

Technical Assistance for development of St Paul River & WAPP Integration

Terms of Reference for the Environmental & Social Impact Assessment (ESIA) & Resettlement Action Plan (RAP)

Additional Financing (AF) to the IDA Grant to West African Power Pool (WAPP)

Terms of Reference

A. Background

1. **Regional Sector Context.** Despite sub-Saharan Africa’s large energy endowment, more than 620 million people (two-thirds of the population) in that region are without access to electricity. For those that do have electricity access in sub-Saharan Africa, average residential electricity consumption per capita in 2014 is equivalent to around half the average level of China or one-fifth of Europe¹.
2. Faced with the task of expanding the power system to meet development needs, the 15 member states of the Economic Community of West African States (ECOWAS), have acknowledged that past efforts to achieve national self-sufficiency in electricity supply have been uneconomic due to the high cost of establishing power generation and transmission infrastructure.
3. To address these challenges, ECOWAS put in place in 1999 the West African Power Pool (WAPP), a cooperative power pooling mechanism for integrating national power systems into a unified regional electricity market, with the expectation that this mechanism would assure their citizens of a stable and reliable electricity supply at affordable cost, over the medium- to long-term. The WAPP, a ‘flagship infrastructure project’ of the New Partnership for African Development (NEPAD) is foreseen to foster the development of electricity in all ECOWAS member states. The Implementation Road Map of the WAPP Infrastructure Program consists of five sub-programs that will converge into a unified, well-functioning regional power pool when completed (see Table 1 and Figure 1 below).

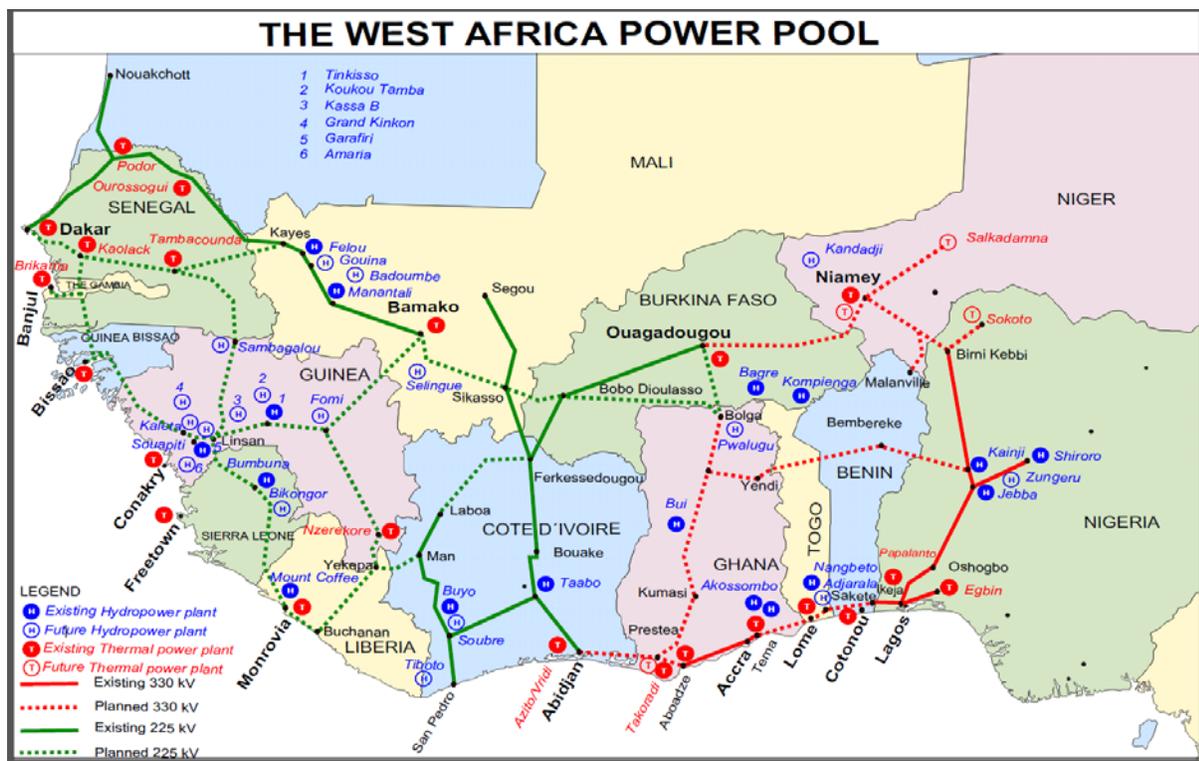
TABLE 1. WAPP INFRASTRUCTURE PROGRAM

Subprograms	Countries	Objectives
Coastal Transmission Backbone	Côte d'Ivoire, Ghana, Benin/Togo, Nigeria	Establish a robust interconnection link between the ECOWAS Coastal Member States.
Inter-zonal Transmission Hub	Burkina Faso and Mali via Ghana, OMVS via Mali, Liberia-Sierra Leone-Guinea via Côte d'Ivoire	Establish more secure, reliable transmission corridors for transfer of low cost energy to displace diesel-based sources especially in Burkina Faso, through Ghana and Côte d’Ivoire, and OMVS (<i>Organisation pour la mise en valeur du fleuve Sénégal</i>) through Mali.
OMVG/OMVS Power System Development	The Gambia, Guinea, Guinea Bissau, Mali, Senegal	OMVG (<i>Organisations pour la mise en valeur du fleuve Gambie</i>) interconnects national systems of The Gambia, Guinea, Guinea Bissau, Mali, Senegal and secures access to sources of low cost energy to be built

¹ World Energy Outlook 2014 Factsheet: Energy in Sub-Saharan Africa today, International Energy Agency.

		on the Gambia River, the Senegal River, and the Konkoure River Basins.
North-core Transmission	Nigeria, Niger, Burkina Faso, Benin/Togo	Upgrade and extend existing capacity to transfer low cost energy supply from Nigeria and Niger to Niger, Burkina Faso, and northern Benin and Togo.
Côte d'Ivoire–Liberia–Sierra Leone–Guinea Power System Re-development	Côte d'Ivoire, Liberia, Sierra Leone, Guinea	Interconnect Côte d'Ivoire, Liberia, Sierra Leone, and Guinea into the WAPP Energy System and develop the hydropower resources in the sub-region.

FIGURE 1. MAP OF WAPP INFRASTRUCTURE



4. **Liberia Electricity Sector.** The Liberia electricity sector has recovered from near total destruction in the aftermath of the war. Electricity services have been re-established in key areas of Monrovia; the national utility, the Liberia Electricity Corporation (LEC), had 45,714 customers as of November 2016, up from 2,469 in 2010. With the support of international donors, including the World Bank, the country has embarked on access projects to expand the national grid in Monrovia and along key economic corridors and to use decentralized systems in remote areas of the country. Peak demand in the national grid increased from four MW in 2010 to 19.6 MW in February 2017, and 74 MW of generation were in place in as of December 2016 (14 MW diesel, 38 MW heavy fuel oil, 22 MW hydro). While significant progress has been made, Liberia still has one of the lowest electrification rates in Africa, with 4.9 percent coverage nationally and 20 percent in Monrovia. Liberia also has an extremely high tariff at 39 US cents/kwh as of Feb. 1, 2017, even after the reduction of the tariff from 49-52 US cents/kwh following the introduction of lower cost electricity from the Mount Coffee Hydropower Plant and 38 MW of HFO-based plants in December 2016. Electricity remains unavailable and unaffordable for most Liberians. Poor households rely on informal and expensive ad

hoc providers or on traditional energy sources (kerosene and battery powered lamps, etc.). The high tariff also imposes a severe burden on businesses, reducing their competitiveness. There is a large amount of repressed demand among mines and agricultural/commercial enterprises that rely on expensive diesel based self-generation.

B. Activities to be covered by the ESIA & RAP Studies

• These activities will be undertaken under component 2 of the Additional Financing to the WAPP CLSG regional transmission project. This component is dedicated to fostering the regional supply of electricity and strengthening the technical integration of the WAPP network. The component, implemented by the WAPP Secretariat, has two sub-components.

- *Sub-component 2.A: Supply Alternatives Studies and Project Preparation Support* (US\$10 million IDA). Under this sub-component key studies are being conducted to ensure that in the medium to long-term the generation capacity along the CLSG line is developed in a timely manner and in accordance with least cost principles.
- *Sub-component 2.B: Technical Assistance and Integration of WAPP network* (US\$21.5 million IDA). This sub-component supports the integration of WAPP networks and provides technical assistance. It includes updates of studies on the optimal technical specifications for synchronization of the national networks of nine ECOWAS countries and Mauritania, and the supply of equipment based on the results of these studies to strengthen the networks in a coordinated manner. It also finances the hiring of specialized experts for the WAPP Secretariat to strengthen its technical expertise and foster its role as a leading institution in the development and improvement of energy markets in the region.

5. Under **Component 2.A**, the AF would provide additional IDA Grant resources for sub-component 2A, *Supply Alternatives Studies and Project Preparation*, in order to finance identification of optimal development of hydropower generation on the Saint Paul River. Considering the potential importance to the CLSG of development of the hydro resources of this river, this support will revise/update existing studies on the Saint Paul River and seek to define optimal development options. The assistance will include (i) update of the least cost power development plan for transmission and generation to confirm the priority of developing the hydro electrical potential of the Saint Paul River, (ii) optimization of the hydrological resources and power production regime of the Saint Paul cascade to define the best option (s) for developing generation capacity and a reservoir on the S.t Paul River; (iii) technical feasibility studies (including geotechnical and topographic investigations) of the priority sites for the generation and the reservoir; (iv) socio-environmental assessments of the option (s) deemed technically sound; and (v) options for financial structuring of the project, including possible participation of private investors or commercial financing. Based on these studies, the assistance will aim to facilitate an informed decision by Liberian decision makers when selecting the final scenario for development of the Saint Paul River.
6. These terms of reference cover the preparation of the ESIA and RAP of development of the hydropower generation on the Saint Paul River in Liberia.

