A. BACKGROUND

1. Lake Victoria is the largest of all African lakes and the second widest in the world (length of 337 km and a width of 240 km). Its surface area is approximately 69,500 km² and is shared by Tanzania, Uganda and Kenya (49 percent, 45 percent and 6 percent respectively). It is situated in a wide depression between the east and west Great Rift Valley and has a complex shoreline topography that is heavily indented, of 3,440 km length, with a shallow gentle gradient, making it extremely sensitive to moderate changes in level. Mean depth is 40 meters, with a maximum depth of 84 meters, and a volume of 2,750 km³. Geologically, the hills are mainly covered with weathered granite and fresh granite is exposed at hill tops, peninsulas and islands. It contains numerous islands, such as the Sese archipelago, a chain of 62 islands in the north-western section of the lake in Uganda.

2. The catchment area of Lake Victoria holds a population of around 35 million people, and an approximate Gross Domestic Product (GDP) of some US$ 30 billion, or around 40 percent of the total GDP from the East Africa Community Countries of Uganda, Kenya and Tanzania. Significant economic potential exists around the lake, encompassing a variety of economic opportunities, such as hydropower generation, agriculture, irrigation, fishery and inland water transportation. The majority of the people who live around the lake depend on agriculture and fisheries for their food and livelihoods. Although its contribution to GDP has been declining due to the growth of other sectors, such as mining, agriculture remains crucial for inclusive growth, contributing to 20-30 percent of GDP and employing 60-70 percent of the total workforce.

3. From an agro-climatic point of view, the lake region (defined by coastal areas within 100 km from the lake) is estimated to have a potential theoretical maximum of US$63 billion of agricultural production per annum, assuming no constraints on land use. However, the region currently produces US$4.8 billion of agricultural commodities per annum only. Despite this significant potential, poverty remains persistent around Lake Victoria. It is estimated that around 50 percent of the population living in the lake basin survive on less than US$1.25 per day. This compares unfavorably to overall poverty rates of 47 percent in Kenya (a 2005 figure, the latest reliable estimate available), 28 percent in Tanzania and 24 percent in Uganda. The pervasiveness of poverty in the vicinity of the Lake reflects a number of constraints, with transport connectivity one of the most critical ones.

4. However, there is considerable potential: (i) the catchment area of the lake contains a growing population of nearly 35 million people; (ii) a number of towns and villages around the lake do not have good road access, and are currently being served by a poorly regulated private sector fleet; (iii) For some routes, the lake option will remain the most direct and efficient route, with a reliable service, with the average freight tariff on Lake Victoria about 7-8 U.S. cents per ton-km which is expected to fall further, and which is competitive with road transport on roads.
circling the lake for certain types of cargo; (iv) the rehabilitation of the railway infrastructure and the revitalization of railway services on the central railway line particularly offers the landlocked countries the potential of a secure, potentially cheaper, intermodal service from the maritime port; and (v) the reintroduction of such a service provides an alternative option, in the event of disruption, for traffic currently using Mombasa from Uganda, DRC and Rwanda.

5. The Ministry of Works and Transport (MoWT) in representation of the Government of Uganda (GoU) has plans to: (i) remodel and expand the two ports of Port Bell and Jinja pier (including civil works on buildings, structures, and necessary dredging, channelization and stabilization works), (ii) improve the hinterland road and rail connections (either through the rehabilitation, widening of existing links if feasible or through the construction of new links); (iii) refurbish the existing wagon ferries (MV Pamba and MV Mwanga); as well as undertaking hydrographic/bathymetric surveys including installation of aids to navigation, development of navigation charts, and installation of weather monitoring and warning systems. The MoWT has sought the support of the IDA to procure providers to undertake the said works and purchases under the proposed Lake Victoria Transport Program – Phase 1 (SOP 1) for Uganda.¹ Under the World Bank environmental classification, the program is assessed to be Category A, reflecting the possibility of significant environmental and social impacts that may arise as a result of the program implementation. This assignment involves the undertaking of the strategic ESIA, and the production of the necessary safeguard documents, for SOP1 and the program.

