; -Number of condom packages distributed

Construction Stage	Nature of Impact	Affected Environment Component	Impacts Mitigation Measures	Implementation Schedule	Lead		Sources of Audit	Tracking indicator
					Implementation	Monitoring		
			-Protect and mark the construction zones. - Place male and female condoms in boxes in the washroom and educate employees about their use.			-Municipalities of Plateau, Adjamé, Yopougon and Attécoubé -NGO's and CSO's		
	Deterioration of the level of sanitation with the production of waste	Living environment	Manage waste generated on site selectively and dispose of it	Permanent activity	Company	-PTUA, -Owner's Engineer, -ANDE, AGEROUTE, Municipalities of Plateau, Adjamé, Yopougon and Attécoubé -NGO's and CSO's	-Control report -Monitoring report	No waste in the construction site and the personnel housing facilities

Construction Stage	Nature of Impact	Affected Environment Component	Impacts Mitigation Measures	Implementation Schedule	Lead		Sources of Audit	Tracking indicator
					Implementation	Monitoring		
	Risks of erosion, destabilization and soil contamination on the construction site base	Ground Surface	Provide drainage structures directed to natural outlets	Permanent activity	Company	PTUA, -Owner's Engineer, -ANDE, AGEROUTE, Municipalities of Plateau, Adjamé, Yopougon and Attécoubé --NGO's and CSO's	Environmental and social monitoring report;	-Existence of an efficient drainage system; - Number of complaints received and processed
	Disturbance of the water regime and risks of pollution of surface waters (rivers and Ebrié lagoon); Risk of water pollution	Water and ground water	-Ensure the continuous flow of water. -Avoid washing equipment or disposing of waste including concrete residues in watercourses -Sensitize employees to the need to protect waterways and	Permanent activity	Company	-PTUA, - Owner's Engineer, -ANDE, AGEROUTE, Municipalities of Plateau, Adjamé, Yopougon	Pollution or presence of waste in waterways	-environmental monitoring report -number of complaints recorded and processed

Construction Stage	Nature of Impact	Affected Environment Component	Impacts Mitigation Measures	Implementation Schedule	Lead		Sources of Audit	Tracking indicator
					Implementation	Monitoring		
			other natural habitats. -Avoid emptying and carrying out repair and / or maintenance operations near watercourses; -Avoid unnecessary tasks close to waterways			and Attécoubé -NGO's and CSO's		
	Modification of the topography Modification of the landscape aesthetics	Landscape	-Avoid installing the construction site base near sensitive areas - Avoid uncontrolled debris deposit	Monitoring of the choice of the different sites	Company	PTUA, -Owner's Engineer, -ANDE, AGEROUTE, Municipalities of Plateau, Adjamé, Yopougon and Attécoubé -NGO's and CSO's	Environmental and social monitoring report;	-Existence of uncontrolled debris deposits -Number of complaints received and processed

Construction Stage	Nature of Impact	Affected Environment Component	Impacts Mitigation Measures	Implementation Schedule	Lead		Sources of Audit	Tracking indicator
					Implementation	Monitoring		
	Degradation of air quality Noise	Air quality and soundscape	-Water in dry weather; -Cover trucks with tarpaulin; perform noisy work during the day ; -Respect -Working hours; wearing PPE	Daily monitoring during the works: monthly evaluation;	Company;	-PTUA, -Owner's Engineer, -ANDE, AGEROUTE, Municipalities of Plateau, Adjamé, Yopougon and Attécoubé -NGO's and CSO's	-Construction site log -Environmental and social monitoring report	-Rate of compliance with the watering schedule or number of watering rounds per day; -number of complaints received and processed; -number of sanctions related to non-wearing of PPE; -number of medical consultations due to respiratory diseases
	Destruction of the local flora and fauna	Flora and fauna	Limitation of felling and to the minimum necessary; - Restoration of the vegetation cover	Duration of the project: quarterly evaluation	-Company, -AGEROUTE - Municipalities of Plateau, Adjamé and Attécoubé,	-ANDE -NGO's and CSO's	-Environmental and social monitoring report -Construction site closure report;	-Rate of compliance with the site restoration plan; -Number of hectares of

Construction Stage	Nature of Impact	Affected Environment Component	Impacts Mitigation Measures	Implementation Schedule	Lead		Sources of Audit	Tracking indicator
					Implementation	Monitoring		
					-ONGs		-Final reception report	compensation plantation -Number of trees planted in compensation -Number of alignment plants; -Survival of planted seedlings

Tableau 3 : Matrix of Environmental and Social Management Plan during the Operational Phase

	Nature of the impact	Component of the affected environment	Impact Mitigation/Improvement Measures	Schedule of execution	Responsible		Sources of verification	Tracking indicator
					Implementation	Suivi		
Operational Phase	High risk of traffic accidents Risk of exposure to respiratory diseases Safety and health risks due to increased traffic and traffic accidents	Circulation/ security/ health ;	Set up horizontal or vertical signaling, speed limitation; provide at reasonable intervals, secure crossing structures (pedestrian bridges) or traffic lights to allow the crossing of the highway without risk to pedestrians;	At the end of the civil works	-AGEROUTE -OSER	MEER -ANDE Municipalities of Plateau, Adjamé, Yopougon and Attécoubé -ONGs	Accident Report	Monthly accident rate
	Development of various infrastructures, such as, the development of sanitation works in nearby neighbourhoods and villages. .- Improvement of the number and quality of housing, extension of various networks in nearby areas.	Living environment / equipment	Set up a financing budget for the maintenance of the infrastructures		Municipalities of Plateau, Adjamé, Yopougon and Attécoubé	-MMER, -Ministry of Health, -ANDE	-Implementation status of the MEER budget -Implementation status of the budget of the Ministry in charge of sanitation -State implementation of the budget of the Town Halls of Plateau, Adjamé and Attécoube	-Existence of a budget line for the maintenance of civil works in the annual budgets of MEER, the Ministry of Health and the Municipalities of Plateau, Adjamé, Yopougon and Attécoubé

	Risk of pollution of surface waters during accidents	Soils / Surface water	Install security beacons (concrete safety barrier) in localities and municipalities crossed by the motorway in order to prevent a hazardous crossing of the motorway;	Daily monitoring during the duration of the work: monthly evaluation	AGEROUTE	Ministry of Equipment and Road Maintenance (MEER)	-Annual activity report of AGEROUTE -Field Evaluation	Length of installed barriers
	Deterioration of the air quality and modification of the microclimate due to the increase in the number of motorized vehicles and the release of exhaust gases	Air quality and sound environment	Planting of trees on both sides on the road, especially in urban areas, to reduce air pollution created by vehicle smoke ;	Monthly monitoring: annual evaluation	AGEROUTE	-Ministry of Equipment and Road Maintenance (MEER) -ANDE	Annual activity report of the MEER; - Annual report of the activities of the ANDE	Number of plants planted; - Reforested Area (Ha)

Cost of developing and implementing the Resettlement Action Plan (RAP)

The Resettlement Action Plan (RAP) takes into account the people and goods affected by the project and highlights the cost of the compensation and resettlement program which is estimated at THIRTY BILLION SIX HUNDRED THIRTY-FIVE MILLION FOUR HUNDRED SIXTY-ONE THOUSAND AND SIX HUNDRED FIFTY (30,635,461,650) F CFA.

