African Water Facility
Facilité africaine de l'eau
Mobilising Resources for Water in Africa
Mobiliser des ressources pour l'eau en Afrique

Language: English
Original: French
Distribution: Limited

REPUBLIC OF TOGO REPUBLIC - REPUBLIC OF GHANA

Studies and Advisory Services for the Preparation of the Sogakope – Lomé Transboundary Drinking Water Supply Project

APPRAISAL REPORT

This report is made available to staff members to whose work it relates. Any further releases must be authorized by the AWF Director.

November 2013

African Water Facility I Facilité africaine de l'eau
African Development Bank I Banque africaine de développement
BP 323 - 1022 Tunis Belvédère – Tunisie
Tel: + 216 71 102 197 Fax: + 216 71 348 670
Email : africanwaterfacility@afdb.org
www.africanwaterfacility.org

PROJECT INFORMATION

1. Country	Republic of Togo and the Republic of Ghana
2. Project Name	Studies and Advisory Services for the Preparation of the Sogakope – Lomé Transboundary Drinking Water Supply Project: Feasibility Study, Preliminary Design, Environmental and Social Impact Assessment and Transaction Advisory Services
3. Location	Togo and Ghana
4. Grant recipient	Ghana Ministry of Finance
5. Executing Agency	Ghana Water Company Limited
6. Description	**Component 1: Engineering Studies** Studies and Technical Consultancy Services Environmental and Social Impact Assessment **Component 2: Transaction Counsellor** Transaction Advisory Services (legal and financial) **Component 3: Project Management**
7. Total Cost	EUR 2 195 000
8. AWF Cost	EUR 1 405 000
9. Cost (other)	EUR 790 000
10. Approval Date	**……..……..**
11. Studies Start-up Date and Duration	May 2014, 22 months
12. Other Important Dates	Signature: Approval date + 3 months
13. Procurement	Procurement shall be carried out in accordance with Bank Rules of Procedure for Procurement of Goods and Works and Rules of Procedure for the Use of Consultants
14. Currency Equivalents (May 2013)	UA 1 = EUR 1.15437 UA 1 = USD 1.50900 UA 1 = XOF 757.217 EUR 1 = XOF 655.9568
15. Fiscal Year	1 January to 31 December

TABLE OF CONTENTS

List of Tables

List of Annexes

LIST OF ACRONYMS AND ABBREVIATIONS

AESC	:	Architectural and Engineering Services Corporation
AFD	:	French Development Agency (Agence Française de Développement)
AfDB	:	African Development Bank
AICD	:	Africa Infrastructure Country Diagnostic
ALSF	:	African Legal Support Facility
AMCOW	:	African Ministers Council on Water
AWF	:	African Water Facility
BFOO	:	Build, Finance, Own and Operate
CFAF	:	African Financial Community Franc
CSP	:	Country Strategy Paper
CWSA	:	Community Water and Sanitation Agency
DCE	:	Contractors Shortlist dossier
DW	:	Drinking Water
DWS	:	Drinking Water Supply
DWSS	:	Drinking Water Supply and Sanitation
ESIA	:	Environmental and Social Impact Assessment
ESMP	:	Environmental and Social Management Plan
FS	:	Technical, Financial, Economic, Environmental, Social and Institutional Feasibility Studies
GSGDA	:	Ghana Shared Growth and Development Agenda
GWCL	:	Ghana Water Company Ltd
IWRM	:	Integrated Water Resource Management
LCB	:	Local Competitive Bidding
MDGs	:	Millennium Development Goals
MER	:	Ministry of Rural Equipment
MLGRDE	:	Ministry of Local Governments, Rural Development and Environment
MFS	:	Minimum Functional Specifications
MTDPF	:	Medium-Term Development and Policy Framework
MWRWH	:	Ministry of Water Resources, Works and Housing
NO	:	“No-objection” notification
PD	:	Preliminary Design
PMU	:	Project Management Unit

PPP	:	Public-Private Partnership
Project	:	Refers to the preparation of the "Sogakope – Lomé DWS" Project comprising the following: (i) Update of the Preliminary Design and Feasibility Study; (ii) ESIA; (iii) Transaction Advisory Services
PRSP-II	:	Second Poverty Reduction Strategy Paper
PURC	:	Public Utilities Regulatory Commission
SC	:	Steering Committee
SCAPE	:	Accelerated Growth and Employment Promotion Strategy (established name for PRSP-II)
SP-EAU	:	Drinking Water Supply and Urban Domestic Wastewater Treatment Sector Assets Company
STDA	:	United States Trade and Development Agency
TdE	:	Togo Water Company
TFPs	:	Technical and Financial Partners
ToR	:	Terms of Reference
VBA	:	Volta Basin Authority
WSSDP	:	Water Sector Strategic Development Plan

Project Logical Framework Matrix

Project: Studies and Advisory Services for the Preparation of the Sogakope – Lomé Transboundary Drinking Water Supply Project/ Feasibility Study, ESIA and Transaction Advisory Services
Goal: Organize the project in the form of a PPP, select a private partner and conclude and execute a concession contract with a private partner who will finance, build and operate the project.

Performance Indicators						
	Outputs Chain	**Indicator**	**Baseline**	**Target (Time Frame)**	**Means of Verification**	**Risks/Mitigative Measures**
IMPACT	The rates of drinking water supply to the populations of Togo and Ghana are improved by 2020	Water supply rates (national) through DWS network	Togo : 39% (2011) Ghana: 83.8% (2008)	2020 Togo: 78 % Ghana: 95 %	National information systems	
OUTCOMES	The PPP project is structured technically, institutionally and financially	1. The Steering Committee approves the project's technical features and stakeholders undertake to comply with the distribution network development schedule. 2. The Steering Committee approves each party's role (State, SP-EAU, GWCL, concession company) in terms of project management, construction, operation and distribution. Both governments approve the agreements defining the institutional framework for implementing the Project. 3. The Steering Committee approves the financial structuring of the PPP and measures to reduce the rate gap and governments raise public funds with the help of TFPs.	NA	Framework agreement between both governments on the approval of the preliminary design, the distribution network development schedule, each party's role, the institutional framework, financial structuring and approved rate gap T0 + 12	Copy of signed agreements	**Risk**: lack of private sector interest **Mitigative measure**: appropriate financial structure and mobilization of public funds to cover the rate gap. Organization of a Market Test workshop. **Risk**: difficulties in formalizing inter-governmental agreements for a complex bi-national project. **Mitigative measure**: Joint Steering Committee involving senior authorities from both States **Risk**: project downstream distribution facilities are not available **Mitigative measure**: the quantification and planning of water distribution system requirements are included in studies; the Steering Committee is also responsible for monitoring the construction of distribution networks
	A private partner finances, builds and operates the project.	Contract signed and in force	NA	T0 + 24	Copy of signed contract	**Risk**: opposition by civil society **Mitigative measure**: communication advisory services and consultation are included in project management

OUTPUTS	***Component 1:*** Studies and Technical Consultancy Services					
	Sub-component 1.1 : Feasibility Studies					
	The diagnosis of the underground resource potential and resources/application table is carried out.	Study carried out and validated by the Steering Committee	No data / table	Results validated To + 5.5	Steering Committee report Report and recommendations for future observation	.
	A feasibility study is carried out	Study carried out and validated by the Steering Committee	2005 Preliminary study	Study validated T0 + 15.5	Steering Committee report Preliminary design and feasibility study documents Quarterly reports	
	Project downstream distribution infrastructure requirements are quantified and planned	Study carried out and validated by the Steering Committee	No study	Study validated T0 + 15.5	Steering Committee report Cost estimates and implementation schedule	
	Sub-component 1.2: Environmental and Social Impact Assessment					
	An environmental and social impact assessment is carried out (including the ESMP)	Environmental compliance certificates (Togo) and permits (Ghana) are granted	No authorisation	T0 + 15	Environmental compliance certificates (Togo) and permits (Ghana)	
	Component 2: Transaction Advisory Services (legal and financial)					
	The project is structured in the form of a PPP	Validation of the legal, institutional and financial framework by the Steering Committee	Structuring not defined	T0 + 12	Steering Committee report	
	The institutional framework for concession (granting authority) is approved	Validation of instruments establishing the granting authority by the Steering Committee	Framework not defined	T0 + 12	Steering Committee report	
	A Contractors Shortlist File (DCE) is finalized	Validation by the Steering Committee and donors	No DCE	T0 + 15	DCE available	
	A private partner is selected	Signing of a concession contract	No partner	T0 + 22	Contract signed	
	Component 3: Project Management					
	The PMU is operational	Members of the PMU are appointed and approved by the Bank Computer hardware and vehicles are bought	NA	T0 + 3.5	Bank's "no-objection" notified List of project fixed assets	
	The Steering Committee is established and is operational	List of Steering Committee members Arbitration is carried out	NA	T0 + 3.5	List of members Steering Committee reports	
	Overall coordination of activities	Number of quarterly reports	NA		Copy of quarterly reports	

	Communication and consultation throughout the process	1. The consultation and communication strategy is validated 2. A credible consultation process is put in place	NA	T0 + 13	Steering Committee report A participatory approach is carried out with the affected populations and stakeholders Three workshops are organized with stakeholders and local public meetings are held	
	Organization of procedures	A procedures manual is prepared and approved by the Bank	- --	T0 + 7	Bank's "no-objection" notified	
Key activities Component 1: Studies and Technical Consultancy Services Sub-component 1.1: Feasibility Study Sub-component 1.2: Environmental and Social Impact Assessment Component 2: Transaction Advisory Services (legal and financial) Component 3: Project Management					**Inputs (EUR)** Component 1: 1 212 000 Sub-component 1.1: EUR 992 000 Sub-component 1.2: EUR 220 000 Component 2: EUR 666 000 Component 3: EUR 250 000 Contingencies: EUR 67 000 Total: EUR 2 195 000	

T0: Date of signing of financial agreements

Studies and Advisory Services
For the Preparation of the
Sogakope – Lomé Transboundary Drinking Water Supply Project

EXECUTIVE SUMMARY

Project Origin

Population growth in Togo, reflected in a significant increase in the size of the city of Lomé whose population multiplied by 2.4 between 1981 and 2010, as well as Ghana's economic development have led to a sharp increase in the drinking water demand of the population and economic concerns in the southern coastal area of both countries. At present, this demand is not being met. Furthermore, according to population growth projections, the target population in these areas will increase from 2.5 million in 2010 to 4.4 million by 2030, representing an annual growth rate of about 3%.

At the moment, groundwater is the main source of water supply for the population and economic and industrial activities of the area. These resources are on the verge of depletion due to overexploitation and their quality is deteriorating. It is therefore necessary for both countries to mobilize surface water resources to meet demand.

However, surface water resources are unevenly distributed. Togo has only shallow rivers, while the Volta River provides Ghana with a huge renewable water potential.

The search for alternative water resources led both countries to envisage a project to transfer water from the Volta River in Ghana to Lomé in Togo, in order to provide drinking water to the city of Lomé and the communities along the water piping corridor in Ghana.

Both countries are also grappling with huge DWS network investment needs (EUR 500 million for Togo and EUR 1 200 million for Ghana[1]) to achieve an overall (urban and rural) access rate of about 90% by 2030. The governments of both countries therefore express the desire to mobilize private funds to implement this project based on the principle of raw water purchase, which favors public-private partnership (PPP).

The idea of the Sogakope – Lomé Drinking Water Supply Project dates back to the 1970s. Phase I, which involved supplying water to localities on the east-southern coast of Ghana, was implemented in 1999. A feasibility study and preliminary design were carried out in 2005 by Lemna International Inc for Phase II which seeks to extend the system to Lomé and three urban districts in Ghana. The initial proposal for project implementation based on the "build, finance, own and operate" (BFOO) system did not materialize, as the rate proposed by Lemna International Inc was too high. The project is now considered as a priority by both countries.

The Project

The project comprises studies and consultancy services for the realization of the Sogakope – Lomé water transfer infrastructure and aims at updating the feasibility study and preliminary design carried out in 2005, conducting an environmental and social impact assessment and structuring the project institutionally, legally and financially, as a basis for the signing and execution of a concession contract for implementation of the project in the form of a PPP. The studies will also include a diagnosis of the groundwater potential in Togo, the assessment of

[1] WaterAid: Ghana. National Water Sector Assessment Report - May 2005

resource application in the project area as well as the quantification, cost estimation and planning of measures to strengthen the project's downstream distribution facilities.

AWF support to finance the studies will have a leverage effect of about 1/85 if the transfer project, whose cost was estimated at USD 110 million in 2005, is implemented.

The direct beneficiaries of the project are national DWS sector agencies and operators in Ghana and Togo, Ghana Water Company Limited (GWCL), the Togo Water Company (TdE) and the Drinking Water Supply and Urban Sanitation Assets Company (SP-EAU) as well as the Ministries in charge of Finance and of Water in Ghana and Togo, translating their sector policies and strategies into concrete results.

One of the objectives of the Bank's 2013-2022 Strategy is ensuring the transition to green growth. This project to supply drinking water from the Volta River is in line with this objective, as its projected capacity of 230 000 m^3/day will reduce the dependence of four million people on groundwater resources whose sustainability is uncertain. Access to drinking water is also a major inclusive growth factor which is recommended in the Bank's strategy, as it helps to improve the living conditions and increase the productivity of the beneficiary population. It will help to create indirect jobs by supplying water to enterprises and the informal sector. The terms of reference for technical consultancy services include the obligation to mainstream green growth-related aspects in the project's technical and operational design, using low-impact technologies and materials, eco-friendly methods and access to carbon finance as well as supporting inclusiveness by maximizing job-creation.

Conclusions and Recommendations

The objectives of the Studies and Consultancy Services For the Preparation of the Sogakope – Lomé Transboundary Drinking Water Supply Project are in line with the priorities of the African Water Facility's 2012-2016 Strategic Plan (particularly concerning project preparation) as well as the objectives and operational priorities of the Bank's 2013-2022 Strategy.

The project is also consistent with the national water sector policy objectives of both countries, the Africa Water Vision and the attainment of the Millennium Development Goals (MDGs).

The project cost is estimated at EUR 2 195 000, of which EUR 1 405 000 (64%) to be financed by an AWF grant, EUR 666 000 (30%) by the African Legal Support Facility and EUR 124 000 (6%) as financial contribution from both States.

Based on the evaluation carried out and the positive results of the analysis concerning the rationale, relevance, efficacy and sustainability of the proposed support, it is recommended that AWF should approve a grant not exceeding EUR 1 405 000 to the designated recipient, to finance this project as designed and described in this report.

1. CONTEXT

A detailed description of the project context is provided in Annex A0 of this report. It includes an overview of the project origin, the analysis of the sector priorities of Togo and Ghana and of Bank as well as a description and an analysis of specific issues. It also includes a chapter on lessons learned from previous experiences and on-going programmes. The following sections summarize the salient points presented in detail in Annex A0.

1.1 Project Origin

Population growth in Togo, which is reflected in the significant increase in the size of the city of Lomé as well as Ghana's economic development, driven by the current development of oil and mineral resources, have led to a sharp increase in demand for drinking water on the part of the coastal populationed. Long-delayed implementation of DWS facilities in both countries, coupled with the depletion of groundwater resources, now pose a major challenge to the sector authorities [2]. Surface water resources are unevenly distributed between the two countries. Togo has only minor water bodies, while the Volta River provides Ghana with huge renewable potential. The search for alternative water resources as well as innovative financing to develop new infrastructure has led both countries to envisage a project to draw water from the Volta River with private sector participation in its financing, implementing and operation.

The idea of the "Sogakope – Lomé Drinking Water Supply Project" dates back to the 1970s. It was planned to be implemented in two phases: (i) the supply of drinking water to localities on the south-eastern coast of Ghana and (ii) the extension of the system to Lomé, the capital of Togo. Phase 1 was completed in 1999. Today, Phase 2 seeks to supply drinking water to greater Lomé and three urban districts in Ghana located along the projected water piping corridor, namely from East to West: Ketu, Akatsi and South Tongu.

In the 1970s, a feasibility study of the project was carried out by the Architectural and Engineering Services Corporation (AESC) established in 1973 by an Act of the Ghanaian Government. In 2005, the American company, Lemna Inc., carried out the project's feasibility studies (FS) and a preliminary design (PD) with financing from the United States Trade and Development Agency (USTDA), and proposed its implementation based on the "Build - Finance - Own - Operate" (BFOO) system. However, negotiations stalled because the rate proposed by Lemna Inc. was considered very high. Since then, and given the socio-political crisis faced by Togo, the project has been shelved. It is now once more being considered as a priority by both countries in order to address the significant increase in demand for drinking water on the part of their urban and semi-urban populations.

1.2. Sector Priorities

1.2.1 Country sector priorities

The "Sogakope - Lomé Drinking Water Supply Project" plugs into Togo's and Ghana's growth strategies and is aligned with their national water sector policies. In addition, the legal frameworks of both countries are conducive to the implementation of PPPs in the DWS sector.

[2] Cf. 1.3.2

- **Togo**

The Accelerated Growth and Employment Promotion Strategy (SCAPE) underscores the need to develop quality infrastructure to sustain growth and contribute to the emergence of regional development poles.

The strategic guidelines for implementation of the national water policy are based on the four strategic pillars for poverty reduction indicated in SCAPE. These strategic guidelines are: (i) promoting an enabling environment for good water sector governance based on the Integrated Water Resources Management (IWRM) approach; (ii) ensuring the availability of water in sufficient quantity and quality for all economic activities; (iii) improving equitable and sustainable access to drinking water and sanitation for rural, semi-urban and urban populations; and (iv) ensuring health, public safety and ecosystem and biodiversity conservation. The legal provisions in force should be amplified in 2014 through the adoption of a Law on PPP and the establishment of an institutional framework that is conducive to PPPs.

- **Ghana**

The Ghana Shared Growth and Development Agenda (GSGDA) 2010-2013 is a national strategy that lays the foundations for the structural transformation of the Ghanaian economy during the decade ending in 2020. One of the thematic areas is the development of human establishments and infrastructure to achieve the GSGDA objectives, one of which is to extend access to drinking water and sanitation throughout the country. Another policy objective is to improve transboundary and international cooperation for the management of shared resources.

1.2.2. Bank's sector priorities

The Bank's sector priorities for each country are set out in respective Country Strategy Papers (CSPs). For Togo, the Bank's 2011-2015 Country Strategy Paper underscores the development of economic infrastructure as one of the two pillars formulated. For Ghana, the Bank's 2012-2016 Strategy seeks to support the country to build its capacity and mitigate the impact of the challenges it faces. Although the CSP does not specifically mention the DWS sector, the existence of a correlation between the provision of quality water services at affordable cost and improvement in corporate and individual productivity has been demonstrated.

Overall, the Bank's 2013-2022 Strategy is aimed at achieving two objectives, namely inclusive growth and transition towards green growth. The Sogakope – Lomé Transboundary Drinking Water Supply Project specifically supports three of the five operational priorities that contribute to achieving these two objectives, namely infrastructure development, regional integration and private sector development.

1.3. Issues

The Sogakope - Lomé Transboundary Drinking Water Supply Project will resolve two types of issues. The first concerns the mismatch between supply of and demand for the resource while the second relates to the need to mobilize financial resources other than public resources to develop new drinking water supply facilities.

1.3.1. Institutional set-up

- **Togo**

In Togo, the water sector is under the supervisory authority of the Ministry of Rural Equipment (MER). In urban areas, the sector is managed by two public companies: the Drinking Water Supply and Urban Sanitation Assets Company (SP-EAU), which is responsible for investments, and the Togolese Water Company (TdE) which is in charge of network management.

- **Ghana**

In Ghana, the Ministry of Water Resources, Works and Housing (MWRWH) oversees the planning, development and management of the country's water resources, and the supply and provision of sanitation services. In urban areas, the Ghana Water Company Limited (GWCL) manages DWS investments while the Ghana Urban Water Company Limited (GUWCL) manages networks. In the rural sector, municipal and district assemblies supervised by the Community Water and Sanitation Agency (CWSA) are responsible for investments and the operation and maintenance of drinking water supply and sanitation facilities.

1.3.2 Demand prospects and resource status

- **Togo**

Population growth and massive migration to the city of Lomé is the major factor in the current high demand for drinking water, particularly in the Maritime Region comprising Greater Lomé, and the Commune of Lomé , whose population growth rate has been 2.9% over the last 30 years. In addition, the DWS sector in Togo, particularly in urban areas and the city of Lomé, has for several years now been characterized by stagnation/decline in the coverage rate and quality of service (from 39% in 2007 to 33.9% in 2010).

Population growth projections show that in 2030, the number of people to be supplied with water in the project area (Togo and Ghana) will reach 4 000 000. For average daily per capita consumption of between 45 litres and 80 litres, DWS needs will vary between 180 000 m^3 and 320 000 m^3/day respectively. Given that this capacity is well beyond the remaining exploitable groundwater resource potential, there is an urgent need for recourse to other water resources. The main source of water supply to the city of Lomé is the Continental Terminal water table whose water quality is deteriorating. Although the alternative which consists in harnessing deeper (Paleocene and Maastrichtian) water tables remains feasible, the lack of information about these water tables, in the absence of data, sampling, testing and recordings spanning several years calls for caution regarding their significant exploitation application in meeting the DWS needs of Lomé.

- **Ghana**

Ghana exceeded the MDG drinking water target in 2008, at over 80% access to drinking water. In recent years, the discovery of mineral resources and petroleum resources as in Ghana has driven the country's significant economic growth, thus increasing the population and commercial activities along the Sogakope – Lomé corridor. At present, water supply (essentially through boreholes) is only a little over 15 litres per day per capita and its quality is deteriorating steadily. By 2025, the population of the project area is projected to rise to 380 000 people, thus inducing demand of about 32 000 m^3/day which the groundwater resources now being exploited will not be able to meet.

1.3.3 Surface water resources

The surface water potential in Togo's Maritime Region is relatively small, consisting only of the Zio, Haho and Mono coastal rivers. The harvesting of water (about 2 m^3/s) from the Mono River would be able to bridge the drinking water supply deficit in Lomé. However, this option has major drawbacks (explained in Annex A0) related to the drawing of water from the Volta River, particularly as it does not allow for water supply to the Ghanaian population concerned by the project.

1.3.4 State of infrastructure and private investment requirements

- **Togo**

The socio-political crisis faced by Togo contributed to significant deterioration of its infrastructure as well as institutional capacity. The drinking water supply (DWS) sector suffered as a result of the suspension of the operations of Technical and Financial Partners (TFPs) for many years. The investments needed to raise the water access rates to those set within the framework of MDGs are estimated at EUR 560 million[3]. Concerning Lomé's DWS system, water production has stagnated at about 45 000 m^3/day for several years due to the poor performance of existing borehole fields.