C. Objectives of this Consultancy

7. E&S aspects of component 1 being managed by the parent project, the aim of this consultancy is to assist the WAPP and Liberian Authorities in environmental and social activities that may arise linked to Component 2. Practical activities identified so far include: (i) Phase 1: in close collaboration with the engineering consultancy in charge of technical studies, review of the environmental and social scoping of different alternatives that will be considered under the initial River Basin Optimization Study and (ii) Phase 2: preparation of the ESIA and associated Environmental and Social Management Plans (ESMP) and Resettlement Action Plan (RAP) for the two priori schemes selected in first phase. At this stage it is anticipated that the priority schemes will include (i) Via Reservoir at the head of the River basin for regulating flows and (ii) one hydropower scheme downstream (see Annex 2) including the transmission line to evacuate energy to the CLSG and the national system.
8. A joint committee with representatives from the WAPP and the GoL will represent the Client for this Consultancy.
9. The Consultant shall ensure that all positive and adverse impacts associated with construction and operation of the Project, including all associated/ancillary works and linked activities if any, are taken into account. Specific objectives of the consultancy include:
 - To carry out site investigations to collect primary data and review all available relevant secondary data to establish a comprehensive environmental and social baseline for the Project Area of Influence;
 - To screen, identify and assess potential positive and adverse environmental and social impacts, including direct, indirect, cumulative and induced environmental and social impacts associated with all Project activities in the Saint Paul River basin, including access roads, transmission lines, work camps, resettlement sites and labor influx ;
 - To develop proposed measures to avoid reduce, mitigate, manage and/or compensate for such impacts, including the institutional arrangements and required capacity building to implement all such measures and monitor their effectiveness;
 - To identify potential opportunities and design appropriate measures to maximize complementary economic, financial, environmental and social benefits of the Project;
 - To ensure that all affected people receive assistance to enable them to improve or retain their pre-Project living standards and be able to participate and share the benefits of the development; for this purpose prepare a Local Development Plan as a separate report.
 - To ensure that impacts on vulnerable communities are avoided, minimized, mitigated and/or compensated, and that mechanisms are designed to ensure their meaningful participation during Project planning and implementation, and that they receive appropriate benefits under the Project;
 - To conduct a public consultation process, as described in the Stakeholder Engagement Plan (SEP), that ensures that Project affected people and other stakeholders are informed about the Project and its possible impacts, as well as offered the opportunity to share their opinions and feedback so as to input into these environmental and social assessment, planning and design studies and their implementation; and
 - To document all of the above mitigation and development interventions in appropriate forms and formats to be further discussed and agreed upon with the Client and in compliance with World Bank Safeguard Policies, World Bank Performance Standards, which apply if there is private sector involvement, and applicable Environmental, Health and Safety Guidelines, such as the General EHA Guideline of April 2007 and the EHS Guidelines for Electric Power Transmission and Distribution.
10. The Consultant shall carry out this assignment by reviewing and drawing from information collected under previously conducted studies, supplementing it through additional literature research and field data collection and planning activities that would vary across the different assignment tasks and

finally through close collaboration with the consultancy in charge of technical studies. The Consultant shall validate and report on the quantity and quality of the available data.

11. The Consultant shall ensure that the environmental and social assessment, planning and design outputs of this assignment will comply with and meet the legal and technical requirements of the Government of Liberia and World Bank² environmental and social policies. It is emphasized that under current procedures of the World Bank, the ESIA and the RAP shall be prepared by an independent consultant that has no conflict of interest resulting from being or having been the lead consultant and/or member of a consortium or joint venture responsible for undertaking the feasibility and pre-design studies for the project. This assignment is considered complete only upon approval and clearance of the final versions of the required environmental and social assessment and planning documents by the Government of Liberia, with concurrence from the World Bank.
12. Given the size of the Project, in accordance with World Bank Safeguard Policies and Performance Standards and EHS Guidelines, an Independent Panel of Dam Safety, Environmental and Social Experts (IPOE) will also be contracted separately to provide guidance throughout the environmental and social assessment and planning process. The Consultant's draft and final deliverables will thus also be subject to review by the IPOE, as part of the Government's review and approvals process.

²The Consultant is also encouraged to consider other relevant international standards including those of other international financial institutions, export credit agencies, and private sector investors (e.g., IFC Performance Standards, International Hydropower Association Sustainability Guidelines, Equator Principles etc.), and detail applicable aspects of those standards in the assessment process when they are more stringent.

Scope of Services

13. The assignment will be carried out in synchronization with the engineering design assignments for the Project, which will be contracted separately. The Client will facilitate the interaction between the Environmental and Social Consultant (hereafter, “the Consultant”) and the Engineering Design Consultant. The two consulting firms shall be expected to interact and share data, analyses and recommendations as relevant to the other’s assignment in a timely manner (for instance the Lidar data to make an assessment of the order of magnitude of resettlement).
14. The ESIA will have to assess and verify the applicability of the World Bank Safeguards Policies and Performance Standards in the context of the proposed operation.³ In addition, if Bank financed, the proposed project would be subject to the provisions of the Access to Information Policy and other related World Bank requirements concerning the disclosure of environmental and social information. These requirements include disclosing the ESIA and its supporting studies in draft and final versions at the Website of the World Bank, in-country at the project sites and with pertinent government agency (ies) within Liberia . Key documents should be made available in English.
15. The ESIA and RAP Studies shall cover the areas which will be affected by the priority schemes, including but not limited to the dam sites, the flooded areas by future reservoirs, transmission line right-of-ways and necessary access roads.

Task 1: Environmental & Social Screening and Scoping – Support to the identification of priority schemes

16. As a first task, the Consultant is expected to identify the Project’s salient environmental and social aspects and potential impacts to be studied in more detail, verify the scope of the detailed studies to be undertaken, carry out initial public consultations, and develop detailed a work plan to carry out the studies. The specific subtasks are outlined below:
 - a. *Review of all available existing information* on social and environmental baseline conditions and potential impacts related to Via Reservoir and other hydropower projects planned in the basin. The Engineering Consultancy will provide Lidar data (with enough level of accuracy to identify households and crops) as well as description of potential projects (including different dam and reservoir levels) considered in the Optimization Study. Several previously conducted studies will be made available by the Client – see Annex 3 for an initial list. The Consultant will also be responsible for identifying any other existing studies or data of relevance to the assignment.
 - b. Carry out an *initial site visit* including formal and informal discussions / meetings with local communities, government entities and other key stakeholders, in order to ground-truth the information reviewed from existing sources about the Project’s social and environmental context, complete an initial screening of likely environmental and social impacts and sensitivities, and enable logistical planning of additional required fieldwork to complete the full analyses and plans. All site visits will be arranged with the relevant stakeholders with advance notice.
 - c. *Coordinate with and review all deliverables from the St Paul’s River Optimization study*: based on previous activities, the Consultant will collaborate with the Engineering Consultancy in charge of identifying optimal development scenario for the development of St Paul River basin. The Consultant will in particular review how socio-environmental aspects have been integrated

³ The World Bank Safeguard Policies include: Environmental Assessment, Natural Habitats, Forests, Pest Management, Safety of Dams, , Physical Cultural Resources, Involuntary Resettlement, and Projects on International Waterways.

in the exercise and participate to the workshop that will be mobilized towards validation of the two priority reservoir and HPP schemes to be developed.

d. Prepare a detailed *Scoping Report*, to consist of the following components:

- i. Definition of overall Project Area of Influence (including Environmental and Social Impact Zones);
- ii. Summary of findings on the key social and environmental baseline aspects and potential impacts, including an indicative assessment of scale and severity, which should be included for further study in the environmental and social assessment and planning studies (to incorporate the social impact matrix as described in this ToR);
- iii. Confirmation on the applicable World Bank Safeguard Policies and Performance Standards, as well as GoL national standards and regulations which apply to the Project (such as Solid Waste Management Act, Local Self Government Acts, etc.), broken down by the Project's major components;
- iv. Draft TORs / outlines of each of the environmental and social assessment and planning studies to be undertaken based on the issues identified during scoping process (two schemes are anticipated to be considered at this stage).

e. The format of the report should include both a write-up as well as a summary presentation (in English) to use in the first round of formal stakeholder consultations.

17. ***Key expected outputs of Task 1:*** (a) *ESIA Scoping document and review of the Optimization Study.* (b) *ESIA TOR / outlines for each environmental and social assessment and planning study to be carried out under subsequent tasks of the consultancy, reflecting the feedback received from stakeholder consultations as well as the Client, the World Bank, and the International Panel of Experts, and submitted for approval by Environmental Protection Agency.* (c) *A detailed work plan for carrying out the assessments.*

Task 2: Environmental Impact Assessment

18. Once approval of the detailed assessment TORs has been received, the Consultant shall develop one or more Environmental and Social Impact Assessment (ESIA) reports, including Executive Summary in English (and related public consultation materials), for the Project. The final decision on how the assessment and management planning results should be presented will be made at the screening and scoping stage of this assignment (e.g., Task 1). Regardless, the process should include the key elements outlined below, and also shall ensure consistency with World Bank requirements for Environmental Assessment as per World Bank OP 4.01 Annex A (see Annex 4), as well as the Government of Liberia requirements for ESIA. The resulting deliverables shall also include a single unified Executive Summary in English as outlined further below.
19. In addition to environmental aspects, the study or studies shall incorporate social baseline, impact assessment, and management information, the key aspects of which are described in more detail in Task 3 of this phase of the consultancy, such that the final deliverables present an integrated assessment of both environmental and social aspects of the proposed Project activities. While social and environmental components of this overall consultancy are presented separately in these TOR, the multi-disciplinary Consulting team is expected to work collaboratively to ensure holistic analysis of social and environmental project impacts (for example, in assigning significance to environmental impacts in light of the socioeconomic or cultural value of the affected resource), as well as to capture and assess potential secondary effects of proposed mitigation measures (such as environmental impacts associated with project resettlement, or socioeconomic impacts associated with proposed environmental conservation and offset programs, etc.) For specific social aspects which are expected to produce their own stand-alone planning documents as outlined in Task 3 below, the integrated

ESIA(s) shall summarize relevant aspects of these more detailed studies. In addition, any other relevant social impact and management aspects identified in the final approved version of the ESIA ToR (output from Task 1 of consultancy) should be covered. The entire scope of work under this task shall be covered in the ToR and the ESIA shall be conducted based on the approved ToR.