This cost is broken down as follows:

-Phase 1 : 4,380,429,346 F CFA : for compensation and resettlement of Affected Persons by Project Activities (PAPs) ;

-Phase 2 : 24,085,800,787 F CFA : for compensation and resettlement of Affected Persons by Project Activities (PAPs) of which 13,425, 000,000 F CFA for the acquisition of 895 dwellings for the benefit of resident households ;

-Accompanying measures and assistance to vulnerable people: 136,600,000 F CFA ;

-Project management of RAP : 573,000,000 F CFA : for the operation of the RAP supervision, implementation and evaluation bodies ;

-Unforeseen and diverse (5%) : 1 474,141,507 F CFA : for catching up on omissions and possible underestimates.

The costs of some impact mitigation measures are already incorporated into the overall cost of the Project. However, special emphasis should be placed on the implementation of the ESMP, which includes the environmental and social monitoring, ensuring the effective implementation of the recommended measures. The total amount (excluding costs included in the general works cost) of the monetary estimate of environmental and social mitigation measures is Nine Hundred and Twenty Seven Millions Five Hundred Thousand (927,500,000 F CFA).

This budget essentially considers:

-surveillance and monitoring activities ;

-capacity building ;

-sensitization activities on STIs and HIV / AIDS ;

-awareness raising activities on hygiene, health and safety;

-awareness raising activities on gender issues;

-support for the construction of related infrastructures.

CONCLUSION

The Construction Project of the 4th bridge and its road access including the future BRT line will have significant positive and negative impacts on the biophysical and human environments. Therefore, it is important for the Client to consider the mitigation and improvement measures and to ensure compliance with the provisions contained in the specifications of the companies with a view to better management of the environment during the course of the project. implementation of the Project.

2.3. Environmental and Social Impact Assessment (ESIA) of interchanges

This Environmental and Social Impact Assessment (ESIA) concerns the Project of construction of three interchanges along the Boulevard Mitterand in Abidjan. It's a project coming from Cote d'Ivoire and Japan Governement cooperation. Thus, to participate in the improvement of Abidjan trafic, this project will be excecuted through a Japanese government loan. The total cost of the project is estimated about FCFA 62, 670, 000,000. It consists of the establishment of 2*3 lanes interchanges, at the Ecole de Police, Riviera 3 and Riviera Palmeraie intersections. Within those 2*3 lanes, one is dedicated for the BRT (Bus Rapid Transit) lane which is a component of Abidjan Urban Mobility project, in preparation, funded by the World Bank.

Overview of the project

In order to support the urban development of the city of Abidjan, Greater Abidjan Urban Master Plan (SDUGA) 2015-2030 has set up a program including the development of several intersections for the decongestion of Abidjan main road axes.

The three interchanges construction project is a key project within this program. This project aims at decongesting the major intersections of the Police Academy, the Riviera Palmeraie 3 along the Boulevard Mitterand, whose capacities are generally overwhelmed during peak hours, through the construction of three interchanges at each intersection. The features of these interchanges are described below:

Table 4: Project features

Intersection	Structure	Number of lane on the interchange	Structure features
« l'École de police » Intersection	Interchange	2*3 lanes	Bridge Length L=170m, Access road Length=165m, Lane width : l=20.6 m
"Riviera 3" Intersection	Interchange	2*3 lanes	Bridge Length L=221m, Access road Length =239m, Largeur de voie: l=20.6m
"Palmeraie "Intersection	Interchange	2*3 lanes	Bridge Length L=266m, Access road Length =219m, Lane width: l=20.6m

Regarding the BRT using one of interchanges lanes, It will be excecuted during Abidjan Urban Mobility Project (PMUA) implementation, funded by the World Bank with an amount of 350 million US $. The PMUA has the components listed below:

-Component 1: Establishment of an East-West BRT line between Yopougon and Bingerville;

-Component 2: Support for strengthening SOTRA and restructuring its network around mass transit lines (North-South metro and BRT East-West);

-Component 3: Support for modernization and professionalization of the artisanal transport sector;

-Component 4: Human capital development and operational support.

The work scheduled as part of the three interchanges construction project will be executed in three (03) phases in accordance with the regulations on environmental protection in Côte d'Ivoire.

Preparatory phase

The preparatory phase of the implementation of this project will involve several works and activities whose execution is essential before the real three interchanges construction on the Boulevard Mitterrand. These include:

-release of rights of way and land acquisition;

-contract award and staff recruitment;

-installation of the site and the base-life;

-supply of equipment / Transport of materials / Movement of machinery.

Construction phase

Overall, the project will require significant work in its construction phase. The main works can be summarized as follows:

-selection and use of materials borrow sites and quarries;

-use of concrete plants, crushing plants and asphalt mixes;

-work related to the construction of scuppers and sanitation;

-road construction;

-signaling, security and installation equipment for public lighting;

-water requirements for the site;

-fuel supply;

-site dismantling;

Exploitation phase

The operational phase will consist of opening, operation and maintenance of realized structures.

Brief description of the project site and the major environmental and social of the project site and influence area

The study area is the geographical area potentially subject to the temporary and permanent, direct and indirect effects of the project.

The influence area of the three interchanges construction project is determined to facilitate the consideration of all elements of natural and human environment that can be modified directly or indirectly by the project. Thus, it can be split into two zones:

-Indirect area of influence (diffuse or extended study area), extending to the entire District of Abidjan likely to be impacted by the project;

-Direct or restricted area of influence which is limited to the Commune of Cocody.

As for the Urban Mobility Project of Abidjan (PMUA), it will intervene in the district of Abidjan especially in the communes of Adjamé, Attécoubé, Cocody, Yopougon and Bingerville.

The environmental and social issues are reflected in major concerns raised by the project. They are in line with worries and concerns of the concerned communities.

At this stage, the key issues of the project are:

-improving the living conditions of populations;

-disruption of the flow of access to properties;

-partial sanitation of the project area through the development of a stormwater drainage system.

Institutional and legal framework for implementation of the project

Political framework

Côte d'Ivoire Environmental policy is under the auspices of the Ministry of Environment and Sustainable Development (MINEDD). The Ministry is responsible for setting national policies and strategies for environmental management and legislating for this purpose. The main principles of the national environmental policy are contained in the national report of the National Environmental Action Plan (1996 - 2010). The main policies to which the study referred are:

-Sanitation Policy;

-Water policy;

-Environmental Health Policy;

-Decentralization policy;

-Policy against poverty;

-Policy for achieving gender equality and women's empowerment.