The Lake Victoria Transport Program

6. The proposed Lake Victoria Transport Program represents the first series of project(s) to be prepared under the Integrated Corridor Development Initiative (the Intermodal Strategy) in the EAC countries, endorsed at the 3rd EAC Heads of State Retreat held in Nairobi, November 29-30, 2014. The Lake Victoria Transport Program will involve a Series of Projects (SoP), one per country, each using a blend of national IDA credit funds and regional IDA credit funds on a 1/3 to 2/3 split, depending on the eligibility of the components. The first SOP will also involve the provision of an IDA grant to both of the regional bodies to facilitate the management of the program, and the harmonization of the institutional framework. The total LVTP program is envisaged to amount to some US$630 million, excluding the IDA grant, split between the four countries in the following manner: (i) Uganda US$75 million; (ii) Tanzania US$75 million for the lake infrastructure, and US$270 million for the railway; (iii) Kenya (US$50 million); and (iv) Rwanda (US$160). A breakdown of the likely components in each SOP is provided in Annex A.

Need for a Strategic ESIA (SESIA)

7. Developing inland port infrastructure, and improving inland navigation conditions on Lake Victoria are expected to contribute to making transport more sustainable, particularly where it substitutes for road transport. Nevertheless these interventions can also have adverse social and environmental impacts. Impacts can broadly be broken down into four categories that could affect the people, flora and fauna depending on the water body: (i) the hydro-morphological pressures relating to dredging works, channelization and bank stabilization to ensure better navigability conditions on the lake, and (ii) impacts related to the port construction and improvements, and (iii) impacts associated with the port and inland waterways operations e.g.

¹ Further phases in Kenya, Tanzania and Rwanda form part of the same program.
cargo handling, ship lifts, water pollution, noise pollution, and accidents; and (iv) other induced human development effects.

8. Foremost among the potential impacts are hydro-morphological pressures. Altering the shape of river courses to improve navigation affects bottom and bank characteristics and the dynamics of sediment transportation. Effects can spread up- and downstream over many years. Without careful attention, alterations can interfere with communication between the main channel, side branches and backwaters. Permanent changes to water levels and flows affect the whole river valley bottom and notably the ecology of floodplains. This constrains the natural dynamics of the river that create and renew transitory habitats that can be of intrinsic ecological value. Thus impacts on biodiversity can be substantial. The other impacts are self-explanatory.

9. The lake ecosystem is large, complex, multi-dimensional and dynamic. It is thus much more than a longitudinal channel network that can be easily conceptualized like a road. Understanding the social and environmental issues thus requires comprehensive observations and management at the catchment scale in a holistic manner. Given the wider scope of the interventions on the Lake Victoria basin (both at the ports, but also with the lake itself), with knock-on effects on the lake’s overall catchment area, a strategic planning framework for the development and protection of the lake, its dependents, and associated infrastructure is critically important.

10. The SESIA follows steps similar to ESIA but has a much larger scope in terms of time, space and subject coverage. The SESIA process also enables the identification and analysis of cumulative, residual and trans-boundary impacts in a holistic manner that cannot otherwise be undertaken in isolated single locus-specific ESIA work.

11. The SESIA process is expected to result in three outputs: (i) an SESIA for the entire LVTP program; (ii) an ESIA, Environmental and Social Management Plan (ESMP) and Resettlement Action Plan (RAP) for the activities to be included in SOP1 in Uganda; and (iii) an environmental and social framework document (ESMF) for environment safeguards and resettlement to guide the preparation of activity specific ESIA and RAPs in subsequent SOPs.

B. OBJECTIVES OF THE ASSIGNMENT

12. The main objective of the assignment is to conduct a strategic environmental and social impact assessment for the Lake Victoria basin, including the related port and access infrastructure envisaged under the Lake Victoria Transport Program.