20. **Baseline studies.** To underpin the ESIA(s) and additional studies as outlined in these terms of reference, the Consultant shall assemble, evaluate, and present baseline data on all relevant environmental and social characteristics of the full Area of Influence, including data collected from primary (field) and secondary sources, spanning physical, biological (both aquatic and terrestrial), socioeconomic, health, political, ethnic, and cultural aspects. Some information may already be available from the feasibility studies and previous environmental studies, but may need to be updated. The Consultant should evaluate the methodologies used as well as geographic and temporal coverage of past fieldwork and, where deemed insufficient to meet international standards, should carry out additional fieldwork to fill in gaps. Full scoping of the baseline studies will be formulated during the screening and scoping phase of the consultancy (Task 1) with a view to focusing on the most relevant and important aspects; nonetheless, key aspects are presumed likely to encompass the following (for hydropower component, access roads and transmission lines):

a. *Physical context, including:*

- i. *Hydrology:* Describe the extent and characteristics of the catchment area of the Project in relation to the larger watershed. Based on inputs from the Engineering Studies, summarize the current flow regimes of the Saint Paul River, its tributaries and other water bodies as applicable in the Area of Influence, showing its context within the full watershed, and transboundary aspects.
- ii. *Soils, sediment movement, sedimentation, and erosion:* Include a characterization of soil types, locations and qualities. Characterize erosion rates in the project area, noting the corresponding geological conditions, slope steepness, vegetation type, and present land-use conditions. Describe the dynamics of sediment movement in the watershed, along with seasonal variations in the estimated amounts of suspended sediments and bedload presently transported past the dam sites.
- iii. *Water quality:* Describe the baseline water quality of the Saint Paul River, its tributaries, and other water bodies in the Project Area of Influence in terms of parameters relevant to public health and aquatic resources (e.g. biota, biodiversity, and habitat). Include seasonal variations in water quality and relationships to flow and other controlling factors. Water quality parameters of Saint Paul River shall be measured at least for headworks, reduced flow zone and powerhouse tailrace area.
- iv. *Physical cultural resources:* Carry out field reconnaissance, review of literature, and interviews / questionnaires with key stakeholders (including relevant government bodies, academics, NGOs, local religious leaders and elders, etc.) to identify and characterize any sites, structures, or natural features and landscapes in the Project Area of Influence – above ground, underground, or underwater – that are of archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Indicate whether any identified cultural resources are subject to special treatment under national law. Indicate the likelihood of “chance finds” during project construction, and the presumed typologies of such finds.

b. *Biological context, including:*

- i. *Aquatic ecology:* A detailed characterization of aquatic flora, fauna and natural habitats based on full seasonal field data, secondary information, as well as interviews with local residents. This would include, in particular: migratory and endemic species (including any applicable conservation or protection status, and IUCN Red List status),

economically or culturally important species, and others which play important ecological functions as food sources or sustainers of the habitat of identified key species. Characterization of migratory patterns, including length and season of migrations (in both tributaries and mainstem river, as applicable), as well as spawning locations and habits should be included.

- ii. *Terrestrial ecology*: A detailed characterization of terrestrial flora, fauna and natural and critical natural habitats based on full seasonal field data, secondary information, as well as interviews with local residents. The field surveys should include large and small mammals, such as bats, birds, reptiles, amphibians. This would include, in particular: migratory and endemic species (including any applicable conservation or protection status, and IUCN Red List status), economically or culturally important species, and others which play important ecological functions as food sources or sustainers of the habitat of identified key species. The multiple bio-climatic zones along the slopes of the valley should be characterized, including the interaction of species within the various zones, and areas of importance as corridors for wildlife movement throughout the region. For avifauna, the baseline should in particular make note of any migratory flyways or Important Bird Areas (IBAs), and also characterize species which may be particularly susceptible to impacts from project activities and infrastructure (due to, for example, their propensity for perching, roosting, and/or nesting on power transmission lines, poles, or towers; physical characteristics or behaviors which could increase risk of collision, etc.).
- iii. *Natural habitats*: For both aquatic and terrestrial habitat, the baseline should include a determination on the presence of critical natural habitat as defined by World Bank OP 4.04.⁴ All areas of critical natural habitat identified should be fully characterized, including their legal conservation status and administration and any relevant land or resource use restrictions. For legally protected areas, the capacity of entities responsible for its management should be assessed.

c. *Socioeconomic, cultural and health context, including:*

- i. *Water use and users*: Identify all existing water uses, including both permitted and non-permitted, for the Saint Paul river, its tributaries, and other water bodies in the Project Area of Influence, such as for irrigation, domestic consumption, industry (if any), recreation, etc. Identify the user groups for each.
- ii. *Land use*: Characterize current land uses in the project area and indicate major trends in land use change which are taking place irrespective of the proposed project. This process should include remote sensing through current satellite imagery and ground verification for preparation of thematic forest-cover and land-use maps. Land-use change trends should also be considered to understand the dynamics of land-use and recent forest-cover change trends.
- iii. *Land tenure*: Characterize types of land tenure (e.g., titles, customary), formal and informal institutions related to land tenureship, and modes of land transactions in the project area (a full land and asset registry for individuals and households to be affected/displaced will be prepared separately as part of the Resettlement Action Plan).

⁴ *Critical natural habitats are defined by World Bank Operational Policy 4.04, Annex A to include existing protected areas and areas officially proposed by governments as protected areas (e.g., reserves that meet the criteria of the IUCN classifications); areas initially recognized as protected by traditional local communities (e.g., sacred groves); sites that maintain conditions vital for the viability of these protected areas; areas with known high suitability for biodiversity conservation; and sites that are critical for rare, vulnerable, migratory or endangered species. Refer to the operational policy for additional guidance.*

- iv. *Demography and ethnicity*: Develop a demographic and ethnic profile of the population in the project area. For communities specifically affected by the project, describe in detail their history, physical spread, social clustering, cultural and traditional characteristics, interactions and relations among various groups.
 - v. *Livelihood activities*: Characterize economic and subsistence-oriented livelihood activities, both for communities residing within the Project Area of Influence as well as for individuals or industries which depend on resources in the Project Area of Influence. Discuss in particular those activities related to fisheries, forestry or forest products, or other natural resources, as well as agriculture and industry (if any). Discuss gender related work load sharing and family economy; dependency and use of local and external resources; and production and marketing systems and patterns.
 - vi. *Socioeconomic development status*: Map out the socioeconomic development status of the project area, including resource conditions, economic activities, employment sources and trends, infrastructure and service provision (education, transport, extension services etc.), as well as local development needs, priorities, challenges, and planned or ongoing development interventions. Include a baseline poverty mapping, along with discussion of causes thereof. Develop a socioeconomic baseline for affected communities covering indicators specific to living standard and well-being.
 - vii. *Community health*: Provide an overview of key health issues, focusing on the presence of any disease vectors which may become more prevalent in the area due to the project (for example, waterborne vectors who inhabit slow-moving or standing water, such as Anopheles species transmitting malaria and snail hosts for intestinal and urinary bilharzia; HIV/AIDS or other sexually transmitted diseases which may become more prevalent due to worker influx, etc.), as well as the coverage and quality of health services available in the project area.
 - viii. *Vulnerable peoples*: Identify the presence of vulnerable people residing in the project area and compile information on their specific demographics, socio-cultural features, livelihood and employment patterns, use of natural resources, formal and information institutions,. Discuss social cohesion and leadership institutions. Provide gender-specific information as possible. *Religion and culture*: Provide relevant information on community festivals and rituals, in particular those involving the Saint Paul River or its tributaries, or other key resources to be affected by the project.
21. The above tasks will be conducted through desk reviews, field verification and consultations with stakeholders, particularly local communities. This will require the Environmental and Social Consultant to work closely with the Engineering Design Consultant. All consultations shall be documented.
22. **Impact analysis.** Assess all direct, indirect, and induced impacts and risks in both the short-term and the long-term resulting from both construction and operation stage activities of the Project, and propose mitigation measures for each. (Cumulative impacts are discussed separately below.) The analysis should follow an internationally recognized methodology to assign significance levels to each identified impact, both before applying recommended mitigation measures and afterwards (e.g. residual impact). The analysis should also include an inventory of communities (e.g. number of households and structures to be potentially affected), that are likely to be affected and differentiate the types and levels of impacts upon different communities. While the full scope of coverage of the impact analysis will be verified during the screening and scoping stage in order to reflect the highest priority issues, the following issues are considered likely to be relevant:

- a. Changes to flow rates and patterns, velocities, water depth and water quality of the Saint Paul River and tributaries and to groundwater characteristics in the region;
- b. Loss of river connectivity and impacts to migratory fish and other aquatic biodiversity;
- c. Environmental flow analysis, to determine the required minimum flow to be released from each dam at all times in order to sustain the valued river functions identified in the baseline assessment. Assess the need for an artificial flood. Relevant valued river functions to consider span both ecological (including downstream as well as upstream aquatic biodiversity and habitats, fish migration pathways, etc.) as well as socioeconomic (to sustain fisheries, irrigation needs, domestic use, or other river-dependent livelihood activities), recreational, religious and cultural functions. The flexibility in varied seasonal environmental flows should also be considered. Any potential effects of the environmental flow requirements on power generation should also be explicitly identified and flagged to the design consultant team;
- d. Forest loss in terms of area, type of forest and species with details of the loss of listed species in the IUCN Redbook. The forest loss shall be calculated for each project component and facilities;
- e. Impact due to quarry site selection, site management, and spoil disposal;
- f. Landslide and soil erosion impacts and slope stability;
- g. Quantification of the degree of degradation or loss of natural habitat and critical natural habitat (both aquatic and terrestrial) from direct construction and operation as well as induced from increased use or demand on forests and associated wildlife (including timber and non-timber products). This should include, in particular, a discussion of impacts on designated conservation area that could be affected (which should also be presented in a specific/separate chapter of the final assessment, along with any corresponding mitigation measures). Assessment of any loss of terrestrial and aquatic biological connectivity.
- h. Impacts from blasting activities on both natural and human receptors;
- i. Impacts related to upstream and downstream changes to sediment movement, sediment deposition, sediment composition, and erosion;
- j. Downstream impacts related to peaking pond flushing;
- k. Impacts of water impoundment on river bed levels and reservoir bank stability;
- l. Impacts of permanent and temporary land acquisition on land use patterns, topography, geology, and slope stability;
- m. Impacts of underground excavation and construction works on ground water recharge dynamics, and subsequent effects on any existing spring water sources for local communities;
- n. Changes in drainage patterns and resulting effects due to construction of project components and access roads;
- o. Impacts to public health via potential water logging and degradation of land, changes in flow dynamics, such as standing water and water quality;
- p. Impacts related to disposal of used lubricants and toxic chemicals, solid and liquid waste from camps;
- q. Potential deterioration in air quality and increased noise pollution due to construction and operation activities;
- r. Dam safety risks and issues, including analysis of the impacts to human life and livelihood, natural and built environment in the event of dam failure;
- s. Impacts on traffic safety due to increased flow of heavy vehicles carrying construction material, workers etc;

- t. Both beneficial and adverse impacts related to access roads, including increased economic connectivity for local communities, as well as various negative impacts associated with construction and ongoing use of the roads (such as, in particular, slope stability and erosion, land acquisition and involuntary displacement of households or economic activities, impacts to surface water sources, noise and air pollution from vehicle use, dust generation, risks and impacts associated with tunneling, changes in land use induced by improved road access and influx, etc.
- u. Gender-specific impacts on household activities, employment at project site, illegal trafficking etc;
- v. Induced impacts from Project-related influx – including increased stress on natural resources (especially forests), pollution and waste management issues, strain on local services and infrastructure, safety and health issues for the local community, prostitution, etc.;
- w. Summary of all other social impacts covered under task 3.

23. **Cumulative Impact Assessment (CIA).** In conjunction with the ESIA(s) for the hydropower, access roads, and transmission line components of the Project, the Consultant shall undertake a Cumulative Impact Assessment for the overall Project, focusing on identified Valued Environmental (and Social) Components (VECs) which may be affected by the Project, and recommending project-level as well as strategic planning level recommendations for minimizing negative impacts and maximizing positive impacts associated with the hydropower development. The specific subtasks shall include:

- a. *River basin planning and management framework.* Compile information on the legal and institutional framework of water resources management in Liberia as well as information on the main actors and current activities related to river basin management for the Saint Paul with a particular focus on other planned hydropower or irrigation investments both upstream and downstream.
- b. *Identification of stressors.* Conduct a desk study to identify and describe all existing or reasonably foreseeable investments, facilities or activities (“stressors”) which have impacts on the flow regime (including connectivity, if migratory fish species which depend on such connectivity are present), water demand, or water quality in the Saint Paul River and its tributaries throughout the watershed (including any significant upstream uses and planned or ongoing investments in Liberia). This will include a preliminary estimation, based on previous studies and aerial information, of natural and regulated flows as a result of existing or planned hydropower plants and abstraction for other purposes. It will also include a preliminary identification of possible sources of sediment or contaminants that may potentially alter water quality within the projects’ direct areas of influence.
- c. *Preliminary identification of VECs.* Based on thematic data and previous studies, identify the potential receptors which could be significantly adversely (or also positively) impacted by the identified stressors – i.e., the Valued Environmental (and social) Components. The prioritized VECs should consist mostly of receptors most vulnerable to hydrological or water quality changes that affect the flow regime, aquatic and riverine ecosystems and economic activities and livelihoods depending on water from the Saint Paul River (e.g. fisheries, irrigated agriculture). Priority VECs might also include key receptors of the major expected on-land impacts associated with the cumulative effects of improved access to the project area, from both the access roads of the proposed project as well as other hydropower project access roads and road/highway projects planned for the area. The nature of the impacts will be described and their scale assessed in a qualitative manner. The VECs will also be finalized through consultation with the locals.
- d. *Site visits and consultations to prioritize VECs.* Guided by the results of the desk study, visit the major existing and planned hydropower plant sites and other essential interventions in the basin that may affect water flow and quality, or other environmental aspects important to the VECs.

Investigate impacts such as flow regulations, increased erosion or possible contaminant sources, and characterize impacts in terms of their effects on the VECs. During site visits, carry out consultations with local communities, government actors, developers, and other relevant stakeholders including NGOs, irrigation associations, academics, etc. Conduct standard water quality measurements (pH, conductivity, DO, susp. Sediments, phosphate and total nitrate to assess potential eutrophication risks) along the river during site visits and existing river flow gauging and water quality monitoring stations should be visited and evaluated. Based on the findings of the site visits, update and qualify the desk study results and conclusions.

- e. *Assessment of cumulative impacts on VECs.* In light of prioritized VECs, identify and assess potential aggregate environmental and social impacts and risks from the combined stressors in terms of the potential change in condition of the VEC (i.e., viability, sustainability). Additionally, identify any potential additive, countervailing, masking, and/or synergistic effects to describe if and how Project associated impacts and risks interact with one another.
- f. *Determining significance of predicted cumulative impacts.* Define appropriate indicators and thresholds for acceptable VEC conditions. Describe impact and risk magnitude and significance in the context of past, present, and future actions to determine whether the above assessed impacts affect the sustainability and/or viability of the particular resource or VEC. Identify consequences and tradeoffs of implementing vs. not implementing the Project.
- g. *Identification of potential mitigation measures.* Propose mitigation and management strategies to address significant cumulative impacts on VECs. Suggest informed adaptive management strategies to manage uncertainties. Identify and engage together with The Client, wherever appropriate, other parties needed for effective mitigation and management plans, in order to explore opportunities for collaboration on managing cumulative effects and to propose workable coordination mechanisms. Propose monitoring programs to determine effectiveness of proposed management measures.

24. **Environmental and Social Management Plan(s) (ESMPs).** Develop an ESMP for the priority schemes, encompassing the following, among other elements as determined to be necessary to meet the objectives of the consultancy, based on the findings of the assessment process:

- a. Details on all recommended measures to be taken during pre-construction, construction, operation and decommissioning of the Project to eliminate, minimize, mitigate, compensate and/or offset the identified adverse environmental and social impacts, as well as the recommended specific actions, indicators for monitoring and evaluation, institutional responsibilities, including for the Supervising Engineer and the Contractors (e.g. preparation of detailed Construction ESMP and Health and Safety Plan, recruitment of qualified E&S and Health & Safety Staff with international experience for both the Contractors and the Supervising Engineer and a Code of Conduct for employees to prohibit unacceptable behavior of Contractor employees, such as sexual harassment and sex with minors (<18 years old), reporting arrangements, and budget needed to implement these measures.
- b. Specific sub-plans to manage identified issues, including but not limited to the following elements (some of which may be combined, where determined to be appropriate), to incorporate site-specific and phase-specific mitigation measures that are identified through impact assessment process, as well as generic Environmental, Health and safety Codes of Practice (e.g. OHSAS 18001: 2007) based on international good practices for construction management and project operation which can be annexed to construction, operation and maintenance contracts, where appropriate:
 - i. A specific ESMP for all contractor obligations associated with access road construction and the transmission line(s);
 - ii. Land clearing, wildlife relocation and peaking pond first-filling management

- iii. Ecological/environmental flow specification and management and if needed artificial flow arrangements.
- iv. Aquatic ecology management, including fish and fisheries restoration measures (potentially to include a working fish ladder or fish lift, fish hatchery, protection and/or restoration of spawning areas, etc.)
- v. Measures to minimize and mitigate natural habitat degradation and loss, and development and implementation of conservation offsets where required to meet the objectives of World Bank OP 4.04
- vi. Reforestation / afforestation programs (including management of tree nurseries and plantations, if applicable, taking into consideration the requirements of World Bank OP 4.36 on Forests and OP 4.09 on Pest Management, as well as requirements of Ministry of Forests and local forest governance entities as per national regulations)
- vii. Terrestrial ecology management
- viii. Erosion prevention and sediment management program, including upper watershed management and restoration activities as well as sediment flushing management measures
- ix. Construction camps management; including establishment of a Code of Conduct
 - x. Labor influx management plan
 - xi. Quarry and course aggregates management
- xii. Construction waste and trash disposal
- xiii. Pollution abatement
- xiv. Muck/spoil management plan with spoil destination
 - xv. Topsoil saving management
 - xvi. Watershed management
 - xvii. Buffer zone management
- xviii. Cultural heritage management
 - xix. Hazardous materials and explosives management
 - xx. Occupational health and safety management (with specific section on sub-surface activities including tunneling)
 - xxi. Environmental, health and safety training
 - xxii. Emergency preparedness and response
- xxiii. Dam safety plan (to be developed in detail by the Engineering Design Consultant; the ESMP should focus on summarizing the key elements of relevance to local communities and stakeholders)
- xxiv. Traffic safety plans to minimize hazards to highway vehicular flow and to local inhabitants
- xxv. Mitigation measures for long-term and cumulative social and environmental impacts
- xxvi. A summary of the specific social plans to be produced under Task 3 of the consultancy, including: Vulnerable Peoples' Development Plan, Resettlement Action Plan, Public Health Action Plan, Downstream Impacts Management Plan, Gender Action Plan, Benefit Sharing Action Plan, Communication Strategy and Action Plan, and Public

Participation and Consultation Plan (Stakeholder Engagement Plan or SEP) (including Inter Agency Coordination) (each described in more detail below).