The financial situation of TdE, which is responsible for DWS in urban areas, is critical. The rates in force do not cover its operating cost. Thus, its financial equilibrium is not guaranteedand, moreover, , its equity is not sufficient to cover network and service expansion

- **Ghana**

The DWS sector is facing major challenges, namely: (i) improving the performance of existing urban networks for which the "non-revenue water volume is about 50%; (ii) meeting a significant steadily increasing demand resulting from high economic growth rates which affect the lifestyle of the population and their warrant their demand for reliable and quality public services; and (iii) mobilizing financial resources from sources other than the public coffers, to implement new projects capable of meeting such demand.

In that regard, the Public Utilities Regulatory Commission (PURC) is responsible for fixing the rates which currently average the equivalent of EUR 0.60 /m3. However, this rate attains only 50% of the break even rate calculated by GWCL and considerably limits the constitution of financial resources for infrastructure renewal and development.

Given the issues cited above, primarily the deficit in groundwater resources and lack of financial resources in the sector, this project involving the channelling of water drawn from the Volta River from Sogakope to Lomé under a PPP arrangement is therefore a rational response to the DWS infrastructure needs of the population of this area.

[3] Artelia, Updated Investment Plan, July 2012.

1.4. Lessons Learned from Previous Experiences and On-going Programmes

Studies carried out on the DWS sector in Africa show that, although the wide gap between the required investments and those planned by the governments concerned clearly offers business opportunities for private investors, few major projects have been implemented so far.

For the Bank and its private sector window, the experience acquired since 2000 through participation in PPP infrastructure projects shows that the preparation and structuring of projects well in advance of their implementation is crucial to ensuring better "quality at entry" and reduces the difficulties encountered during the implementation and operation phase.

The diagnosis concerning the African continent shows that projects including the distribution and marketing of water to end-users encounter greater difficulty. However, water production/bulk supply projects like the Sogakope – Lomé Project have higher success rates.

Given its limited budgetary resources, Ghana has already opted for this type of arrangement by implementing three PPPs in the DWS sector. These large-scale operations have afforded the officials and staff of Ghana's public agencies (which will be responsible for the project management) experience in the preparation, structuring, financing and management of PPPs.

In Togo, with the support of the French Development Agency (AFD), the Government is drafting the implementing decrees of the Water Code and instruments governing private sector operations in the sector (standard lease and public service delegation contracts) several of which have been adopted recently by the Council of Ministers. The AFD is also financing a TdE support programme (EUR 11 million, 2009-2013) which includes a series of infrastructure works that will help to increase TdE's drinking water production capacity by approximately 15 000 m^3/day and rehabilitate damaged urban networks. This project will help to reduce the risk of inadequate distribution infrastructure downstream of the Sogakope – Lomé Project.

1.5. Project Objectives

The project goal is to achieve a sustainable improvement in the rate of access to drinking water in both countries. The specific project objectives are to:

(i) Carry out PPP technical, financial and institutional structuring such as to ensure its sustainability;

(ii) Select a concession holder and bring the contract into force.

1.6. Project Beneficiaries and Stakeholders

The project seeks to significantly increase the supply of drinking water to Greater Lomé in Togo as well as to the rural areas and urban centres along the supply piping corridor in Ghana. The project capacity of 230 000 m^3/day will help to ensure the supply of drinking water to four million people in Greater Lomé , as well as in the rural areas and urban centres along the supply piping corridor in Ghana on the basis of unit consumption trends.

The main direct beneficiaries of the project are:

- National DWS sector agencies and operators in Ghana and Togo, GWCL, TdE and SP-EAU which will benefit from the support of the consultants and experts

recruited to strengthen their knowledge, capacity and experiences in the design and implementation of major anchor projects;

- The Ministries in charge of Finance and of Water Resources in Ghana and Togo, as the project is expected to showcase the tangible outcomes of the policies and strategies they establish for the sector.

The main indirect beneficiaries of the project are:

- The local communities of the project area;
- The population of the project area.

1.7. Rationale for AWF Support

AWF support to the project through the financing of studies and provision of services for the preparation of a major anchor project in the DWS sector is perfectly in keeping with its 2012 – 2016 Strategy which focuses on the preparation of eligible projects to increase the mobilization of investments. Specifically, involvement in the Sogakope – Lomé Transboundary Drinking Water Supply Project preparation and structuring phase will boost private sector investment. The leverage effect between AWF financial support and project implementation is estimated at 85.

Other project aspects which are consistent with AWF strategy objectives are:

- AWF involvement in the preparation of the Sogakope – Lomé Transboundary Drinking Water Supply Project guarantees the project's "quality at entry" and provides every latitude for more effective coverage of all the cross-cutting aspects, namely: (i) gender issues; (ii) social equity; (iii) environment; and (iv) climate change;
- Co-financing by ALSF, which is an independent entity hosted by the Bank, signals AWF's willingness to work in partnership and mobilize additional resources;
- From the environmental standpoint, by financing studies to upgrade the project's preliminary design and environmental and social impact assessments, AWF will witness the preparation and implementation of measures to protect water resources and mitigate impacts in the project impact area;
- The transaction advisory services financed by ALSF cover the calculation of water rates, thus ensuring that it takes into account provisions relating to social equity and inclusiveness.

2. PROJECT DESCRIPTION

2.1. Long-term Outcomes

The long-term outcomes will be increased access to drinking water for the Togolese and Ghanaian populations through the construction of DWS facilities whose ultimate capacity will contribute to producing drinking water for some 4 000 000 consumers in the project area. Increased access to drinking water will sustainably improve the health and social conditions of the population and consequently their standard of living.

2.2. Short- and Medium-term Outcomes

The expected short-term outcomes will be:

- Definition of an appropriate technical, legal and institutional framework and a suitable project investment financing package;
- Initiating the selection of a private partner for the implementation of a PPP, resulting in the signing and execution of a concession contract.

The expected medium-term outcomes will be:

- The private partner selected finances, builds and operates the project under the aforementioned contract;
- The national water companies (GWCL in Ghana and TdE – SP-EAU in Togo) mobilize financial resources and build the distribution facilities identified, to absorb the volume of water produced and supplied by the project.

2.3. Outputs

The expected contractual deliverables are the key documents and reports as defined in detail in terms of indicative content and completion deadlines in consultants' terms of reference. These are mainly:

- A diagnosis of the exploited and exploitable groundwater potential in the Lomé region and updated tabulation of resource application up to 2040 in this urban area, updated feasibility study, including the identification, cost estimates for and scheduling of the construction of additional water distribution facilities downstream of the project;
- ESIA and ESMP reports and the recruitment of an NGO to facilitate participatory consultations with the population;
- The PPP feasibility report (Transaction Advisor);
- The Contractors Shortlist File (DCE), including all the items and documents specified in the Transaction Advisor's terms of reference;

- The Transaction Advisor's end-of-mission report which marks the end of the contract signing phase and the start of the contract execution.

Furthermore, the Transaction Advisor and the Technical Advisor (each in their area of competence) will guide the executing agency throughout the concession holder selection process up to the execution of the concession contract.

2.4. Activities

The project will mainly involve the following studies and advisory services:

- Component 1: (i) Studies and Technical Services (Feasibility Study) and (ii) Environmental and Social Impact Assessment. This component will be financed by AWF;

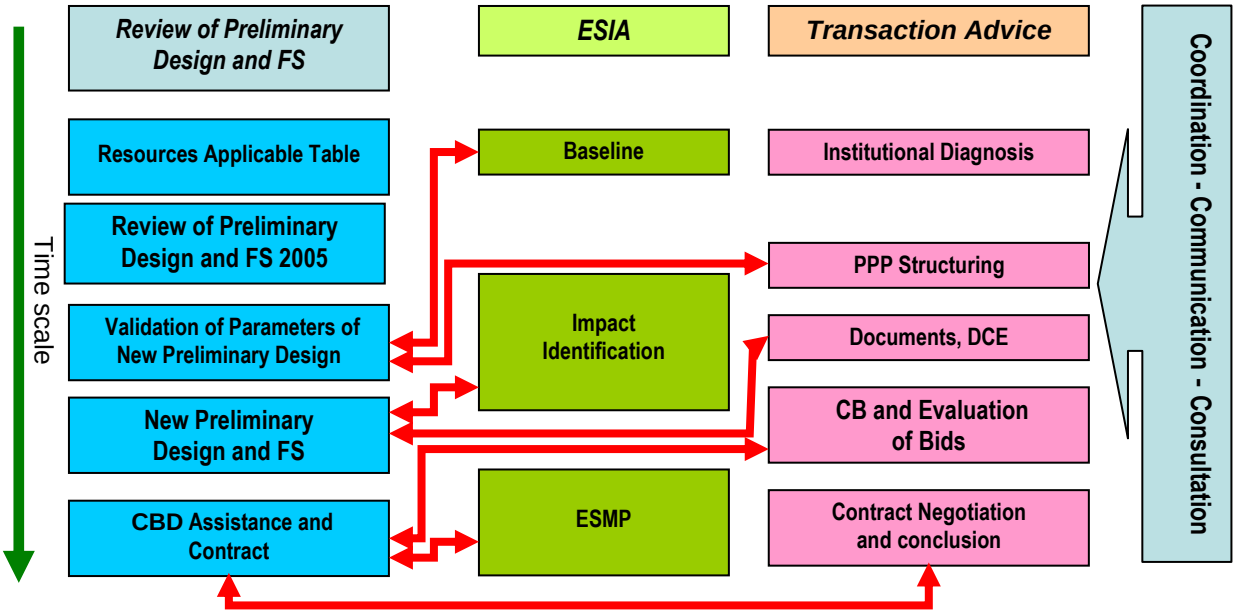
- Component 2: Transaction Advisory Services (legal and financial). This component will be financed by ALSF in the form of a refundable advance/loan (about 25%) and a grant (about 75%). The specific approval process will be carried out at the same time. The contribution amount and proposed distribution will be approved by the ALSF Management Board;

- Component 3: Project Management, Communication and Consultation. This component accounts for most of the counterpart contributions of the financing recipient . Under this component, AWF finances communication and consultation advisory services, the participatory consultation of the beneficiary population and stakeholders conducted by an NGO (financed by AWF) as well as the Consultant for preparation of the procedures manual.

The details of the activities corresponding to the terms of reference (attached to this report) are presented below.

The following diagram illustrates the interactions between study activities under Components 1 and 2 as well as their time frame.

Diagram. Interactions between Study Activities under Components 1 and 2



2.4.1 Component 1: Study and Technical Services

2.4.1.1 Preliminary Design and Feasibility Studies

These studies are divided into five phases (details of activities are given in the terms of reference presented in Annex A5).

Phase 1: it seeks to prepare the resource application summary for the city of Lomé and the project area in Ghana for the period up to 2040 and for intermediate dates, in order to estimate the water flow required from the Volta River. Emphasis will be laid on diversification of resources so as to reduce the risk of pollution of the Volta River or infrastructure-related technical problems. It includes hydro-geological surveys to assess and ensure the observation of the deep groundwater resource potential in the project area.

Phase 2: evaluation of the Preliminary Design and Feasibility Study carried out in September 2005 and the studies necessary for the preparation of the new preliminary design, including the quantification and projection of the need for the strengthening of water distribution facilities downstream of the project.

Phase 3: organization of a workshop to validate (by decision of the Steering Committee) the various evaluations and proposals with the participation of the competent Ghanaian and Togolese authorities, the representative(s) of AfDB and other potential donors, the ESIA Consultant and the Transaction Advisor.

Phase 4: preparation of the new preliminary design and feasibility study based on the preceding analysis and taking into account new parameters and contexts for project definition, design and sizing.

Phase 5: technical support for the selection of the private partner right up to the signing and conclusion of the contract.

2.4.1.2. Environmental and social impact assessments

These assessments are carried out in accordance with the guidelines from international donors and the relevant Ghanaian and Togolese regulations. The terms of reference are presented in Annex A6.

2.4.2 Component 2: Transaction Advisory Services

These services cover legal and financial aspects and consist of five phases whose objectives and contents are described below. Details of activities are presented in the Terms of Reference in Annex A4.

Phase 1: Institutional capacity building and diagnosis: analysis by the Advisor of project information/features and diagnosis of the institutional environment in which the project will be implemented; analysis of the institutional framework options for the execution of the concession contract; analysis of the financial risks faced by the concession holder.

Phase 2: Option for structuring the project into a PPP; drafting of legal instruments to establish the institutional framework.

Phase 3: Preparation of project documents and the Contractors Shortlist File (DCE) for the launching of international competitive bidding for the selection of a private partner under a PPP.

Phase 4: Launching of competitive bidding and bid evaluation . The activities to be carried out will consist in supporting the Client during the competitive bidding for the selection of a private partner.

Phase 5: Recommendation for provisional contract award, contract negotiation and assistance up to conclusion of the contract.

2.4.3 Component 3: Project Management

The executing agency, Ghana Water Company Limited, will manage the project through a Project Management Unit[4] (PMU) comprising staff from both countries whose curriculum vitae must be acceptable to the Bank. The PMU will be responsible for the overall coordination of activities, organization of monitoring and evaluation and "reporting" procedures and communication/consultation with various stakeholders. The activities under this component are :

- The establishment of the PMU and participation in the establishment of the Steering Committee;
- The procurement of computer hardware and vehicles needed by the PMU;
- Project management and coordination;
- Steering Committee secretariat;
- The organization of bilateral contacts between the Ghana and Togo governments;

[4] Cf. §3.2 for the composition of the PMU and the Steering Committee.

- The organization of communication and public consultation with the assistance of a specialized consulting firm and/or a Non-Governmental Organization (NGO).

This consultation should help to guide the consulting firm's technical options and aid the validation of studies by the Steering Committee. It will be carried out in three phases, namely: project presentation, presentation of initial preliminary design analysis and changes to be made, presentation of the revised preliminary design, structuring of the PPP and setting of objectives in terms of the price per cubic metre of water supplied. A communication consulting firm will assist the PMU in preparing the communication and consultation strategy and producing the communication media (film, flyers, press kits, PowerPoint presentations, etc.). An NGO will be selected to organize consultations with the population as well as public meetings in each sector during critical stages of the project, in the presence of the design firm.

2.5. Risks

The main risks identified, which may hinder smooth project implementation, and the corresponding mitigative measures are:

- Difficulties in formalizing inter-governmental agreements for a bi-national project. This risk is mitigated by the establishment of a joint Steering Committee involving senior officials from both States;

- Lack of downstream project distribution facilities to supply water to consumers. This risk is mitigated by including the quantification and planning of the construction of such facilities in engineering studies and assigning the responsibility of coordinating the construction of distribution networks to the Steering Committee;

- Lack of private sector interest in implementing the project in the form of a PPP. The financial structure established by the Transaction Advisor seeks to make the project attractive thanks to the mobilization of public funds to bridge the rate gap. The Transaction Advisor will organize and run an information workshop (market test) open to all actors that may be interested in participating in the project;

- Civil society opposition to the transboundary water supply project. The Project Management Unit will be assisted by a communication firm/consultant and will recruit an NGO to carry out participatory consultations with the population.

2.6. Project Cost and Financing Plan

The total estimated project cost is EUR 2 195 000, including a nearly 5% contingency provision for AWF financing. The cost breakdown is summarized in the table below and presented in detail in Annex A1. AWF is financing EUR 1 405 000, ALSF EUR 666 000, while the financial contribution of both Governments EUR has been fixed at 124 000. In addition, both Governments will provide a contribution in kind to finance r the salaries of PMU staff and operating costs.

Table 1: Project Cost

Component	Amount (EUR)	Financier
Component 1: Engineering studies	**1 212 000**	
Studies and technical services (review of the Preliminary Design and FS, diagnosis of Togo's deep underground water resource potential)	992 000	AWF
Environmental and social impact assessment and ESMP	220 000	AWF
Component 2: Transaction Advisor	**666 000**	
Transaction Advisory Services (legal and financial)	666 000	ALSF
Component 3: Project Management	**250 000**	
PMU staff salaries and operating costs	mi	Governments (in kind)
Steering Committee	mi	Governments (in kind)
Computer hardware and vehicles	124 000	Governments (in cash)
Communication agency services	20 000	AWF
Communication mediums and media	15 000	AWF
Meeting logistics	20 000	AWF
Participatory consultation (by NGO)	45 000	AWF
Consultant for preparation of procedures manual	6 000	AWF
Market test workshop costs	5 000	AWF
Legal notices (Request for Expressions of Interest)	5 000	AWF
Translation and interpretation	10 000	AWF
Miscellaneous and contingencies (approximately 5% for AWF financing)	**67 000**	AWF
Total Project Cost	**2 195 000**	
of which AWF	*1 405 000*	
of which ALSF	*666 000*	
of which Governments' contribution in cash	*124 000*	

Table 2: Estimated Project Cost by Component

Component	*Total Cost*	*Financing (EUR)*		
	EUR	**AWF**	**ALSF**	**Recipient**
1. Studies and Technical Services				
1.1 Preliminary Design and FS	992 000	992 000		
1.2 ESIA	220 000	220 000		
2. Transaction Advisory Services	666 000		666 000	
3. Project Management	250 000	126 000		124 000
Sub-total	**2 128 000**	**1 338 000**	**666 000**	**124 000**
Contingencies (approximately 5% for AWF financing)	67 000	67 000		
Total	**2 195 000**	**1 405 000**	**666 000**	**124 000**

Table 3: Estimated Project Cost by Expenditure Category

Expenditure Category	*Total Cost*	*Financing (EUR)*		
	EUR	**AWF**	**ALSF**	**Recipient**
Works	-	-		
Goods	124 000			124 000
Services	1 964 000	1 298 000	666 000	
Operation	40 000	40 000	-	
Sub-total	**2 128 000**	**1 338 000**	**666 000**	**124 000**
Contingencies (approximately 5% for AWF financing)	67 000	67 000		
Total	**2 195 000**	**1 405 000**	**666 000**	**124 000**
Percentage	**100%**	**64%**	**30%**	**6%**

3. PROJECT IMPLEMENTATION

3.1. Recipient and Executing Agency

The Ghana Ministry of Finance and Economic Planning will be the Grant recipient and the Ghana Water Company Limited (GWCL) the Executing Agency. The latter will be responsible for operational project management, including ex-post evaluation and auditing, as required by AWF or ALSF, after technical finalization of the project.

3.2. Project Management and Implementation Capacity

The project will be managed by a Project Management Unit established within the GWCL comprising officials from both countries. It will have two co-project managers, a Ghanaian and a Togolese; an accountant; and a secretary.

The PMU will be hosted by the executing agency which will cover its operating costs. It will enjoy the support of the executing agency's general services.

GWCL has the technical capacity to manage this project. The company has implemented a seawater desalination station PPP project and is currently piloting two other water supply projects (cf. 1.2). In addition, Ghana has a National PPP Unit enjoying World Bank support, which could provide assistance to the PMU, where necessary. Lastly, over the past 20 years, GWCL has implemented many projects, mainly financed by international donors (USD 490 million for the 1990-2003 period). Its public procurement and financial management capacity is also deemed to be satisfactory, pending the implementation of recommendations (cf. Chapters 3.4 and 3.6)

The project will be steered by a Steering Committee (SC) which is co-chaired by the representatives of ministries, government services or public agencies of both countries. The SC will approve consultants' reports and carry out arbitration necessary for smooth project implementation.

3.3. Project Implementation Schedule

The project will be implemented over a 24-month period from the signing of financing agreements to the entry into force of a concession contract concluded with the selected private partner. The schedule in Annex A2 shows the sequence of implementation of the components financed by AWF and ALSF as well as key events and dates.

3.4. Procurement Arrangements

During project implementation, the Bank's procurement rules and procedures will generally be applied. However, for local shopping, Ghana's national procurement procedures will be used with the exception ofthe national legislation provisions and national bidding documents identified by the Bank during its review as inconsistent with the Bank's fiduciary requirements.

Procurement will be carried out jointly with Ghana Water Company Limited (GWCL) and SP-EAU of Togo. The assessment of both companies' procurement capacity has affirmed that it is adequate for the implementation of the project. Prior to grant approval, GWCL will prepare and submit a procurement plan acceptable to AWF, indicating the specific contracts for goods, works and consultancy services for the duration of the project as well as the proposed procurement methods. The procurement plan will be reviewed annually and provide detailed information on specific contracts for goods, works and consultancy services and the proposed procurement methods as well as the applicable AWF evaluation/review (prior and ex-post review) procedures for the duration of the project.

Related goods and services: petty supplies and low-value services will be procured through local shopping, for the organization of consultations, market tests and communication mediums, remuneration of translators and interpreters and legal notification fees for the expression of interest totalling EUR 55 000.

Consultancy services: the procurement of consultancy services for the review of the preliminary design and feasibility study of the Sogakope – Lomé Drinking Water Supply Project amounting to EUR 992 000, consulting services for the environmental and social impact assessment (ESIA) totalling EUR 220 000 and the recruitment of an NGO to conduct participatory consultations for an amount of EUR 45 000 will be carried out using the quality and cost-based Selection method (QCBS) in keeping with the Bank's "Rules of Procedure for the Use of Consultants". Consultancy services for the preparation of the procedures manual costing EUR 6 000 and alsofor communication advisory services for EUR 20 000 will be procured through the selection of individual consultants and the qualifications-based selection (QBS) method respectively.

The procurement of goods and consultancy services for amounts under EUR 20 000 will require ex-post evaluation by AWF and be processed under GWCL's full responsibility. GWCL will preserve procurement documents, including notices for expression of interest, tender invitations, bidding documents or requests for proposals, bid evaluation reports as well as signed contracts for periodic review by AWF supervision missions or through special audits.

The procedure for procurement of the services of the transaction advisor will be the same as used by ALSF for the selection of legal advisors and implemented on behalf of Ghana and Togo.

The procurement plan will be updated annually by GWCL or as appropriate, throughout the duration of the project. However, every revision of the procurement plan shall be subject to prior approval by the AWF.

Table 4: Procurement Plan

Description	QCBM	Individual Consultants, QBS and Local Shopping	*Other (*)*	Total
CONSULTANCY SERVICES				
Review of preliminary design and FS	992 000			992 000
Environmental and social impact assessments	220 000			220 000
Transaction advisory services (legal and financial)			666 000	666 000
Communication/consultation consultant		20 000		20 000
Procedures manual preparation consultant		6 000		6 000
Participatory consultations	45 000			45 000
GOODS				
Vehicles			95 000	95 000
Computer hardware			29 000	29 000
PROJECT MANAGEMENT				
Communication mediums		15 000		15 000
Meeting, communication and consultation logistics		20 000		20 000
Market test workshop		5 000		5 000
Legal notices		5 000		5 000
Translation and interpretation		10 000		10 000
Contingencies (5% AWF/ALSF financing)	**63 000**	**4 000**		**67 000**
Total Project Cost	**1 320 000**	**85 000**	**790 000**	**2 195 000**

(*) ALSF and Governments

3.5. Disbursement Arrangements

The direct payment and special account methods will be used for disbursements. Payments related to the main consultancy service contracts (preliminary design, feasibility studies and ESIA) will be made using the direct payment method. A special account denominated in convertible EUR will be opened in a commercial bank acceptable to the Bank to hold payments related to project operating costs as well as communication and consultation costs financed by AWF. A second separate account denominated in local currency (Ghanaian Cedi) will be opened to receive the counterpart contributions of the Governments of both countries.

