REQUEST FOR EXPRESSIONS OF INTEREST
CONSULTING SERVICES

Selection # : GY-T1098-P001
Selection Method: Quality and Cost Based Selection (QCBS)
Country: Guyana
Sector: Transportation
Funding – TC #: ATN/OC-14135-GY
Project #: GY-T1098
TC name: Guyana – Brazil Land Transport Link and Deep-Water Port
Description of Services: The Co-operative Republic of Guyana has received financing from the Inter-American Development Bank (IDB), and intends to apply part of the proceeds to payments under the project , for the conduct of Environmental and Social Studies as it relates to the consideration of a land link between Guyana and Brazil and a Deep-Water Port. The objective of the Environmental and Social Studies is to identify the environmental and social issues and impacts of undertaking the land transport Project linking northern Brazil with a port on Guyana's coast. The key activities include the conduct of a Country Environmental Assessment (CEA), a Strategic Environmental and Social Assessment (SESA) and an Environmental and Social Impact Assessment (ESIA) of the project's area of influence. The key activities include; reviewing all relevant background information; conducting stakeholders' analysis and mapping to identify both affected parties, Project beneficiaries and the institutions that could influence the Project outcome; identifying proposed Project alternatives and activities that would be undertaken during the implementation and operation of each alternative should it be selected; defining the issues and potential positive and negative social and environmental impacts (direct, indirect and cumulative) of the proposed activities for each alternative; identifying areas that are critical areas for biodiversity and ecosystems as well as protected and/or conservation areas; identifying baseline surveys and investigations which should be conducted; conducting an impact analysis that will include methods for quantifying impacts, and description of impacts according to their character, condition, period, scope; liaison and coordinate with the Environmental Protection Agency, the Ministry of Amerindian Affairs, the Ministry of Natural Resources and other agencies in Guyana; conducting qualitative discussions/focus group discussions with communities which would be directly and indirectly affected by the Project.

*Link to TC document: [*Web link to approved document*]*

The Inter-American Development Bank (IDB) is executing the above-mentioned operation. For this operation, the IDB intends to contract consulting services described in this Request for Expressions of Interest.
Expressions of interest must be delivered using the IDB Portal for Bank Executed Operations (

http://beo-procurement.iadb.org/home) by: *January 26th, 2018*, 5:00 P.M. (Washington D.C. Time).

The consulting services ("the Services") include the conduct of a Country Environmental Assessment (CEA), a Strategic Environmental and Social Assessment (SESA) and an Environmental and Social Impact Assessment (ESIA) related to the project's area of influence for a Guyana, Brazil land link and Deepwater port. Results of the study are expected to be completed by the fourth quarter of 2018.

Eligible consulting firms will be selected in accordance with the procedures set out in the Inter-American Development Bank: *Policy for the Selection and Contracting of Consulting firms for Bank-executed Operational Work* - GN-2765-1. All eligible consulting firms, as defined in the Policy may express an interest. If the Consulting Firm is presented in a Consortium, it will designate one of them as a representative, and the latter will be responsible for the communications, the registration in the portal and for submitting the corresponding documents.

The IDB now invites eligible consulting firms to indicate their interest in providing the services described below in the draft summary of the intended Terms of Reference for the assignment. Interested consulting firms must provide information establishing that they are qualified to perform the Services (brochures, description of similar assignments, experience in similar conditions, availability of appropriate skills among staff, etc.). Eligible consulting firms may associate in a form of a Joint Venture or a sub-consultancy agreement to enhance their qualifications. Such association or Joint Venture shall appoint one of the firms as the representative.

Interested eligible consulting firms may obtain further information during office hours, 09:00 AM to 05:00 PM, (Washington D.C. Time) by sending an email to: brianm@iadb.org

Inter-American Development Bank
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SELECTION PROCESS # GY-T1098-P001

DRAFT SUMMARY TERMS OF REFERENCE

SOCIAL AND ENVIRONMENTAL ASSESSMENT STUDIES

- Country Environmental Assessment (CEA)
  - Strategic Environmental and Social Assessment (SESA)
    - Environmental and Social Impact Assessment (ESIA)

GUYANA

PROJECT NUMBER: GY-T1098

TECHNICAL COOPERATION NUMBER: ATN/OC-14135-GY

Web link to approved document

TECHNICAL COOPERATION NAME:

GUYANA – BRAZIL LAND TRANSPORT LINK AND DEEP-WATER PORT

1. Background and Justification

1.1 The context

The Government of Guyana (GoG) is keen to establish an efficient and functioning transportation link between the States of Roraima, Pará and Amazonas on the Brazilian northeastern coast and Linden, within the heartland of Guyana. Furthermore, these Brazilian States are land locked with no direct access to ocean going shipping ports, and use Atlantic ports in Brazil via the Amazon River and Venezuela. As such, virtually all the trade in Amazonia and Roraima are via containerized traffic (Guyana Transport Sector Strategy Study, 2005)[1]. Currently, there is little trade between these states and Guyana, even though there is a Partial Scope Agreement between the two countries.[2] While a route currently exists that spans[3] approximately 453.7 km (*see* Figure 1) and is made primarily out of gravel, the current path becomes very dusty during the dry season, and some sections become difficult to navigate and impassable during the rainy season. Furthermore, many of the bridges that support the current road are in need of repair and would require more durable structures being erected (SNC Lavalin International, 2010)[4].

All previous studies examined the construction of a link or the dredging of a deep water port as discrete entities, rather than as a combined project. This has meant that the full suite of environmental and social consequences have not been assessed in a comprehensive manner. Currently, projects that will support this initiative are still in the main undefined:

- Documents mention a transportation link which implies that the final solution is not focused only on a road network, but other options should also be explored.
- If a road then several options are still open such as rehabilitation of the existing road, changing of the alignment, choosing a different path, type of surface, etc.
- The decision making process on the location of the deep water port is even wider: the specific location of this infrastructure has not yet been identified and economic studies are yet to be developed.

However, recognizing that this road artery in its current form cannot support the anticipated trade flow between the two countries, the GoG and the Government of Brazil (GoB) are proposing to conduct a feasibility study on establishing a land link to join the northern states of Brazil through the Guianas and facilitate shipping access from port(s) in Guyana to bolster trade with Roraima and Amazonas and the northern Atlantic, the Caribbean, and North and Central America. This particular project is also becoming more urgent with the discovery of petroleum and natural gas off Guyana's continental shelf. This last development will bring its own challenges, even if the current thinking of the GoG is to refine all petroleum products elsewhere.