- c. A Monitoring Plan that details the key parameters to be monitored, monitoring locations and frequencies, monitoring methodologies, required budgets, and responsible entities to carry out monitoring for each of the above-mentioned sub-plans as well as to follow up on monitoring outcomes, including to identify root causes and correct non-compliances (including through remedial measures if required), as well as to enable continuous evaluation of overall performance and adjustments to management measures and arrangements as needed to enhance overall project sustainability. Independent auditing arrangements, as well as incentive schemes and/or penalties to enhance compliance, should also be proposed.
 - d. Detailed organogram showing all actors to be involved in ESMP implementation, monitoring, reporting, independent supervision and auditing, their relationship to overall project construction and operational management teams and contractors, and points of interface with independent oversight entities. Organogram should indicate entry points for local citizen engagement and NGO participation in monitoring and reporting.
 - e. Outline of minimum qualifications required for each institution or actor involved in ESMP implementation to carry out their responsibilities, including with respect to project management, implementation of mitigation and management measures, execution of monitoring programs, reporting and evaluation, public engagement and grievance redress, etc. The training and capacity building needs to ensure satisfactory implementation of the ESMP and proposed measures for each actor involved in implementation should also be specified, based on an assessment of the organizational capacity of each to fulfill their proposed functions. The core content of training programs for contractors and other key actors involved in implementing the ESMP should be outlined, as well as the responsibilities, timelines, and budget for their implementation.
25. **Assembly of draft ESIA(s), CIA (Cumulative Impact Assessment) and Executive Summary, including local-language summary materials for public consultation.** The Consultant shall produce full draft ESIA(s), CIA (in English), as well as a single Executive Summary in English and additional materials for use in consultations (e.g., slide deck, brochures and other visuals, factsheets, etc.).
26. **Disclosure and Consultations on draft studies.** The Consultant shall support The Client in carrying out and fully documenting at least one additional round of consultations (to include, at minimum, two workshops at district and central levels and one public hearing), once the draft environmental assessment and planning materials are available. The consultations should consist of public hearing(s) as and where required under national legislation (at Village Development Committee or Municipality of project site, as per GoL Environmental Protection Regulation 2054), as well as additional public meetings, focus groups, interviews and/or other consultation techniques as deemed appropriate to ensure that all project affected groups and other stakeholders have the opportunity to learn about the project and its impacts and to have their views taken into account in finalizing the study. Consultations should follow international good practices on stakeholder engagement consistent with or exceeding World Bank and GoL requirements, with detailed records kept including locations and dates of all consultation events, participants' names and affiliations, signed attendance sheets with photos a summary of topics discussed; a summary of comments received and ensuing discussion; and how those comments will be taken into account by the project. VDC consultations should be conducted in the relevant local language. Prior to carrying out consultations, the draft versions of the studies must be made available at a public place, accessible to project-affected groups and local NGOs in a local language. The availability of the draft versions should be announced in at least two national newspapers and on the local radio.

27. **Finalization of studies.** Following consultations as well as review of the draft studies by The Client, the Panel of Experts, and the World Bank, the Consultant shall make necessary revisions and finalize the studies. The Consultant shall submit the revised ESIA report to The Client for the approval of Ministry of Environment. The Consultant will make a presentation on the findings of ESIA report(s) to Ministry of Environment and submit revised documents to The Client incorporating the comments of ministry. The Client will forward the revised documents to Ministry of Environment for their approval.
28. **Key expected outputs of Task 2:** (a) Full ESIA for the Project, incorporating all the elements outlined above and in Annex 4, including the CIA (or four separate ESIA's for the two hydroelectric components, access roads and transmission lines if required under national legislation, each summarizing and annexing the integrated CIA), revised to incorporate feedback received during consultations as well as from The Client, the World Bank and the Independent Panel of Experts, and including documentation of all consultations held; and (b) single Executive Summary covering both hydroelectric components, in both English and Liberia's local language at the project site.

Task3: Social Studies & Preparation of the RAP

29. This task covers the social aspects of the project planning and design. The social aspects relate to land acquisition, involuntary resettlement, vulnerable groups, downstream impacts, gender, public health, conflicts, labor standards, health and safety of communities and employees, public consultation, participation and communication. As noted earlier under Task 2, this task is expected to be carried out in a coordinated manner with the environmental assessment and planning aspects of the consultancy, to ensure holistic and integrated analysis. The outputs described below should also be integrated in summary format into the ESIA(s) and overall Executive Summary. The assignment will comply with relevant laws and policies of the Government of Liberia (GoL), international conventions ratified by the GoL, and the relevant Safeguard Policies and Performance Standards of the World Bank. The Consultant will carry out necessary activities required for completion of the assignment including in-house reviews, field surveys and planning activities, stakeholder consultations and development of the necessary interventions. The field planning activities will employ sample surveys and suitable sociological/anthropological tools, including focus group discussions and key informant interviews. Given the spread of Project works and extent of planning activities, the planning approach and methodology will vary in its design for different planning tasks. These should be proposed and described in detail in the Inception Report.
30. **Social assessment.** A social assessment shall be conducted for the proposed Project. This assessment will cover the following key areas: (a) overall project impact analysis (as described under Task 2 above), (b) development of a socioeconomic baseline, (c) a stakeholder analysis, (e) identification and consultation with vulnerable communities. Based on these analyses, the social assessment will provide specific recommendations for different planning tasks under this consultancy. Items (b) through (e) are described in more detail below.
31. **Socioeconomic baseline.** The Consultant will conduct a socioeconomic survey and develop a socioeconomic profile of the Project area, bringing out its key social, ethnic, cultural, political and economic characteristics. This survey will cover at least the aspects delineated below. The socioeconomic profile will include a differentiated analysis related to gender, disadvantaged groups, and "deep poverty" dimensions of these and all other included aspects.
- a. Developing a demographic and ethnic profile of the population in the Project Area of Influence and zooming in specifically on the people and communities in the Social Impact Zones, covering their history, physical spread, social clustering, cultural and traditional characteristics, interactions and relations among various groups.
 - b. Mapping out the socioeconomic development status of the Project area, including resources conditions, economic development status, employment sources and patterns, livelihood

patterns, infrastructure and service provision (health, education, employment, extension services etc.), as well as local development needs, priorities and challenges, and development interventions.

- c. Developing a census and socioeconomic baseline for the affected communities and population, covering basic information (land tenure, assets...) and indicators particularly related to their living standard and well-being.
 - d. Land tenure system (titles vs customary), mode of land transactions, access to natural resources and their significance to local communities and livelihoods, formal and informal institutions and their capacity and functioning; development needs, challenges and status.
 - e. Identification of presence of vulnerable communities residing in the Project area; and if they are identified, collection of information on their demographics, social cultural features, livelihood and employment patterns, use of natural resources, .
32. **Stakeholder analysis.** This analysis is important to inform the design of the Project, particularly in developing the Project consultation, communication strategy and the preparation of a Stakeholder Engagement Plan (SEP). This task is a continuation of the stakeholder analysis started under Task 1. The stakeholder analysis will incorporate dimensions related to gender (disaggregate data by gender), disadvantaged groups, and “deep poverty.” The following are key activities to be covered under this task:
- a. Mapping of key stakeholders at national and local levels, including Project affected people, affected communities, local government bodies, The Client, NGOs/CBOs, media and key individuals, etc.
 - b. Carrying out consultations with various stakeholders to bring out their views, concerns and expectations associated with the Project;
 - c. Analysis of stakeholder consultation feedback, their roles and possible interventions in Project preparation and design;
 - d. Proposing recommendations for consideration in the Project’s design.
33. **Resettlement Action Plan (RAP).** The proposed Project is expected to require land acquisition and involuntary resettlement for all civil works components. Although the direct works at the two dam and powerhouse sites are not expected to cause large-scale displacement, given their remote locations and low population density, the access roads, transmission lines and other ancillaries will likely require more significant land acquisition. Resettlement planning will identify all impacts of land acquisition and resettlement, review relevant legal and policy requirements of the GoL and the World Bank, and develop a Project entitlement policy and matrix and mitigation measures to address these impacts in a locally appropriate manner. Leading to the preparation of the RAP, the activity will generate a database of physical and livelihood impacts on affected individuals and households (PAPs). A recommended RAP outline is attached (see Annex 5). Planning activities include, but not limited to, the following,
- a. *Inventory survey of physical impacts.* This survey will cover the Project’s Impact Zones (e.g., zones in which use of or access to land, assets, and/or sources of livelihood or subsistence (including natural resources) are to be restricted as a result of land acquisition for the Project) will be conducted according to legal procedures under relevant Liberia laws. This survey will lock in the physical quantity of impacts and lay down the basis for developing the entitlement policy, matrix and compensation package. It should be kept in mind that not all impacts can necessarily be quantified and enumerated upfront on a household basis. More suitable methods of assessment and documentation will be evaluated and employed at such situations.
 - b. *Census survey of affected populations.* The survey will cover all affected populations, recorded by households or communal groups, and record types of potential impacts. It will establish the cut-off date for eligibility for resettlement entitlement.