13. The SESIA should identify all transport and infrastructure related social, including gender, and environmental impacts, together with an indication of the scale and nature of any cumulative impacts, and recommend measures for the prevention and mitigation of the same.

14. The SESIA will guide decision makers on the understanding of the more holistic social and environmental consequences of undertaking the project interventions as a whole, and facilitate the protection, restoration and enhancement of the environment.

15. The specific objectives are as follows:

   i) Document existing social, gender and environmental baseline information in the program and project catchment area;
ii) Review national, regional and international policy, legal, and administrative framework relevant to the social, gender, and environmental management of the program and project;

iii) Outline the program and project activities and their impacts, both positive and negative, on the social, gender and environmental fronts, including impacts associated with different options or alternatives;

iv) Propose feasible prevention and mitigation measures for the negative impacts identified on the social and environmental fronts;

v) Describe the project public consultation and disclosure requirements; and

vi) Detail a ESIA, ESMP and RAP and the institutional structure, and costs required for implementation for SOP1.

C. SCOPE OF WORK

16. To undertake the assignment the Consultant will at a minimum carry out the following key tasks:

17. Task A: Program and Project Analysis: Describe the components and activities to be implemented during the various series of the program and project from the planning through construction, decommissioning, to operation. This task is intended to contextualize the general project detail and will mainly be sourced from existing studies and documentation. The project’s direct and indirect areas of influence will also be described under this task. An overview description of Lake Victoria and its lakeshore wetlands in the vicinity of the project areas will also be described. GIS-type mapping of salient project features will be undertaken.

18. Task B: Situation Analysis: Describe and analyze the baseline environmental and social characteristics of the Lake Victoria project area including:

a) The physical environment: topography, landforms, geology, soils, climate, meteorology, air quality, hydrology (a full hydrological assessment to review the historical hydrological information and establish the hydrological dynamics of project intervention to inform site siting and levels of works choices), current users and uses of the Lake and its wetland areas, waste pollution discharges, utilities, traffic data among other considerations

b) The biological environment: flora, fauna types and diversity, endangered species, sensitive habitats, environmental hotspots

c) The social and cultural environment: present and projected including where appropriate areas of cultural significance, sacred sites, cultural properties, population, land use, economic activities, planned developments, HIV/AIDS issues, gender issues, issues relating to vulnerable groups e.g. children, disabled, elderly, rural-urban migration, normal day-to-day travel patterns, income generating activities, customs, aspirations and attitudes of people within the project area of influence, special cultural norms.

19. Baseline information should be documented with GIS-type overlays and data on the demographic, economic and environmental variables of the project area of influence.

20. Task C: Policy, Legal and Institutional Analysis: Describe and analyze the administrative, policy and legal frameworks as well as standards governing social and environmental issues at
the international, regional and national levels in each of the four countries, including but not limited to: the environmental quality, solid and liquid waste management issues, air quality issues, health and safety, protection of sensitive areas, land use control at the national and local level as well as the systems governing ecological and socio-economic issues. The key stakeholders at the policy and administrative levels will be identified, and analyzed including their views or positions relating to the proposed interventions. Special attention needs to be paid to the Lake Victoria treaties and EAC protocols relating to trade, environment, natural resources management, and the Lake Victoria Environmental Management Program (LVEMP). Identify the gaps and weaknesses in the existing policy, legal and institutional frameworks, and divergences from the operational safeguard policies of the World Bank and propose ways in which these can be strengthened.