The development of this land transport link between the two countries and the port is also seen as critical in the fostering of the integration process for the Caribbean region as a whole, which has a large trade deficit with Brazil, although only importing less than 10% of its total imports from that country (CARICOM Website). Guyana, being a founding member of the Caribbean

[1] Ministry of Public Works and Communications (2005) Guyana Transport Sector Strategy Study. http://ufdcimages.uflib.ufl.edu/UF/00/08/42/07/00004/PDF.pdf

[2] This is based on a review of Guyana Trade Statistics within the Statistical Bulletins of the Bank of Guyana.

[3] This is for the route from Linden to Lethem on the Brazilian border. The entire length of the road to Georgetown is 558 km and the section from Linden to Georgetown is a paved asphaltic surface.

[4] SNC Lavalin International (2010) Environmental and Social Impact Assessment Report, Unpublished Report.

Community (CARICOM)[5], is also in an advantageous position to further the relationship between Brazil and CARICOM.

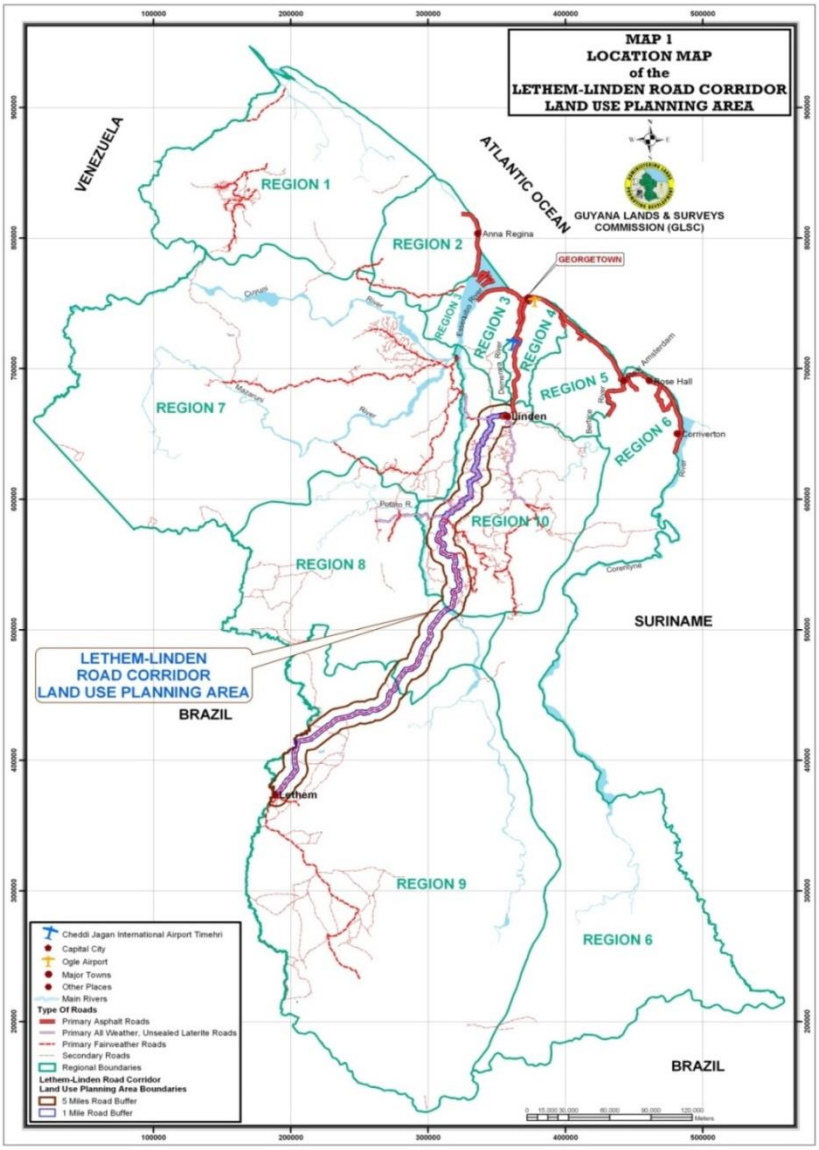

Figure 1: The Current Linden – Lethem Road Corridor Source: Guyana Lands and Surveys Commission (2010).

In recent times, Brazil has indicated a desire to expand their business frontiers into Guyana through joint ventures in the areas of ethanol production, soya and assistance to Guyana with its renewable energy drive as it works towards becoming a low carbon resilient economy within the Green Economy Framework. But many of these initiatives hinge on the need for an efficient and well-maintained land link and deep water port facilities.

One critical factor that cannot be overlooked is the fact that the current land link passes through one of only four legally designated protected areas in Guyana, i.e., the Iwokrama Centre for

[5] This was previously the Caribbean Common Market.

Rainforest Conservation (ICRC), Guyana's largest declared protected area[6]. This area represents wetlands and river systems of global importance and has been identified by the World Bank as an 'ecological hotspot' and by the International Union for the Conservation of Nature (IUCN) as a 'major tropical wilderness area' requiring immediate attention. Additionally, Guyana has identified the North Rupununi Wetlands as a potential Ramsar site for conservation with strong community support for such a listing. According to the ICRC and the North Rupununi District Development Board (NRDDB), the North Rupununi region is assumed to support over 65% of the species population in Guyana. The area is known to support relatively stable population of many endangered species such as the Harpy Eagle (*Harpia harpyja*), Capybara (*Hydrochaeris hydrochaeris*), Jaguar (*Panthera onca*) and Giant Anteater (*Myrmecophaga tridactyla*) (IICRCD/NRDDB, 1998).[7]

Furthermore, a number of indigenous groups fall within the zone of influence of the current Linden – Lethem road, inclusive of the Macushis, Arawaks, Akawaios, Patamonas, and Wapishianas. These indigenous communities are located sporadically from Linden along the route, but more dominant in the zone between Surama and Lethem where the communities of Fairview, Wowetta/Surama, Massara, Annai, and Toka are directly impacted. The road bisects three of these communities, i.e., Annai, Massara, and Toka with a total population of just over 1,000 people. These communities have depended on the forests either side of the current road to carry out their traditional livelihood activities of hunting, fishing and trapping. Additionally, streams in the vicinity of the road have been used for domestic and drinking purposes by communities and road users alike.