Table 5: List of Goods and Services Financed by AWF (in EUR)

Expenditure Category	**Total**
Works	0
Goods	0
Services	1 298 000
Operation (PMU)	40 000
Sub-total	**1 338 000**
Contingencies (approximately 5%)	67 000
Total	**1 405 000**

The first disbursement will be effected following AWF grant effectiveness and fulfilment of conditions precedent to the first disbursement of grant resources. The provision of evidence of the opening of the special account is a condition precedent to first disbursement.

The special account resources will be replenished during the grant disbursement period, provided there is justification that up to 50% of the previous advance has been used and that the other previous advances have been fully justified. The justification of expenditure, including the request, summary statement of expenditure and expenditure supporting documents, where necessary, may be submitted as often as possible, but at least every year. Justifications might not necessarily be accompanied by a request for replenishment of resources.

3.6. Accounting and Auditing

3.6.1 Evaluation of financial management capacity

The financial management system of GWCL, the executing agency (currently being used for other donor-funded projects) will be used to fulfil project fiduciary obligations. The Department of Finance (which is responsible for the financial management system) is headed by a Finance Director (FD) who is a qualified accountant with over 24 years experience. The FD will be assisted by eight (8) accountants, one of whom will be assigned to the project to directly assist the Finance Director in handling all project fiduciary requirements. GWCL's Internal Audit Department will ensure the internal control of project operations and contribute

to strengthening the project's control environment. The Finance Director will be answerable to the Project Manager who will in turn be answerable to the Steering Committee carrying out the general supervision.

The Department of Financial Management will use the IPMC's Enterprise Resource Planning (ERP) accounting software which is currently being used by GWCL (and its projects) to record, process and prepare financial reports. At the same time, GWCL should accelerate its transition from Ghanaian accounting standards to International Financial Reporting Standards (IFRS) and update its procedures manuals. In addition, a specific procedures manual for the project, that must be acceptable to the Bank, will be prepared at project start-up to guide its implementation.

3.6.2 Auditing

AWF will appoint an external auditor to audit the project in accordance with the Bank's rules. The audit cost will be covered by AWF's administrative budget. An initial "mid-term" audit will be completed on the date of submission of the final report following the validation workshop marking the start of Phase 3 of the Technical Consultant's services (month 6 in the services implementation schedule).

GWCL has adequate capacity to carry out project financial management, disbursement and auditing activities provided that it implements the recommended corrections and measures indicated above. The residual financial management risk is moderate.

3.7. Performance Plan

Project supervision will be based on the results-based management model in which the logical framework approach principles play a key role. The project's logical framework matrix indicates the goal and objectives related to expected outcomes. The table below indicates the project target time frame (the detailed schedule is presented in Annex 2).

Project performance depends mainly on the PMU's capacity to initiate advance procurement action with the Bank's approval and to monitor its implementation.

Table 6: Project Target Time Frame

Activity	Time Frame (Month starting from M0)	Indicative Duration (Month)
Designation of Executing Agency (fund recipient and manager)	M0 – 3	NA
Launching of recruitment of main consultants (advance procurement action)	M0 - 2	NA
Signing of financing agreements	M0 (April 2014)	NA
Establishment of PMU	M0 + 1	NA
Fulfilment of first disbursement conditions	M0 + 1	NA
Appointment of Steering Committee members	M0 + 3	NA

Activity	Time Frame (Month starting from M0)	Indicative Duration (Month)
Procedures manual	M0 + 3	NA
Signing of engineering studies contract	M0 + 2	
Signing of ESIA contract	M0 + 3	
Signing of Transaction Advisors's contract	M0 + 6	
Engineering studies (end)	M0 + 16	14
ESIA (end)	M0 + 15	12
Participatory consultation conducted by NGO	M0 + 2	14
Transaction advisory services	M0 + 24	18
Contract negotiation and signature	M0 + 24	4
Contract execution	M0 + 24+	NA

3.8. Monitoring/ Evaluation and Reporting

The PMU will prepare the project monitoring and evaluation plan (based on the logical framework matrix (which identifies the project implementation schedule, objectives and expected outcomes) and submit same to the Bank for approval. The Steering Committee will be the key recipient of monitoring reports which will be shared with donors and the DWS sector supervisory ministries of both countries.

The PMU will submit quarterly and annual project status reports (on studies and advisory services) to the Steering Committee. Copies of the said reports will be submitted to donors. The reports will include administrative and technical monitoring aspects and financial statements of each account that comply with the AWF (usual Bank format) and ALSF formats and procedures.

Continuous performance evaluation will be conducted on the basis of indicators defined in the project logical framework.

A project completion report detailing activities and outcomes and the financial situation at project end will be prepared by the recipient for submission to AWF and ALSF.

To ensure project supervision and monitoring within the AfDB, AWF and ALSF will separately or jointly appoint a Project Officer who, together with the PMU and the Executing Agency, will monitor project activities at the Bank's headquarters and on the ground. The Project Officer will correspond regularly with the recipient and ensure a thorough review of quarterly and annual status reports. As the AWF and ALSF host institution, the Bank can, at any time and in conjunction with the Executing Agency and PMU, examine the appropriateness or need to carry out field supervision missions. No objection notifications for project phases

requiring them will be processed jointly by AWF and ALSF and transmitted to the Executing Agency.

In addition, the Executing Agency will comply with AWF directives, presented in Annex A7aimed at enhancing its role in the project.

4. PROJECT BENEFITS

4.1. Effectiveness and Efficiency

The project which includes studies and advisory services will lead to the selection of a private partner, whose capacity will be verified during the selection and recruitment process, to ensure the establishment of a comprehensive DWS system for the targeted areas in Ghana and the city of Lomé. The private partner's performance capacity and contractual obligations will guarantee the proper operation and maintenance of the system.

The project will be implemented as a PPP to improve its efficacy, on the strength of the private partner's experience and professionalism in the DWS domain and efficiency in the mobilization of private funds.

The engineering studies and advisory services proposed for AWF and ALSF financing seek to guarantee the physical quality of the project to be implemented in order to facilitate the mobilization of private and public financing.

4.2. Sustainability

The terms of reference for the technical consultant's services require the latter to ensure that the project design mainstreams green growth and inclusiveness. The mobilization of carbon financing and use of environment-friendly construction technologies and low- carbon methods is a requirement specified in the terms of reference to ensure project sustainability.

The purpose of involving the private partner in the financing and operation/maintenance of the DWS project is to ensure its long-term sustainability (durability), and the the partner is motivated by the need to guarantee, throughout the concession period (25 to 30 years), optimal technical and financial performance of the project in order to recover its costs and obtain a return on invested capital.

5. CONCLUSIONS AND RECOMMENDATIONS

The project seeks to provide access to drinking water for about four million people by 2030 in groundwater-stressed and salinized areas. It will also help to meet industrial needs in areas experiencing economic development, particularly due to the presence of mineral resources. It therefore poses a major challenge to both countries and is in line with their national DWS objectives and strategies. It is consistent with the African Water Vision and the MDGs. It is also consistent with the priorities of the AWF Strategic Plan 2012 - 2016 as well as the Bank's 2013 - 2022 Strategy. The project is technically feasible and justified considering the over-exploitation of groundwater resources in the Lomé area and in south-eastern Ghana. It has a potential leverage effect of 1 to 85 as well as a capacity for replication in all countries inclined towards private sector participation and committed to the development and management of shared regional resources.

In addition, the project has a holistic approach, as the studies and services cover all relevant subjects to ensure quality at entry and optimum structuring (institutional and legal, technical, environmental, financial, organizational and administrative aspects).

In light of the project's relevance, efficacy and sustainability, it is recommended that AWF approves the award of a grant not exceeding EUR 1 405 000 to the recipient.

The financing will be subject to fulfilment of the following conditions precedent to first disbursement:

(i) The signing by both countries of an agreement acceptable to the Bank, specifying the recipient, executing agency, composition of the PMU, contributions of both Governments, role and composition of the Advisory Committee as well as contributions in cash and in kind of both Governments and GWCL;

(ii) The opening of a special convertible euro account in a commercial bank acceptable to the Bank;

(iii) The appointment of the two co-project managers and PMU accountant, with the specific approval of the Bank.

Annexes

Annex A 0 : Detailed Project Context
Annex A 1 : Detailed Cost Estimate
Annex A 2 : Project Implementation Schedule
Annex A 3 : Map of Project Area
Annex A 4 : Terms of Reference for Transaction Advisory Services
Annex A 5 : Terms of Reference for Feasibility Study
Annex A 6 : Terms of Reference for ESIA
Annex A 7 : AWF Communication and Visibility Guidelines

Annex A 0 : Detailed Project Context

1. BACKGROUND

1.1 Origin of Project

Togo's population growth, manifested as a massive spread of Lomé city, and Ghana's economic growth born by the recent exploitation of petrol and mining resources, have led to a very high demand in water from the coastal populations. The accumulated delay in both countries in building water supply infrastructure combined with the depletion of the underground resources now presents a sizeable challenge to the authorities responsible for managing the sector[5]. Surface water resources are unequally distributed between the two countries; Togo only has waterways with low flow rates whereas the Volta River provides Ghana with a large renewable potential. Research into alternative water resources and innovative financial means to develop new infrastructure has led the two countries to consider a water transfer project from the Volta River with private sector participation to finance, implement and operate the project.

The idea of the "Sogakope-Lomé water transfer project" dates back to the 70s. It was to be carried out in two phases: (i) water supply to villages in the East of South coastal Ghana; and (ii) extension of the system to Lomé, the capital of Togo. Phase 1 was completed in 1999. Today, the second phase aims to supply water to the Greater Urban Area of Lomé and three urban areas in Ghana located along the route projected for the pipe. These are, from East to West: Ketu, Akatsi and South Tongu in Ghana.
In the 1970s, the project was the object of a feasibility study by the company Architectural and Engineering Services Cooperation (AESC) created by act by the Ghanaian government in 1973. In 2005, the American company Lemna Inc., funded by the USTDA (United States Trade and Development Agency), carried out a feasibility study (FS) and preliminary design (PD) on the project, then offered to carry it out based on the BFOO (Build, Finance, Own, Operate) system. Negotiations stalled because the price offered by Lemna Inc. was too high and the financial offer, carried out within an OTC framework, lacked transparency. Since then and given the socio-political crisis endured by Togo, the project has remained on the back burner. It is once again on the agenda as a priority by the two countries that must face a sharp increase in their urban and semi-urban populations' demand for water.

1.2 Sectoral priorities

1.2.1 Country sectoral priorities

The "Sogakope-Lomé Drinking Water Supply" project fits in with Togo and Ghana's growth strategies, namely: (i) the Strategy for Accelerated Growth and Employment Promotion (SCAPE 2013-2017 or "PRSP-II") in Togo and the Ghana Shared Growth and Development Agenda (GSGDA 2010-2013), as well as the national water policies. In addition, both countries' legislative frameworks are favourable to the creation of a PPP in the Water Supply sector.

[5] Cf. 1.3.2

1.2.1.1 Togo

SCAPE highlights the priority of developing quality infrastructure to sustain growth so as to contribute to the emergence of regional development hubs. It also identifies the need to improve the business climate to develop national private sector investment and attract direct foreign investment.

The national water policy, adopted by the government on 4 August 2010, covers all of the sectors that consume water for the country's economic development. It defines the major strategic guidelines for the water sector in general and determines the main lines for developing sub-sectoral strategies covering, among others: (i) water resource management, and (ii) drinking water supply.

The strategic guidelines chosen to implement the national water policy are based on the four strategic poverty reduction pillars defined in the SCAPE. These strategic directions are: (i) promote a framework that foster good water governance using the IWRM (Integrated Water Resources Management) approach, (ii) guarantee availability of water quantity and quality for economic activities, (iii) improve rural, semi-rural and urban populations' equal and sustainable access to water and sanitation, and (iv) insure the health, public safety and preservation of ecosystems and biodiversity.

Progress made in promoting the IWRM include, in particular: (i) the enactment of Law No. 2009-013 of 30 June 2009 relating to public procurement and public services delegations, (ii) the creation in 2009 of the Ministry of Water and Sanitation and Village Water assigned exclusively to the sector, (iii) the enactment on 14 June 2010 of Law No. 2010-004 bearing Water Code (the draft bills currently examined by the government), and (iv) the enactment, on 18 June 2010, of Law No. 2010-006 bearing organisation of public services for water supply and collective domestic waste water treatment. This law that defines the principles and terms and conditions for the water and sanitation public services delegation provides, in its Articles 3 and 6, an opening favourable to a Private Public Partnership (PPP). This provision should be extended in 2014 with the passing of the PPP law and the creation of an institutional framework favourable to PPPs.

1.2.1.2 Ghana

The Ghana Shared Growth and Development Agenda (GSGDA 2010-2013) is a national strategy establishing the basis for a structural transformation of the Ghanaian economic over the decade ending in 2020. This strategy is implemented through the Medium Term Development and Policy Framework (MTDPF), of which one of the thematic areas is the development of human establishments and infrastructure to reach the GSGDA's goals, one of which being to extend access to water and sanitation throughout the country. The ministry responsible for water has prepared a Water Sector Strategic Development Plan (WSSDP).

The WSSDP is an implementation framework co-ordinated by the vision, objectives, goals and targets of the national water and sanitation sector policy. One of the first objectives is to improve access to water services in urban areas, periurban areas in small towns and in rural areas. Another objective of the policy is to improve cross-border and international cooperation for the management of shared resources. Among the strategies suggested to achieve these objectives, significant importance is given to, by 2020, raising at least 5% of investments from the private sector and facilitating the implementation of bilateral or multilateral agreements to strengthen co-operation between countries bordering the same hydrographical basin.

1.2.2 Bank sectorial priorities

For each country, the Bank's sectoral priorities are defined in the Country Strategy Papers (CSP).

For Togo, the Bank's 2011-2015 country strategy paper encompasses two pillars, namely: (i) **development of economic infrastructure** able to efficiently connect economic areas within Togo and the Togolese economy to the regional economic space, and (ii) the promotion of good governance. The final desired result is stronger economic growth and job creation.

For Ghana, the Bank's 2012-2016 strategy is to help the country optimise its strengths and mitigate the impact of the challenges it must face. It focuses on selectivity, the Bank's past performance in the country, the proven positive impact on green growth, the diversification of the economy and job creation. Therefore, the Bank's strategy is based on the following two strategic pillars: i) improving the productivity of Ghanaian business, particularly micro, small and medium agro-industry businesses; and ii) supporting economic and structural reforms that aim to improve the business climate. Although the CSP does not specifically mention the Water Supply sector, the correlation between quality, reasonably-priced water supply services and the improvement of company and individual productivity has been clearly established. In this light, the creation of new water supply infrastructure in the developing Sogakope-Lomé corridor will contribute to the economic growth and improved performance of companies and populations established in this area.

More globally, the Bank's long-term strategy covering the 2013-2022 period pursues two objectives – inclusive growth and transition towards green growth. Among the five operational priorities underlying the two main objectives, development of infrastructure remains at the top of the list. The Bank wishes to significantly increase financing of the continent's infrastructure. Next on the list are the two priorities of regional integration and private sector development. With regard to these three aspects, the Sogakope-Lomé Water Transfer Project fits particularly well into the Bank's strategic and operational priorities. The project's sharing of cross-border hydrographical resources presents a unique opportunity for promoting co-operation between the two states to jointly exploit a large-scale infrastructure and equally share the advantages and benefits, thereby contributing to the promotion of peace and development.

1.3 Problem definition

There are two types of problems facing the studies and consultancy service for the preparation of the Sogakope-Lomé water transfer project. The first concerns the disparity between supply and demand of the resource resulting in, on the one hand, a limit to the exploitation of the underground water tables already heavily drained and the possible limit of surface water in the area targeted by the project and, on the other hand, strong demand due to the urban expansion of Lomé and the economic growth to the Aflao-Sogakope corridor in Ghana. The second problem resides in the subsequent need to raise financial resources, other than public, to develop new water distribution infrastructure.
The following paragraph describes the institutional context and analyses the issues related to water distributed in the region that is to be supplied by the project in Togo and Ghana, and confirm the soundness of the AWF's support project.

1.3.1 Institutional situation

1.3.1.1 Togo

In Togo, the water sector is under the guardianship of the Ministry of Water, Sanitation and Village Water (*Ministère de l'Eau, de l'Assainissement et de l'Hydraulique Villageoise* - MEAHV). It contains the following public enterprises: the *Société de Patrimoine Eau et Assainissement Urbain* (SP-EAU) et la *Société Togolaise des Eaux* (TdE). SP-EAU is the new assets company whose creation was recommended as part of the institutional section of the assistance programme financed by the AWF. The SP-EAU is not totally operational, Managing Directors are currently being recruited. However, it is assisted by TdE staff on technical, administrative and accounting matters.

1.3.1.2 Ghana

In Ghana, the Ministry of Water Resources, Works and Housing (MWRWH) is responsible for planning, developing and managing the country's water resources and supplying and providing sanitation services. For drinking water, one of its main functions is to formulate and co-ordinate policies and programmes for the systematic development of infrastructure.

The water supply sector has two identified sector, namely i) Urban Water Sector and ii) Community Water Sector. The urban sector encompasses 87 towns and cities in which the national Ghana Water Company Limited (GWCL) manages water supply through its operational branch Ghana Urban Water Company Limited (GUWCL). This sector is under the double authority of the MWRWH and the Ministry of Local Government, Rural Development and Environment (MLGRDE). The community water sector (excluding urban) includes over 16,000 communities and nearly 287 small towns. In these communities, water supply management falls under the responsibility of District Assemblies supervised by the Community Water and Sanitation Agency (CWSA). Municipal and district assemblies are responsible for investments, operations and maintenance on the communities' water supply and sanitation infrastructure.

1.3.2 Demand outlook and state of resource

1.3.2.1 Togo

Population growth and massive exodus towards Lomé city is a major factor in the current high demand for water context. This is the case in particular for the Maritime Region (including Greater Lomé and the Lomé commune) whose urbanisation and fast spread have seen the population climb from 1,040,241 in 1981 to 2,398,915 in 2010[6], namely an annual growth rate of 2.92% for this 29.5-year period. The Lomé municipality population alone grew from 375,499 inhabitants to 750,757 during the same period, with an average growth rate of 2.37%. At these growth rates, the number of inhabitants in Greater Lomé could approach 4 million by 2030, illustrating the extent of the challenges faced by the water supply sector.

The Consultation Mission's report on Togo's Drinking Water and Sanitation MDG published in August 2007 estimated the population's coverage rate in 2007 for all urban centres supplied in drinking water by the *Togolaise des Eaux* (TdE) to stand at 39%. For Lomé, this rate is estimated at 44% of the population, less than the estimated rate of 57% produced by the

[6] Résultats provisoires : Recensement Général de la Population et de l'Habitat. 06 au 21 novembre 2010. Direction Générale de la Statistique et de la Comptabilité Nationale. Bureau Central du Recensement. Togo

Cabinet Merlin[7], also in 2007. This difference comes from the respective hypothesis taken into consideration.

The Togo water supply sector, particularly for the Lomé town centre, was characterised by stagnation/degradation of the coverage rate and quality of service for several years (drop from 39% in 2007 to 33.9% in 2010). According to the AMCOW[8] report, to reach the 2015 MDG, Togo must guarantee access to water for 78% of its population and sanitation improved by 58%. Yet, since 1990, on average only an additional 110,000 people have had access to water per year, where this figure should stand at 260,000.

The Lemna Inc. study (2005) estimated that by 2030, year for which the project is scaled, Lomé's demand will be 210,000 m^3/day and the demand for the area in Ghana, 29,350 m^3/day. Taking into account a contribution of 41,000 m^3/day operated by the TdE, the study considers that the Sogakope-Lomé project should supply 198,350 m^3/day. With a provision for a 5% line loss, the capacity of the project selected by Lemna was 210,000 m^3/day. Currently, the contribution of resources collected by the TdE is 45,000 m^3/day, to which a 15,000 m^3/day are supplied by additional capacities generated through the programme financed by the French Development Agency. A revision of the preliminary design shall take into account this data and changes to various parameters for projecting demand since 2005 to optimise the scaling of the project.

In 2030, if the population of the area covered by the project (Togo and Ghana) reaches 4,000,000 people to supply, water requirements will vary between 180,000 and 320,000 m^3/day for an average daily consumption per capita varying respectively between 45 and 80 litres. In terms of production, the figure shall increase to 20% to take into account network losses leading to a capacity sitting around 216,000 to 384,000 m^3/day. If the TdE continues its annual operation of 45,000 m^3/day, to which 15,000 m^3/day will be added from rehabilitations and additional drilling financed by the French Development Agency, the average deficit to be met will stand at 240,000 m^3/day. Given that this capacity is well above the level of the underground resources yet to be exploited, there is a pressing need to obtain other sources of water.

The main resource supplying the Lomé city comes from underground water tables at the Continental Terminal. The water quality here has degraded due to saltwater intrusions and utilisation approaching the limit of the water tables' natural capacity for renewal. According to a 2011 study[9], the level of chlorides around the Continental Terminal boreholes is significantly above the level recommended by the World Health Organisation (250mg/l). This level has steadily increased since 2006 to reach a maximum figure of approximately 1,400mg/litre in 2008, namely five times the normal rate.
In the same study, an analysis of data available at the National Weather service over a period of at least 30 years shows not only periodic variation related to natural climatic variability, but also a trend towards a rise in temperature and progressive drop in precipitation in some regions of the country. The trend is persistent and implies probable climate change. A downward trend can be clearly determined in the four regions of the country, the Coastline, Maritime Region, Plateaus and Kara. The Coastline and Maritime Region have been drying up over the past decade. The average annual rainfall for this period has been only 769.1mm of rain against a

[7] Cabinet Merlin. Programme d'amélioration de l'alimentation en eau potable de la Ville de Lomé. Etude d'identification et de faisabilité. November 2007.
[8] Water supply and sanitation in Togo: Turning finance into services for 2015 and beyond. An AMCOW Country Status Overview. July 2010.
[9] IMPACTS DES CHANGEMENTS CLIMATIQUES SUR LE RENDEMENT DE L'EXPLOITATION DES RESSOURCES EN EAU : Cas de la Société Togolaise des Eaux/ 2011. Soulémana Hamissou DJIBRIL (TDE) et Béatrice Agrell (SWECO Structure AB)

norm of 875mm for the Coastline and 851mm against 942.2mm for the Maritime Region. This is a drop of 12.10% for the Coastline.

An alternative option of exploiting deeper underground tables (Palaeocene and Maastrichtian) remains potentially feasible but lack of knowledge of these tables, in the absence of data, surveys, trials and records over several years, calls for caution as to their significant contribution for Lomé's water supply requirements. Studies would make it easier to better understand this potential so as to include it in an updated supply-use table for the Lomé urban centre with the aim to diversify water resources to reduce the risk of loss of supply from the Volta.