21. **Task D: Impacts Analysis:** Identify the potential social and environmental impacts that could arise from the implementation of the program on the natural habitats, human beings, built environment and ecosystems through the different phases. Describe and analyze all significant changes both positive and negative. Potential impacts to be analyzed include: impacts on the lake ecosystem (e.g. water level effects, erosion effects, sedimentation effects), biodiversity impacts-flora and fauna (e.g. effects on fishing populations, lake plant growth), flood risk, surface and ground water contamination, noise and vibration, air quality, landscape, effects on populations and livelihoods (e.g. migration effects, influx of workers and transport operators, HIV/AIDS effects, involuntary resettlement, fishing pattern changes, tourism effects, impacts on vulnerable groups like women, children, the elderly and the disabled), cultural heritage, transport impacts, induced development effects, and waste disposal impacts (e.g. waste water based effluents from nearby homes, factories, and from port and pier activities, bilge and waste, ship sewage, vessel cleaning wastewater, other pollutants, oil or other hazardous or waste spills, dredge spoil handling). All changes that result in differences between the baseline environmental and social conditions of the area, that can be reasonably be attributed to the Project’s intervention need to be captured in this task. An assessment will also be made on reasonable expectations in changes in the traffic demand patterns and levels on the lake, and in the ports arising from the improvements under the project; and how these will impact the social and environmental fabric of the area of influence. The methods and assumptions utilized in the impact analysis need to be clearly specified and justified. The consultant should be able to identify and assess not only the locus-specific impacts but more generally those that have a cumulative, residual or trans-boundary effect.

22. The potential impacts must relate to all the phases of the project cycle including:

   a) Project planning; determination of route for access road and rail links, land acquisition, resettlement of people, compensation and housing of displaced people;

   b) Project construction effects including land clearing, earth works blasting, HIV and other STIs, other sexual activity effects arising from interactions between migrant workers and local community, camp, quarry, borrow pit effects, dredging effects, access road issues, dust, drainage issues, disposal and waste management, health and safety, loss of scenic views, severance effects;

   c) Project decommissioning: effects from interrupted land use e.g. restoration of borrow puts, reconstruction of damaged environment; and
d) Project operation effects including waste management, inland water transport and port operations effects, emissions, maintenance dredging and slope stabilization, access issues, planning, migration and induced development effects.

23. **Task E: Occupational Health and Safety Analysis:** Analyze and describe occupational health and safety concerns. Describe and analyze all occupational health and safety concerns likely to arise as a result of the proposed project interventions both during the construction phase, as well as with the operation of the vessels and other machinery on both the lake, and at the ports. Critically analyze specific concerns and make recommendations on corrective and remedial measures to be included under the Environmental and Social Management Plan (ESMP).

24. **Task E: Public Participation, Consultation and Disclosure:** Undertake full public participation and meaningful consultation on the positive and negative impacts of the project amongst key stakeholders, and disclose documents as they become cleared for public consumption in all countries. Focus of consultations should be on the issues of port development and expansion, maritime transport on Lake Victoria, navigational safety, and economic opportunities and threats in the Lake Victoria basin in the framework of the proposed interventions. Stakeholders should be from all levels including the regional, national level, district levels, local community levels, and business community and local affected persons in line with the mandates of the NEMA requirements and Bank policies. The social due diligence consultations shall take into account the social, economic and cultural dynamics of the project area, making documents and consultations both in the official language as well as making sure that all participants understand project proceedings with due translations of key documents and information into the local languages. The Consultant will organize public meetings and forums for participation and consultation to enable interested and affected parties to present their concerns and opinions regarding the project.