It is within this context that the GoG sought to develop a National Transport Sector Policy (NTSP). This Policy sets out the path to advance the transport network in Guyana. One such link is the Guyana to Brazil link and deep water port. Furthermore, the National Development Strategy (NDS) for Guyana, the Poverty Reduction Strategy Paper (PRSP) of 2001, and the Competitiveness Strategy (CS) all identified this link as an essential north-south connection in the overall national transport network and list this as one of the Government's highest priority projects. According to these documents, given Guyana's strategic location vis-à-vis the Americas, such as the Integration of Regional Infrastructure in South America (IIRSA) proposal, and Brazil in particular, this land link offers natural advantages for the southern regions of Brazil to, inter alia, develop trading links using Guyana as a gateway. This position finds support in the form of the Guyana Transport Sector Strategy (GTSS) Study of 2005 that recommends the rehabilitation and expansion of the existing roadway, if silent on the exact location for the deep water port.

But the construction and operation of this transport link can also bring many unintended consequences. These consequences may include oil spillage, increased noise and dust pollution, poaching of wildlife, and increased accidents through speeding and increased respiratory aggravations from emissions associated with a growth in fossil fuel generated vehicles. As such, to minimize these unintended consequences and magnify the positive impacts, transport development requires comprehensive, strategic and proactive planning.

[6] This area that is 360,000 hectares, was given by the government and people of Guyana for the practice of sustainable forestry and the conservation of biological diversity at the Commonwealth Heads of Government Summit in Kuala Lumpur, Malaysia in 1989.

[7] Iwokrama International Centre for Rainforest Conservation and Development and the North Rupununi District Development Board (1998) Biodiversity List in the North Rupununi. Unpublished Report

1.2 Environmental Assessment process

The GoG has requested the Inter-American Development Bank assistance for a Technical Cooperation (GY-T1098) aimed at providing technical support to conduct the necessary studies for the preparation of a future operation to consolidate land transport link with Brazil and the development of a deep water port. The objective of this TC is to support Guyana economic competitiveness and integration in a socially and environmentally sustainable manner.

The principal objective of TC-GY-T1098 was to conduct a scoping exercise that lead to the preparation of detailed terms of reference (ToRs) for the preparation of a Country Environmental Assessment (CEA), a Strategic Environmental and Social Assessment (SESA) and an Environmental and Social Impact Assessment (ESIA).

Early in the development of the Environmental Assessment concept, the idea of tiering the assessment at different planning levels was put forward as a key element. Tiering means preparing a sequence of environmental assessments at different planning levels and linking them. A tiered approach minimizes the problem of Environmental Impact Assessment (EIA) being only a 'snapshot in time'. If well resolved tiering provides the right tool to address the complexity of planning and decision-making, within which environmental assessments must operate.

The complexity of the social and environmental issues at stake in the development of the Guyana – Brazil Land Transport Link and Deep water Port project led to the design of a tiered assessment process. This tiering can be constructed by an integrated vision of a Country Environmental Assessment (CEA), a Strategic Environmental and Social Assessment (SESA) and an Environmental and Social Impact Assessment (ESIA) processes where each tier corresponds to a specific geographic and institutional scale. These 3 studies will be executed under an umbrella program and will focus in different institutional and spatial scales (see Figure 2).

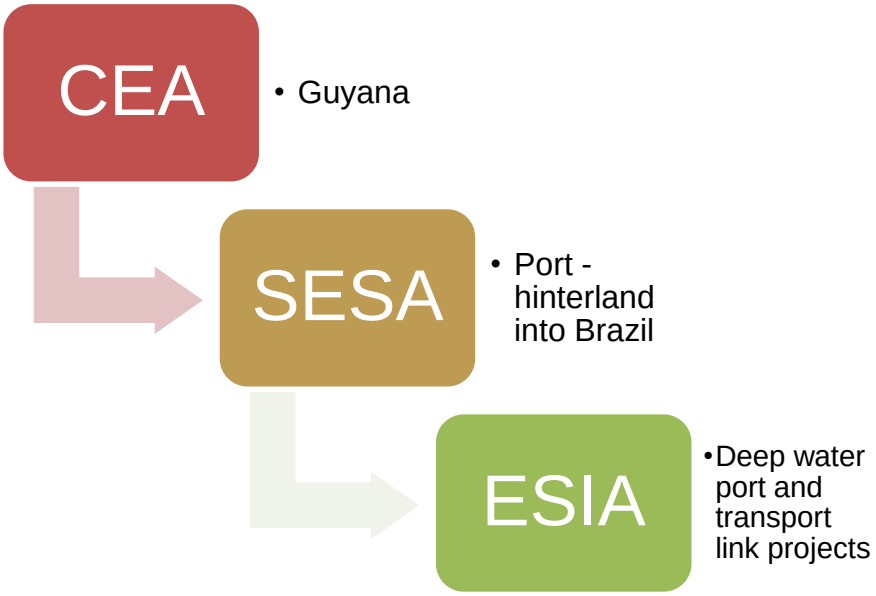

Figure 2 – Tiered assessment process for the Guyana – Brazil land transport link and deep water port.

The Inter-American Development Bank (IDB) is now desirous of completing a Country Environmental and Assessment (CEA). Accordingly, the IDB is inviting firms to provide proposals for the completion of the CEA. These firms will need to respond to the present Terms of Reference as well as to comply with the provisions of the IDB's environmental and social safeguards policies and operational procedures with the objective to generate the minimum effects on local communities and the surrounding environment and cultural sites.

The Country Environmental Assessment will involve reviewing the relevant environmental legislation, governance system and requirements of Guyana and regions affected by the implementation of the land transport link and deep water port programs/projects.

1.3 *Ex-ante* conditionalities

It is important to assess the governance framework to identify who is who in policy, plan or program implementation, and what are the respective responsibilities and capacities. It includes various dimensions such as the analysis of the legal and policy frameworks, the institutional responsibility and capacity for decision-making (competences and responsibilities), the governance mechanisms and instruments available for institutional cooperation and the relevant actors that need to be engaged in a participative and collaborative process.

By mapping the structural ***ex-ante*** conditionalities, i.e. the pre-conditions necessary for effective and efficient management of the project, it is possible to understand better systemic obstacles and therefore to highlight priorities and appropriate timescales regarding different policy options and proposals for anticipatory measures. It will also be possible to:

- review the status of selected high-priority environmental concerns;
- assess the capacity of environmental institutions and of key actors charged with addressing these concerns and;
- identify, through an ex-ante evaluation, the existing conditionalities in this field;

To evaluate the ***ex-ante*** conditionalities required for a good project design, implementation and management, it is essential to identify critical structural conditions to be considered in the CEA in a comprehensive and systemic manner.

These conditions are determined by five major societal pillars or group of actors that are clustered in Figure 3. Understanding past and present roles, best practices and fragilities of these societal pillars in Guyana in an integrated way can minimize operational, management and financial risks of a large infrastructure project, like the Guyana – Brazil land transport link and deep water port.