1.3.2.2 Ghana

Ghana exceeded its MDG in 2008 by reaching over 80% access to drinking water. The Project concerns the rural region and medium-sized towns located along the Lomé-Sogakope-Accra axis, an important corridor for the region. This corridor is destined for fast growth along the national motorway (N1) financed by the African Development Bank and completed in 2010. Over the past few years, discovers of Ghana's mining and petrol resources have borne the country's significant economic growth and led to a growth in the population and business along this corridor. The current population concerned by the project (towns of Abor, Aflao-Denu, Agbozume and Agordome-Sogakope) stands at around 282,000 people. Current water supply, mainly from boreholes, is still a little over 15/litres/day/capita, with a progressive drop in quality reaching for example up to 75 times the value recommended by the World Health Organisation with regard to its total hardness. The projected 2025 population of 380,000 inhabitants shall lead to an average demand of 32,000 m^3/day that the current underground resources could not sustain.

From the same Continental Terminal geological water table as those of the neighbouring Togo region, the mainly underground water resources in the Ghana area targeted by the project are also limited and subject to the same constraints and climatic variability. The increasingly distinct salinization of the boreholes observed in the GWCL's operating records and the weak renewal of the water table from surface waters therefore calls for a look into alternative sources to satisfy this region's growing demand.

1.3.3 Surface water resources

In the Togo's Maritime Region, surface water potential is relatively restricted, limited to the coastal rivers Zio, Haho and Mono. The Zio River has a modest flow (8.5 m^3/s at Kpedji[10]) that fluctuates strongly between the dry season (low water mark) and the rainy season from June to September. Like the Zio River, the Haho River feeds into Lake Togo in the South approximately 30km east of Lomé and has a low flow rate, nearly inexistent in the dry season.

The Mono River, the main river of Eastern Togo hydrographical basin, is now regulated by the Nangbeto hydropower facility built in 1987. This river runs along the border with Benin and the section downstream of Nangbeto snakes back and forth across the border to the sea. The permanent flow is therefore regulated between 40 and 50 m^3/s and has replaced a low water period of nearly six months. The flow downstream of Nangbeto is occasionally changed to up to 120 m^3/s by releases from the hydropower facility.

[10] Étude d'actualisation du plan directeur AEP de Lomé – SAFEGE – 1991 – Rapport 4

Water collection (approximately $2m^3/s$) from the Mono River should be enough to satisfy the production deficit for Lomé's water supply. Blueprints for a water distribution system were found in the SAFEGE study reports from the 70s. This option does however have two negative aspects with regard to collection from the Volta, as explained below:

i) Although the pipeline is less than approximately 10km, the Mono River's low flow rates would entail the construction (and cost) of a weir to reduce water level variations at the intake; this weir would undoubtedly have a morphological impact on the water flow;
ii) Releases from the Nangbeto hydropower facility create substantial sediment transportation that would require the construction and maintenance of a desander at the intake unit, and could cause silting at the intake, which would require regular maintenance;
iii) This would put a lot of demand on the filtration station, which may need to be enlarged due to a greater water turbidity than that of the Volta;
iv) Various water use projects in the downstream section of the Mono have been planned (agricultural perimeters and future Adjarala hydropower facility) whereas downstream of Sogalope the Volta flows into its estuary towards the sea, thereby reducing the possibility of water use.

Finally, the main reason for choosing the Sogakope-Lomé project over the Mono River option is that the project would also supply Ghanaian populations located between the border and Sogakope, whereas a project focussed on only satisfying Togo's demand would exclude these populations.

With regard to resource and any arbitration that may be required, the capacity planned for the project represents less than 0.15% (approximately $2m^3/s$) of the Volta flow rate, which sits at a relatively steady $1{,}200m^3/s$ on average at the projected water intake site. Moreover, only 10km separate this point from the estuary toward the sea making any water use for agriculture or industry impossible.

1.3.4 State of infrastructure and private investment requirements

1.3.4.1 Togo

The socio-political crisis in Togo contributed to a significant deterioration of both the country's infrastructure and institutional capacities. For several years, the Water Supply sector suffered from a halt in the Technical and Financial Partners (TFP) services. The hampered ministries, agencies and companies obstructed the raising of investments required to both maintain existing systems and develop new installations able to cope with population growth and growth of demand related to economic activities. It is estimated that some €560m[11] are required to once again raise water access rates to those established by the MDG.

The TdE, responsible for urban water supply, has found itself in a critical financial situation. Prices applied do not cover its operating costs. It is therefore not financially stable and, a fortiori, its own resources will not be able to cover the network and service extensions. For the Lomé water supply system (WSS), production has stagnated at around $45{,}000m^3$/day for several years due to the poor yield from existing borehole fields (estimated at 75% of their capacity) and the absence of new investment. A new AFD fund should make it possible to obtain an additional 15,000 m^3/day.

[11] Artelia, Plan d'investissement actualisé, Juillet 2012

1.3.4.2 Ghana

In Ghana, the Africa Infrastructure Country Diagnostic AICD (2010) report estimated that to raise the staffing levels in infrastructure to reach that of middle-income countries would require covering an annual financing deficit of USD1.5 billion. The estimation for the water supply sector being €1,200m to reach a national average coverage of 95% by 2020. Various recent strategy papers for the country show that the infrastructure shortfalls remain a major obstacle to growth and currently, Ghana is ranked significantly lower than the highest-performing African countries with regard to infrastructure quality. Overcoming this underperformance would require improving the effectiveness of existing infrastructure and associated services and calling upon the private sector to finance new infrastructure.

These findings have not spared the water supply sub-sector. This sector is faced with several major challenges, namely i) improve current urban network output for which non-revenue water rates are close to 50%, ii) meet demand by significantly increasing the results of strong economic growth rates that impact living standards and the populations' demand for quality, reliable public services, iii) raise funds other than public, required to build new projects able to meet this demand. On a financial level the Public Utilities Regulatory Commission (PURC) is responsible for setting rates, currently at €0.60/m^3. Nevertheless, this rate stands at only 50% of the breakeven rate calculated by the GWCL and considerably restricts the creation of funds to be used for infrastructure renewal and development.

Taking into account the problematic presented above involving a deficit of underground resources and limited financial means in the sector, the water transfer project from the Volta in Sogakope to Lomé in the form of a PPP is therefore a rational solution to the water supply system requirements of the populations in this area.

1.4 Lessons from past experience and on-going programmes

Various sectoral studies[12] on African water sector characteristics take into account the experiences of private sector participation accumulated of the past decade. This experience shows that for the water sector in Africa, although the huge deficit between the funds required and those put into place by the governments presents a clear business opportunity for private investors, few large-scale projects have actually been completed. The main obstacles noted in these inquiries are generally, i) a lack of political willpower, ii) an unsuitable institutional environment, iii) low prices that rarely reflect real costs, and iv) bill collection difficulties. Therefore, private sector participation is mainly focused on management or leasing contracts rather than concessions. The number of PPP contracts (of all types) has remained low over the past few years with a failure rate (cancellation, termination, dispute) approaching 25%.

For the Bank and its private sector department, its accumulated experience since the 2000s through its participation in PPP infrastructure projects has led to the conclusion that the project preparation and structuration stage well in advance of their implementation is vital in ensuring a better "quality at entry" and therefore lessen difficulties during the construction and operation phase.

For the continent, the diagnosing of projects with difficulties highlights the following main factors that negatively influence their performance and increase risk for private sector stakeholders:

[12] Study on Public Private Partnership in Water Sector in Sub-Saharan Africa. Draft final Report. July 2011. JICA.

- Poor and incomplete definition of obligations of results and quality;
- Operational effectiveness and profitability penalised by high agency/connection ratio (for leasing operations);
- Non-respect of government agency and administration payment obligations;
- Investments pledged by private partnership are not provided on time;
- Insufficient project preparation leading to interpretation and abusive claims;
- Populations regard water as a service owed by the state and not a commodity with production and supply costs.

These factors have the greatest effect on projects involving water distribution and commercialisation for final users. On the opposite, water production/delivery (bulk supply) projects such as the Sogakope-Lomé project appear less affected by these factors provided that the off-take agreements are upheld or a form of take or pay[13].

With limited national budget resources, Ghana has opted for this type of set-up with the implementation of three PPP in the water sector, namely: i) the seawater desalination through reverse osmosis facility with a capacity of 60,000 m^3/day with the Spanish developer BEFESA Agua, ii) the Asutsuare water treatment plant and distribution with a capacity of 432,000 m^3/day from the Volta with the private Belgium developer DENYS NV, and iii) an investment proposition from China for a water distribution system with a capacity of 187,000 m^3/day.

These large-scale operations have given Ghanaian government agencies and authorities effective experience in setting-up, structuring, financing and managing a PPP. They receive support in the form of technical assistance, capacity development and training as part of the World Bank's USD30 million Public Private Partnership Project[14]. To encourage private sector investment in infrastructure, a national policy for PPP was finalised in June 2011 and the operational provisions were put into place with the creation of a PPP unit housed with the Ministry of Finance and Economic Planning, supported by international technical assistants.

The AFD is the most active international financial backer in the Togo water supply sector with the implementation of several projects for the Lomé urban centre and initiatives providing institutional support to the TdE. The TdE's support programme (€11 million, 2009-2013) will help improve Lomé's population's access to drinking water, particularly in the town's North and East districts. The project involves a series of infrastructure work that will increase TdE's water production capacity by approximately 15,000 m^3/day and rehabilitate damaged urban networks. This project will help reduce the risk of a lack of distribution infrastructure downstream of the Sogakope-Lomé water supply project.

The AFD also closely accompanied the urban water supply sub-sector by funding technical assistance in support of The inter-ministerial unit responsible for the reform with the aim to render the newly created *Société Patrimoine de l'Eau et de l'Assainissement Urbain* (SPEAU) operational and draw up decrees implementing the Water Code and texts that will govern private sector involvement in the sector (leasing and public service delegation contract models). Several such texts were recently adopted by the Council of Ministers.

[13] i.e.: the final client pays a fixed rate, whether the water is used or not.
[14] World Bank. Project Appraisal Document. Public Private Partnership (PPP) Project (Phase I) Adaptable Program Lending (APL) February 2012

Appendix A1: Detailed cost estimate

Table 7: Preliminary Design and Feasibility Study

Description	UP Euro	Unit	Quantity	Total Euro
Project Manager	20,000	hm	12.50	250,000
International Hydro-geologist	18,000	hm	2.25	40,500
National Hydro-geologist	5,000	hm	2.50	12,500
International Electro-mechanic	16,000	hm	2.00	32,000
Remote Management Expert	16,000	hm	1.25	20,000
International Economist	16,000	hm	1.75	28,000
National Hydraulic Engineer	5,000	hm	5.25	26,250
National Geotechnical Engineer	5,000	hm	7.50	37,500
International Civil Engineer	16,000	hm	1.75	28,000
Sustainable Infrastructure Expert	16,000	hm	0.75	12,000
			Staff Total	**486,750**
Blueprints/Projectors (team/month)	4,000	team month	5.00	20,000
Topographical Surveys	20,000	fixed rate	1	20,000
Geotechnical Surveys	30,000	fixed rate	1	30,000
Hydro-geological Surveys	300,000	Fixed rate	1	300,000
			Surveys and Blueprints/Projectors Total.	**370,000**
Per day (Expert on mission)	150	Overnight	203	30,450
Plane ticket	1,500	Ticket	16	24,000
Transportation Togo and Ghana	13,770	fixed rate	1	13,770
Publication/printing/translation	19,850	fixed rate	1	19,850
			Various Costs Total	**88,070**
			Sub-Total	**944,820**
	Various & unforeseen: approximately 5%			47,180
			Total	**992,000**

Table 8: Environmental and Social Impact Assessment

Description	Quantity	Unit	UP Euro	Total Euro
International environmentalist	4	hm	18,000	72,000
International hydro-geologist	1	hm	17,000	17,000
National environmentalist	6	hm	5,000	30,000
National sociologist	6	hm	5,000	30,000
			Staff Total	***149,000***
National SIG / blueprints	4	hm	2,000	8,000
Plane ticket	3	Ticket	1,500	4,500
Per day	75	Overnight	150	11,250
Enquiries and acquisition of satellite images		fixed rate	15,000	15,000
Publication/printing/translation		fixed rate	10,000	10,000
Various (including public transportation)		fixed rate	12,000	12,000
			Various Costs Total	***60,750***
			Sub-total	***209,750***
			Various and unforeseen (approximately 5%)	**10,250**
			Grand Total	**220,000**

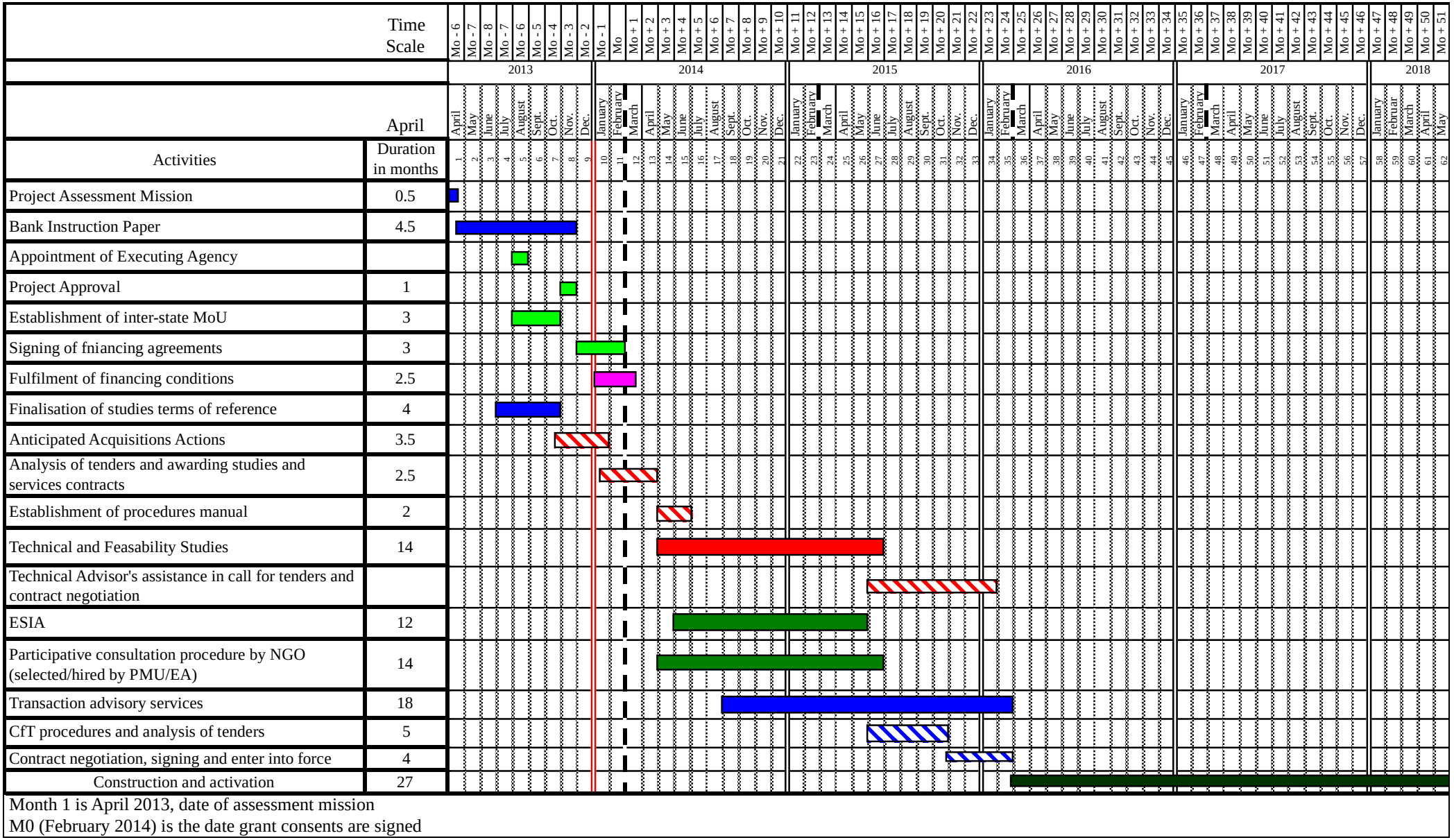
Table 9: Transaction Advisory Services

Description	UP Euro	Unit	Quantity	Total
Senior Project Manager	28,600	hm	12.75	364,650
National Legal Advisor	21,000	hm	8.00	168,000
Financial modelling expert	18,000	hm	2.25	40,500
Procurement expert	18,000	hm	2.00	36,000
			Staff Total	**609,150**
Per day	150	Overnight	152	22,800
Plane ticket	1,500	ticket	16	24,000
Transportation Togo and Ghana	2,300	fixed rate	1	2,300
Publication/printing/translation	7,750	fixed rate	1	7,750
			Various Costs Total	**56,850**
			Total	**666,000**

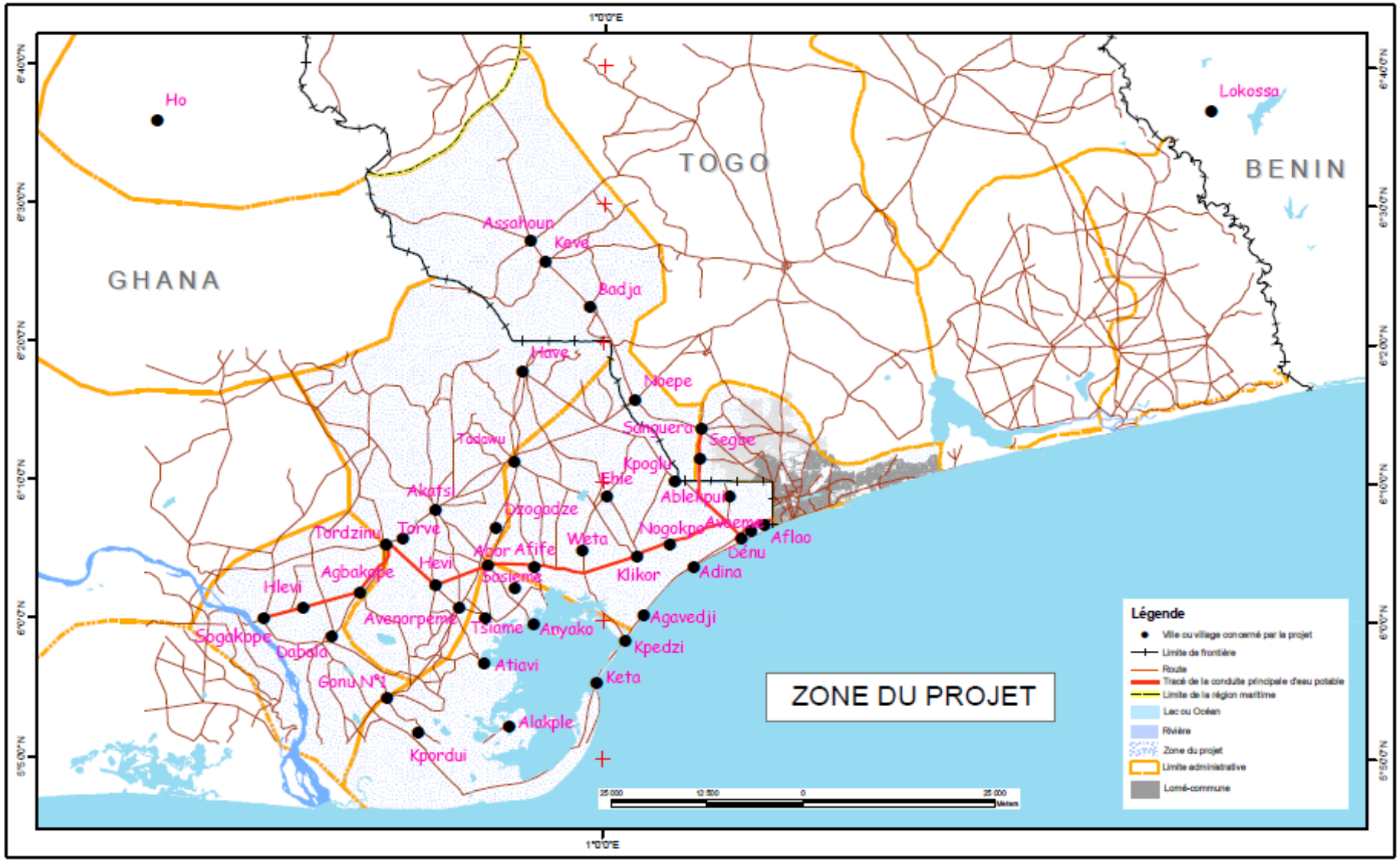
Table 10: Project Management

Description	Quantity	Unit	UP Euro	PT Euro
Communication agency services	1	fixed rate	20,000	20,000
Communication and media aids	1	fixed rate	15,000	15,000
Meeting logistics costs	1	fixed rate	20,000	20,000
Participative consultation procedure (by NGO)	1	fixed rate	45,000	45,000
Consultant for preparation procedure manual	1	fixed rate	6,000	6,000
Market test workshop costs	1	fixed rate	5,000	5,000
Legal announcement fees (Expressions of Interest notice)	1	fixed rate	5,000	5,000
Translation and interpreters services	1	fixed rate	10,000	10,000
			AWF Sub-Total	***126,000***
IT equipment and vehicles				124,000
Contribution in kind (wages) and running of PMU				pm
Steering Committees				pm
			Governments Sub-Total	***124,000***
			Project management Total	**250,000**

Appendix 2: Project Schedule



Appendix A3: Map of Project Area



Appendix A4: Transaction Advisor's Terms of Reference

"SOGAKOPE-LOMÉ WATER TRANSFER"

CROSS-BORDER PROJECT

TERMS OF REFERENCE (TOR) DRAFT

FOR THE RECRUITMENT OF A TRANSACTION ADVISOR

November 2013

CONTENTS

1. Introduction

The Government of the Republic of Togo ("GdT") and the Government of the Republic of Ghana ("GdG") respectively solicited the African Legal Support Facility ("ALSF" or "Facility") to receive legal and financial support ("transaction advisory services") to accompany the preparation and structuring of the "Sogakope-Lomé water transfer" cross-border project until the signing and entry into force of the concession contract. In particular, the ALSF offers to finance the support of a top-end law firm specialised in public private partnerships (PPP) and that has firm understanding of how to structure a water supply project. This law firm must enlist the services of a financial advisor to assist the former in the financial aspects of structuring the project.

The transaction advisory services presented in this draft represent the second phase of the Sogakope-Lomé water transfer project that includes a first component, covering technical studies and services, and an environmental and social impact assessment, and a third component for the project management, communication and consultation. Components 1 and 3 will be mostly financed by the African Water Facility (AWF).

ALSF's financial support will materialize in the form of a grant and a reimbursable loan. This reimbursable loan is expected to be reimbursed by the Client as part of the project through partial recovery of the "project development costs" paid by the successful tenderer. Partial recovery of the project development costs will be a suspensive condition for the awarding of the concession. In addition, the said reimbursement will be subject to all laws, policies, regulations and rules in force in Ghana.