- c. *Review of relevant legal policies.* This review will cover relevant policies of GoL and the World Bank, identify any gaps, and propose measures to fill in these gaps under this Project.
 - d. *Development of a Project resettlement policy framework.* On the basis of the above review, a Project resettlement policy framework will be produced, including a resettlement entitlement matrix for the project. This will form the policy basis and chapter of the RAP, and will also be elaborated into a free-standing project Resettlement Policy Framework (RPF) for any future unanticipated resettlement impacts.
 - e. *Development of resettlement strategy and measures.* The proposed project is expected to have limited impacts in terms of physical relocation. Nonetheless, a relocation strategy and action plan should be developed, including identification and development of relocation sites, to be planned in consultation with the communities and relocating households.
 - f. *Development of livelihood restoration and development strategy and measures.* An in-depth impact analysis should be conducted for effects on livelihood patterns in the Project's Impact Zones. Such an analysis will assess the needs for livelihood restoration and provide the basis for designing appropriate interventions. In designing the livelihood development strategy and plan, the Consultant should consider support for long-term sustainable development of affected areas as well as support for development of the project areas beyond the adversely affected households and communities. The results should be presented in a freestanding report Local Development Plan (LDP).
 - g. Development of implementation arrangements.
 - h. Development of grievance redress and monitoring mechanisms. The grievance redress mechanism should be a project mechanism, open to all issues related to the project, including resettlement issues, community and contractor employee complaints. The mechanism should build in elements of neutrality to ensure fair, transparent and independent deliberations.
 - i. Budget of the RAP.
34. **Vulnerable Communities Development Plan.** The Consultant will assess in the Project's area the vulnerable and potential indigenous communities who are expected to be impacted both positively and adversely by the Project. As far as potential indigenous people are concerned, the Consultant will be advised to treat them as vulnerable groups since they do not fit the criteria in OP 4.10. The Consultant will prepare a Vulnerable Communities Development Plan aiming at minimizing negative impacts and enhance positive impacts to vulnerable groups in the Project area. A recommended outline for the Vulnerable Communities Development Plan is attached (see Annex 6). Planning activities in this regard include, but are not limited to, the following (part of the information below will be documented in the ESIA studies outlined under Part 2 of this consultancy):
- a. Identification of vulnerable communities in the Project area;
 - b. Gathering of baseline information on the demographic, social, cultural and political characteristics of the vulnerable communities in the Project area;
 - c. Review of the land tenure system; use of, access, and attachment (physical, spiritual and cultural) to natural resources by different indigenous communities, including their customary rights and occupation, both individual and collective;
 - d. Review of Liberia 's legal and institutional framework regarding vulnerable and indigenous communities, including relevant laws and policies of GoL, any ratified international conventions (ILO 169 and UNDRIP),
 - e. Identification and mapping of public institutions and civil society organizations;
 - f. Assessment of Project impacts, both positive and adverse, on vulnerable communities, particularly impacts specific to ethnic characteristics (e.g. impacts on livelihood activities if unique from the general use of resources, both individual and common; impacts on use of cultural resources such as sacred religious or cultural historical sites); as well as security risks and impacts related to in and out migration of people in connection with the project. Critical to this assessment is an analysis of the relative vulnerability of, and risks to, the affected communities;

- g. Consultations with vulnerable communities, particularly during Project preparation, to fully identify their views, concerns, requests and recommendations for the Project;
- h. Development of a policy framework on vulnerable communities for the proposed Project;
- i. Development of a process framework in the case that Project environmental mitigation measures result in restrictive impacts on access to natural resources resulting in livelihood impacts of the associated population;

A vulnerable Communities Development Plan shall be developed incorporating the above.

35. **Downstream impacts management plan.** The Project will have impacts on downstream social, economic and cultural activities with the damming of the river and altered water flow patterns. Impacted activities could include fishery activities and possible other uses of the river, such as domestic water use and irrigation as well as local/ national tourism activities. The Consultant will carry out the following activities to plan for mitigating downstream impacts and enhancing benefits for downstream communities, in a closely coordinated / integrated fashion with the environmental assessment and planning process described under Task 2 above:

- a. Identification and assessment of possible impacts downstream of the proposed dams;
- b. Identification and inventory of communities that are likely to be affected;
- c. A detailed analysis of the type and levels of impacts upon different populations;
- d. Development of a socioeconomic profile of the potentially affected communities;
- e. Development of necessary mitigation strategy and intervention measures based on the above impact analysis.

36. **Gender assessment and action plan.** Women are important stakeholders in hydropower development, falling among both the affected and the beneficiaries. It is important to understand the gender dimensions of the project and the differential impacts on women so as to maximize project benefits. The gender assessment and action plan will cover, but not be limited to, the following:

- a. Review of the legal and policy framework in Liberia relevant to gender;
- b. Review of formal and informal institutional structures and processes that affect gender outcomes in the project and under the project setup;
- c. Review of setup, capacity and constraints within relevant institutions to address gender concerns and considerations;
- d. Analysis of local culture, particularly among different vulnerable and indigenous groups, regarding gender and women, focusing particularly on the informal institutions, cultural norms, behavior, and customs;
- e. Review of traditional roles and current status of women in the social, economic, cultural, political and institutional contexts of the communities in the project areas;
- f. Analysis of potential project impacts, both positive and negative, on women;
- g. Analysis of barriers, challenges, constraints to women's participation, including an assessment of women's capacity to participate;
- h. Identification of potential entry points and interventions to enhance gender sensitivity, mitigate adverse impacts, promote women participation, maximize project benefits for women;
- i. Advice to the project planning and implementation teams on approaching and addressing gender issues under the project;
- j. Recommendations for approach and interventions to promote project benefits to women and their participation in the project.

37. **Benefit-sharing action plan.** Benefit-sharing is an increasingly used mechanism in hydropower investment operations to build local support and promote local area development (Local Development Plan). This mechanism has been used in Liberia as well as elsewhere around the world. The Ministry of Lands, Mines & Energy of Liberia has completed a review on benefit-sharing. The Consultant will

work with The Client and the Engineering Design Consultant and to carry out the following in this regard:

- a. Review and summary of Liberia's laws, policies, and international conventions endorsed by the GoL relevant to benefit-sharing, particularly those on use of natural resources and vulnerable and indigenous communities;
- b. Review of benefit-sharing experiences in hydropower sector in Liberia;
- c. Carrying out consultations with local stakeholders, in particular with local vulnerable and indigenous communities, over their expectations from this project;
- d. Review of benefit-sharing proposals from project feasibility studies for other hydropower projects, e.g., Mt. Coffee HP, Kandadji HP in Niger, Upper Arun (UAHP) and IkuwaKholo Hydroelectric Projects (IKHP) in Nepal;
- e. Define "benefit-sharing," design, and propose a benefit-sharing scheme for the project in separate report called Local Development Plan;
- f. Include differential benefit analysis for those whose livelihoods and land values will be disproportionately enhanced by road provisioning/improvements.

38. Public health assessment and action plan. The construction of the full project will have adverse public health impacts due to dust, noise, pollution, and potential influx of people looking for work, migration of construction workers into the project. The transportation of heavy machine and equipment to the project area by road may cause additional hazards, accidents and human injuries. It is therefore necessary to generate awareness of potential impacts, and initiate both preventive and mitigation measures to minimize risks and possible harmful effects on public health. Planning activities will include, but not be limited to, the following:

- a. Undertaking an assessment of potential public health impacts of the proposed project during pre-construction, construction, and post-construction stages; and evaluating the need for appropriate interventions;
- b. Undertaking an assessment of the existing public health service conditions in the project areas including infrastructure and facilities, services provided by public health care systems, provision of health care information and education, and disease prevention and promotion campaigns, specifically related to waterborne diseases, such as malaria and bilharzia, sexually transmitted infections and HIV/AIDS;
- c. Engaging with local communities, including existing health specialists (both modern physicians and traditional medicine men or women healers), to understand existing health beliefs, practices, and health care systems;
- d. Determining public health needs and level of support required by resettlers, construction workers, migrant workforce, and host communities within the context, conditions, and parameters prevailing in the project area;
- e. Designing a project public health action plan to mitigate adverse to address community health and safety risks and impacts, reduce occupational hazards and health risks for Contractor employees (these risks will also be addressed in the Health and Safety Plans prepared by the Contractors), and support the health, safety and well-being of local communities.

39. Public participation and consultation plan or Stakeholder Engagement Plan (SEP) (including Inter Agency Coordination). Drawing from the stakeholder consultation strategy developed during the screening and scoping phase, develop a full plan covering the following objectives: (a) to outline the specific activities, logistics and schedule for the consultation and inter-agency coordination processes to take place throughout the environmental and social assessment, RAP preparation and planning stage, ensuring that consultations are coordinated and executed together with different entities and at different levels (government, municipality, NGOs, local communities etc.) in order to capture a range of participants, and also to ensure the stakeholder consultation is continuous throughout the project; (b) to identify possible avenues of public interaction, in addition to interviews and public

meetings, especially through proactive use of social media and newer communication technology; (c) to identify points of entry for ensuring local people as more active participants (rather than simply respondents) in consultations, and (d) to map out a strategy and required actions, including implementation arrangements, responsibilities and budget, for ongoing engagement, consultations, and grievance / dispute resolution activities throughout the life of the Project.

40. **Communications strategy and action plan.** Given the remote location of the project, the high profile of hydropower development, and the history of hydropower development in the Saint Paul Valley in particular, it is important to develop a communication strategy for continuous communication between the project implementation authorities and all other stakeholders throughout the life of the projects. The objectives are to (i) help strengthen public understanding and support for the projects and create an enabling environment for their implementation; (ii) enable public communication and continuous flow of information on project activities, impacts, and benefits; (iii) manage relationships with key external stakeholder constituencies; and (iv) facilitate dispute resolution and public monitoring of project implementation. The communication strategy must suit existing social, economic, and cultural conditions, as well as the complex and sensitive issues related to large hydropower projects. This assignment will include detailed review of secondary information, but will primarily depend upon field visits and direct consultations/interactions with stakeholders at the local and national levels.
41. The following tasks will be carried out:
 - a. A desk review of past history and experiences in hydropower development in Liberia (e.g., Mt. Coffee HP) and the Saint Paul Valley, particularly its social, environment and political aspects.
 - b. Identification of key stakeholders (individuals, groups, and institutions) and detail their interests, concerns and expectations, roles and relationships vis-a-vis the proposed program, with particular focus on the benefits of hydropower projects and management of adverse impacts;
 - c. Assessment of communication needs to map stakeholder perception and attitudes to the project, including modes and media of communications to be adopted during project implementation;
 - d. Assessment of existing communication and engagement initiatives, and capacities of the the GoL to conduct public communications and to engage stakeholders; identify gaps in the GoL's institutional set-up (in terms of staffing, procedures, budgets, etc.);
 - e. A media-mapping at the national and local levels, including a detailed mapping exercise of key relevant NGOs, civil society organizations and individuals;
 - f. Identification of opportunities and platforms for effective dissemination of key messages over the course of project implementation;
 - g. Preparation of a draft communication and engagement strategy for the overall project, taking into consideration current practices and experience of the GoL.
42. **Institutional capacity assessment and strengthening.** The consultant will carry out an assessment of the current institutional capacity in place in view of implementing the environmental and social interventions, management measures and programs related to the Project. This assessment should cover all key institutions involved, including the Ministry of Lands, Mine and Energy and local administrations. The consultant will propose a set of interventions, including institutions, staffing, and budget requirements, to build up the capacity of these institutions to implement the designed programs.
43. ***Key expected outputs of Task 3:*** (a) *Social Assessment Report;* (b) *Resettlement Action Plan;* (c) *Resettlement Policy Framework;* (d) *Local Development Plan;* (e) *Vulnerable and Indigenous Peoples' Development Plan;* (f) *Public Health Action Plan;* (g) *Gender Action Plan,* (h) *Downstream Impacts Management Plan,* (i) *Benefit Sharing Plan;* (j) *Public Participation and Consultation Plan or Stakeholder Engagement Plan (including Inter Agency Coordination);* (k) *Communication Strategy and Action Plan and* (l) *Institutional Assessment and Strengthening Plan.*