Institutional framework

The institutions involved in the environmental and social assessment of the three interchanges construction project are administrations and institutions having a direct or indirect link with the project. They are :

Ministry of Environment and Sustainable Development (MINEDD) through:

National agency of Environment (ANDE)

In this project, ANDE will monitor the implementation of corrective measures to be applied at different stages of the project. Before, it validated the terms of reference of the ESIA, led the Public Inquiries and validated this study before the Interministerial Committee for validation of this report.

General Directorate for Environment and Sustainable Development (DGEDD)

This Directorate is also responsible for strictly ensuring the integration of the principles and requirements of sustainable development in national sectoral policies, it has under its authority two directions that can also intervene in this project. These are the Directorate of Policies and Strategies (DPS) which ensures compliance with national commitments to sustainable development and the Directorate of the Green Economy and Social Responsibility (DEVRS) responsible for promoting the forms of sustainable development. economic exploitation of scarce resources and low-carbon renewable energies.

Ivorian Anti-Pollution Center (CIAPOL)

In this project, CIAPOL will ensure the impact of control measures of impacts and risks associated with atmospheric pollution, noise and vibration and any other type of waste have been taken.

Ministry of Equipment and Road maintenance (MEER)

The MEER as project owner will intervene in the implementation of several proposed environmental actions. He will intervene particularly in:

-the recruitment of companies and consultants involved in the implementation of various environmental measures;

-the environmental supervision of the project through the Infrastructure Environment Cell.

Ministry of construction, Housing and Urban Planning

This ministry will intervene on this project on the one hand, for the expertise of the buildings which will be demolished partly or entirely by the project; on the other hand, to lead the implementation of prepared RAP.

Ministry of Sanitation and Healthiness through the National Agency for Waste Management (ANAGED) and the National Office of Sanitation and Drainage (ONAD);

The main mission of the Ministry of Sanitation and Healthiness is to promote health and sanitation through awareness raising, education and the fight against pollution. The structures under its supervision, in charge of drainage and sanitation issues involved in this project are the National Office for Sanitation and Drainage (ONAD) and the National Agency for Waste Management (ANAGED).

As part of this project, AGEROUTE work with ONAD to ensure control of mitigation measures on drainage and sanitation facilities in the project area.

And ANAGED will control the management of waste generated during construction, including rubble, construction waste, inert waste, household and similar waste.

Ministry of Transport through the Office of Road Safety (OSER) and the Observatory of Road Fluidity;

The Ministry of Transport is responsible for the development and implementation of transport and road safety policy. Specifically, This ministry has to:

-study and participate in the development and implementation of legislative or regulatory measures relating to road safety and prevention in liaison with the other concerned administrations;

-ensure or control the organization and operation of road transport and road safety in liaison with the concerned administrations.

-the structures under the supervision of this Ministry likely to be involved in this project are the Office of Road Safety (OSER) and the Observatory of Transport Fluidity.

OSER aims to fight against road accidents. In this project, it will be involved in the implementation or validation of signaling plans developed for the project sites during the works to ensure the safety of users and sites.

And OFT validates the traffic plans drawn up by the works' companies before the start of the work and their update according to the progress of the works.

Ministry of the Interior and Security through the town hall of Cocody, as well as the National Office of Civil Protection (ONPC)

This ministry will also intervene during the public inquiry through the appointment of a Commissioner-Investigator who will be responsible for recording opinions and observations of the populations on the provisional ESIA report that will be submitted to them before the technical validation.

Ministry of Employment and Social Protection

The Ministry of Employment and Social Protection is responsible for monitoring the application of the Labor Code and international conventions ratified by Côte d'Ivoire, the development and implementation of the welfare policy and social security. It ensures the guardianship of the National Social Security Fund (CNPS). He intervenes as arbitrator in negotiations between the employer and the employees in case of conflict.

Ministry of Health and Public Hygiene

The Ministry of Health and Public Hygiene will monitor the implementation of the measures scheduled in the ESMP for the health of workers and local residents of the project.

Legislative and regulatory framework

At the legislative and regulatory level, some conventions have been ratified and / or signed by the Côte d'Ivoire government. Those are :

-London Convention for the Conservation of Wild Fauna and Flora (1933);

-Alger Convention on the Conservation of Nature and Natural Resources (1968);

-Vienna Convention for the Protection of the Ozone Layer (1985);

-Montreal Protocol for Substances that Deplete the Ozone Layer (1987);

-Convention for the Protection of the Ozone Layer, Vienna 1988 Montreal Protocol, 1987, London Amendment 1990;

-Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1989);

-United Nations Framework Convention on Biological Diversity / 1992;

-Bamako Convention on the Import Prohibition of Hazardous Wastes in Africa (1991);

-United Nations Framework Convention on Climate Change (1992);

-Convention to fight against Desertification, particularly in Africa (1994);

-Stockholm Convention of 2001 on Persistent Organic Pollutants (POPs);

-Kyoto Protocol on greenhouse gases.

At the national level, the main texts that both projects must comply with are listed as follows:

-Law No 2016-886 of 8th November 2016 on Constitution of Côte d'Ivoire.

-Law No 96-766 of 3rd October 1996 on Environment Code ;

-Law No 2014-138 of 24th March 2014 on Mining Code ;

-Law No 2014-427 of 14th July 2014 on Forestry Code,

-Law No 2014-390 of 20th June 2014 dealing with sustainable development orientation ;

-Law No 2015-532 of 20th July 2015 on Labour Code ;

-Law No 98-755 of 23th December 1998 on Water Code ;

-Law No 65-255 of 4th August1965 dealing with fauna protection and hunting practice;

-Law No 98-750 of 23rd December 1998 dealing with rural land sector modified law No 2004-412 of 14th August 2004 ;

-Law No 99-477 of 2nd August 1999 on Welfare modified by the Ordr No 2012-03 of 11st January 2012 ;

-Law No 2003-208 of 07th July 2003 on transfer and distribution of Government competencies to local authorities (In terms of environmental protection and natural resource management) ;

-Decree No 71-74 of 16th February 1971 dealing with land and state procedures ;

-Decree No 95-815 of 29th September 1995 fixing compensation rules for destroyed crops ;

-Decree No 2013-441 of 13rd June 2013 fixing the conditions and procedures for classification and declassification of water resources, hydraulic facilities and structures as well as granting the utility system to water resources, water projects and works ;

-Decree No 2013-507 of 25th July 2013 determining the periodicity of water resources inventory, hydraulic facilities and structures in Cote d'Ivoire;

-Decree No 2014-25 of 22nd January 2014 modifying decree No 2013-224 of 22nd March 2013 on regulating the purge of customary land rights for general interest;

-Decree No 2014-28 of 22nd January 2014 on Public Utility declaration (DUP) of Highway surroundings ;

-Decree No 96-894 of 8th November 1996 determining rules and procedures applicable to environmental impact studies ;

-Decree No 2005-03 of 6th January 2005 on environmental audit ;

-Decree of 25th November 1930 on expropriation in public interest modified by decrees of 24th August 1933 and 8th February 1949 ;

-Decree of 29th September 1928 regulating the public domain and easements of public utility;

-Decree No 2016-788 of 12nd October 2016 on the implementing rules of Order No 2016-588 of 03rd August 2016 on occupation titles in the public domain.