The ALSF invites your law firm to submit a tender for the supply of advisory services to accompany the Client in the preparation and structuring phase of the "Sogakope-Lomé water transfer" cross-border project in legal and financial matters until the signing and entry into force of the concession contract.

The tender must contain comprehensive answers to the questions asked in the present terms of reference and any additional information deemed necessary or pertinent. The law firm will be selected following a detailed analysis of all tenders based on criteria that meet the Client and ALSF's needs.

ALSF expects that the selected law firm will supply high-quality services that meet international good practices and ALSF's objectives and mission.

Any late or incomplete tenders or those that do not meet the criteria presented in the present terms of reference shall not be accepted for the selection process.

2. Project background

Togo's population growth, manifest as a significant spread of Lomé city, and Ghana's economic growth borne by the recent exploitation of petrol and mining resources, have led to a sharp increase in demand for drinking water from costal populations. The delays both countries face in implementing water supply systems coupled with an exhaustion of underground resources represent a huge challenge to the authorities responsible for managing this sector. There is an uneven distribution of surface water resources between the two countries; Togo only has small

waterways, whereas the Volta River in Ghana represents a large renewable potential. Research into alternative water resources and innovative financial means to develop new infrastructure has led both countries to envisage a water transfer project from the Volta with private sector participation to finance, implement and operate the project.

The Republics of Ghana and Togo jointly appointed an Executing Agency, hereinafter referred to as the "Client" to carry out studies for a water distribution project to supply drinking water to several communities located along the Sogakope-Aflao section in Ghana (20% of the project's total capacity) and Lomé (80% of the project's total capacity), the capital of Togo described below. The supply source is located on the banks of the Volta River near the town of Sogakope in Ghana. A feasibility study was carried out in 2005 by a private firm financed by the United States Trade and Development Agency (USTDA). Consultants are being hired to update this feasibility study (FS) and Preliminary Design (PD) and to carry out an Environmental and Social Impact Assessment (ESIA) of the project.

The project (as defined in the 2005 study) includes a water catchment in the Volta River at Sogakope (Ghana), the construction of a treatment plant with an estimated capacity of 210,000m^3/day, the laying of approximately 86km of pipelines to Segbe (Togo), booster stations along the pipeline in Ghana and a terminal reservoir at the Segbe delivery point near Lomé in Togo. Branches and distribution pipes and the construction of water reservoirs and towers along the pipeline in Ghana will complete the project for the supply of water to towns located in Ghana in the project area. The decision to include these components in the project perimeter will be made in due course based on the structure adopted for it to be carried out. The scaling, construction cost estimation and implementation scheduling of these secondary systems in Ghana will be part of the tasks attributed to the technical consultant responsible for updating the FS and PD.

3. Cost of project and financing

The estimated total cost of the project in the 2005 feasibility study is $US111 million.

The project may be implemented as a public private partnership (PPP) through a "Special Purpose Vehicle" (SPV) that will be set up so as to carry out the project in a suitable framework. The SPV shareholding must be given optimal structuring to maximise its capacity to develop, finance and implement the project. Various international financing institutions have expressed their interest in principle in assessing the project once it has been structured for potential financing through their non-sovereign loan services.

To do so, the Client wishes to obtain the services of a transaction advisor to determine the appropriate structure to implement the project to ensure its commercial and economic viability and mobilise private and potentially public funds to perform said project.

4. Presentation of Mission

The project consists of providing Ghana and Togo with legal and financial support to prepare and structure the project (transaction advisory services) until the signing and entry into force of the concession contract. The Transaction Advisor ("TA") must have a team of staff adequately qualified and experienced in legal and financial matters. The mission will be awarded to a law firm who has, particularly through a partnership with a financial firm, all the experience,

references and resources required. The Transaction Advisor will appoint a Team Leader (senior legal expert with experience in PPP).

The desired transaction advisory services will require both rigueur and flexibility as well as close collaboration between the financial and legal experts.

Anticipated outcomes of Mission

The Transaction Advisor's mission must focus on outcome objectives and not only the delivery of reports and documents or meeting schedule deadlines. The main anticipated outcomes are:

a) appropriate structuring of Project;

b) updating of all project documents and call for tenders;

c) selection and hiring of private partner;

d) signature and enter into force of the concession contract;

e) support to governments in their negotiations with private lenders (direct agreements, etc.).

These outcomes must be achieved in accordance with international good practices for PPP and in compliance with national policies, legislation and regulations in place in the project's countries.

The Client shall also hire a consultant to carry out the studies and technical services, a consultant to carry out the project's environmental and social impact assessment and a communication consultant. As much as possible, the outcomes and products of these studies will be made available to the Transaction Advisor so that the latter can incorporate them into the structuring of the project.

Mission Objectives

The Transaction Advisor must achieve the following main objectives:

f) Analyse institutional, legal and regulatory environments of both countries to confirm the feasibility of a PPP;

g) Analyse the various possible institutional options to establish an awarding authority and prepare agreement models for the setting up of this future awarding authority that will have full powers to bind the States;

h) Carry out, using appropriate model forecasts, financial and economic analyses of the project viability assessment and an assessment of the various structures that may be considered when implementing the Project on the basis of which a Special Purpose Vehicle (SPV) will be set up to finance, build, manage and operate the project;

i) Determine, according to existing institutional and legal frameworks, the appropriate structuring to set up the SPV;

j) Establish a temporary and/or final version of all project documents, including the complete call for tenders dossier, concession contract model with "heads" and

"terms", water purchase/delivery contract terms and all other documents required to launch an international call for tenders for the selection of a private partner;

k) Establish a Project Information Note (PIN) to promote the project and run a market test workshop with various parties that may show interest in the Project;

l) Assist the Client in selecting a private partner through an international call for tenders for the development (engineering, construction), financing and running of the Project until the entry into force of the contract with the private partner;

m) Assist the Client in negotiations with the selected private partner until the entry into force of the concession contract and the implementation of all financing for the Project;

n) Organise at least 2 (two) half-day training sessions on drawing up and negotiating PPP contracts for local Ghanaian and Togolese legal professionals (from both public and private sectors).

More generally, the Transaction Advisor's tasks are to:

a) Advise both Ghana and Togo, into consideration of the ECOWAS treaty, on the way to structure their roles in the definition of the SPV's scope for intervention;

b) Take into account the terms of existing treaties and agreements that define the countries' rights and obligations in the management and use of resources from shared hydrographical basins.

5. Scope of services

The Transaction Advisor's mission shall take place in 5 phases that include but not limited to the contents described below. These phases are not necessarily sequential but may overlap depending on the methodological approach presented by the tenderer. Timeframes are given as an indication only.

Based on performance obligations, the mission period shall extend until the entry into force of the contract signed with the private partner, including the fulfilment of the suspensive conditions to the provision of equity and debt by private parties.

As an indication, the estimated period from the signing of the TA contract to the signing of the contract with the private partner is 18 months. Delays to the signing of the contract with the private partner will not incur any adjustments to the TA's rates and prices. The TA's tender must take into account the above eventuality and, after the signing of the contract with the private partner, the TA must remain available to assist the Client until the entry into force of said contract, including the implementation of private funding.

Phase 1: Institutional assessment and advice for creating an awarding authority:

Objectives: Analyse various institutional options for creating an awarding authority; analyse financial risk run by concessionaire

This phase includes an analysis by the TA of project data/features and an assessment of the institutional environment in which the project will be implemented. The TA's activities and tasks are to:

Analyse various institutional options for creating an awarding authority:

a) Analyse/assess institutional and legal environments of both countries with the aim to verify if they are compatible with the implementation of the Sogakope-Lomé Water Transfer Project as a PPP. The analysis will cover all texts (legislation, regulations, policies) and institutions that may concern the project (investment law, drinking water law, integrated water resource management, ownership, PPP law, etc.). The aim is to pinpoint weaknesses in the existing legal and institutional framework and, where appropriate, suggest ways to improve these within the confines of the project;

b) Analyse various options for creating an awarding authority within the bi-national context of the project;

c) Present the chosen institutional chart with the responsibilities of the various institutions involved in the project.

Analyse financial risk run by concessionaire:

d) Assess operational capacities of water companies to receive/distribute water supplied by the project and ensure the payment of quantities delivered. This analysis will be used to estimate the financial risk run by the concessionaire and suggest, in the following phases, corresponding mitigation measures.

Phase 1 ends with the completion of the Assessment Report that maps out the subsequent activities and identifies the critical path for implementing these and the presentation of said report to the Steering Committee.

Phase 2: **Choice of Structuring Project as PPP**

Objectives: Verify and confirm that it is feasible to implement the project as a PPP; provide advice for the choice of financial structuring and vehicle of project.

This Phase must lead to consensus, approved by the Steering Committee, on the choice of the project structure to be implemented as a PPP and a definitive description of said structure. The main tasks are to:

In terms of institutional structuring:

e) Suggest and assess viable alternatives for private sector participation through investment/shareholding in the Project Company (SPV) etc., creation of a solid financing structure for the project;

f) Suggest an efficient process, to be adapted where necessary to existing regulatory frameworks in the two countries, to guarantee protection for private partners participating in the SPV/PPP;

g) Prepare a complete list of all documents required to implement the project resulting from the chosen structuring and prepare templates for these (including but not limited to: bi-national agreement text (or other) pertaining to the awarding authority, concession contract, land leases, off-take agreements, various permits and licenses, environmental certificates, EPC construction contract, power supply agreement, any tax, charges and royalty exemption agreements, agreements on water abstraction charges, direct agreements, insurance, etc.). The preparation/entry in force sequence for the various contractual documents will be presented as a schedule showing the conditional connections between the documents and an estimate of the critical path and deadlines by which they must be validated so that the contract with the private partner is signed and entered into force at the expected date.

In terms of financial structuring:

h) Assess availability of financing by private loan (private sector, multilateral and bilateral agreements, development financing institutions, commercial banks, export credit agencies, etc.). This assessment will also cover eligibility/financing criteria;

i) Assess availability of public financing (multilateral and bilateral) and financing from donors for the project. This assessment will also cover selection criteria associated with each of the financing examined;

j) Suggest implementation of appropriate securities to raise commercial funds;

k) Examine financial aspects of project and draw up a financial model (forecasts including cash flows and financial ratios for equity and debt investors as part of non-recourse project financing), a balance sheet and operating accounts covering the debt reimbursement period, taking into account the proposed financing plan, investment costs (including unforeseen costs and intercalary interest), anticipated income and operating costs (production, transport, distribution, administration and maintenance costs, etc.). In addition, the model will highlight the optimal price level to ensure that the project is viable and provide information on the debt capacity of the SPV and shareholders' Return on Investment (ROI) at various price levels;

l) Carry out main tests and analyse sensitivity to various parameters and hypotheses;

m) Estimate sale price of m3 and price variations in consideration of the distribution of collection points along the infrastructure and the capacity of final users and concessionaire's clients (national water companies) to pay, estimate the price gap if appropriate and suggest various terms to compensate for this;

n) Establish a provisional cost/benefits analysis of the PPP based on construction and operating cost information supplied by the Technical Advisor;

o) Carry out preliminary economic and financial calculations to establish the commercial feasibility of the project as a PPP based on various hypotheses (nominal capacity, capacity at various horizons, duration of concession, applicable price ranges, costs of capital and loans, etc.). At this stage, the financial model algorithm must contain enough detail to carry out simulations to narrow the choice towards a suitable structure.

In terms of risk analysis:

Prepare an exhaustive list of the various risks and a ranking matrix indicating mitigation measures and allocation preferences for said risks with clear explanations.

In terms of preparing the selection of a concessionaire:

p) Prepare a Project Information Note (PIN) containing a thorough analysis of all technical, financial, legal, commercial, market, operating, maintenance and country risks with recommendations for appropriate measures to mitigate or eliminate each of these risks; After being approved by Client, the PIN prepared by the TA will be made available to the AfDB for its opinion;

q) Provide advice for the selection, in consultation with the Client, advice from the AfDB and ALSF information on private partner selection/hiring methods. Clearly explained/reasoned choice by TA between the four possibilities, namely: Open Procedure, Restricted Procedure, Negotiated Procedure, Competitive Dialogue, the latter offering the best conditions for a fair and balanced transaction;

r) Based on the chosen method, prepare texts for procurement notices and selection of publication media (Client in charge of publication).

Phase 2 ends with a workshop to present the PPP feasibility report to Ghanaian and Togolese authorities and the AfDB and ALSF and the publication of the final version of said report incorporating any changes or decisions made during the workshop as well as the final version of the Project Information Note.

Phase 3: **Preparation of project documents and Request for Tenders**

Objective: Update and finalise all project documents to launch an international call for tenders for the selection of a private partner as part of a PPP.

This Phase will result in the finalisation of all provisional project documents and the Request for Tenders documents. In particular, it includes the following tasks:

Finalisation of financial structuring:

a) Provide advice on steps to take to access public aid and FTP financing to improve the "financiability" of project (Price Gap, investment subsidies, access to any Viability Gap Facilities);

b) Have financial advisor align financial model by integrating financial conditions of private, institutional and commercial financial backers and International Financial Institutions and other financial products and instruments that could be used by the project. Cost and price calculations ($US/m3) for water delivered in Ghana and Togo for various capacity scenarios at various time horizons and for several concession periods in compliance with national regulations (suggestions of 20, 25 and 30 years to be confirmed by TA) and, where necessary, taking into

account raw water delivery points along pipeline (differential pricing according to km of pipeline used);

c) Based on financial model simulation results, choose provisions applicable at the end of the concession period to the return/transfer/retrocession of the structures;

d) Submit for approval from potential lenders, a report presenting the hypotheses used in the model, information sources and anticipated outcomes.

Preparing of Request for Tenders:

e) Chose financial criteria and invariables, section of RFT to be respected by applicants to build their financial model to be included with their tender;

f) Based on data and results from Technical Advisor's assessments, prepare the Minimum Operational Performance Specifications from which applicants may not derogate and include these in the RFT;

g) In collaboration with the Client and advice from the AfDB, finalise future assessment and comparison criteria of applicants' financial tenders, including in particular, stipulations for successful tenderer's reimbursement of project development costs to reimburse ALSF's part of the financing granted to carry out the present transaction advisory services mission;

h) In the concession contract model attached to the RFT, integrate outcomes of updating of all of the Project's financial aspects described above and other recommendations/advice duly reasoned by the TA;

i) Finalise temporary RFT and all of its components in collaboration with the Client and advice from the AfDB and ALSF;

j) Prepare and co-ordinate with the Client and advice from the AfDB the publication of procurement notices required by the chosen consultation method.

Informing companies:

k) Organise and run a market test workshop to present the project to the public and various interested actors: financial backers, developers, equipment specialists, suppliers, entrepreneurs, NGOs, water supply operators. The various actors will participate at this workshop indiscriminately and voluntarily following the publication, at the cost of the Client, of a notice in selected media to reach an extended international audience. Outcomes and suggestions/reactions from participants will be taken into account when finalising the RFT;

l) Assist the Client in structuring and implementing a secure virtual Data Room that can be accessed by call for tender applicants and then financial backers.

Phase 3 ends with the release of the complete provisional RFT and required non-objection notice and by the organisation of two half-day training sessions for local Ghanaian and Togolese legal professionals (from both public and private sectors) on the theme: the establishment and negotiation of PPP contracts.

Phase 4: **Call for tenders and analysis of tenders**

Objective: Oversee the call for tenders process and analysis of tenders.

This crucial Phase in the PPP implementation process concerns all procedures applicable according to the selected consultation and market award method (most likely "Competitive Dialogue"). It shall be completed within the timeframe and deadlines commonly applied to international call for tenders and the financial closure of PPP. In particular the TA's tasks for this Phase, in the case of competitive dialogue, are to:

a) Pre-qualify potential private partners, including the preparation of expressions of interest notices and qualification criteria, then analyse tenders received and draw up a restricted list of applicants selected for the next stage of the call for tenders;

b) Submit provisional RFT to selected applicants for comments and suggestions;

c) Incorporate selected applicants' pertinent comments and suggestions to draw up the final RFT and Consultation Regulations, and obtain non-objection notices from the AfDB (and other financial backers if appropriate);

d) Launch an international call for tenders to pre-qualified applicants based on the final RFT;

e) Assist the Client in answering any applicants' requests for clarification;

f) Oversee the reception and opening of tenders, and then analysis of administratively compliant and admissible tenders in collaboration with the Client and committees set up for this purpose;

g) Verify the technical conformity of tenders with regard to the Minimum Operational Performance Specifications presented in the RFT. To do so, the TA and Client may request guidance from the Technical Advisor;

h) Analyse the financial models of responsive tenders. Manage any requests for clarification. The Financial Advisor will carry out these analyses taking into account the technical, financial and commercial hypothesis used by the applicant. The chosen applicant's model shall serve as a basis for future negotiations. The Financial Consultant shall also undertake to verify and comment on:

Operating costs including:

- Direct labour costs:
- Indirect labour costs;
- Direct and indicator administration staff costs;
- Overheads;
- Vehicle and transportation costs;
- Maintenance and operation costs excluding labour and indirect charges;
- Consumables, chemical products and fuel costs;
- Costs of external services and supplies contracts;

i) Parameters used by candidate with regard to servicing the debt and capital costs including:

j) Mobilisation and final instalments of each credit line/loan;

k) Rate of return on capital invested taking into account the proposed equity/loans ratio;

l) Minimum debt coverage ratio and how adequate it is with lenders' requirements;

m) Proposed structuring of debt and weight of export credits;

n) Margins applied to construction and operating costs and various commitment fees and commissions;

o) The model architecture ensuring its robustness and that the hypotheses used by the applicant have been fully understood by the Client and its negotiation team (cost of request for potential independent audit to be borne by the applicant).

Phase 5: **Recommendation for temporary award and contract negotiation**

Objective: Finalise contract with selected private partner

This Phase begins once the tender analysis is completed. It includes the following tasks:

a) Finalise the assessment report, recommend provisional award and obtain non-objection notices from the AfDB (and other financial backers if appropriate);

b) Assist Client and participate at negotiation meetings with provisional applicant tenderer;

c) Participate at contract signing ceremony;

d) Establish, in collaboration with the Client, a list of conditions to be fulfilled and documents to be supplied by provisional tenderer for the contract to effectively enter into force. (Guarantees, direct agreements, insurance policies, certificates, permits, final legal opinions);

e) Assist the Client in any follow-up, reminders and additional negotiations required to meet the effective entry into force conditions.

6. Reports and deliverables schedule

Throughout its mission, the TA must supply the following reports by the deadlines indicated in Appendix A:

a) Initial inception report to be presented within 4 (four) weeks starting from the date the contract is signed;

b) Diagnostic report to be presented at the end of Phase 1;

c) Provisional feasibility report on the Public Private Partnership (PPP) to be presented 6 (six) weeks before the end of Phase 2 and 2 weeks before the presentation/discussion workshop. This reports states, based on a financial, economic and legal analysis/assessment, whether the chosen PPP is viable or not. A workshop regrouping all participants to discuss the provisional report will be organised four weeks before the end of Phase 2 (minutes of the said workshop must be included in the final report draft);

d) Final PPP feasibility report at the end of Phase 2, two weeks after holding the Phase 2 workshop including procedures to establishing the SPV, procedures to select the private partner, the analysis and selection of the best option(s) and financing structure recommended for the proposed option. A storage device (USB key) containing the financial model as an open Excel sheet will be included with the report;

e) For Phase 4 covering Call for Tenders and Analysis of Tenders, the quarterly reports on activities and deliverables produced during this phase;

f) Tender analysis report and recommendation of tenderer to be presented at the end of Phase 4 as a conditional starting point for contract award and negotiation Phase 5;

g) Stage reports, namely:

h) Quarterly activity report (no later than 15 day after end of quarter);

i) End of mission report, no later than twenty-four (24) months starting from the date the contract is signed.

Exceptionally, quarterly reports will be presented in electronic format only. All other reports will be presented as temporary version, if appropriate, in electronic format, then the final version in electronic format and ten (10) paper copies in English and ten (10) paper copies in French.

The reports must contain the following items:

Initial inception report

The initial report will be brief and concise. It must establish the main stages of the mission and indicate how these will be carried out within the scheduled timeframes. It must also inform the Client on any issues or difficulties likely to disrupt the steady progress of the mission.

Diagnostic report

The report assesses the overall institutional situation as observed during this first phase. It summarises the main observations made by the TA on the general institutional and legal environment and introduces the main identified issues that must be addressed in the next stages of the mission.

Temporary PPP feasibility report

The report must contain the outcomes and impacts of the economic, financial, institutional and legal analyses and the TA's recommendations. The Excel sheet of the preliminary version of the financial model will be submitted on a USB key.

Final PPP feasibility report

The report must include the conclusions on the appropriate structuring required in relation to the choice of PPP, the analysis and selection of the best option(s) and financing structure

recommended for the option. The Excel sheet of the final version of the financial model will be submitted on a USB key.

Tender analysis report

The report shall present the tender analysis activities and procedures. It will include assessment charts with reasoned explanations and a ranking of tenders according to applicable criteria. It will contain a recommendation for the provisional award.

Stage reports

Quarterly stage reports will focus on a summary of work accomplished during the given period, but must briefly cover other questions. They will include the deliverables/documents established during the given quarterly period. The preferred recommended framework for a quarterly report is as follows:

- Executive summary;
- Introduction;
- Brief summary of progress made on the mission at the time of the report;
- Detailed information on work carried out during the given period;
- List of deliverables/documents completed during the given quarter (documents in electronic form annexed to quarterly report);
- Specific chapter on main legal issues raised, proposed solutions and lessons learnt;
- Work progress report with regard to forecasts;
- Work remaining and schedule planned for the next period;
- Photos of stages where appropriate, correspondence, meetings, etc.

End of mission report

The report must present a summary of the mission's conclusions.

7. Work method

Capacity building

The firm must work closely with members of the team established by the Client with which they will be in contact to exchange knowledge and skills to strengthen capacities in the area concerned by the mission. To do so, the law firm will propose a capacity strengthening programme that may include the organisation of training sessions for the Client's and pertinent ministries' executive staff in the form of workshops on specific subjects related to PPP contract negotiation, elaboration and awards, etc.

Implementing mission

The selected law firm and its team must abide by internationally recognised work methods for this type of state advisory and support mission and propose a fitting methodology to the Client. The law firm will accompany the Client and put considerable effort into developing a sound and efficient team spirit among the members of the project structuring team.

The selected law firm must hire suitable local staff with legal skills and expertise in the fields concerned by the mission.

The law firm will also present a description of mechanisms used to minimise expenses and a cost monitoring method.

8. Content of tenders

The law firms must submit their tender here on _____ 2013 taking care to include a technical tender and a financial tender:

Technical tender:

a) Presentation of your law firm and associated finance firm to carry out the mission, including:

- A brief history and description of your law firm's activities;
- A description of the team proposed to carry out the mission (include CVs of each member indicating, in particular, their linguistic capacities (English and French), nationality and with which bar(s) the lawyers are registered;
- Contract details (name, position, address, telephone, email) of the person assigned as the team leader for the mission;
- Current or past activities carried out with ALSF.