Deliverables and Reporting Schedule

44. The following anticipated deliverables are expected at the time indicated below. The timeline indicated is an estimate only, and may be adjusted upon negotiation of the contract, and updated again as needed at the time of work plan development. The screening and scoping phase of the consultancy will confirm the full list of deliverables required, and could result in a reorganization of some of the items below, and/or may result in identification of additional specific assessments or plans not listed below which are needed in order to meet World Bank or national requirements. The content for each proposed study will be agreed with the Client during the process of finalizing the Inception Report, and the timeline for their delivery would be agreed between the Consultant and the Client at the time of work plan development.
45. Considering the access road construction and resettlement process need to be completed before construction of the rest of the project components can start, the ESIA, ESMP and RAP components specific for access roads will need to be completed first, with approximate expected timeline indicated below. All access road related assessments and action plans will be subsequently merged in to the final consolidated ESIA and RAP report(s).

Deliverable / Activity for ESIA including corresponding ESMPs, and RAP	Estimated timeline after contract's effectiveness
Draft Scoping Report and ToR document – Task 1	To+3 months
Final Scoping Report, including documentation of stakeholder consultations, and ESIA Terms of Reference with detailed work plan for carrying out environmental and social assessment and planning studies	To + 5 months
Drafts of all deliverables under Tasks 2 and 3 as outlined above, including: <ul style="list-style-type: none"> • EA Executive Summary, in both English and local languages • ESIA, including ESMP • Cumulative Impact Assessment (to be presented as a chapter or volume of the ESIA report(s)) • Social assessment report • Resettlement Action Plan • Public health action plan • Vulnerable Communities Development Plan • Gender Action Plan • Downstream impact mitigation plan • Resettlement policy framework • Benefit-sharing action plan or Local Development Plan • Public participation and consultation plan 	To + 12 months

<ul style="list-style-type: none"> • Communication strategy and action plan • Institutional Assessment and Strengthening Plan 	
Final versions of Task 2 and 3 deliverables as outlined above, reflecting feedback provided by the Client, World Bank, International Panel of Experts, and stakeholders during public consultations	To + 13 months
Final ESIA report(s) incorporating comments	To + 14 months
Training/capacity building program for the Client	Consultant to propose detailed timeline for program components, in discussion with the Client

Consultant Staffing and Key Qualifications

1. The Consultant must be a corporate firm or a consortium of firms that satisfies the following criteria:
 - a. Possession of adequate and proven experience in ESIA for complex hydropower projects, social studies and RAP, including in particular indigenous peoples, involuntary resettlement and livelihood restoration planning;
 - b. Possession of adequate, qualified and experienced key personnel and logistic resources to carry out the assignment;
 - c. Possession of appropriate office facilities and support staff;
 - d. Knowledge of Liberia or at least sub-Saharan Africa, and an appropriate language skill mix within the team to carry out field work, interact with project stakeholders and produce written materials in both English and Liberian local language at the project site;
 - e. Knowledge of, and previous experience carrying out environmental and social studies in accordance with, World Bank Safeguard Policies or Performance Standards.

2. The Consultant shall propose and justify the range of disciplines to be included in the core project team and the complementary skills of the short-term specialists. The inputs by all specialists should be clearly indicated as it is anticipated that a substantial part of the work program is carried out by the firms or individuals subcontracted locally. It is expected that the core project team will include, but not necessarily confined to, the following key specialists:
 - a. *Team leader*, an environmental impact assessment specialist with 15 years of experience including experience in hydropower projects. Knowledge and experience with World Bank Safeguard Policies or Performance Standards will be required. Experience with Liberian legal requirements, and experience with other multinational requirements, also desired. Demonstrated ability to integrate social and environmental elements with infrastructural details of the Project.
 - a. *Social Specialist/sociologist* who has knowledge about World Bank and GoL policies on vulnerable and indigenous people and who has demonstrated experiences working on vulnerable and indigenous peoples issues in Liberia and applying World Bank indigenous people's policy.
 - b. *Resettlement specialist*, with 10+ years of experience and who has knowledge of World Bank and GoL resettlement policies and who has carried out resettlement and livelihood development planning in hydropower projects.

- c. *Dam Engineer*: with suitable experience on the construction of dams in hydropower projects, and 10+ years of experiences in similar assignments on preparation of hydroelectricity power in developing countries.
 - d. *Disaster Risk/civil protection specialist*, with 10+ years of experience on similar projects in developing countries.
 - e. *Land Ownership Specialist (Lawyer)* with knowledge of Land Ownership laws and regulation in Liberia, and experience with similar projects in developing countries.
 - f. *Gender specialist*, who has knowledge of World Bank and GoL policies on gender and who has demonstrated working experiences carrying out similar assignments in internationally-financed operations.
 - g. *Senior aquatic ecologist*, with 10+ years of international experience in aquatic ecology impact assessment and management in African contexts. Should have knowledge of African fish species, fieldwork experience, and experience developing and/or implementing fisheries and aquatic biodiversity mitigation programs related to hydropower projects (for example, fish hatcheries, fish ladders, lifts, etc.). Demonstrated ability to work as part of a multi-disciplinary team. Would be supported as needed by suitable national experts.
 - h. *Senior terrestrial ecologist*, with 10+ years of international experience in terrestrial ecology impact assessment and management issues related to infrastructure projects, including in the hydropower sector. Should have knowledge of the ecological dynamics in Africa, fieldwork experience, and experience developing and/or implementing programs on natural habitats conservation, compensatory offset, and watershed management. Demonstrated ability to work as part of a multi-disciplinary team. Would be supported as needed by suitable national experts in sub-disciplines such as mammal specialist, including bats, ornithology, herpetology, butterfly expert / entomology, etc. as required for the studies.
 - i. *Senior Ornithologist* – with 10+ years of international experience assessing the impact of hydropower projects on migratory and other species. Should have knowledge of African bird species, field work experience developing mitigation programs related to hydropower projects and particularly transmission lines for migratory and other species of birds.
 - j. *Senior Environmental Civil Engineer* – with 10+ years of international experience in construction related impacts associated with construction of large/complex hydropower projects in sensitive ecosystems, especially including construction and operation of access roads, tunnels, large dams, large construction camps, quarry sites, spoil disposal sites etc.
 - k. *Hydrogeological engineer*, with suitable experience conducting technical field surveys on soil sediments, water quality etc., and with experience in sediment management and erosion control programs for hydropower operations.
 - l. *Communications and stakeholder engagement specialist* with knowledge of Western Africa and prior experience managing engagement and communications programs with local communities and stakeholders on internationally-financed projects. Specific knowledge and prior experience in the hydropower sector, and with World Bank financed projects, is strongly desirable.
 - m. *Additional technical specialists* with appropriate qualifications and experience at the national level (supplemented by additional international experience as required) in hydrology, geology, environmental engineering, forestry and watershed management, climate change, archaeology, anthropology or other social sciences, and public health, among others as required to complete the tasks described in these Terms of Reference.
3. The Consultant shall name individuals to participate in specified roles within the project team and provide full curricula vitae (in accordance with the suggested format shown in the Letter of Invitation) and any other information considered relevant by the Consultant. The Consultant shall name the project leader, the deputy team leader, the other core team members and key short-term specialists, and provide an assurance that all members of the proposed team will be made available as specified in the proposal, if the Consultant is named.

Support to be provided by the Client and World Bank

4. The Client will provide all necessary assistance to help the Consultant obtain access to information and key individuals as required to complete the assignment. Various available supporting documents will be provided to the Consultant before the initiation of the assessment (see Annex 3). The Client will also provide support to field work logistics where deemed necessary, participate in public consultation events, provide technical feedback on draft deliverables, and facilitate coordination and information sharing with the Engineering Design Consultant and the Independent Panel of Experts.
5. The World Bank will support the Client in providing technical oversight to the Consultant, including reviewing and providing feedback on draft deliverables.