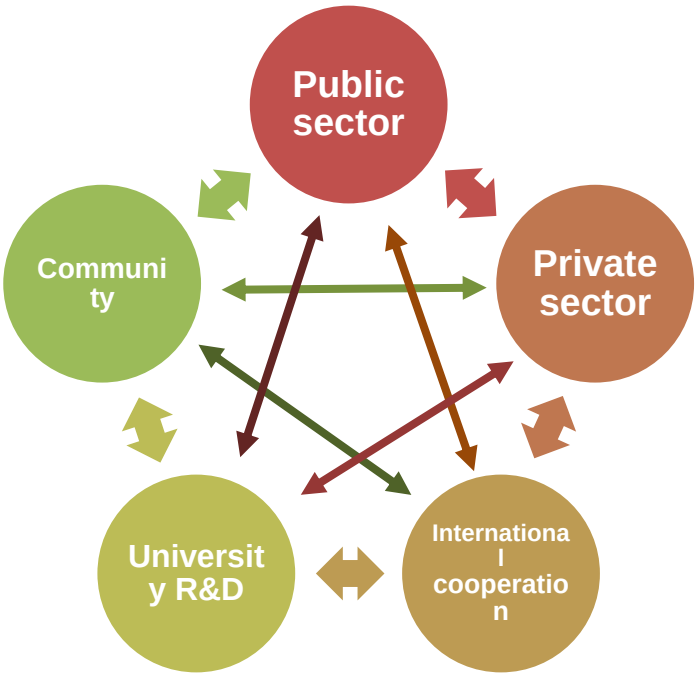

Figure 3 – Societal pillars of Guyana.

Considering the evaluation of several country reports for Guyana[8,9, 10], the assessment of the structural conditions associated with these five societal pillars, at different territorial scales, is critical for the project's success.

The aim, therefore should be to understand the governance context (Figure 4) in order to minimize potential risks, to support the design of more appropriate strategies and actions and to effectively manage the direct and indirect impacts of the implementations of the land transport link between Guyana and Brazil as well as the construction of a deep water port in Guyana within a comprehensive sustainable development framework involving the most relevant stakeholders. Furthermore, an emphasis should be placed on connecting macroeconomic national goals with local and regional demands[11].

[8] IDB (The Inter-American Development Bank). (2017). Country Program Evaluation: Guyana 2012-2016. IBD, Office of Evaluation and Oversight (OVE). Retrieved from https://publications.iadb.org/handle/11319/8298?locale-attribute=en

[9] UNDP (United Nations Development Programme). (2010). Assessment of Development results Guyana: Evaluation of UNDP contribution. United Nations Development Programme. Retrieved from http://www.oecd.org/countries/guyana/47861372.pdf

[10] UNDP (United Nations Development Programme). (2017). Guyana State of the Environment (SoE) Report 2016, United Nations Development Programme in collaboration with the Environmental Protection Agency (EPA) and the Ministry of Natural Resources (MNR) of Guyana.

[11] FGV (Fundação Getúlio Vargas) (2017) Large-scale Projects in the Amazon: Lessons Learned and Guidelines, Fundação Getúlio Vargas, Centro de Estudos em Sustentabilidade (CES). Retrieved from http://www.gvces.com.br/large-scale-projects-in-the-amazon-lessons-learned-and-guidelines?locale=en

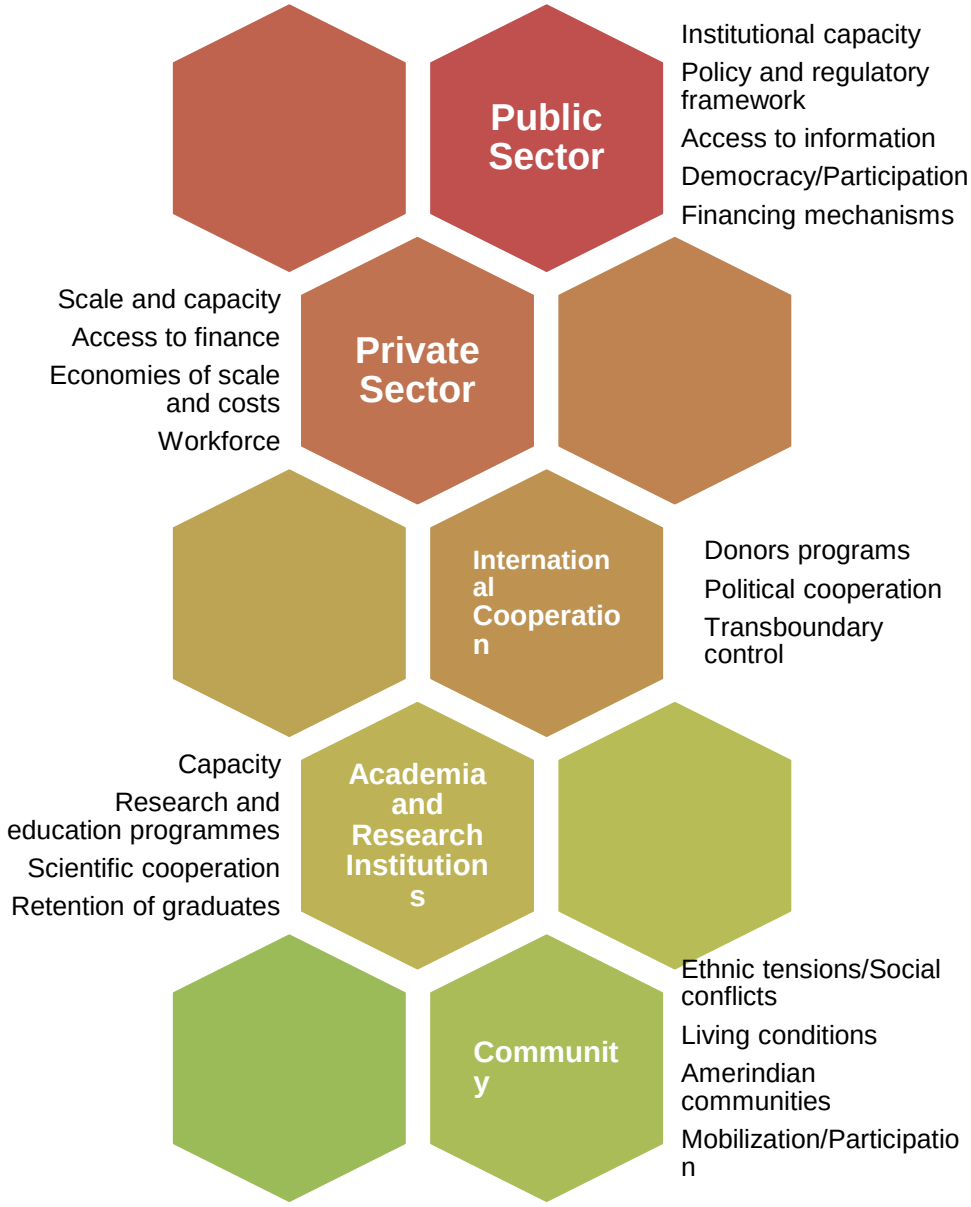

Figure 4. Societal pillars conditionalities.