At the international level, in addition to the existing Ivorian regulations and standards, the procedures and policies applicable to the project are those of JICA. However, it should be noted that no significant difference exists between JICA requirements and those of Côte d'Ivoire.

D.1 Positive Impacts

D.1.1 Physical Environment

The project will have no significant positive impact on the physical environment, in the preparation, installation, construction and even in the exploitation and maintenance phase.

D.1.2 Biological environment

The project will have no significant positive impact on the biological environment, in the preparation, installation, construction and even in the exploitation and maintenance phase.

D.1.3 Human Environment

The positive impacts of the project on the human environment during the preparation and installation phase will be:

-at the level of the population and social life, there will be the development of emotional and economic interpersonal relations; the more or less significant demographic contribution and positive affection of the social balance of the work zone; the movements of visitors, people looking for work or offering various services.

-at the level of the economic activities, it will be the circumstantial development of the commercial activities, generating income including the restoration (the development of the activities of restoration around the base-life and in the zone of direct influence of the project); financial flow and temporary job creation at several levels; increased consumption of goods and services;

-at the level of health and the living environment, there will be the establishment of private security and the conduct of a pre-employment health check and health assistance provided to the staff of the operator as well as subcontractor.

The positive impact of the project on human environment during construction stage will be:

-at the level of population and social life: job creation for local populations, reduction of unemployment, significant human contribution that can contribute to the movement of social life and to form friendship in localities, enriching the cultural exchanges of populations;

-at the level of economic activities: development of income-generating activities, installation of small businesses, increase of the consumption of several basic products, increase of the revenue of the different activities;

-at the level of safety and traffic: reinforcement of safety in the project area with the establishment of a system of intervention in case of disaster and the installation of new road signs in accordance with the traffic plan developed.

The positive impact of the project on human environment during exploitation and maintenance stage will be:

-Equipment: improvement of the circulation and movement of personnel on the project site and use of appropriate personal protective equipment during the works and during the operation phase.

-health and living environment: installation of the sanitation system that will facilitate the drainage of stormwater, treatment before discharge of wastewater.

D.2 Negative Impacts

D.2.1 Physical Environment

The negative impacts of the project on the physical environment during the preparation and installation phase as well as during the construction phase will be at:

-air quality: increase of dust and other particles in the air that will be above the standards, The operation of vehicles and engines, are the main sources of gas emissions (CO_2, CO, NOx, SOx, ...), the lifting of more or less intense dusts according to the different phases and the mode of work at the different execution platforms;

-noise: noise nuisance to residents. Based on the observations made on the initial state, which indicate values within the tolerance thresholds in the project area, and the acoustic characteristics of the gears used, it is possible to conclude that the thresholds will not be exceeded for dwellings located 500 m from the main sources of noise. However, this impact will be short with localized scope and average intensity. The importance is therefore low considering the noise levels that will be generated.

-Modification of topography and landscape in the project area;

-Exposure of the soil to effects of erosion and chemical pollution;

-Erosion, destabilization and soil contamination;

-Building shocks of local residents;

-landscape: modification of the usual view of the landscape ;

-Soil: Movements of motorized vehicles may cause erosion of loose soil and compaction on traffic soils. Since a lease agreement will be signed between the company and the owners, this impact will only be felt if the site is not refurbished by the company in accordance with the scheduled uses envisaged by the owners. Its intensity is weak and its scope is local. Its duration will be reduced to the phase between decommissioning and restoration allowing owners to use the site.

The impact is considered low. However, non-compliance with commitments could change the intensity from low to medium and the duration from reduced to long which would lead to a medium impact.

Surface water: risk of soil pollution by solid and liquid waste arising from construction activities; damage to the various networks on the site and surroundings; risks of obstruction of site sanitation facilities.

During the operation and maintenance phase, there may be: production of minor emissions of air contaminants; production of liquid effluents that could be a source of soil pollution; infiltration of liquid effluents into the underlying aquifers and pollution of the water table.

D.2.2 biological environment

The project will have no significant negative impact on the biological environment, in the preparation, installation, construction phase.

Loss of vegetation cover is a negative impact of direct interaction. It is of low intensity considering the concerned areas and the density of the initial plant cover. In clear, 63 trees will be cut. The main concerned species are *Ficus benjamina* (23 trees / 37%), *Calotropis procera* (7 trees / 11%), *Terminalia mentally* (6 trees / 10%), *Plumeria alba* (5 trees / 8%), Calotropis procera (5 trees / 8%) and other species (17 trees / 27%). All these species do not belong to any list of particular species such as the IUCN Red

List of Threatened Species or the national list of Côte d'Ivoire called AKE-ASSI according to the Code of Forest Law of 2014. Given that all these trees are located on the lands of the Ivorian state, their maintenance is under the responsibility of the municipality of Cocody. Thus, the said commune remains indirectly owner of these species.

Considering the evaluation criteria, the importance of impact was assessed as minor. The impact being certain; almost irreversible and the highly valued assigned component, this makes it possible to range the absolute importance; that is why the relative importance is medium.

On the other hand, during operation and maintenance, impacts on the environment could be: the degradation of aquatic environments by poor management of hydrocarbon, effluents, hazardous materials and waste and the destruction of some habitats.

D.2.3 Human Environment

The negative impacts of the project on the human environment in the preparation or installation phase as well as in the construction, operation / maintenance phases will be: exposure to dust and noise; disruption of movements of populations in the area of influence; the potential for spread of HIV / AIDS and STIs; temporary disruption of neighboring activities and services at the site and the loss of all or part of the buildings or land assets;

The negative impacts on the socio-economic environment are presented as follows:

-Disruption of the various networks (water, electricity and telephone);

-Loss of income due to the relocation of the business owner households;

-Loss of buildings;

-Risks of traffic accidents;

-Exposure of workers and populations to the risk of accidents at work and illness;

-Conflicts related to the loss of buildings and land assets;

-Risks of destruction of infrastructure and cultural heritage (Adjamé village);

-Disruption of car traffic and pedestrian movement in the project area;

-Threats to the safety of road users and local residents;

-Risks of disrupting the living conditions of women and vulnerable groups;

-Possible damage to the safety and health of the population;

-Involuntary resettlement

The project areas covering the three (3) intersections are located in built-up urban areas. Thus, the most affected buildings only concern commercial facilities and office premises, and not residences. As a result, most of the concerned buildings are primarily commercial and corporate premises.