25. **Task F: Prevention and Mitigation Measures:** Propose prevention and mitigation measures to the identified social and environmental impacts of the proposed program and project. The Consultant shall suggest cost-effective measures for minimizing or eliminating adverse impacts of the proposed project interventions. Measures for enhancing the positive or beneficial impacts shall also be recommended. Where feasible, the Consultant shall make alternative proposals or recommendations to project interventions in terms of technology, design, layouts, and levels of work and location of project sites including the justifications for those recommendations. The Consultant shall also make proposals for the proper screening, handling, acceptance and transport of dangerous cargo based on local and international standards and regulations including elements such as the establishment of segregated and access-controlled storage areas with the means to collect or contain accidental releases, loading and unloading to and from ships, and emergency response procedures specific for dangerous goods. The Consultant shall prepare a detailed Oil Spill Contingent Management Plan, as well as oil, hazardous materials handling onshore and offshore mechanisms and protocols. The Consultant shall also make suitable recommendations on measures for handling of wastes from the implementation and operations of the project. Costing shall be made for all proposed measures, and recommended timelines for implementation, and suggested responsible parties. The measures proposed should be categorized into the various phases of the project in line with the identification of impacts task i.e. project planning, construction, decommissioning and operation.
26. **Task G: Environmental and Social Management Plan (ESMP):** This will outline the measures to be implemented to prevent and mitigate the negative social and environmental impacts identified in the social and environmental assessment. The plan has three key areas: implementation of prevention and mitigation measures, institutional strengthening and training, and monitoring. The plan should include the responsible parties, institutional setups and collaborations as well as the strengthening and training recommended, timelines, and costs for each measure. In addition a monitoring framework must be developed as part of the plan to guide the monitoring and evaluation of the progress in implementing the recommended actions including but not limited to: monitoring of water levels, monitoring of water quality, monitoring of noise levels, monitoring of air quality. The plan should include the methodologies, sampling, frequencies, thresholds, equipment, materials, staffing and resources needed for data collection and for corrective actions.

**D. KEY STAFF**

27. The assignment is intended to be undertaken by a very experienced and high quality firm (or a consortia), familiar with undertaking assessments of this type, both in the region and internationally. The Consultant will be expected to provide approximately 10 person months of key staff inputs. The estimate of the key person requirements is only indicative and could be construed as skill mix requirements for these services. The contract for this assignment will be a lump sum contract. Whilst the Consultant is responsible for proposing a senior and high quality team appropriate for undertaking the assignment as envisaged in the Terms of Reference, to the required standard, it is likely that the team, as a minimum, will include the following key staff, which should ideally be full-time employees of the consulting firm(s):

28. **SESIA Team Leader:** The SESIA Team Leader should be a holder of a postgraduate degree in environmental sciences, civil or environmental engineering with other training received in Environmental Impact Assessment. He or she must have over 15 years’ experience in conducting ESIA studies for large scale infrastructure development projects. In addition he or she must be a registered Environment Practitioner with the National Environment Management Authority or in their home country.

29. **Port Engineer:** The SESIA team will include a ports engineer with over 15 years related experience in port design, implementation and management, or with similar experience gained on water transport related projects. He or she must possess a degree in port engineering or in civil engineering with specialization in ports. He or she must have experience working in a team for ESIA work for ports, harbors and piers.

30. **Water Resource Management Specialist:** He or she must be a holder of a degree in civil engineering, water engineering, water resource management or hydrology with a strong background and experience in water resource management projects and planning water based development infrastructure projects. He or she must have over 10 years’ experience in this field of work. The candidate should have some experience working as part of a team in ESIA work.

31. **Fisheries Expert:** The proposed candidate should be a holder of a degree in fisheries, animal husbandry or similar with 10 years’ experience in the fisheries sector. He or she must have specific working experience of at least 5 years on the impact of infrastructure projects on fisheries in similar ESIA work.
32. Social Development Specialist: The proposed candidate should be a holder of a postgraduate degree in sociology, social sciences, social work and administration, or anthropology. He or she must have at least 10 years’ experience in resettlement or land acquisition work, and in the preparation of social impact assessments.

33. Ornithologist/Birds Specialist: The proposed specialist should be a holder of a degree in zoological sciences with a specialization in birds. He or she must have at least 10 years’ experience gained in the preparation of ESIA studies.

34. Occupational Health and Safety Specialist: He or she should possess at least a university degree in civil engineering, environmental engineering public health or environmental health or environmental engineering. He or she must have specific training in occupational health and safety (OH&S) with experience in the field of at least 10 years in similar OH&S work. Experience in conducting ESIA is also a prerequisite.