Public Sector

i. Institutional Capacity

IDB (2017) considers Guyana's weak institutional capacity as a serious obstacle to implementing Bank operations and recognizes that the Bank's country strategy did not identify the low institutional capacity of the public sector as a risk to the program. Therefore, the design and implementation of a larger infrastructure project such as this demands an assessment of the institutional capacity of national, regional and local institutions (personnel, technical expertise, knowledge needs, financial procedures, enforcement of laws, regulations and standards, management, reporting, planning and monitoring capacity), of the level of (inter-sectoral) coordination and collaboration among different agencies as well as the distribution of responsibilities for managing impacts.

ii. Policy and Regulatory Framework

In order to strengthen and modernize the policy and regulatory frameworks for key sectors (such as land-use planning, energy - in particular the new and emerging petroleum sector, agriculture, tourism, mining or Intellectual Property Rights) an assessment of the adequacy of legislation and enforcement capacity has to be done in accordance with the broad regulatory framework reform that the Government of Guyana is setting out in the Green State Development Strategy and Financing Mechanism Framework.

iii. Access to information

The insufficiency of current and reliable baseline data in a number of areas and sectoral policies is a key conditionality to effectively plan and implement priority investments and programs. Besides the consideration of data needs, the level of transparency of data and of official documents, the data communication strategies and the monitoring capacity are some of the critical associated conditions. The demonstrated support for the generation and publication of data is present in several of the Bank's activities, such as the work with the government to strengthen the national statistical system. The reinforcement of the Information and Communication Technologies (ICTs) on the current national agenda of Guyana also needs to be considered[12].

iv. Democracy and participation

The involvement of distinct sectors of society in formulating solutions is a necessary complement to the predominant presence of government, companies, experts and donors in the projects' design and implementation.

Participation of different national, regional and local stakeholders can contribute to strengthen democracy and the legitimacy of the process and its outcomes as well as to provide more knowledge or the capacity to further alleviate social conflicts. Decentralisation measures, through the strengthening of regional and local democratic councils for regional/local development management need to be considered as critical factors for the project's success (MPG and UNE, 2017).

v. Financing mechanisms

Questions about the adequacy of the financing mechanisms for the design and implementation of this large infrastructure project are critical to explore. The Government of Guyana could benefit from a range of modalities, inclusive of the use of public-private mechanisms to fund different stages of the Project. Nevertheless, as financing and resource mobilization is a key concept within the Green State Development Strategy and Financing Mechanism Framework, there should be an alignment between the strategic options of the Government and the ongoing negotiations with several potential donors regarding the different financial mechanisms that will be most beneficial for the country to adopt.

[12] MPG (Ministry of the Presidency of Guyana), UN Environment. (2017). Framework of the Guyana Green State Development Strategy and Financing Mechanisms. Retrieved from http://www.greengrowthknowledge.org/sites/default/files/Framework%20for%20Guyana%20Green%20State%20Development%20Strategy%2028-03-17.pdf

Private Sector

i. Scale and Capacity

The lack of scale and capacity of the private sector is mentioned by several reports as a critical factor for the implementation of projects in Guyana[13] (IDB, 2014, 2017), given that it is mostly comprised of small and informal businesses and that 95% of registered businesses employ fewer than 15 people is evidence of significant impediment to economic growth and development.

Focus should be placed on building export capacity, by identifying the factors that limit the scale and the capacity of the private sector to invest, modernize, and access finance. Some of the data gaps identified by IDB (2014) relate to the mapping of the private and financial sectors, of labour markets and tax system, property rights and proposals for modernization and economic diversification, and a mapping of licensing requirements. The consideration of specific contractual, environmental and social management clauses or codes of conduct, in Bank loan agreements with the construction firms responsible for the road improvements can also provide strong incentives for sustainable development investment.

ii. Access to finance

Some structural barriers in Guyana prevent the access to long-term financing for capital investments and do not facilitate private sector investment - such as the current structure of the banking system, the lack of registries of movable property, legal frameworks regulating the use of financial instruments, and limited property rights for miners and farmers (IDB, 2014; 2017). These factors are critical for assuring the development of the private sector, given the potential boost for the economy from the land transport link implementation. Other financial incentives such as taxes rebates/reduction, subsidies or market-based mechanisms need to be taken into consideration to provide incentives to drive a sustainable change in private sector and household behavior (MPG and UN Environment, 2017).

iii. Economies of scale and costs

Presently, the private sector suffers from high costs and diseconomies of scale, mostly from the high cost of energy and the unreliable supply of electricity - that increases the cost of industrial production-, and from inadequate roads and the lack of a deep port that increases the prices of domestic and international products. The Guyana-Brazil transport link and deep water projects can provide a major incentive to reduce these costs and bring opportunities to further investments that could help these sectors provide more value-added. Therefore, definitions of future strategic priorities for economies of scale incentives should be aligned with the Green State Development Strategy and Financing Mechanism.

iv. Workforce

According to IDB (2017), a high share of firms in Guyana identifies an inadequate educated workforce as one of the major constraints for their businesses. Structural factors such as, the limited supply of labour force, the inadequate labour force with a mismatch between the skills required by the private sector and the outputs of the educational system, the quality and equity at all levels of education and a reduced labour force participation rate of women compared to men, contribute to constraints in private sector growth (IDB, 2014, 2017). Some indicators of Guyana's education system show regional disparities, high repetition and dropout rates, and quality below expectation. The Framework for Guyana's Green State Development Strategy

[13] IDB (The Inter-American Development Bank). (2014). The Private Sector Assessment Report for Guyana. Retrieved from: http://competecaribbean.org/wp-content/uploads/2015/02/2014-Guyana-Private-Sector-Assessment-Report.pdf

provides a direction for mapping these workforce mitigation measures. It is also vital to fully align programs in private sector development with the expected economic, social and environmental outcomes of this large infrastructure project.