A total of 248 Project Affected Units (PSUs), including 26 units requiring resettlement, were recorded at the project site.

During construction, 26 people, 9 main buildings and 55 secondary buildings will have to be moved for the construction of the interchanges at the three intersections.

Given the importance of the properties that will be affected by the project, a Resettlement Action Plan (RAP) is also elaborated in a separate document and constitutes tome 2 of this document.

(D2) Risks, conflicts, Gender-based Violence, etc.

Various risks related to the implementation of the project during the preparation and construction phases were identified:

-Professional risks related to work injuries at height (height drop, mechanical handling, work equipment, physical workload) are rated as medium;

-The risks of accidents related to the internal circulation of vehicles are rated as medium;

-Risks related to product handling, emissions and waste are low:

-The risk of fire or explosion is low;

-The risks related to electricity are orated as medium;

Risks related to products (sulfuric acid, binders and hydrocarbons) during operation and maintenance:

-Professional risks related to accidents at work, handling or exposure to these products;

-Conflict or gender-based violence is low.

A work accident can lead to a temporary break of work, a permanent cessation of work or in the worst case a death.

The risks of accidents at work and the development of occupational diseases constitute a direct negative impact. The intensity was estimated as medium. This impact is punctual. It is long-term impact, since it can manifest itself during the entire construction phase, from installation phase and continue during works.

This impact will have a high intensity, because these accidents can reach the workers in a serious and lasting way. Depending on the severity of injury, it will also extend after completion of the work, hence its rate is medium.

In the event of an accident at work or an occupational disease, the duration of treatment can be quite long, making it difficult to master the health impact at the project level.

Public consultation

The information and consultation process of the public follows a methodical approach which is as follows:

-present the Project, its components (objectives, planned activities, areas of intervention, etc.) and its positive and negative impacts;

-gather opinions, concerns and suggestions made during the various public consultation sessions.

Thus, in the context of this project, stakeholder meetings were organized during the scoping phase (18 October 2017 and 22 January 2018) and during the preparation of the ESIA (24 May 2018).These meetings concerned the administrative and technical services of the Commune of Cocody, the NGOs, the leaders of associations and unions of residents, the chiefdom and the notability of the villages of M'Pouto, M'Badon, Akouédo, Akouédo, Anono and Cocody village, and the people living in the project area.From these three public consultation sessions, stakeholders gave their opinion on the three interchanges construction project on Boulevard Mitterand.

According to the population, the interchanges construction project will provide Cocody with modern transport infrastructure that will alleviate the problems of traffic flow. However, one of the major concerns of the population is related to the consideration of stormwater drainage problems in the project

area. The Commune of Riviera is repeatedly subject to flooding due to the insufficiency and degradation of the drainage works. The question of the duration of the construction work and the fate of large shopping centers and private structures along the Mitterand boulevard (linked to their closure, the unemployment of the employees and the decline in turnover) was also mentioned.

Following the concerns expressed by the populations during the various information sessions and consultations of the stakeholders, the urgent provisions retained by the Owner are:

-take a decree on Declaration of Public Utility of settlement and implementation areas of the Project;

-to apply according to the measures in force, the resettlement and / or the compensation of the affected persons;

-communicate the work timetable to the populations and to all the authorities of concerned localities;

-to involve the populations, political, municipal and customary authorities in all the phases of the implementation of the Project;

-select NGOs to provide social support to the Project.

-In particular, it will be for the owner to consider concerns of consulted people.

Environmental and Social Management Plan (ESMP)

Management measures of negative impacts and risks, including:

-measures addressing each significant or medium impact (proposed actions / physical activities, - proposed system and management unit) and activity management criteria as appropriate;

F.1 Biological Environment

Landscape and soil protection measures

The measures relating to the protection of the soil against erosion consist in strictly limiting the stripping of the soil to the work areas.

As for soil and subsoil protection against uncontrolled releases of rubble, litter, petroleum products and other pollutants, it will be necessary to ensure:

-signing of a contract with a CIAPOL approved company for the recovery and treatment of hydrocarbon waste, oils, filters, irons and other non-biodegradable waste;

-Having drums or labeled bins for solid waste collection at the base of the site;

-sensitize workers to clean up contaminated soils after work if necessary;

-Preservation Measures of air quality and fight against noise pollution;

During this phase of the project, two types of emissions will affect the quality of the air. These are the emissions of dust particles and gas emissions.

To reduce the nuisance due to dust and exhaust emissions, the company in charge of the work will make the following arrangements:

-use gear and vehicles in good working order in accordance with the technical standards required by the Ivorian Company Control Technique Automobile (SICTA);

-regularly maintain vehicles and machines;

-regularly water the ground circulation areas;

-avoid debris and land deposits near residential areas.

Protection measures of local fauna and flora

To minimize the extent of the destruction, it is recommended that the Company in charge of the works to limit the destruction to the perimeters necessary for the realization of the works.

With respect to shrubs and trees to be cut, the Company will take the following measures:

-Cut the branches into slices of about 1.5 meters and crush them in specific places. Make these slices available to people who would feel the need for use;

-Limit felling and brushing to the minimum necessary;

-Restore the vegetation cover through compensatory reforestation;

-Carry out landscaping and tree planting around the bridge, access roads and on road median land to compensate for felled trees;

-Rehabilitate sites of construction facilities.

F.2 Socio-economical Environment

Measures to mitigate the impacts of loss of buildings and land, the displacement of economic activities and the management of social conflicts:

-Most of the measures advocated can be summarized as follows:

-Inform and sensitize the different owners before starting work;

-Proceed to fair and equitable compensation of the affected owners before starting work;

-Reinstall affected people, at their request, in conditions better or identical to their initial installation conditions;

-Ensure economic rehabilitation of displaced persons;

-Financing the involuntary displacement costs of the people affected by the project by the project beneficiary;

-Provide assistance and special attention to vulnerable people.

Measures for the relocation of various networks (drinking water, electricity and telephony)

The following measures should be implemented to better manage this displacement:

-Financing of displacement expenses by the Project Owner;

-Provide a common section along the planned facilities for the repositioning of all networks to move and to come;

-Prior information, via the mass media (television, radio, newspapers), to populations benefiting from the services of said networks of periods of work and any interruptions at least two weeks before the start of displacement;

-Limit the travel time of the networks to the strict minimum in order to shorten the period of suspension of the provision of these services.