Note: the present contract shall be concluded *intuitu personae*, namely in consideration of the lawyers (name, qualifications) who will carry out the mission. In submitting their tender, the law firms must indicate the name and position of all members assigned to the mission. ALSF reserves the right to end the contract if the persons in question leave the firm selected to carry out the mission.

b) Summary of proposal and description of proposed methodology, including:

- Understanding of ALSF and Client's expectations;
- Summary of intervention means and proposed stages (audit, analysis, scenarios, strategy, plan of action, prerequisites, recommendations, etc.);
- Training and strengthening capacity programme;
- Overall mission implementation schedule and each phase (a separate schedule must be proposed for the "strengthening capacity" component);

c) References:

- Main references for this type of mission;
- References of potential clients that may be contacted (name, position, telephone, email).

d) Potential conflicts of interest;

e) List of local law firms or those of preference and/or those with which the law firm has collaborated in the past;

f) Copy of the professional insurance certificate (including exact maximum amount covered).

Financial tender:

a) Fee proposal in US Dollars based on fixed price equivalent to a non-adjustable lump sum covering all of the teams' services and accompanied by a breakdown for each phase (price breakdown); Hypothesis applied for the price calculation will be clearly defined.

b) Rate applied for various proposed team members (financial expert, partner, associate, etc.);

c) Proposed payment schedule for deliverables of each phase;

d) Estimation of hours required to complete mission;

e) Estimation of travel expenses, costs of attending meetings and other anticipated expenses;

f) Mechanisms used to minimize expenses and cost monitoring method.

Description of preferred team to carry out mission:

Team leader (International Senior Legal Professional): must have professional diploma in Law, training as a business lawyer with at least 15 years experience in analysing legal and contractual frameworks, drawing up and awarding PPP contracts and public procurements (including PFI concessions). Must have demonstrated experience in similar projects in emerging countries and with International Financial Institutions as well as with governments and public authorities for PPP projects. Must be internationally recognised as a senior expert in PPPs. Is responsible for coordinating activities and services of the consortium. The team leader must be able to work in both English and French.

Legal advisor (national): One of ALSF's missions is to favour the transfer of experience and knowledge to national legal professionals (state lawyers and private lawyers). The TA must include in their Project team a legal advisor from a local Ghanaian and/or Togolese law firm (knowledge of the other State's legal framework would be an advantage). Must have a professional diploma in Law and demonstrate excellent understanding of national legislation and regulations and administrative provisions (constitution, status, taxation, social obligations, employment law, etc.) governing private companies, including OHADA law (Organisation for the Harmonization of Business Law in Africa).

Expert in financial modelling (international) Must have a minimum university Degree level education in finance and at least 10 years experience in similar projects with International Financial Institutions. Must be an expert in the updating, use, optimisation and software scenario simulations (spreadsheets) of financial modelling. Knowledge of the standard terms and parameters of International Financial Institutions' financial products would be a competitive advantage.

Procurement expert (international) Must have at least 10 years experience in managing and overseeing the procurement process for large-scale infrastructure projects. Knowledge of International Financial Institutions' call for tenders and contract award procedures would be a competitive advantage.

The above description is provided as an indication only. The TA is free to propose the same expert for different tasks and fields if the latter's references, experience and capacities show that he/she fully understands and masters the subjects in question.

9. Award criteria

Tenders to be submitted by law firms for the legal expertise mission will be assessed according to the following criteria:

Technical criteria (70%):

a) **Technical expertise:** General qualifications and suitability with mission to be fulfilled, particularly legal and expertise capacities, reputation in field of structuring and implementing PPP, experience setting up water supply projects and providing advice and institutional support to governments and public authorities; technical expertise of local/international partner(s) associated as part of the mission; good understanding of employment policy and environment in Ghana and Togo; familiarity with each country's legal and regulatory framework would be an advantage given each county's legal tradition (common law/*droit civil*);

b) **Technical tender:** Similar experience in the mission's area of intervention, understanding of the mission, proposed methodology;

c) Regional experience: Knowledge of the region and regional experience (in Ghana, Togo, Africa, developing and emerging countries);

d) Commitment to strengthening capacities, particularly efforts aimed at developing legal expertise in Africa and training African governments, but also willingness to transfer its skills and knowledge to local lawyers, and a summary of its action in this area;

e) **Experience working with ALSF** and/or other international financial backers.

Financial criteria (30%)

10. Conflicts of interest, confidentiality and legal value

Conflicts of interest

For this Project, your clients will be the Government of Ghana, the Government of Togo and Executing Agency and the Client appointed by the former.

To ensure that there is no real or apparent conflict of interests with the law firm selected to assist the Governments and Client, the parties concerned and third parties including ALSF are currently as follows:

Type	Name of entity
Parties concerned	Ghana Water Company Limited (GWCL) Société Togolaise des Eaux (STE) Société de Patrimoine d'Eau et d'Assainissement Urbain (SPEAU) Please note this is a partial list and it may be modified at a later date.

Nevertheless, all law firms wishing to submit a tender under the present terms of reference must carry out the necessary enquiries and formally confirm that there is no potential conflict of interest in the execution of the mission.

The TA must ensure that no conflict of interest arises, or in the event of a conflict of interest, it must immediately inform the Client. Based on this information, the Client must, at its sole and absolute discretion, decide whether it is best to maintain or immediately terminate the contract. Failure on the TA's behalf to inform the Client of any conflict of interest will be regarded as a serious breach and authorises the Client to immediately cancel the contract.

Confidentiality and legal value

The information contained in the present terms of reference has been sent to you for the sole purpose of providing you with enough information to formulate your tender. This information is strictly confidential and may not be disclosed, in any form whatsoever, to any third party without explicit written consent from the Client and ALSF. As a result, the firm must explicitly guarantee that its entire staff (i) keep all information obtained as part of the mission confidential, including reports drawn up on behalf of the Client and ALSF as part of the mission, and (ii) make no publications or statements to the press regarding the mission without the Client and ALSF's consent.

The obligation to keep all information confidential shall remain valid even in the event the contract is cancelled. However, this obligation shall not apply to confidential information that had been made public before being sent to the TA or information that had been made public by another means than through the TA.

The present terms of reference and accompanying letter are not binding.

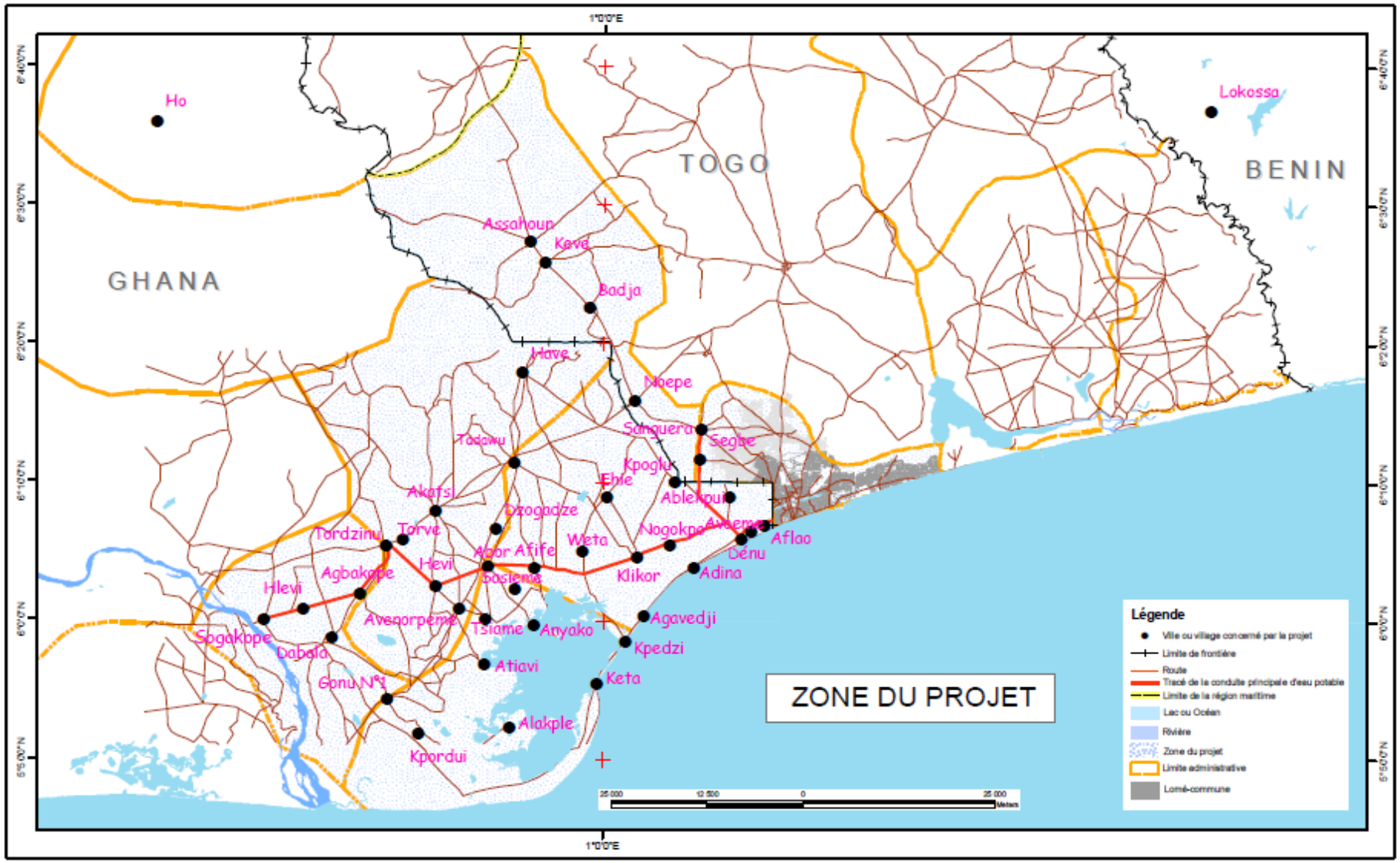
11. Reception of tenders, award and schedule

After receiving the tenders, ALSF and the Client shall jointly analyse them and select the law firm who will be awarded the contract. The final decision shall be sent to all applicant law firms.

Reception of this notification by the selected law firm marks the beginning of the performance period in which the latter undertakes to carry out its mission.

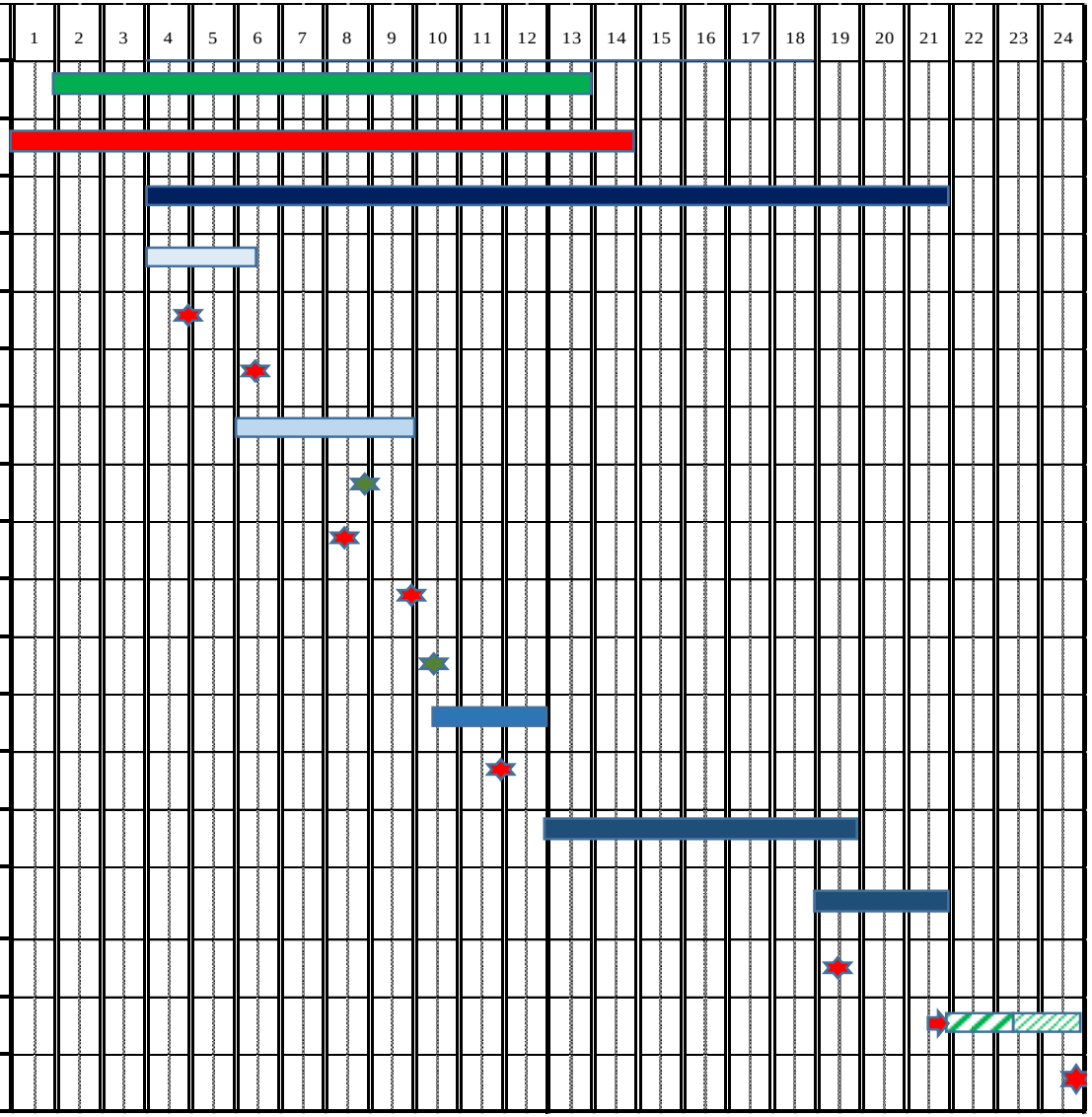
ALSF reserves the right to accept, reject and/or modify each of the tenders before it is approved.

APPENDIX 1: PROJECT AREA



APPENDIX 1: INDICATIVE DELIVERABLES SCHEDULE.

Activités	Mois ----> Durée en
EIES	42
Etudes Techniques et de Faisabilité	56
Conseils en Transaction	72
Phase 1: Prise en mains, Diagnostic institutionnel	10
Rapport Initial de démarrage	
Rapport de Diagnostic au Comité de Pilotage	
Phase 2: Choix de structuration	16
Atelier de présentation de la faisabilité du PPP	
Rapport Provisoire de structuration	
Décision Comité de Pilotage	
Finalisation de la Note d'Information de Projet	
Phase 3: Finalisation du DCE	10
Atelier de "Market-test" et rapport	
Phase 4: Appel d'Offres et Analyse des offres	28
Phase 5: Recommandation d'adjudication provisoire et négociations du contrat	12
Rapport d'analyse des offres/Comité de Pilotage	
Signature et mise en vigueur effective	
Rapport de fin de mission	



Appendix A5: Feasibility Terms of Reference

REPUBLIQUE TOGOLAISE

Travail - Liberté – Patrie

Ministère de l'Eau,
de l'Assainissement et
de l'Hydraulique Villageoise

Société Togolaise des Eau (TdE)

REPUBLIC OF GHANA

Freedom and Justice

Ministry of Water Resources,
Works and Housing

Ghana Water Company Ltd. (GWCL)

SOGAKOPE-LOMÉ WATER TRANSFER CROSS-BORDER PROJECT

TERMS OF REFERENCE

For

THE UPDATE OF THE PRELIMINARY DESIGN AND FEASIBILITY STUDY

July 2013

CONTENTS

1. BACKGROUND

The Sogakope-Lomé Water Transfer Project was the object of a feasibility study carried out by Lemna International Inc. in 2005. This resulted in a final report including the feasibility study and a Preliminary Design (PD), taking into account observations made by the Togolese party at the seminar held in Sogakope from 23 to 25 February 2005 and that redefine the water delivery point in Lomé.

According to the 2005 study the project targets a production capacity of 200,000 m^3/day by 2030, namely 170,000 m^3/day for Lomé and 30,000 m^3/day for the communities to be supplied in Ghana.

The total investment cost, excluding inflation, is estimated (in 2005 values) at $US111 million, namely CFAF 55 billion. Leman International Inc. suggested the project is implemented as a "Build, Own and Operate" (BOO) structure, with a private entity raising 40% of the equity cost, the remaining 60% being financed by loans. Due to the proposed high sale price and a lack of detail concerning the sources and terms of financing, the proposition was not followed up.

The average production cost of a m^3 of water produced and delivered in Segbe, per expenses category and the average unit sale price at TdE were determined in the 2005 study as shown in the table below:

No. Ord.	Description of headings	2005 Production Costs per m^3 delivered in Segbe/Lomé		
		$ US	CFA F	%
1	Electricity and processing	0.030	15.0	5.4
2	Staff, Management and Maintenance	0.019	9.5	3.4
3	Equipment renewal	0.011	5.5	1.9
4	Water collection fee	0.010	5.0	1.8
Production cost of m^3 produced and delivered to Segbe		**0.070**	**35.0**	**12.5**
Financial charges and water production company's margin		**0.490**	**245.0**	**87.5**
TdE's average unit sale price		**0.560**	**280.0**	**100.0**

Source: Sogakope-Lomé Water Supply project feasibility study final report – September 2005

The Togolese and Ghanaian parties wish to carry out the project as a rational response i) to the increasing demand for drinking water from Lomé city and the communities settled along the Lomé-Sogakope corridor in Ghana, and ii) to the over-exploitation of underground tables currently mobilised in this coastal region shared by the two countries. Firstly, various parameters of the project require updating.

To do so the Republics of Togo and Ghana have jointly appointed an Executing Agency, hereinafter referred to as the "Client" to carry out the studies required to update the WSS project to supply drinking water to communities in the areas in the Sogakope-Aflao section in Ghana and in Lomé, the capital of Togo, hereinafter referred to as the "Project". In addition, consultants will be hired to i) carry out an Environmental and Social Impact Assessment (ESIA) of the Project, and ii) provide transaction advisory services for the purpose of structuring the Project as a PPP, if feasible, through the selection by an international call for tenders of a private partner charged with financing, building and operating the Project.

2. BRIEF DESCRIPTION OF PROJECT

2.1. GROUNDS OF PROJECT

The "Sogakope-Lomé Water Transfer" project agreed upon by both Ghana and Togo is a cross-border project that:

- illustrates the spirit and commitment of both countries' governments to federate their energy and resources to improve the well-being of their respective populations (regional integration);
- targets mutually beneficial co-operation in terms of water resources and reduction of costs by economy of scale to supply the populations with drinking water;
- fits in with the integrated water resource management procedure with the cross-border waters in the shared hydro-geographic basin of the Volta River; and
- aims to raise private funds to participate in the water sector's massive financing requirements over the next few decades.

The Project is based on the Ghana and Togo government's willingness to provide a sustainable universal drinking water service to the populations of the Akatsi, Tongu and Ketu communities in Ghana and for the populations of Lomé city in Togo.

2.2. WATER DEMAND TO BE SATISFIED

An estimation of demand in drinking water of the populations targeted by the Project for 2030 is presented in the table below. These figures are indicative only and it is the Consultant's task to update them for the 2020, 2030 and 2040 horizons and provide a detailed report on the methodological approach applied for the population forecasts and calculating the resulting consumption. 2040 figures are established using financial calculations over a period of at least 25 years corresponding to the possible/optimal duration of a concession in compliance with both countries' legislation and regulations should the Project be implemented as a PPP.

Country	**Communities**	**Population to supply**		**Water demand (1,000 m^3/year)**	
		2009	**2030**	**2009**	**2030**
Ghana	Akatsi district	32,267	61,350	1,936	3,681
	Tongu district	6,849	11,987	411	719
	Ketu district	118,576	225,901	9,486	18,072
	Ghana Total	*157,692*	*299,238*	*11,833*	*22,472*
Togo	Lomé city	981,733	3,138,876	15,767	74,470
	Ave Municipality	43,918	113,874	513	2,078
	Togo Total	*1,025,651*	*3,252,750*	*16,472*	*76,548*
Totals (Ghana + Togo)		**1,183,343**	**3,551,988**	**28,305**	**99,020**
Equivalent m^3/day (continuously over 24 hours)				**77,550**	**271,300**

Lomé's water demand corresponds to the additional demand.

2.3. MAIN COMPONENTS OF PROJECT

The Sogakope-Lomé water transfer project, as shared by Ghana and Togo, includes in particular the following physical elements whose sites, size, technologies and capacities need updating:

- Volta River catchment at Sogakope;
- Pumping station to treatment plant;
- Sogakope treatment plant;

- Sogakope water pumping and release station to Lomé (in Togo) with deliveries on route to Akatsi, Tongu, Keta and Ketu districts (in Ghana);
- Sogalope (Ghana) – Segbe (Lomé/Togo) pipeline with as many relays as required for each of the Ghanaian districts targeted by the Project; including cathodic protection systems if required;
- Water reservoirs: (i) at the Sogakope treatment plant, (ii) at the various delivery points to the areas in Ghana included in the Project, (iii) at the Segbe delivery point in Lomé (note a new location needs to be selected, especially for the last reservoir as it is already surrounded by urban spread);
- Pressure-booster stations along the pipeline;
- Power supply and safety facility for all Project components;
- Maintenance, measuring, surveillance and remote management facility for all Project equipment and installations;
- Laboratories (at the Sogakope treatment plant, at the Segbe delivery point, at several delivery points in the Ghanaian districts including in the Project); and
- Integration or connection facilities to existing water systems in the areas concerned by the Project in Ghana and in Lomé, Togo.

As well as updating the physical components above and providing the feasibility study, the specialised consultants' services will also specifically treat:

a) the Project's institutional component in order to define: (i) the institutional and contractual framework for the various operators involved in implementing the project and operating within a PPP organisation; (ii) the legal form, organisation, administration and management of the private partner operator selected to produce drinking water at Sogakope and deliver it to appointed operators in Ghana and Togo.

b) An "environmental and social impact assessment" component with the aim to: (i) identify all environmental and social impacts related to the installation of the project's physical components, the implementation of the institutional component and the running of the project; and (ii) propose measures to mitigate or eliminate the identified impacts, involving the Environmental and Social Management Plan (ESMP).

Wherever possible, the performance of services related to institutional and socio-environmental aspect will be carried out alongside the technical studies object of the present Terms of Reference. This will lead to the sharing of information between the various consultants and the Client will facilitate the distribution of the results of their respective services to harmonise the various parameters of the Project.