International Cooperation

i. Donors Programs

The IDB has long been a key development partner in Guyana (IDB, 2017). The European Union, the United States, The United Nations and Norway have also been important partners and the World Bank Group and the Caribbean Development Bank have provided significantly less assistance. For the project implementation it is critical to assess how coordinated and synchronized are or can be the different donors' programs to support the diverse structural investments or if any contradiction can emerge from their different supporting mechanisms.

ii. Political Cooperation

Guyana shares land and marine boundaries with different countries as well as common transboundary ecosystems, which require the development and implementation of common strategies and strong regional and international cooperation (MPG and UNEnvironment, 2017). While regarding international trade, and as a founding member of the Caribbean Community, the country has also a central role to play in fostering cooperation, trade and investment. In the Framework for the Green State Development Strategy, the Government assumes the intention of Guyana playing a leading role in environmental and sustainable development concerns of international cooperation (MPG and UNEnvironment, 2017). Since the implementation of this large infrastructure project intends to connect Guyana and Brazil, the international cooperation with Brazil, and specifically with the State of Roraima, is of utmost importance on a variety of matters, as well as the evaluation of potential new alliances with strategic partners to enable access to other markets.

iii. Transboundary control

Transboundary control of the implementation of the project determines the assessment of the capacity of the countries involved to cooperate in the implementation of environmental controls (e.g. land use and land tenure controls, control the increase in illegal activities such as timber extraction) and social controls (e.g. on contraband and human or drug trafficking, on the impacts on women and children). The assessment of "spill over" impacts of other transboundary road projects demonstrates the need to consider integrated environmental and social management and mitigation control measures among the affected countries[14].

Academia and Research Institutions

i. Capacity

Universities and Research Centers can provide supporting roles for the gathering of scientific knowledge on previous or similar projects in the region and for the implementation of specific intervention and mitigation actions. Academia also has a role to play in capacity building and providing functional programs that can support a country's development and such a large scale project. As such, the capacity and the role of academia to systematize context-specific

[14] Redwood, J. (2012). Managing the environmental and social impacts of Major road investments in frontier regions: lessons from the Inter-American Development Bank's experience / John Redwood. IDB Technical Note; 449.

knowledge (particularly given the absence of data, already described), scientifically support current projects in their design, implementation and evaluation or mediate participatory processes have to be considered. Nevertheless, the role of Universities and R&D investment has not been properly discussed in several other large scale infrastructure projects (Redwood, 2012; FGV, 2017).

ii. Research and Education Programs

In order to allow for a stronger interaction among applied research and education programs on the one side and public planning and decision-making needs and private sector development needs on the other, there should be an assessment of needed training programs and target groups, research areas as well as institutional structures that can connect academia actors with all other relevant actors for the project design, implementation and management. Guyana's Framework for the Green State Development Strategy assumes the need to address educational access, quality and curriculum at multiple levels to strength education for sustainable development (MPG and UN Environment, 2017).

iii. Scientific Cooperation

International scientific cooperation in research projects and training programs, particularly with Brazilian academia, can be vital for knowledge sharing and experience learning on the implementation of a large infrastructure project in particularly sensitive environmental and social areas. The Center for Sustainability Studies at the *Getúlio Vargas Foundation* (GVces) or the *Instituto Federal de Roraima* (IFRR) can be strategic academic partners of the University of Guyana under the Treaty of Amazonian Cooperation of which both Guyana and Brazil are signatories (or other academic private sector institutions) to support the project design and implementation.

iv. Retention of Graduates

Guyana has one of the world's highest rates of migration of skilled workers with more than 80% of university-educated nationals that have emigrated, which also affects competitiveness (IDB, 2017). Since the country's independence in 1966, a high share of the population has emigrated, led by the most educated, such as for example nurses and medical staff. This means it is crucial to consider strategies to keep skilled professionals in the country as well as to foster employment conditions that can support the workforce needs for the implementation of such a large scale infrastructure project.

Community

i. Ethnic tensions/Social conflicts

Guyana's particular ethnic composition and socio-economic complexities have so far been framed as an obstacle rather than an enabler of inclusive development (MPG and UNE, 2017). Guyanese society has traditionally been fragmented between the two main ethnic populations: Indo-Guyanese (39.8%) and Afro-Guyanese (29.3%). However it is believed that the potential conflicts arising from this project are likely to come from land issues related with the indigenous population that make up about 10% of Guyana's total. The recognition of the existing or potential social conflicts over the territory and the evaluation of mitigation measures were critical factors in other infrastructure projects in Latin America (Redwood, 2012). The ethnic tensions and social conflicts that the project can potentially exacerbate are therefore critical to assess and to be understood by the relevant institutional and political powers, as well as distinct mitigation measures, such as consensus-building conflict resolution negotiation fora, should be negotiated based on previous experiences in Latin America with similar projects (Redwood, 2012; FGV, 2017).

ii. Living Conditions

Crime and violence in Guyana are also major issues and the country is also a source and destination for human trafficking and a transit country for drugs from South America to the United States and Europe. Enhancing safety and security for citizens and in particular vulnerable groups is thus a critical factor to be considered with the implementation of the transport link. Health conditions and social protection, the access and quality of education, the reduction of travel costs and travel time, the access to sewerage systems are major factors at the center of the national policy that should be assessed in order to better understand the living conditions of the affected population and the possible reduction in the poverty rate of the hinterland communities. The impact of the emerging oil industry on the transport link should also be considered, revealing the critical need to project and monitor along the project implementation changes in demographic, economic, social and environmental conditions (Redwood, 2012).

iii. Amerindian Communities

The Amerindians are the fourth largest ethnic group in Guyana and are among the most materially poor and socially excluded people in the country[15]. Research studies in the Brazilian Amazon showed that they are also the most affected by the construction and operation of large-scale projects (FGV, 2017). Their ways of life, cultural reproduction or physical integrity and well-being are extremely vulnerable to the resulting environmental and social impacts of these projects (FGV, 2017). Well-documented impacts of development programs in the Amazon in these groups evidence territorial expropriation, the restriction of access to natural resources, violence and coercion, among other consequences (FGV, 2017). It is therefore crucial to assess the potential impact of the project on traditional knowledge, local practices and innovations of hinterland populations, especially indigenous peoples (MPG and UNE, 2017), and make recommendations on mitigation and supporting measures to ensure the adequacy of existing laws, regulations, social and economic programmes and the health and educational systems as well as to strengthen the Village/Community Administration of the indigenous peoples and the Ministry of Indigenous Peoples Affairs.

iv. Mobilization/Participation Capacity

The role and participation of non-state institutions, in particular civil society and indigenous peoples, the youth and women, are vital for the project implementation. Mechanisms to facilitate the participation of all and to support mobilization capacity of these groups, access to information and access to justice and environmental education need to be put forward to enhance transparency, legitimacy, accountability and good governance. The guarantee of participation of beneficiary communities and local institutions from the conception phase through the end of execution is a critical ex-ante conditionality for the project success (Redwood, 2012). The establishment of a platform for multi-stakeholder participation and continuous dialogue, interaction and consultation should therefore be considered.