Measures to ensure the health and safety of people

To reduce the associated risks, the following measures will need to be implemented:

-set up building site markers and signs around working areas risked or hazardous areas (workstations, holes, demolished areas, manholes, etc.) to limit traffic accidents;

-sensitize residents of construction sites about safety measures;

-respect the speed limits which are: 20 km / h on the work sites and quarries; 35 km / h in temporary diversions;

-provide the workforce with appropriate personal protective equipment (safety shoes, dust and noise masks, helmets, gauntlets, safety goggles, etc.);

-Prioritization of HIMO methods, recruitment of local residents and integration of the gender approach.

To make the measure more effective, the project owner could set a rate of recruitment of local residents among the site staff. The Company will set up a transparent recruitment process based on:

-the publication of its recruitment needs (number, vacancies, duration of employment, etc.);

-posting the list of potential withdrawn candidates to the heads of concerned villages and neighborhoods;

-the list of successful candidates and the name of the village of their provenance;

-impose a subcontracting quota for local SMEs that recruit more residents for HIMO works

F.3 Environmental and Social Management Plan (ESMP)

The Environmental and Social Management Plan (ESMP), which is a separate report, will be structured in four phases (preparation phase, construction phase, operation and maintenance phase and closing out phase), will manage optimally all the impacts of the Project on the environment and the communities established in its areas of influence.

The implementation of the ESMP will require the hiring of an Environmental Manager with HSSE skills by the Works Company and an HSSE Expert by the Control Mission to ensure compliance with recommended environmental protection measures, and to intervene quickly to resolve any unforeseen cases. They will be allocated a vehicle and the necessary financial means to enable them to perform the tasks.

The monitoring and control of the execution of environmental measures will be carried out respectively by the Contractor, the Control Mission, the ANDE and the PTUA Coordination Unit housed within the AGEROUTE.

The main sources of verification to monitor and control environmental and social provisions will be:

-Environmental and social follow-up reports,

-Environmental and social monitoring reports,

-Results of surveys of the populations.

specific EHS clauses to be included in contracts, in particular: (i) general Hygiene health and safety (HSS) rules on construction sites (ii) sensitization on HIV STIs in corridors (iii) management of relationships between employees and people living around construction sites with emphasis on the protection of minors and other vulnerable people (iv) gender consideration and violence-based-on-gender (v) management of accidental discoveries of buried cultural heritage;

The contracts of the companies and their subcontractors will include the clauses relating to hygiene, health and safety; sensitization on STIs and HIV-AIDS. In addition, they will take into account the exploitation of minors in accordance with national legislation, sexual exploitation, prostitution and gender-based violence. To do this, a code of conduct will be signed by all employees of the site before the start of the work.

Regarding the protection of physical cultural resources, the ESIA includes an approach related to the management of incidental discoveries. All employees will be made aware of what to do in the event of discoveries of cultural property before starting work.

Grievance Redress Mechanism (GRM)

The main objective of the GRM is the gathering and amicable handling of any complaints that may arise during the implementation of the project. However, in case of non-satisfaction of a complainant at the end of the process of amicable treatment, he will be able to appeal the competent national jurisdictions.

Institutional arrangement of GRM

The proposed grievance and redress mechanism is based on three levels of intervention depending on the seriousness of the complaint. These levels of intervention are as follows:

-Owner's Engineer (MdC) and works company

-Coccody Municipal Complaint Committee,

-Coordination Unit of the PTUA

-Stages of complaints treatment

The complaint treatment according to the three (3) levels of intervention is as follows:

Level 1: Control mission and company :

The first level of complaint handling, the Control Mission and the company, are responsible for recording all complaints related to the work and classifying them into sensitive and non-sensitive categories. For so-called non-sensitive complaints, they hear the complainants and deliberate within seven (7) days. The results of the deliberation are notified to the complainant in writing (meeting minutes, mail etc.) and archived in case of agreement.

For so-called sensitive complaints, they are forwarded to the local committee or the PTUA Coordination Unit no later than three (3) days from the date of receipt of the plant. They notify the complainant in writing.

The local committee meets within 3 days after the registration of the complaint. The committee after hearing the complainant deliberates. He will be informed of the decision taken and notified by the members of the committee. In case of agreement, the notification is archived. If the complainant is not satisfied with the decision then he will be able to seize the communal level.

Level 2: Municipal Committees:

Local committees are responsible for the registration, examination and treatment of sensitive complaints at first instance. They may refer to the control mission and / or the PTUA Coordination Unit for information on the complaint. The communal committees have no more than fourteen (14) days to conduct investigations and deliberate. The results of the deliberations are notified to the complainant in writing (minutes or mail, etc.) and archived in case of agreement.

The committees make a circumstantial report on the complaints recorded and treated or not every two (2) weeks at the Coordination Unit of the PTUA. If the complainant is not satisfied then he / she may contact the PTUA Coordination Unit.

Level 3. PTUA Coordination Unit

This team participates in the examination of complaints, the investigation and treatment of complaints that could not be dealt with at the level of Control Missions, companies and communal committees. However, depending on the sensitivity of certain complaints, the PTUA Coordination Unit can participate directly in the complaints management sessions of the communal committees.

The Coordination Unit has at least two (2) weeks to process registered complaints and inform the complainant in writing.

It is in charge of reporting, communication, monitoring and archiving of recorded and processed complaints.

- Different ways of access are possible to file a complaint

- Complaint forms;

- formal mail;

- Phone call ;

- Sending an SMS;

- Social networks;

- Email ;

- Website of the PTUA.

Contacts of the PTUA Coordination Cell:

Address

BP: 08 BP 2604 Abidjan 08

Tel: 22 51 01 51

Fax: (225) 20 225 10 23

Website: WWW. Ageroute.ci

Email: ageroute@ageroute.ci and copy to mameite@ageroute.ci and isouattara@ageroute.ci

Roles and responsibilities of actors in the organizational framework for the efficient implementation of measures;

For the implementation of environmental and social measures other than those relating to the compensation of goods and people affected by the project, several actors are involved:

Project Coordination Unit (PTUA): The environmental officer of the PTUA will ensure the development of the C-ESMP and its approval by the environmentalist of the Control Mission and the AGEROUTE. In addition, he will be in charge of the implementation of this ESMP and of the respect of the environmental and social clauses contained in the contract of the company.

AGEROUTE: In collaboration with the environmentalist of the PTUA, the environmental specialist of AGEROUTE will follow the implementation of the ESMP and all the environmental and social diligences of the Project.

National Agency for the Environment (ANDE): It will carry out surveillance (or control) in accordance with the provisions applicable in Côte d'Ivoire. In addition, it will be responsible for leading the public inquiry and verifying the application in the field the provisions of the ESIA and compliance with national regulations.

General Directorate of Mines and Quarries: It will be responsible for issuing a using license to the company. It will also have to monitor the correct rehabilitation of quarry sites in association with ANDE.

Office of Road Safety: In partnership with the Project coordination unit, the Office of Road Safety will intervene in awareness and information campaigns on the security provisions and the traffic plan proposed by the company to mitigate the disturbances .