Training/Capacity Building

6. One of the basic objectives of the consulting services is transfer of technology in the field of ESIA and CIA study to the GoL's engineers, and environmental and social personnel. This will be achieved by involving GoL's engineers, and environmental and social personnel in various activities of the project implementation during the execution of ESIA, RAP and other studies, as well as through targeted training events and activities.
 - a. During the inception phase of the contract, the Consultant shall perform a skills assessment and develop a training program for Client's counterpart staff. All international experts are expected to work closely with the Client's counterpart and shall ensure that the Client will achieve higher skill levels as a result of their involvement in the project.
 - b. The training program shall also include, among other aspects to be suggested by the consultant, a series of workshops, and observation visits, covering the following disciplines. The program should have a duration of approximately 20 days in total.
 - Environmental and Social Screening and Scoping
 - Environmental and Social Alternatives Analysis
 - Environmental and Social Impact Assessment
 - Cumulative Impact Assessment
 - Environmental and Social Management Plans
 - Downstream Impact Management, including environmental flows
 - Social Planning
 - Resettlement Action Plan

Payment Schedule

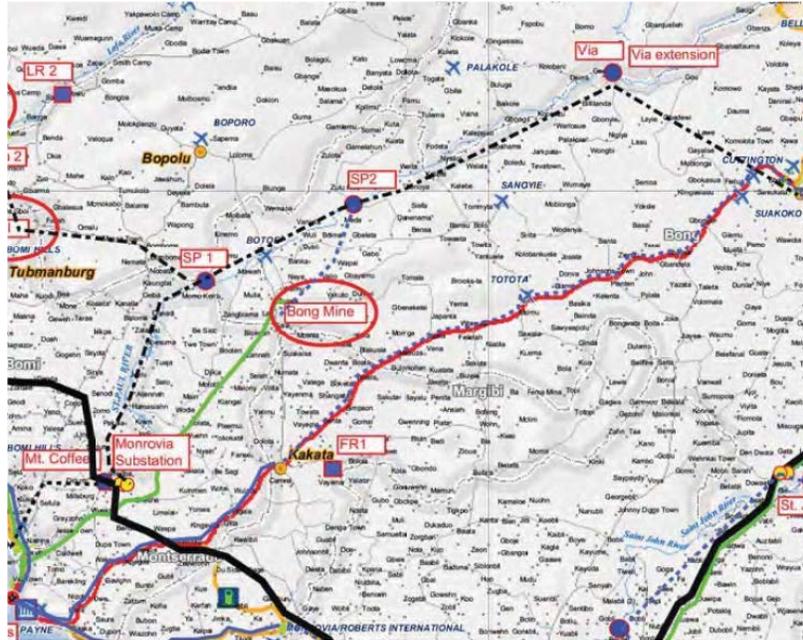
7. For the performance of the duties enumerated under the Terms of Reference, the Consultant will be paid a lump sum fee. The proposed payment schedule of the lump sum fee is as follows. Bidders may also propose an alternative payment schedule with justification, for the Client's consideration.
 - Draft Scoping Report and ToR (Task 1 draft deliverable) – 20% of contract value
 - Final Scoping Report and ToR and Workplan (Task 1 final deliverables) – 10% of contract value
 - Draft environmental and social assessment and planning studies (Tasks 2 and 3 draft deliverables) – 30% of contract value
 - Final environmental and social assessment and planning studies (Tasks 2 and 3 final deliverables, incorporating also Phase I final deliverable) – 30% of contract value
 - Completion of training/capacity building program for the Client's engineers and staff – 10% of contract value

Annex 1. Saint Paul's River location



Annex 2.

Location and estimated impact of Via Reservoir on downstream existing (MC) and potential (SP1 & 2) hydropower plants



a) Mt Coffee (80 MW)

Monthly production potential		1	2	3	4	5	6	7	8	9	10	11	12	Total
Without Via	GWh	10,0	5,0	8,0	9,0	20,0	58,0	60,0	60,0	58,0	60,0	58,0	22,0	428,0
With Via	GWh	54,0	50,0	54,0	52,0	54,0	58,0	60,0	60,0	58,0	60,0	58,0	54,0	672,0

b) SP-1B (120 MW)

Monthly production potential		1	2	3	4	5	6	7	8	9	10	11	12	Total
Without Via	GWh	17,0	14,0	16,0	24,0	43,0	72,0	89,0	89,0	86,0	89,0	86,0	43,0	668,0
With Via	GWh	72,0	70,0	72,0	70,0	72,0	84,0	89,0	89,0	86,0	89,0	86,0	72,0	951,0

c) SP-2 (214 MW)

Monthly production potential		1	2	3	4	5	6	7	8	9	10	11	12	Total
Without Via	GWh	40,0	13,0	14,0	40,0	56,0	87,0	159,0	159,0	154,0	159,0	154,0	73,0	1 108,0
With Via	GWh	109,0	106,0	109,0	106,0	109,0	127,0	159,0	159,0	154,0	159,0	154,0	109,0	1 560,0

Source: R(a)L. Dec 2013. Via Reservoir Reconnaissance Study – Overall Assessment & Project Definition.

Annex 3: List of Supporting Documents

#	Label
1.	Energy Sector Policy Notes. October 2011. Options for the Development of the Liberia's Energy Sector
2.	Fichtner. 2013. Preparation of a Government of Liberia Least Cost Power development Plan (LCPDP)
3.	R(a)L. Dec 2013. Via Reservoir Reconnaissance Study – Overall Assessment & Project Definition.
4.	Chas T. Main International. 1979. Hydropower Generation Assessment.
5.	_ . October 1982. Feasibility Study for the hydroelectric Development of the St. Paul River. Volume 1-4.
6.	Stanley Consultants. 2008 Technical and Financial Feasibility Study for the Reconstruction and Expansion of the Mount Coffee Hydropower Facility in Liberia. USA.

Annex 5. Outline for Resettlement Action Plan (RAP) as per World Bank OP 4.12

Outline of a Resettlement Action Plan

1. *Description of the project:* General description of the project and identification of the project area.
2. *Potential impacts:* Identification of
 - a) the project component or activities that give rise to resettlement;
 - b) the zone of impact of such component or activities;
 - c) the alternatives considered to avoid or minimize resettlement; and
 - d) the mechanisms established to minimize resettlement, to the extent possible, during project implementation.
3. *Objectives and studies undertaken:* The main objectives of the resettlement program and a summary of studies undertaken in support of resettlement planning / implementation, e.g., census surveys, socio-economic studies, meetings, site selection studies...etc.
4. *Regulatory framework:* Relevant laws of the host country, client policies and procedures, performance standards.
5. *Institutional framework:* Political structure, NGOs.
6. *Stakeholder engagement:* Summary of public consultation and disclosure associated with resettlement planning, including engagement with affected households, local and/or national authorities, relevant CBOs and NGOs and other identified stakeholders, including host communities. This should include, at a minimum, a list of key stakeholders identified, the process followed (meetings, focus groups etc), issues raised, responses provided, significant grievances (if any) and plan for ongoing engagement throughout the resettlement implementation process.
7. *Socioeconomic characteristics:* The findings of socioeconomic studies to be conducted in the early stages of project preparation and with the involvement of potentially displaced people, including results of household and census survey, information on vulnerable groups, information on livelihoods and standards of living, land tenure and transfer systems, use of natural resources, patterns of social interaction, social services and public infrastructure.
8. *Eligibility:* Definition of displaced persons and criteria for determining their eligibility for compensation and other resettlement assistance, including relevant cut-off dates.
9. *Valuation of and compensation for losses:* The methodology used in valuing losses to determine their replacement cost; and a description of the proposed types and levels of compensation under local law and such supplementary measures as are necessary to achieve replacement cost for lost assets.
10. *Magnitude of displacement:* Summary of the numbers of persons, households, structures, public buildings, businesses, croplands, churches, etc., to be affected.
11. *Entitlement framework:* Showing all categories of affected persons and what options they were/are being offered, preferably summarized in tabular form.
12. *Livelihood restoration measures:* The various measures to be used to improve or restore livelihoods of displaced people.
13. *Resettlement sites:* Including site selection, site preparation, and relocation, alternative relocation sites considered and explanation of those selected, impacts on host communities.
14. *Housing, infrastructure, and social services:* Plans to provide (or to finance resettlers' provision of) housing, infrastructure (e.g., water supply, feeder roads), and social services (e.g., schools, health

services); plans to ensure comparable services to host populations; any necessary site development, engineering, and architectural designs for these facilities.

15. *Grievance procedures:* Affordable and accessible procedures for third-party settlement of disputes arising from resettlement; such grievance mechanisms should take into account the availability of judicial recourse and community and traditional dispute settlement mechanisms.
16. *Organizational responsibilities:* The organizational framework for implementing resettlement, including identification of agencies responsible for delivery of resettlement measures and provision of services; arrangements to ensure appropriate coordination between agencies and jurisdictions involved in implementation; and any measures (including technical assistance) needed to strengthen the implementing agencies' capacity to design and carry out resettlement activities; provisions for the transfer to local authorities or resettlers themselves of responsibility for managing facilities and services provided under the project and for transferring other such responsibilities from the resettlement implementing agencies, when appropriate.
17. *Implementation schedule:* An implementation schedule covering all resettlement activities from preparation through implementation, including target dates for the achievement of expected benefits to resettlers and hosts, and implementing the various forms of assistance. The schedule should indicate how the resettlement activities are linked to the implementation of the overall project.
18. *Costs and budget:* Tables showing itemized cost estimates for all resettlement activities, including allowances for inflation, population growth, and other contingencies; timetables for expenditures; sources of funds; and arrangements for timely flow of funds, and funding for resettlement, if any, in areas outside the jurisdiction of the implementing agencies.
19. *Monitoring, evaluation and reporting:* Arrangements for monitoring of resettlement activities by the implementing agency, supplemented by independent monitors to ensure complete and objective information; performance monitoring indicators to measure inputs, outputs, and outcomes for resettlement activities; involvement of the displaced persons in the monitoring process; evaluation of the impact of resettlement for a reasonable period after all resettlement and related development activities have been completed; using the results of resettlement monitoring to guide subsequent implementation.

Annex 6. Outline for Vulnerable Communities' Development Plan as per World Bank OP 4.10

- a. A summary of the social assessment, including identification and mapping of vulnerable communities in the project area.
- b. A summary of consultation with the affected vulnerable communities that was carried out during project preparation.
- c. A framework for consultations with the affected vulnerable communities during project implementation.
- d. A summary project impacts on vulnerable communities, including both positive and adverse impacts.
- e. An action plan delineating measures to avoid, minimize, mitigate, or compensate for adverse impacts.
- f. Cost estimates and financing plan.
- g. Accessible procedures appropriate to the project to address grievances by the affected vulnerable communities arising from project implementation.
- h. Implementation arrangements.
- i. Mechanisms and benchmarks appropriate to the project for monitoring, evaluating, and reporting on the implementation of the Plan.