[15] UNICEF (2017) Study on Indigenous Women and Children. UNICEF. Retrieved from https://www.stabroeknews.com/2017/news/stories/09/24/indigenous-women-children-still-most-disadvantaged-group-in-guyana-study/

2. Objectives

The Country Environmental Assessment (CEA) will be the main tool to generate relevant governance and environmental information in order to support the development of future IDB's programming documents in Guyana. This CEA should follow a strategic approach focused on sectors and areas that are highly relevant in the Bank's relationship with the country and with a focus on the land transport Project linking northern Brazil with a port on Guyana's coast. In this context, this analytical work has the following objectives:

a. To identify and analyse key environmental priorities, challenges and opportunities across sectors, including their links with social and economic drivers, at different territorial levels and in relation to strategic national and international documents, such as the Guyana Green State Development Strategy, the Climate Resilience Strategy and Action Plan for Guyana and the UN Sustainable Development Agenda 2030;

b. To assess the environmental institutional and governance framework, at different governmental levels, namely the responsibility and capacity of the main societal pillars regarding environmental management, the level of participation of civil society and indigenous peoples, the implementation of the free prior informed principle (FPIC), access to information, pertinence of legal and regulatory frameworks, level of implementation and compliance with environmental and social standards and safeguards, environmental education policies and institutional cooperation for environmental management;

c. To review past and present cooperation actions of the Bank and other Multilateral Financial Institutions and Agencies (MFIs) on the major environmental, natural resource management, climate change and green economy concerns;

d. To propose a set of recommendations of possible strategic and policy lines as well as mitigation actions that should be considered in the dialogue between IDB and the Government of Guyana, to improve the conditions necessary to promote opportunities and address the main risks associated with the environment in the aforementioned key sectors of government and also to identify and recommend priority actions that should be considered transversally in current Bank operations and in the formulation of future operations;

e. To identify a relevant monitoring and evaluation framework, defining key indicators of environmental and climate change trends and pressures.

3. Scope of Services and Key Activities

The Country Environmental Assessment will include the followings elements.

1. Identification and analysis of key environmental priorities, challenges and opportunities

a. Identification and analysis of the main environmental and natural resource **trends and pressures** for the accomplishment of strategic priorities such as the Sustainable Development Goals and the National Green State Development Strategy. Key strategic issues should be assessed, namely the vulnerability to natural disasters, the energy sector, transport, agriculture, natural resources exploitation, nature conservation, climate change, land use, waste, fresh water resources and biodiversity. The main negative trends should be identified, as well as pressures contributing to global environmental problems and to the atmospheric concentration of greenhouse gases (GHG);

b. Assessment of the **environmental drivers of Guyana's socio-economic development policies** (including an estimate and relative ranking of magnitude, duration, likelihood of major positive and negative environmental impacts, with a focus on the poorest and most exposed social groups), with emphasis on strategic areas of the Low Carbon Development Strategy, Framework of the Guyana Green State Development Strategy, Climate Resilience Strategy and Action Plan for Guyana and Finance Mechanisms;

c. Identification and analysis of **main social and economic impacts** of the environmental trends (e.g. impact on the economy; falling productivity in agriculture, forestry, fisheries; threats to human health; human exposure to environmental disasters; conflicts and security issues; impact on poverty, gender impact, impact on vulnerable groups - including children and indigenous peoples; sustainability of resource use; cultural values) and of strategic environmental trends and pressures that represent fundamental risks to Guyana's socio-economic development.

2. Diagnosis of environmental institutional and governance framework

a. Analysis of the institutional and organizational capacity to address challenges and enhance opportunities related to identified environmental issues based on quantitative and documented benchmarks that can be compared with other countries (see Table 1, Issue 1);

b. Analysis of the regulatory framework (legislation/regulations, enforcement capacity) and the involvement of civil society, indigenous communities and vulnerable groups in environmental issues (see Table 1, Issue 2);

c. Analysis of environmental policies and development plans and their implications to sustainable development strategic drivers and priorities in order to identify potential environmental risks and opportunities for the integration of environmental concerns into key policies and sectors and to make recommendations to improve the framework behind these policies (see Table 1, Issue 3);

d. Good Governance and public participation mechanisms and effectiveness (see Table 1, Issue 4);

e. Environmental services and infrastructure responses, strenghts and weaknesses (see Table 1, Issue 5);

f. Monitoring and Evaluation Capacity, strenghts and weaknesses (see Table 1, Issue 6).

Table 1 - Environmental Governance issues to be covered.

Diagnosis	EXAMPLES OF ISSUES TO CONSIDER				
	Societal Pillars				
	Public Sector	Private Sector	Community	International Cooperation	Academia and Research Institutions
	• Institutions involved in policy-making, legislation, planning, environmental protection, public works, monitoring and enforcement at different territorial levels				
	• Level of coordination among different agencies vs fragmented distribution of responsibilities among agencies and level of decentralization				
1. Institutional and organizational capacity (responsibilities and capacities of environmental institutions)	• Institutional strengths and capacities (e.g. personnel, technical expertise, knowledge needs, financial procedures, management, reporting and planning capacity)	• Scale and capacity; economies of scale and costs; workforce	• Ethnic tensions/Social Conflicts; Living Conditions; Village/Community Administration of indigenous peoples	• Donors Programs; International political cooperation; Transboundary control	• Capacity; R&E Programs; Scientific cooperation; retention of graduates
2. Regulatory framework	• Ratification and implementation status of Multilateral Environmental Agreements (e.g. those concerning sustainable				

Diagnosis	EXAMPLES OF ISSUES TO CONSIDER				
	Societal Pillars				
	Public Sector	Private Sector	Community	International Cooperation	Academia and Research Institutions
	development, climate change, biodiversity and tropical forest conservation, green growth)				
	• Adequacy of environmental legislation, including on land tenure, access rights to natural resources, management of natural resources (e.g. wildfire, inland fisheries, national protected areas, and particularly mining), disaster risk reduction, requirements for environmental assessment or pollution control; and assessment of unregulated areas;	• Mapping property rights and licensing requirements	• Amerindian Communities rights	• Transboundary environmental and social control legislation	• Scientific legal support and legal mediation capacity
	• Provision and procedures for public participation in environmental decision-making of all relevant actors, particularly civil society, indigenous communities and vulnerable groups (e.g. women; food insecure groups)				
	• Effectiveness of legislation enforcement and potential impact of non-environmental legislation	• Contractual, environmental and social management codes of conduct	• Enforcement of 2006 Amerindian Act	• Transboundary control enforcement; Codes of conduct enforcement	
3. Policies	• National, regional and local policies, strategies and action plans for the environment				