Company in charge of the works: The Environmental Manager of the Company (REE) must have a good understanding of environmental concerns, in general, and a proven competence in Health, Safety and Environment (HSE), in particular. This will allow him to understand the ESIA report and the ESMP before monitoring their application in the field.

The role of the REE is to monitor daily the application of various environmental, health, safety and social measures in the field. He is the first interlocutor of the Control Mission.

The activities devolved to the REE will be:

-Develop the Environmental and Social Site Management Plan (ESMP-C) that the Company is committed to respecting, with particular emphasis on the management of hydrocarbons, solid waste management, protection of populations local residents, respect for the natural and human environment, health protection and staff safety, management of the period of equipment retreat and rehabilitation of sites after exploitation;

-Develop Site Environmental Protection Plans (PPES) for the most sensitive areas of the site;

-Develop a Health and Safety Health Plan (PHSS);

-Develop an Internal Operation Plan (POI)

Owner's Engineer: Through its Expert in Environment and HSE, it will provide environmental and social monitoring. Specifically, it will be responsible for ensuring compliance with the environmental and social measures provided this study. In addition, it will prepare the monthly environmental and social monitoring reports that it will send to AGEROUTE and PTUA.

Town Halls of Cocody: The role of the Cocody Town Hall will be to monitor the implementation of the ESMP resulting from this ESIA. The Direction of the technical service of the town hall will thus ensure the close environmental and social follow-up of the works which will execute on their municipal territory of Cocody.

In addition, the town hall will carry out actions of education and sensitization of the populations on the security, environmental and social dispositions.

Network owners: It could have network relocation because the work takes place in the city or agglomeration (water, electricity, etc.). In this case, the affected network owner may be (CIE, SODECI and CI-Telecom and the Cellular Operators). They will have to make the maximum effort to dilute the movement of the networks and minimize the disruption of the services provided during the trip.

NGOs and CSOs: they will intervene with the town halls of Plateau, Adjamé and Attécoubé for actions of education and awareness of the population on security, environmental and social provisions. They will also participate in environmental and social monitoring to challenge the PTUA, the AGEROUTE, the Control Mission and the town halls on the shortcomings noted in the implementation of the ESMP.

Table 5: Environmental and Social Management Plan Matrix in preparatory phase

Installation and preparation phase	Impact	Component of affected environment	Mitigation Measures Et si c'est un impact positif ?	Implementation planning	Responsible		Checking Source	Monitoring indicator
					Application	Monitoring/ Surveillance		
Preparation and Installation work site stage	Displacement/Resettlement of population	Population	Compensate PAP and assist them for resettlement	Permanent follow-up of the progress of the compensation procedure	PTUA AGEROUTE,	-PTUA, -MdC, -ANDE - Town hall of Coccody, -NGOs et OSCs	-RAP implementation report; -Environmental and social monitoring report	- Compensation paid at 100% before work begins -Number of processed Complaints
	Demolition of buildings (trade, dwelling, place of worship)	Habitat /equipment						
	Agricultural land loss near roads	Land tenure						
	Urban or rural land loss							
	Loss of land related to the exploitation of quarries			Compliance with the agreement protocol between the company and the owner (s)	Contractor	- AGEROUTE, -MdC, -PTUA, -ANDE - Town hall of Coccody		Compensation paid at 100% before work begins -Number of processed Complaints
	Discovery of cultural heritage	- Culture and religion	- Avoid encroaching on prohibited parts -Follow the procedure for the management of fortuitous discoveries	Permanent monitoring of agreement protocol	Contractor	- AGEROUTE, , -MdC, -ANDE -Town hall of Cocody, -PTUA	--Environmental and social monitoring report	- number of times of application of the procedure of management of fortuitous discoveries -number of discovered and preserved

Installation and preparation phase	Impact	Component of affected environment	Mitigation Measures Et si c'est un impact positif ?	Implementation planning	Responsible		Checking Source	Monitoring indicator
					Application	Monitoring/ Surveillance		
								cultural property
	Circulation accident	Security/Health	- Mark the site during the demolitions; - to sensitize the worksite staff; -Develop and implement a deviation and circulation plan	Start of the construction; during the demolitions;	Contractor	PTUA, AGEROUTE, ANDE, OSER, MdC	- work starting report --Environmental and social monitoring report	- existence of a valid deviation and circulation plan by the OSER and the MoC; -number of awareness sessions on the circulation in the environment of the site - number of reports of incidents /accidents;- number of recorded and processed complaints
	Disturbance of various networks(electricity, drinking water, fiber optics, telephony etc.)	Populations and network owner	Perform network displacement before work begins	Start of work	- Contractor, -SODECI.CIE, Telephone companies	-PTUA -AGEROUTE, -ANDE, - MdC	-Report of relocation of networks -Environmental and social monitoring reports	--100% of the networks moved before the start of the works - Number of received and

Installation and preparation phase	Impact	Component of affected environment	Mitigation Measures Et si c'est un impact positif ?	Implementation planning	Responsible		Checking Source	Monitoring indicator
					Application	Monitoring/ Surveillance		
						-Town hall of Coccody,		processed complaints
	Modification of the topography Modification of the landscape aesthetics	Landscape	avoid installing the base of work near sensitive areas	Follow-up of the choice of the different sites	Contractor,	-PTUA, -MdC, - Town hall of Coccody, , -ANDE -NGOs et OSCs	-Environmental and social monitoring report - Report of the Directorate of Healthiness-	Number of received and processed complaints
	Exposure of the soil to the effects of erosion; Exposure of soil to chemical pollution Surface water pollution	Soils/ Surface water	- Concreting washing areas and maintenance of equipment; -Restore the lands at the end of the works	Daily monitoring during the duration of the work: monthly evaluation	Contractor,	-PTUA, -MdC, -ANDE, - AGEROUTE, - Town hall of Coccody	- environmental and social monitoring report circumstantial - report-	-Number of uncontrolled spill found; -number of received and processed complaints -
	Degradation of air quality Noise	Air quality and soundscape	- Water in dry weather; cover trucks with tarpaulin material;	Daily monitoring during the duration of the work: monthly evaluation	Contractor ;	-PTUA, -MdC, -ANDE,	- environmental and social monitoring report	- Rate of Respect of the watering schedule;

Installation and preparation phase	Impact	Component of affected environment	Mitigation Measures Et si c'est un impact positif ?	Implementation planning	Responsible		Checking Source	Monitoring indicator
					Application	Monitoring/ Surveillance		
			- carry out noisy work during the day; -Respect hours of work; -to respect the wearing of EPI			- AGEROUTE, - Town hall of Cocody		-number of waterings per day; -number of received and processed complaints; -number of sanctions related to non-wearing of PPE; -number of consultations due to respiratory diseases.-
	Destruction of the local flora and fauna	Flora and Fauna	- Limit felling and brushing to the minimum necessary; -Resture the vegetal cover through a compensatory reforestation	Duration of the project: quarterly evaluation	Contractor, AGEROUTE, ONGs	-PTUA, -MdC, -ANDE, - AGEROUTE, - Town hall of Coccody	- environmental and social monitoring report - final acceptance report-	- deforested area (ha); - actually number of felled trees; - reforested superficie (Ha);-number of planted plants -;