2.4. TECHNICAL CHARACTERISTICS OF PHYSICAL COMPONENTS

The following technical characteristics result either from the Lemna International report of September 2005 or from the Togolese's party's concerns. They will be reviewed as part of the update of the Preliminary Design and then confirmed or rejected by the Consultant. Should they be rejected, the Consultant will be responsible for providing alternative solutions such as un-recorded nominal capacities

Description	Nominal Capacity
Raw water catchment on Volta River	9,000 m^3/h
Sogakope treatment plant including: a cascade aerator, a coagulation/flocculation and clarification unit; a rapid sand filter with irregular sized sand; a disinfection unit	210,000 m^3/day
Treated water reservoir on ground	9,000 m^3
Treated water pumping station	207,000 m^3/day
Main laboratory at Sogakope treatment plant	1
Drinking water pipeline, equivalent DN 1,000mm and cathodic protection system if necessary	80,000 ml
Pressure-booster stations at Hikpo (4 operational + 1 in reserve)	8,750 m^3/h
Pressure-booster stations at Have (4 operational + 1 in reserve)	8,750 m^3/h
Pressure-booster stations at Klikor-Agbezume (4 operational + 1 in reserve)	8,750 m^3/h
Three transfer water reservoirs underground or on ground along the pipeline in Abor (15,000 m^3), Denu (20,000 m^3) and in Aflao (30,000 m^3). (The latter is to be confirmed by the Consultant as well as the supply branch fro the main pipeline)	65,000 m^3 (total)
Nine raised water reservoirs for water distribution in Ghana. (location and individual capacities to be specified by Consultant)	
Water distribution networks for communities to be supplied in Ghana DN equivalent of 250mm (to be specified by Consultant whether these networks are included in the Project area)	15,000 ml
Remote-monitoring and remote management system, particularly to monitor flow rates, pipeline water pressure and water reservoir levels; monitoring of water quality including residual chlorine; monitoring of equipment performance (engine speed, pressure used, state of gates, etc.); and communication for remote management or data and status transfers.	
Water reservoir at delivery point from Lomé to Segbe	170,000 m^3
Back-up laboratory at delivery point from Lomé to Segbe	1
Back-up treatment/disinfection/purification unit at delivery point from Lomé to Segbe	1
Treated water discharge station into distribution network from Lomé to Segbe (to be identified and scaled by Consultant)	

3. OBJECTIVES OF STUDY

3.1. MAIN OBJECTIVE

The main objective of the study is to update the 2005 Lemna International Inc. feasibility study and preliminary design in a final report entitled "*Sogakope-Lomé Water Transfer Project"*. The purpose of this update is to make the project:

- Socio-economically and financially viable;
- Sustainable by recognising all environmental and social impacts and the proposition of mitigation or elimination measures to be put into place by a specifically hired specialised Consultant;
- Pertinent and realistic in terms of its appropriateness with regard to the vocation of the socio-economic integration trans-border project that Ghana and Togo have given the project;
- Feasible as a PPP within both countries' legal and regulatory environments.

The ultimate objective of the study, approved by Ghana and Togo, is to establish a Request for Tenders (RFT) to launch an international call for tenders for the hiring of a private partner for the completion of the project as a PPP.

3.2. SPECIFIC OBJECTIVES

The main objective above can be divided into the following specific objectives:

- Estimation of the project area's supply-use table for the various time horizons: these are, based on an assessment of the deep underground water potential (Maestrichtian) and studies quantifying the continental terminal water table, to offer coverage of the project area's needs combing underground water tables and the Volta resource at different time horizons. This coverage should take into account the need to diversify water resources to improve supply security, particularly for Lomé; It must also quantify the foreseeable effects of climate change on the water resources to be mobilised.
- Evaluation of Preliminary Design delivered by Lemna International Inc. in light of the background, current needs expressed by the Ghanaian and Togolese governments, environmental and social impacts (not studied in depth by Lemna International), and design criteria that meet accepted international standards. During this phase the consultant must put forward modifications with the purpose of better integrating green growth and inclusivity objectives into the project.
- Proposition of a new Preliminary Design that will take into account the technical concerns expressed by the Togolese party and reiterated in the background above as well as demand forecasts for 2020, 2030 and 2040 and their influence on an optimisation of the structures' size/capacity. The 2040 figures are established using financial calculations over a period of at least 25 years corresponding to the possible/optimal duration of a concession in compliance with both countries' legislation and regulations.
- Update and finalisation of the project technical documents, particularly the Minimum Operational Performance Specifications (MOPS) to be included in the Request for Tenders (RFT) for the purpose of implementing a PPP. The Consultant will be required to help assess the tenders and verify that they comply with the MOPS.
- Assisting the Client with technical aspects during the Call for Tenders phase, tender analysis and contract negotiations for the implementation of the Project as a PPP.

4. GENERAL ROLL-OUT OF STUDY

4.1. METHODOLOGY

To achieve the above objectives the Consultant is requested to submit a methodology that incorporates:

- An analysis of documentation from the appropriate Ghanaian and Togo authorities, particularly regarding: (i) the state of water resources solicited for the drinking water service in the project area; (ii) the water supply system operated by GWCL and TdE in the project area (current state, production capacities and prospective development); (iii) water demand of communities encompassed by the project in Ghana and Togo; (iv) investment projects being implemented or whose financing has been confirmed; (v) current drinking water production costs, the cost of living, price indexes (directly or indirectly affecting drinking water production costs), the capacity and willingness to pay for a drinking water service by the beneficiaries of the project area;
- An analysis of the Preliminary Design and feasibility study delivered in 2005 by Lemna International;
- A series of hydro-geological, topographical, geotechnical and socio-economic surveys to complete the data required to define and scale the project and verify its feasibility;
- The participation in a consultation process with local authorities, public network managers and the populations supervised by a NGO (the NGO will benefit from an individual contract

separate from that of the Consultant), and collaboration with the communications agency responsible for preparing the communication-consultation strategy and communication aids (independent contract).

In terms of the general procedure, the study will be carried out in five phases:
Phase 1: Supply-use table for the area covered by the project at different time horizons.

The purpose of this stage is to carry out an inventory of existing resources and their use, an estimation of future demand at various time horizons and determine the flow to be captured in the Volta for the Project.
In this phase the Consultant's activities are to:

- Gather existing information, data and reports, analyse documents and results of completed or on-going studies regarding the underground resources exploited in the Lomé region and Project area in Ghana.
- Diagnose the water table potential currently being exploited and provide advice/recommendations on the management/rhythm for their exploitation, their rate of renewal, water quality and risk of pollution; analyse and summarise current knowledge of the deep underground water tables identified in the region; and quantify foreseeable effects of climate change on this potential.
- Diagnose and study the deep Maestrichtian water tables in the Lomé area by i) collecting and studying data on boreholes currently exploited by the TdE in this formation and ii) carrying out additional hydro-geological surveys that may require deep boreholes of which the consultant will suggest the number, suitable location and a detailed programme of observations, trials and tests it will carry out.
- Based on these additional hydro-geological surveys, estimate sustainable exploitation of these deep underground tables taking into account operation costs and foreseeable effects of climate change; These surveys must make it possible to quantify potentially exploitable flows for Lomé. The hydro-geological surveys will lead to the publication of a special report presenting the trial and test results and an interpretation of these.
- For any boreholes recommended by the Consultant, define in detail an observation and test/trial programme to be carried out by authorities/agencies responsible for the water resource sector in Togo once the consultant's services have ended;
- Recommend a future recognition and survey plan, trials and additional recordings to consolidate knowledge of the deep water tables and estimate the corresponding costs and means required for this plan; (this plan will be implemented further by the authorities/agencies responsible for the water resource sector in Togo);
- Estimate water demand for domestic use and economic activities at various time horizons (2020, 2030 and 2040 for example) accompanied by an explanation of the methodology used to make this calculation; the proposed methodology to estimate water demand must be detailed in the tender's offer.
- Quantify surface water resources in the coastal area between Sogakope and the Mono river in Togo (mainly the following waterways: Volta, Mono, Zio and Haho);
- Estimate water needs for other uses (particularly irrigation) to be collected from exploitable surface resources for Lomé managed and assigned under policies, agreements and strategies put into place for this effect and under identified guidelines and projects.
- Develop a supply-use table for the project area at various time horizons taking into account the need to diversify resources in Lomé for security reasons, the need use of the Sogakope-Lomé distribution line (avoid long operating periods below nominal capacity) and the

foreseeable effects of climate change. These optimisations will be supported by financial estimations and simulations carried out using a concise financial calculation model.

The results of the assessment will be presented and discussed at a Steering Committee meeting.

Phase 2: Assessment of the Preliminary Design and feasibility study (September 2005, Lemna International Inc.).

The review/assessment of the 2005 PS will:

With regard to structure features:

- Provide a critical analysis of technical aspects of the 2005 Preliminary Design and parameters/hypotheses for calculating demand used by Lemna;
- Conduct in situ inspection of structure sites and initial route of pipeline and identify any changes required to avoid built-up, agricultural, heritage or environmentally sensitive areas; The first results from the environmental assessment (initial state of site) will be used wherever possible. This phase will require co-ordinating with the consultant responsible for the ESIA.
- Locate sites to be used for structures and check availability of terrain and/or constraining usage (including socio-environmental).
- Identify technical aspects and data to be upgraded to align the project with the current background and any technological advances made in terms of treatment, remote management, structure security and energy efficiency;
- Compare demand estimated in the 2005 study with that resulting from the analysis and revision of population and demand forecasts for 2020, 2030 and 2040 corresponding to a 25-year concession and suggest optimal scaling of the distribution flow rate.

With regard to phasing of investments:

- Propose an investment schedule with the purpose of holding back investments according to demand developments (mainly for pumping and booster stations - treatment plants and reservoirs can be implemented through modules);
- Identify on-going and confirmed investment programmes both in Ghana and Togo whose purpose is to improve the water supply to the Ghanaian communities targeted by the project and Lomé city that, at various dates, will provide a capacity to absorb water produced and delivered by the Project, and those that need to be implemented in addition to distribute the resource mobilised by the WSS.

With regard to sustainability of structure:

- Suggest changes to be made to the project to ensure "greening" of the WSS (sustainable infrastructure), particularly through:
    - Reducing greenhouse gas emissions for the project construction and operation, coupled with a mobilisation if appropriate of carbon finance; this analysis should be backed by simplified carbon summaries and include an analysis of an option based on entirely renewable energies, and options to reduce pressure losses;
    - Using environmentally friendly building and operating materials and methods
- Suggest changes to be made to improve inclusivity of project at a technical level (mainly pertinence of using the labour-intensive worksite method to create jobs).

The results of the assessment will be presented and discussed at a Steering Committee meeting.

With regard to socio-economic aspects:

- Determine the socio-economic situation to assess the project's social utility and economic interest to communities and individuals. Consumers' capacity and willingness to pay will be explored based on previous studies or if necessary, surveys recommended by the consultant (to be specified in tender). These aspects will be regarded separately for Togo and Ghana, who practice different political pricing methods.
- Translate the situation by calculating the project's impact on chosen specific (HDI and HPI for example) and synthetic (index of economic well-being, Gini index) indexes. Estimate and forecast benefits of increasing access to drinking water (freeing up time for women and children, opportunities to create commercial and productive businesses for which water is an essential input, hygiene and health improvements, etc.).

Phase 3: Validation workshop (under the aegis of the Steering Committee coupled with a dialogue workshop with stakeholders) of various assessments and propositions with the participation of the appropriate Ghanaian and Togolese authorities, AfDB representative(s) and any financial backers, the ESIA Consultant and Transaction Advisory. This workshop is overseen by the Steering Committee who will draw up the workshop conclusions, choices and decisions.

Furthermore, the Consultant will participate in a dialogue workshop held with various project stakeholders (populations, civil society, NGOs, etc.) to present the new Preliminary Design's direction and collect participants' opinions, comments and suggestions. The logistical costs for this workshop will be paid by the Client as part of the communication advisory services they are to provide.

The workshop will include:

- A presentation of the assessment of the Preliminary Design and feasibility study issued in September 2005 by Lemna International Inc. highlighting parameters that have changed;
- A adoption of new design and scaling criteria;
- A proposition for a new Preliminary Design including the corresponding technic-economic feasibility study.

The logistical costs of the workshop are not payable by the Consultant but the Consultant must prepare presentations and documents for the public/audience to better understand the Project.

Phase 4: This phase involves the confirmation of the observations and options made during the previous phases and how these are to be used to finalise the new Preliminary Design and new feasibility study that take into account the workshop's opinions, observations and recommendations. This includes topographical and geotechnical surveys, studies, various calculations, principle designs, structure blueprints, operational charts and all descriptive and informative papers regarding the preliminary Design, including a description of the provisions and approaches regarding the private partner's activities and obligations to operate and maintain the project.

During this phase the Consultant will carry out technical and feasibility studies to:

With regard to the structures' characteristics:

- Rescale the Project, if deemed due to the revised demand and consumption hypotheses;
- Accurately define the Project area detailing and differentiating components covered by a future concession under a PPP and the components to be implemented by the national water distribution companies;

- Estimate costs of components incumbent on national water companies and the preferred dates for these to be implemented/made available to absorb volumes produced and delivered by the project at various time horizons (in terms of master plan);
- Locate and take hold of main punctual structures (pumping station, treatment plant, reservoirs, pressure-booster stations, etc.) based on appropriate topographical data and geotechnical surveys in order to establish, in co-ordination with the ESIA consultant who will have carried out a reconnaissance of the initial environmental state;
- Optimise the transfer pipeline route based on appropriate topographical and geodesic data and geotechnical land surveys and select avoidance provisions to minimise impact on developed or agricultural areas and environmentally fragile milieus, in co-ordination with the ESIA consultant who will have determined the critical zones;
- Make hydraulic calculations for transitional regimes in particular along with water hammer protection devices. Reports provided will incorporate initial hypotheses and calculation notes.
- Define structures' remote management system;
- Define mitigation strategies for project's technical and operational risks (risk analysis) to secure the Sogakope to Segbe-Lomé water transfer system;
- Analyse and suggest approach to be used by the private partner to operate and maintain structures and the latter's reinvestment obligations for the concession period and obligations to maintain the project's full operational potential until a possible retrocession at the end of the concession.

On a financial and economic level:

- Establish a detailed cost of structures and disbursement schedule during construction as well as operating and maintenance costs and replacement costs to be used in the financial model to be updated by the Transaction Advisor;
- Provide a financial and economic analysis of the new "Sogakope-Lomé Water Transfer Project" by integrating the technical and financial considerations retained and establishing new conditions for the project feasibility; this analysis should incorporate possibilities for mobilising carbon finance. The economic analysis will use economic prices and must incorporate an assessment of the relevance of implementing labour-intensive worksites.
- Calculate production cost of a m^3 of water from Sogakope and its transfer price to TdE and GWCL, and define the key parameters of the financial model to be developed by the Transaction Advisor who will take into account various scenarios when conducting simulations to optimise the Project's financial package.

On a technical level the outcomes of the above phases will materialise as the delivery of at least the products in the following list:

- Complete technical dossier for applicants to the call for tenders to develop their construction project (EPC formula – Engineering, Procurement, Construction) including:
    - Scaling and design criteria selected, including those regarding the "greening" of the infrastructure;
    - Topographical maps of structure sites and profile of the pipeline route at appropriate scales suggested by the Consultant;
    - Findings of geotechnical and land feature surveys;
    - Structure blueprints at appropriate scales suggested by the Consultant;
    - Operational diagrams for pumping stations, treatment plants and pressure-booster stations and monitoring and remote management systems;
    - Confidential cost estimation breakdown;

    - Indicative schedule and critical path of construction programming and completion of structures;
- Minimum Operating Performance Specifications (MOPS) that must be met by all applicants to the call for tenders. These specifications must include elements related to green growth and inclusivity, in compliance with arbitrage performed at the end of Phase 3;
- Technical sections of the Project Information Note for finalisation by the Transaction Advisor;
- Technical sections to be incorporated into the Request for Tenders (RFT) to be co-ordinated with the Transaction Advisor.

The Consultant will participate in a special Steering Committee meeting to synthetically present the new Preliminary Design and its main features, equally technical and operational as economic and financial.

The Consultant's project manager will participate in the market test workshop organised and run by the Technical Consultant to present the project's technical and operational aspects and gather participants' suggestions and remarks to consolidate the RFT.

The Consultant will participate in the Steering Committee coupled with a second dialogue workshop open to the project's various stakeholders (populations, civil society, NGOs, etc.) to present the new Preliminary Design showing how it acknowledges and incorporates the opinions, comments and suggestions gathered at the previous workshop. The client shall pay for the logistics cost of this workshop as part of the communication advisory services it must provide.

Phase 5: Assistance in selecting a private partner

The technical Consultant will assist the Client on all aspects of the Project throughout the private partner selection period. This period runs from the finalisation of the RFT to the signing of a concession contract.

Participation in consultations throughout study:
The Consultant will be present at most of the consultation meetings organised by the NGO hired for this purpose. He/she must present the project, discuss route or technique alternatives with stakeholders and incorporate demands for modifications validated by the PMU in the project design. To do so, he/she must prepare presentation aids (PowerPoint presentations, route on aerial orthophotographs, etc.) for each meeting and supply the NGO or communications agency with the technical elements required to prepare the meetings and communication aids.

This phase includes assisting in the selection of the private partner. The Consultant will help prepare the RFT and participate in the tendering process. In particular, the Consultant will:

- Finalise the technical sections of the RFT and MOPS;
- Review the RFT before submittal to the AfDB for a notice of non-objection;
- Assist the Client in formulating responses to applicants' requests for technical clarification;
- Analyse tenders to check these comply with the MOPS and advise on the applicants' technical and technological tenders;
- Assess works costs and operating costs used by applicants in their financial model;
- Assess applicants' approach to the EPC contract model selected for the Project;

- Finalise technical aspects of assessment report in collaboration with the client and other consultants.

The Consultant shall ensure experts are available to meet the Client's requests for advice or recommendations that may be required throughout the contract negotiation and finalisation period with the private partner. The Consultant must include the costs of these interventions in its unit prices.

In any case, the Consultant is required to suggest a methodology suited to: (i) the mission's objectives and consistency; (ii) the human resources mobilised by the mission; and (iii) the mission implementation deadlines.

4.2. HUMAN RESOURCES TO BE FOUND BY CONSULTANT

Key staff must be able to work in French and English and have the following minimum experience:

International Project Manager: education in water or general engineering (Master's level minimum) with over 15 years experience in the design of drinking water supply systems, 10 of which in similar projects in the sub-region and internationally, particularly in terms of feasibility; additional experience operating and organising the implementation and management of similar projects in the sub-region and internationally will be taken into account when assessing project manager applications.
Senior international hydrogeological expert minimum Master's level education in the field, with at least 15 years experience in the field and experience hydrogeological survey campaigns and studies internationally and in the sub-region.
National hydrogeological engineer: minimum Master's level tertiary education with at least 10 years experience in hydrogeological survey campaigns and studies specifically in Togo and Ghana.
National civil engineer/geotechnician: minimum Master's level u tertiary education, general civil engineer with experience in hydraulics, hydrology, water treatment, large-scale civil engineering structures and their geotechnical aspects with at least 10 years experience, particularly in terms of feasibility.
National hydraulics engineer: minimum Master's level tertiary education with at ten years experience drafting designs and monitoring water supply projects.
International electro-mechanic minimum Master's level tertiary education with a specialisation in electro-mechanics, hydromechanics and at least 10 years experience large WSS, particularly in terms of feasibility, in the region and internationally.
International remote management expert: minimum Master's level tertiary education with a specialisation in remote management or remote monitoring and security systems, and at least 10 years experience in hydraulics projects, particularly in terms of feasibility, in the sub-region and internationally.
International financial advisor and PPP expert. Minimum Master's level university education with at least 10 years experience in financial analysis of infrastructure projects particularly water supply projects under a PPP or delegation of public services, leasing, management contract, etc., both in the sub-region and internationally.
Socio-economist: with minimum Degree level tertiary education and at least 10 years experience in socio-economic analysis studies and services for water supply projects internationally and in the sub-region in similar contexts as that of the project area.
International procurement specialist in infrastructure projects, minimum Master's level tertiary education in civil engineering. At least 10 years experience in infrastructure and water supply projects internationally and in Africa. Additional knowledge of acquisition procedures and call for tenders from international financial institutions.

"Sustainable infrastructure" expert: minimum Master's education preferably in an environmental discipline; minimum 5 years experience in sustainable infrastructure issues, green worksites and if possible, carbon finance.

4.3. ANTICIPATED DELIVERABLES

At the various deadlines corresponding to the completion of key stages of the studies, the Consultant must provide the reports described below. For the duration of his/her service the Consultant must produce brief quarterly progress reports that present activities completed during the quarter, a comparison with contractual schedule, problems encountered and activities scheduled for the following quarter. The Client is responsible for distributing these reports to project stakeholders and the AfDB.

The following specific reports must be produced:

For Phase 1:

- Interim report of Phase 1 presenting the supply-use table and summarizing the findings from the hydrogeological survey campaign. The hydrogeological report is a separate report.
- Report presenting the observations and decisions made during the Phase 1 presentation workshop;
- Phase 1 final report taking into account observations sent by the Client and those made during the presentation workshop.

For Phase 2 :

- Phase 2 report in preparation of the validation workshop by the Steering Committee taking into account the analysis of the Preliminary Design and findings from the tests, reconnaissance trips and surveys carried out to critically analyse the 2005 Preliminary Design and feasibility study.

For Phase 3:

- End-of-Phase 3 report that incorporates any comments and adjustments approved during the validation workshop into the previous report. To be provided as a draft then as a final version.

For Phase 4:

- Intermediate report on the Preliminary Design and feasibility study at an intermediate date during the phase involving findings from the site surveys that confirm the route and position of structures, including a repertory of design criteria that respect accepted international standards; To be provided as a draft then as a final version.
- Interim final report for the compilation of a new Preliminary Design and feasibility study using and completing the previous intermediate report containing a financial and economic analysis of the project using realistic scenarios and corresponding production costs and their impact (TdE and GCWL's sale prices);
- End-of-phase report incorporating the opinions, observations and comments on the previous interim final report made by the Client, the Ghanaian and Togolese authorities, the AfDB, the ESIA Consultant and Transaction Advisor.

For Phase 5:

- No reports are produced during this tendering assistance phase. However, the Consultant shall participate in the drawing up of the final RFT for the parties and technical aspects in

collaboration with the Transaction Advisor. To do so, he/she shall prepare duly motivated notes to be used in drawing up the final project documents.

End-of-mission report

- The Consultant shall provide a end-of-mission summary report no later than one month after the date of his/her last involvement, which may take place during the contract negotiation period with the private partner, which the Consultant may be solicited for on technical aspects.

The reports shall be presented in the following forms:

- Quarterly progress reports: electronically in both languages;
- The text of interim reports in both languages where the diagrams, maps and technical documents may be provided in only one language: electronically for the text and in paper form for the technical appendices (10 examples in each language).
- Final reports: 10 paper copies and one electronic copy in each language. Diagrams larger than A4 must be provided in a form that can be reproduced and as an electronic file of the software in which they were created (Autocad, MS Project, etc.).

The reports are to be provided at the following intervals:

- Quarterly report: before the 15th of the month following the end of the quarter.