35. Wetland Management Specialist: The specialist should have a degree in natural resource management, environmental management, civil engineering or environmental engineering with a specialization in wetland management. He or she must have at least 10 years’ experience of working in wetland management or similar environmental protection development work.

36. Transport Economist: He or she must be a holder of at least a degree in transport economics or transport planning with experience of at least 10 years in the evaluation of transport modal and routing options, as well as in the evaluation of the costs and benefits of different transport alternatives. Experience with ecological or environmental economics is an added advantage.

37. GIS Specialist: The proposed candidate must have a degree in Geographic Information Systems (GIS) or land use planning or mapping. He or she should have experience of 10 years in using applications like ArcView or similar used in the production of maps and GIS layered files and outputs. Experience with GPS technology is also a must. Experience in conducting ESIA work is an added advantage.

E. KEY DELIVERABLES/OUTPUTS

38. The key deliverables/outputs for the assignment are as follows:

   a) Draft Scoping Report that provides the work plan and details of the tasks to be carried out by the Consultant. Delivery: Three weeks from date of signature of the contract. (in soft copy);

   b) Final Scoping Report. Two weeks after receipt of comments on the Draft Scoping Report. (7 hard copies and soft copy);

   c) Draft Strategic Environmental and Social Impact Assessment (SESIA) Report: Four months after the start date (soft copy);

   d) Final Strategic Environmental and Social Impact Assessment (SESIA): two weeks after receipt of comments on the draft (7 hard copies and soft copy);

   e) Draft Environmental and Social Impact Assessment (ESIA) Report including a Draft Environmental and Social Management Plan (ESMP), and Resettlement Action Plan (RAP) for SOP1 in Uganda; five months from contract signing (soft copy);
f) Final Environmental and Social Impact Assessment (ESIA) Report including a Draft Environmental and Social Management Plan (ESMP), and Resettlement Action Plan (RAP) for SOP1 in Uganda – two weeks after receipt of comments (7 hard copies and soft copy); and

g) Public Consultation Hearings (at least two in number with timing to be agreed with the Consultant).

39. The Client shall review all the above reports and provide comments in a timely manner in line with the indicated timelines above. The Consultant shall provide the reports in both hard and soft copy formats. Additionally, the Consultant shall provide 15 soft copies on CD or DVD formats that include all the reports in Word, and pdf, and the accompanying files used to create the reports or use during the course of the assignment in Excel, PowerPoint, AutoCAD or other formats.

F. INPUTS TO BE PROVIDED BY THE CLIENT AND BY THE CONSULTANT

40. The Client will:

a) Designate staff to serve as the key contacts and coordinators for the project;

b) Provide documentation on previous or existing studies conducted relating to the assignment plus any other relevant policy documents;

c) Help with the establishment of contacts with other relevant stakeholders to facilitate the Consultant’s work in undertaking the study;

b) Provide the venue and meet the costs for consultative workshops during the course of the study; and

e) Liaise with and provide assistance to the Consultant in working with other Government agencies that may have information that is important for the Consultant to properly undertake the assignment.

41. The Consultant will:

a) Be responsible for their own office and residential accommodation of staff

b) Computer hardware, software and office supplies

c) Vehicular and other transportation

d) All other support facilities.

G. THE MANAGEMENT OF THE ASSIGNMENT

42. This assignment will be managed by the Ministry of Works and Transport in Uganda. The MoWT will designate a project supervisor, who will be the primary ‘day to day’ contact for the Consultants in Uganda. The consultant will be expected to work closely with the Tanzania Ports Authority, the Kenya Ports Authority, and the relevant stakeholders in the three countries, together with the Lake Victoria Basin Commission. A contact point in each of those bodies will be provided to the selected consultant.
43. The implementation of this assessment will be supported by the World Bank. The Task Team Leader for this assignment will be Martin Humphreys, Lead Transport Economist, Transport and ICT Global Practice, Washington DC (1-202-458-2951) (rhumphreys@worldbank.org).