Table 6: environmental and social Management Plan Matrix in contruction phase

construction Phase	Impact	Component of affected environment	Impacts mitigation measures	Implementation planning	Responsible		Checking source	Monitoring Indicator
					Application	Monitoring/ Surveillance		
Phase of Construction	Employment and economic activities development	Employment and economie	Prioritize local recruitment, especially for THIMO;	During work : Monthly evaluation	Contractor	-PTUA, -MoC, -ANDE, - AGEROUTE, -Town hall of Coccody -ONGs et OSCs	- environmental and social monitoring report -Staff listing;	Number of people employed by municipalities
	Spread of HIV/AIDS and STI accidents	Health/security	-organise awareness campain for actors and populations ; - respect the wearing of EPI - Mark and protect the site ; - place male and female condoms in boxes in the washroom and educate employees about their use.	The entire duration of the project: daily monitoring, monthly / semi-annual evaluation	Contractor,	-PTUA, -MoC, -ANDE, - AGEROUTE, - Town hall of Coccody, -NGOs et OSCs	environmental and social monitoring report	- number of organized awareness sessions; -number of packages of distributed condoms

construction Phase	Impact	Component of affected environment	Impacts mitigation measures	Implementation planning	Responsible		Checking source	Monitoring Indicator
					Application	Monitoring/ Surveillance		
	Degradation of sanitation due to waste production of work site	Living environment	Managing waste products on the site selectively and to discharge them	Permanent activity	Contractor	-PTUA, -MoC, -ANDE, - AGEROUTE, - Town hall of Coccody, -ONGs et OSCs	Monitoring report Follow-up report	absence of waste on the bases-site and base-life
	Exposure of the soil to the effects of erosion,soil pollution and degration in work site	Soil	Provide runoff drainage structures directed to natural outlets	Permanent activity	Contractor	-PTUA, -MoC, -ANDE, - AGEROUTE, - Town hall of Coccody, -NGOs et OSCs	environmental and social monitoring report	- Existence of an efficient drainage system -number of recorded and processed residents' complaints
	Modification of the topography Modification of the landscape aesthetics	Landscape	- avoid installing the base of work near sensitive areas;	Follow-up of the choice of the different sites	Contractor,	-PTUA, -MoC, -ANDE,	environmental and social monitoring report	- avoid depositing rubbish in a hazardous

construction Phase	Impact	Component of affected environment	Impacts mitigation measures	Implementation planning	Responsible		Checking source	Monitoring Indicator
					Application	Monitoring/ Surveillance		
			- avoid depositing rubbish in a hazardous manner			- AGEROUTE, - Town hall of Cocody, - NGOs et OSCs		manner - recorded and processed complaints
	Degradation of air quality Noise	Air quality and soundscape	-Water in dry weather; -recover the trucks with tarpaulin materials; -use up-to-date equipment from their technical visit; - carry out noisy work during the day; -Respect hours of work; -Provide and ensure the mandatory wearing of EPI (dust masks and earplugs)	Daily monitoring during the duration of the work: monthly evaluation	Contractor ;	-PTUA, -MdC, -ANDE, - AGEROUTE, - Town hall of Cocody ONGs et OSCs	- - site diary - environmental and social monitoring report	-Rate of compliance with the watering schedule or number of watering turns per day; -number of received and processed complaints; -number of sanctions related to non-wearing of EPI; -number of medical consultations due to

construction Phase	Impact	Component of affected environment	Impacts mitigation measures	Implementation planning	Responsible		Checking source	Monitoring Indicator
					Application	Monitoring/ Surveillance		
								respiratory diseases

Table 7: environmental and social Management Plan Matrix in Exploitation phase

Phase of exploitation	Impact	Component of affected Environment	Mitigation measures	Implementation planning	Responsible		Checking source	Monitoring Indicator
					Application	Monitoring/surveillance		
Exploitation phase								
	High risk of traffic accidents Risk of exposure to respiratory diseases-Damage to the safety and health of populations linked to increased traffic and risk of traffic accidents	Circulation / security / health;	- Set up horizontal or vertical signaling, speed limitation; -provide, at reasonable and regulatory intervals, secure crossing structures (pedestrian bridges) or traffic lights to allow the crossing of the highway without risk to pedestrians;	At the end of work	-AGEROUTE -OSER	-MEER -ANDE - Town hall of Coccody, -NGOs	Accident report	Number of accidents per month
	Development of various infrastructures, including the development of sanitation works in neighborhoods and villages bordering the river. Improvement of the number and quality of housing, extension of networksin various areas along.	Living environment / equipment	Set up a financing budget for the maintenance of the infrastructures carried out		-Town hall of Plateau, Adjamé and Attécoubé	MEER -Ministry in charge of salubrity -ANDE	- Statement of implementation of the MEER budget -Statement of implementation of the budget of the Ministry in charge of the salubrity -Statement of implementation of the budget of the Town Halls of	-Availability of a maintenance fund of related works -existence of a budget for the maintenance of works in the annual budgets of MEER, the Ministry of Health and the Town Halls of

Phase of exploitation	Impact	Component of affected Environment	Mitigation measures	Implementation planning	Responsible		Checking source	Monitoring Indicator
					Application	Monitoring/surveillance		
							Plateau, Adjamé and Attécoubé	Plateau, Adjamé and Attécoubé
	High possibility of pollution of surface waters during accidents	Soils / Surface water	Install in localities and municipalities crossed by the highway, safety beacons (concrete slide), to prevent a hazardous crossing of the highway;	Daily monitoring during the duration of the work: monthly evaluation	AGEROUTE	MEER	-annual acitivities report of l'AGEROUTE - Field observation	length of tags and slides in place
	deterioration of the air quality and modification of the microclimate due to the increase in the number of motorized vehicles and the release of exhaust gases	Air quality and soundscape	plant more trees on both sides of the road, especially in urban areas, to reduce air pollution created by vehicle smoke;	Monthly monitoring: annual evaluation	AGEROUTE ;	-MEER -ANDE	- annual acitivities report of MEER ; - annual acitivities report of ANDE	- number of planted plants; - reforested area (Ha)

Budget for ESMP implementation

The general amount of ESMP implementation is estimated as FCFA 993 136 1171 . This amount considers measures costs related to the project, assistance measures cost and environment monitoring cost.

1 Details about ESMP cost are detailed in ESMP part.