4.4. MISSION SCHEDULE

The Consultant shall propose and explain its working schedule to be based on a 14-month period. An indicative schedule is provided in Appendix 2. This schedule is organised as such so that the services of the technical studies, ESIA and transaction advisory Consultants shall be carried out concurrently wherever possible to harmonise the key parameters of the project.

5. CLIENT-CONSULTANT RELATIONS

The Consultant's contractual interlocutor will be the Ghana Water Company Limited represented operationally by the Project Management Unit.

The Steering Committee is the senior body that represents both States equally. Its function and role are decision-making with regard to the technical, institutional and economic choices to be made for the project.

To facilitate the Consultant's mission, the Client will:

- Make all relevant documentation, studies and enquiries, laboratory analyses and operational data available;
- Provide provisions to facilitate the Consultant's work by giving him/her access to governmental authorities, bodies from other sectors, drinking water supply sites and anticipated structure sites; and
- Facilitate contact with other consultants working on the project with whom it will be necessary to co-operate to successfully complete the mission.

APPENDICES

Appendix 1: PROJECT AREA

Appendix 2: INDICATIVE MISSION SCHEDULE

Appendix A6: ESIA Terms of Reference

REPUBLIQUE TOGOLAISE

Travail - Liberté – Patrie

Ministère de l'Eau,
de l'Assainissement et
de l'Hydraulique Villageoise

Société Togolaise des Eau (TdE)

REPUBLIC OF GHANA

Freedom and Justice

Ministry of Water Resources,
Works and Housing

Ghana Water Company Ltd. (GWCL)

"SOGAKOPE-LOMÉ WATER SUPPLY"

CROSS-BORDER PROJECT

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)

TERMS OF REFERENCE

September 2013

CONTENTS

1. INTRODUCTION

The Sogakope-Lomé Water Transfer project is a cross-border project jointly initiated by Ghana and Togo to capture water from the Volta at Sogakope for Lomé city in Togo and communities located along the Sogakope-Alfoa route. Both governments agree to implement the project as a public private partnership.

These communities are quasi-dependant on underground water tables for their drinking water supply. The aquifers in the project area have a limited or poor production capacity with high levels of chloride.

The project will include: a water intake on the Volta River at Sogakope, Ghana, a water treatment plant, water reservoirs and pressure-booster stations along the transfer pipeline in Ghana and a water reservoir delivery point in Sebge, Lomé.

The American company Lemna International Inc. carried out a Preliminary Design and Feasibility Study on the project in 2005.

Some elements of the environmental and social impact assessment are available in the Lemna report. This mission aims to update and produce a new report.

2. OBJECTIVES

A. *Main objective*

The main objective of the mission is to ensure sustainable development by insuring that the project installations do not compromise the quality of the environment beyond legal restrictions and international standards, and the populations affected by the project will be consulted and compensated according to standards and regulations in force. The main objective is to foresee and identify the environmental issues and related impacts of the project and formulate mitigation measures required to confine said impact within acceptable limitations. The mission will concern all environmental and social issues covered by the environmental and social impact assessment (ESIA), as they are treated internationally.

The aim of the ESIA is to ensure that the environmental legislation and regulations in force in Ghana and Togo and the practices and guidelines recommended by international financial institutions are satisfied. The ESAI also aims to determine the key environmental indicators and environmental components likely to be affected by the construction and operation of all project components.

The ESIA's final objective is to lead to the granting of national authorisations required to carry out the project, and thereby comply with all the African Development Bank (AfDB) and World Bank[1] (WB)'s environmental and social impact guidelines. Therefore, the ESIA must contain all plans and documents instructed by national legislations and the guidelines of these two international financial institutions.

[1] By "World Bank", we mean the World Bank and International Finance Corporation because the project may be the object of government or private partner financing.

B. *Specific **objectives***

The specific objectives are:

- Review current national environmental legislation, procedures and regulations in Ghana and Togo and identify procedures applicable to the project;
- Review the World Bank and AfDB's environmental safeguard policies and identify policies and procedures applicable to the project;
- Assess potential positive and negative impact of project on the physical environment;
- Assess potential positive and negative impact of project on the socio-economic environment;
- Assess mitigation measures and alternatives to project where necessary, and mechanism for incorporating mitigation measures into the execution of the project components and structures. Suggest and put a cost on compensation measures where necessary;
- Assess any technological risk;
- Assist Project Management Unit/Executing Agency in selecting a NGO to carry out participative consultation procedure with populations affected and beneficiary of the project;
- Draw up an Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF);
- Draw up an Institutional Implementation Framework for the future Environmental and Social Management Plan (ESMP) and Resettlement Action Plan (RAP);
- Draw up an Environmental Management Plan (EMP) and Resettlement Action Plan (RAP);
- Draw up a grievance redress mechanism;
- Supply an acceptable environmental impact assessment instrument for the issuing of environmental permit(s) to implement project;
- Supply clear instructions for supervising consultants and entrepreneurs on mitigation measures to be taken to keep environmental and social impacts within acceptable legal limitations;
- Make other recommendations as necessary;
- Identify needs to strengthening project stakeholders' capacities and propose a programme to do so to better implement the ESMP and RAP, if necessary.

3. ANTICIPATED OUTCOMES

The anticipated outcomes of the ESIA are as follows:

- A complete ESIA and Environmental and Social Management Plan (ESMP = Environmental Management Plan "EMP" + Resettlement Action Plan "RAP") are validated in compliance with current legislation;
- A HSE (Health/Hygiene, Security and Education) plan for operations is validated;
- A grievance redress mechanism is validated, as well as any other plan or document required by national environmental and social procedures or those of the AfDB and WB;
- The Executing Agency EA/PMU is able to select and hire an NGO to carry out participative consultation procedure with populations and corresponding outcomes (data logs/register) are published;
- An environmental monitoring programmed is put forward;

4. ENVIRONMENTAL ASSESSMENT FIELD OF APPLICATION

At the initial stage of the study, the environmental assessment will define the scoping of the ESIA to include in the study area all areas and communities directly or indirectly affected by the project or its alternatives, including by the accumulated impact of projects in the same geographic zone.
In particular, the ESIA requires the following specialised surveys to be completed:

- Noise pollution surveys;
- Hydrogeological surveys of project area;
- Geological and soil surveys;
- Surveys of flora and fauna, both land and aquatic;
- Socio-economic surveys;
- Air quality surveys;
- Traffic surveys.

In addition, a participatory consultation procedure is carried out by an NGO hired by the EA/PMU to:

- Inform populations about the project;
- Record their opinions and concerns;
- Incorporate public opinion into the decision-making process;
- Build up support for project.

This NGO will run consultations required for the ESIA with assistance from the Consultant (participation in approx 10 meetings, preparation of presentations).

5. GENERIC TASKS FOR ENVIRONMENTAL ASSESSMENT

As part of the ESIA, the Consultant shall carry out the following key generic tasks. These are indicative and the Consultant must detail in its proposal the methodological approach it intends to use to carry out the mission:

No.	Generic Tasks
1	Examine reference framework
2	Confirm scope of environmental assessment
3	Explain the project
4	Examine legislative, regulatory and administrative texts
5	Describe proposed project
6	Define project area
7	Analyse alternatives
8	Visit project area
9	Describe basic conditions
10	Conduct consultations and surveys
11	Assess impacts and propose prevention, mitigation and compensation measures
12	Prepare, produce and submit ESIA report, including ESMP, RAP, and other plans and documents required.

The ESIA of the construction project (water production/pumping station, pipeline, reservoirs, pressure-booster stations and all related structures and installations) requires that surveys of the situation are carried out before the work begins. The contents of these surveys must be included in the final version of the ESIA.

6. SCOPE OF WORK

In particular, the scope of the work will include the following elements:

A. *Basic data and reference framework*

Data related to the context of the project containing the following elements:

- Detailed description of project components and activities to be carried out;
- Drawing up and explanation of methods used for environmental assessment;
- Description of development project's purpose and objectives;
- Brief description of main components of proposed project and executing agencies, brief history of project and its current status;
- Description of relevant environmental laws, regulations and standards, and legislative instruments 1652 & 1703 on the Ghana Environmental Protection Agency (EPA) Law 490 of 1994 and Togo's environmental laws and regulations, as well as the AfDB/World Bank's environmental and social assessment procedural requirements relevant to the project, and any applicable instruments that may have specific authority over the project area;
- Specification of the project area boundaries for the purposes of the environmental assessment, including any adjacent or detached areas concerned by the implementation procedure that are to be considered as part of the project;
- Confirmation of the list of plans and documents required by national procedures and those of the WB and AfDB. At this time, it will be decided whether a full or simplified RAP is required depending on the number of inhabitants concerned.

B. *Description of proposed project*

A full description of project stakeholders will be the object of an environmental assessment, including, but not limited to, the list below, using appropriate scaled maps if necessary:

- Implantation map of project components;
- Equipment and methods to be used to reduce impact of civil engineering operations;
- Management, removal and processing of rubble and waste;
- Duration of civil engineering operations;
- Plans for installing and dismantling temporary works and structures;
- All other civil engineering operations, etc.

C. *Description of Environment*

The database of environmental features relevant to the project include, but are not limited to, the following features:

- Physical environment:
  i. Geology;
  ii. Geomorphology and bathymetry;
  iii. Sediment deposits;
  iv. Climate;

v. Wind;
vi. Waves;
vii. Soils;
viii. Vegetation;
ix. Surface and underground water resources (quantity and quality);
x. Ambient noise and dust.

- Biological environment:
  xi. Land ecology;
  xii. Aquatic ecology;
  xiii. Humid areas and other sensitive habitats.

- Socio-economic environment:
  xiv. Population;
  xv. Land use;
  xvi. Fishing areas:
  xvii. Education and training;
  xviii. Employment;
  xix. Economic activities (fishing, trade, tourism);
  xx. Local environmental bodies;
  xxi. Air quality;
  xxii. Noise;
  xxiii. National heritage and cultural property.

- Area's susceptibility to natural and technological disaster:
  xxiv. Area's susceptibility to flooding (consideration of climate change);
  xxv. Hurricanes;
  xxvi. Tides and storms;
  xxvii. Fire, and
  xxviii. Earthquakes.

D. *Potential impact of proposed project*

The Consultant must examine/confirm or complete and quantify the project's impacts during the construction and operational phases.

The Consultant will differentiate between positive and negative, direct and indirect and short- and long-term significant impacts.

Cumulative, unavoidable or irreversible impacts must be identified. Areas lacking information must also be identified through a critical analysis of the database and assessed in terms of their importance for the decision-making process.

Particular attention will be given to:

- Impact of project or works on water quality and supply, existing ecosystems, the air, soils and water resources;
- Impact of works on the stability of adjacent structures;
- Impact of project/works on existing activities of Ghanaian and Togolese water companies and other stakeholders' rights/activities;
- Impact of project on ambient noise levels;
- Impact of project on existing buildings (for example a resettlement action plan must be drawn up when project structures and works affect property owners);

- Impact of project on any historic, cultural and religious resources; and
- Potential of increase (or decrease) of water-related incidents and diseases.

E. *Analysis of alternatives to proposed project*

The Consultant must describe alternatives to the project that achieve the same objective in the event that the recommended project would lead to substantial negative impact. If an alternative project is deemed necessary due to environmental concerns, this project, accompanied with pertinent recommendations and explanations, must be presented to Ghana and Togo for their decision-making process.
Alternatives include both alternatives to the project itself (use of a source of water other than the Volta) and alternatives to certain parts of the project, in particular:

- Avoidance, alternative route;
- Change of equipment proposed for the project if these have a high potential impact;
- Options for waste removal and waste treatment sites, etc.

F. *Mitigation and management of negative impacts*

Mitigation measures: the Consultant must, after completing the activities above and sub-tasks, identify measures likely to prevent major negative impacts or reduce these to acceptable levels. Particular attention must be given to civil engineering operations to minimise disturbance of existing stakeholders' activities.

Mitigation costs: the Consultant must assess the costs of the mitigation measures, and the equipment and resources required to implement these measures and include these costs in the tender documents.

Where necessary, the Consultant will propose, define, discuss with stakeholders and assess the cost of compensation measures.

G. *Associated plans*

The Consultant will prepare the ESMP, RAP, grievance redress mechanism and all plans and documents identified in the first phase of the study to required standards.

7. STAFFING REQUIREMENTS

The Consultant's key staff must be bilingual (English/French). The consultant must submit its proposal for the organisation and assigning of staff required to carry out its services. The following key experienced staff will be required:

a) Environmentalist engineer with minimum Master's level diploma in Science and at least fifteen years experience managing ESIA, preparing ESMF, RPF, RAP and Institutional Implementation Frameworks and familiar with processing ESIA according to development banks' standards (AfDB, World Bank);
b) Ecologist: biologist with minimum Master's level diploma in Science and at least fifteen years experience in marine and land environments;
c) Sociologist: with minimum Master's level diploma in Social Sciences and at least fifteen years experience in management of social impact of infrastructure projects.

The Consultant will suggest any other specialised staff it he feels these are required to carry out the ESIA according to internationally recognised standards and good practices.

8. REPORTS, DEADLINES AND AMENITIES FOR CONSULTANT

A. *Reporting requirements*

Reports include:

a) A scoping report presenting the proposed reference framework and listing procedures to which the project is subject (national and AfDB/WB);
b) Draft of intermediary ESIA report presenting the initial state of the environment, in cartographic form;
c) Draft of final ESIA report, including related plans.
d) Final ESIA report, including related plans.

The Consultant must produce and provide Ghana and Togo with 15 copies of each of the reports required as part of the present mission.

The initial report (or inception report) will be compiled and include the ESIA implementation methodology in compliance with the present Terms of Reference.

All information, data and concerns collected from public consultations, document analyses, observations and land surveys will undergo strategic analysis in consideration of relevant environmental, socio-economic, cultural and health indexes. The analysis will look into the accumulated consequences and provide an overall assessment and full management of resources.

The ESIA draft report will contain at least the following items and must meet national requirements and those of the AfDB/WB:

- Executive summary;
- Political, legal and administrative framework;
- Description of project;
- Database;
- Environmental and social impact;
- Analysis of alternatives;
- Environmental and Social Management Plan;
- Public Consultations (Harmonisation and co-ordination with activities of NGO appointed to carry out participative consultation procedure with populations);
- Institutional Implementation Framework of future ESMP and RAP;
- Programme to strengthen capacities of Ghanaian and Togolese project participants;
- Summary cost estimate for implementing ESMF, RAP, Institutional Implementation Frameworks, programme to strengthen capacities of project participants, environmental management and resettlement action likely to be affected by project;

All reports will be created using the latest version of MS Word and Excel and provided in both paper and electronic form.

B. *Mission completion deadline*

It is estimated that the ESIA will take 12 months to complete. The Consultant shall propose a detailed performance schedule in their tender. Reports will be submitted at the following dates (D0 = data of signing of contract):

- Scoping report: D0+1 month;
- Intermediate report: D0+6 month;
- ESIA draft report: D0+10 month;
- ESIA final report: D0+12 month;

C. *Facilities to be supplied by the Client*

The Client is responsible for the following facilities:

- Providing access to available documentation related to project, studies and surveys, laboratory analyses and operational data;
- Taking provisions required to facilitate the consultant's work and provide access to governmental authorities, agencies of other sectors and sites of future project structures;
- Facilitate contract with other consultants working for Ghana and Togo, and with the project technical consultant with whom it may be necessary to co-operate to successfully carry out the mission.

Appendix A7: AWF's Communication and Visibility Guidelines

To AWF, brand visibility and communication greatly matter. Both visibility as well as steady and clear communication help build brand recognition, reputation and credibility through improved understanding of the AWF's mission and accomplishments. For a Special Fund entirely financed by donor contributions, image is key for keeping donors' trust and for attracting new ones. AWF donors and stakeholders expect contributions to be used to catalyze the development of the water sector in Africa through strategic projects expected to prepare investment projects, enable water governance and promote water knowledge, and they want evidence of it.

While AWF engages in reporting activities aimed at communicating its progress in all three areas, it is also important to broaden efforts to show its presence and contribution to the water sector in Africa by being more clearly associated with the projects it supports. The collaboration of AWF Grant Recipients (referred to as Recipient below) is instrumental in achieving this objective.

To that effect, the AWF has established visibility guidelines to help Recipients properly acknowledge AWF's contribution.

NOTE: *These guidelines are subject to negotiation between AWF and the Recipient to adapt to the reality of the Recipient and possible constraints that could prevent the Recipient from complying.*

GENERAL REQUIREMENTS

• At an early stage in the preparation process for communication activities, contact the Communication Officer at AWF Secretariat, copying the AWF Project Manager.

• At a minimum, and wherever possible, the AWF logo should be applied to all outreach materials. The proper use of the logo should be discussed with the AWF Communication Officer.

• The AWF should be verbally mentioned as donor of the project it is funding at public speaking events where the project is discussed, and also be mentioned as donor in any Power Point presentations relevant to the project funded by the AWF, using the name and the logo of the AWF appropriately.

• The logo is to be obtained upon request from the AWF Communication Officer.

• Documents and publications should contain the AWF logo, as well as this phrase on the cover page: "This project/program/study is funded by the African Water Facility".

• Implementing and executing agencies should always have a link to the AWF website on the page of their website relevant to an AWF-funded project/activity. The website is: www.africanwaterfacility.org

VEHICLES, SUPPLIES AND EQUIPMENT

•AWF generally requests that vehicles, supplies and equipment funded by AWF be clearly identified, and visibly carry the AWF logo and the phrase "Provided with the support of the African Water Facility" in English, French or Portuguese, as relevant.

•This requirement is subject to negotiation between AWF and the Recipient as some supplies and equipment may be exempt.

•The Recipient must provide evidence of compliance with this rule (digital photos sent by email are recommended.)

PRESS RELEASES & MEDIA ADVISORIES

• The AWF encourages and appreciates initiatives to issue joint press releases with its partners. A standard joint press release should be issued at least i) at the launch of the project at a time agreed by the AWF and the Recipient, and if possible ii) at project completion.

• When the Recipient wishes to produce a press release, liaising with the AWF Communication Officer is required, as well as receiving a quote from the AWF Coordinator, as appropriate, and getting approval and clearance.

• The AWF should be included in the title and/or first paragraph of the press release, as appropriate.

• The press release should incorporate the AWF logo, mention that funding was provided by the AWF, and mention the amount of AWF funding.

• If a press conference is planned, the press release should include the name of an AWF senior representative who will be present at the press conference, when relevant.

• All press releases must bear the name and contact information of the AWF Communication Officer along with the communication/media representative from the Recipient.

• The AWF boilerplate text ("About the AWF") must be added to the text, including the AWF web site address.

Boiler plate as at August 2012*:

About the African Water Facility (AWF)

The AWF is an initiative of the African Ministers' Council on Water (AMCOW) hosted by the African Development Bank (AfDB), established in 2004 as a Special Water Fund to help African countries achieve the objectives of the Africa Water Vision 2025. The AWF offers grants from €50,000 to €5 million to support projects aligned with its mission and strategy to a wide range of institutions and organizations operating in Africa. Its three strategic priority activities are (1) **preparing investment projects** to mobilise investment funds for projects supported by AWF; (2) **enhancing water governance** to create an environment conducive for effective and sustainable investments; (3) **promoting water knowledge** for the preparation of viable projects and informed governance leading to effective and sustainable investments. Since 2006, AWF has funded 73 national and regional projects in 50 countries, including in Africa's most vulnerable states. It has mobilized more than € 420 million as a result of its project preparation activities, which constitute 70 percent of its portfolio. On average, **each €1 contributed by the AWF has attracted € 20** in additional follow-up investment. The AWF is entirely funded by Algeria, Australia, Austria, the Bill and Melinda Gates Foundation, Burkina Faso, Canada, Denmark, the European Commission, France, Norway, Senegal, Spain, Sweden, the United Kingdom, and the African Development Bank. For more information, visit www.africanwaterfacility.org

*This text is updated once or twice a year.

• The rules above also apply to media advisories.

PRESS CONFERENCES

• Press conferences to launch projects funded by the AWF should be organized in cooperation with the AWF, as much as possible.

• The invitations should bear an AWF logo.

• The AWF logo of a visible size should appear on any banner or poster to be displayed at the site of the conference.

• Press kits need to include a press release with the AWF logo.

• Whenever possible an AWF banner should be on hand and set up to serve as a backdrop for TV and photo purposes.

PRESS VISITS

• When appropriate, journalists should be invited to visit the project funded by AWF, accompanied by representatives of the AWF or the AWF Focal Point in the respective authority / government of the Recipient.

VISITS BY GOVERNMENT OFFICIALS, AWF DONORS

• Visits to projects by government officials and AWF donors are encouraged. Those should be prepared in coordination with the AWF and the AWF Focal Points of the host government. This can include meetings with local beneficiaries.

• These visits may also include government officials and AWF donors' participation to round tables and other events, as relevant.

LEAFLETS, BROCHURES AND NEWSLETTERS

• All leaflets and brochures relevant to the project/program financed by AWF should incorporate the basic elements of the AWF visual identity, i.e. the AWF logo -with or without tagline.

• Leaflets and brochures produced by a Recipient must also incorporate a definition of the AWF (boilerplate text).

• The cover page of all documents pertaining to the project financed by the AWF must clearly identify the activity as being part of an AWF-funded activity.

• Copies, including electronic copies of the publications, should be made available to the AWF.

ELECTRONIC COMMUNICATION

•Electronic communication disseminating information on AWF-funded projects including websites, newsletter, and social media, should link to the AWF website.

SIGNAGE

• The Recipient should produce display panels, posters or banners to promote their AWF-funded or AWF-related activities at exhibitions and other events, placed in strategic locations for all to see.

PHOTOGRAPHS AND AUDIOVISUAL PRODUCTIONS

• Professional high resolutions (300 Dpi) digital photographs of the project funded by AWF should be supplied to the AWF throughout the different phases of the project, to document the progress of actions and events related to these, and to be used in print and online publications.

• All photos should be submitted with full caption and credit information.

• The AWF will be entitled to use or reproduce photos submitted to it without payment of royalties.

• Whenever relevant, audiovisual materials should acknowledge AWF support, by featuring the AWF logo at the beginning and/or end of the movie/documentary.

• Copies of the movie(s) / documentary (ies) should be supplied to the AWF.

COMMEMORATIVE PLAQUES OR SIGNAGE

•Whenever relevant, the Recipient should place a permanent plaque, or some other type of large, commemorative signage in the most visible part of the building, infrastructure or nearby the project site, which received funding by AWF, beside the name of the implementing agency and/or name of the project, for visitors to see.

•When appropriate, the plaque or signage could contain the following sentence: "This [name of the infrastructure] was funded by the African Water Facility" alongside the AWF logo.

PROMOTIONAL ITEMS

• Before taking any decision on the production of such items, the Communication Officer at the AWF should be consulted.

• Promotional items bearing the AWF logo can be distributed to support communications activities related to the project funded by AWF. This may include T-shirts, caps, pens, notebooks, USB keys etc.