Diagnosis	EXAMPLES OF ISSUES TO CONSIDER				
	Societal Pillars				
	Public Sector	Private Sector	Community	International Cooperation	Academia and Research Institutions
	• Policy responses to global issues, namely the UN Agenda 2030, to sustainability issues (depletion of natural resources), and to specific environmental and climate change issues (e.g. mining, agriculture, deforestation, biodiversity, natural resources)				
	• Consistency between policies and mainstreaming of environmental issues in education and national policies				
	• Policies, strategies and actions on human rights and the environment (e.g. improving economic opportunities, health and environmental conditions, access to education and social infrastructures and services of indigenous peoples)				
	• Types of policy instruments used for implementation and cooperation among relevant stakeholders and financing instruments assessment				
	• Effectiveness in achieving main national and international targets				
4. Good Governance and Public participation	• Transparency and access to environmental information	• Role of the private sector in	• Role of NGOs, civil society and indigenous	• Transparency in environmental decision-making	• Role of the academia in

Diagnosis	EXAMPLES OF ISSUES TO CONSIDER				
	Societal Pillars				
	Public Sector	Private Sector	Community	International Cooperation	Academia and Research Institutions
		environmental management	communities in environmental decision-making		environmental scientific support
	• Effectiveness of participation (e.g. technical capacity, participation mechanisms)		• Participation by indigenous groups, women and traditionally less represented groups; Mobilization Capacity;		• Mediation Capacity
	• Access to justice in environmental matters				
	• Environmental public awareness and education campaigns	• Environmental Awareness	• Environmental Awareness	• Environmental Education Programs	• Environmental Education Programs
	• Good governance practices				
	• Capabilities, means, functioning of Ecosystem Services and Natural Resources Management: land titling; demarcation of Amerindian lands; economic activities base on natural resources; scientific support and data				

Diagnosis	EXAMPLES OF ISSUES TO CONSIDER				
	Societal Pillars				
	Public Sector	Private Sector	Community	International Cooperation	Academia and Research Institutions
5. Environmental services and infrastructure	• Protected areas: number, areas, relevance, effectiveness of protection, responsibilities and involvement of different actors				
	• Water, sanitation and solid waste treatment: public and private infrastructure; impacts on the community, mainly on health; scientific data				
	• Sustainable power sector: Electricity coverage, public and private infrastructure and quality of service				
	• Disaster risk reduction systems and emergency response mechanisms: the responsibilities and involvement of different actors				
6. Monitoring and Evaluation Capacity	• Analysis of the existing indicator systems, gaps, needs, overlaps and their relevance				
	• Measurement of the proposed indicators: sources, periodicity, reliability, communication strategies				
	• Integration in a comprehensive indicator system for sustainable development				

3.Cooperation actions of IDB and other MFIs

Analysis of the environmental implications for the public and private sector portfolio of past and present projects financed by the Bank, including the analysis of sectors identified as priorities in the Country Strategy and of projects already in the pipeline and/or in the portfolio, identifying opportunities to include environmental issues, impacts and potential risks in the projects, defining possible areas of support and identifying ways to prevent potential risks during the preparation of future operations. The development cooperation interventions from other donors should be assessed in relation to current or future projects with environmental, climate change or green economy focus.

4. Reporting Requirements Conclusions and Recommendations

This part should propose a set of conclusions and recommendations for addressing the identified environmental priorities, trends and challenges, promoting a transition to a green economy and addressing the SDGs Agenda 2030, taking into account the implementation of IDB current strategy for Guyana and programmes as well as future cooperation. They should address (but not necessarily be limited to) the following aspects:

i. Recommendation of possible strategic and policy lines and mitigation measures that should be considered in the dialogue between IDB and the Government of Guyana to improve the conditions necessary to promote opportunities and address the main risks associated with the environment in the aforementioned key sectors of government. Measures may include, for example, proposals for institutional strengthening and capacity building (e.g. enhancement of enforcement capacities) particularly in relation to environmentally sensitive sector programmes and budget support programmes. Opportunities may include supporting green or resource efficient production systems or low-carbon development plans and programmes;
ii. Recommendations of priority environmental actions that should be considered transversally in current Bank operations and in the formulation of future operations (with a focus on the land transport Project linking northern Brazil with a port on Guyana's coast) as well of financing mechanisms;
iii. Recommendations on opportunities for coordination on environmental/climate change issues with other donors, seeking to achieve complementarities and synergies in order to more effectively deliver development objectives.

The relative priority of the recommendations and an indication of the challenges to their implementation should be given.

5. Indicator Framework

This part should propose a selection of corresponding follow-up key indicators to measure environmental and climate change trends and pressures of identified strategic drivers and priorities as well as to monitor changes in key governance indicators in the country. To the extent that data is available (data gaps and needs should be identified as defined in Issue 6), targets and indicators in relation with the Sustainable Development Goals should also be provided. The report should mention the main sources, strengths and weaknesses of the proposed indicators (e.g. source can be linked to national development or sectoral plans/strategies/programmes) and communication strategies.

6. Validation phase

The objective of this stage is to raise debate and dialogue on environmental policies and priorities with economic and other sector authorities. As such, this phase will consist not only of the

validation process of the CEA, but also an opportunity to enhance the discussion and debate of the most important environmental issues.

The validation of the CEA will be carried out by applying a focus group methodology (multi-sectoral, including e.g. authorities, civil society, experts, academia, private sector and key donors) to seek their views on the identified priorities and linkages between the environment and, inter alia, economic growth and competitiveness, poverty reduction, governance and regional development.

(i) Intermediate Workshops: The purpose of this activity is to validate the results of the identification of the country's environmental priorities and then to formulate conclusions and recommendations.

(ii) Final National Workshop: The purpose of this activity is to validate the draft CEA with the decision makers and policy makers in the country. In particular, a dialogue with the main Ministers will be sought in this opportunity, ensuring coordination and consistency with the processes linked to the development of the Bank's Country Strategy.

4. Expected Outcome, Deliverables, Project schedule and Milestones

1. Inception Report including the methodology, approach, detailed work plan and results of the scoping phase (identification of the country's environmental priorities):
    - The inception report should be submitted within 3 weeks of contract signing.
2. Draft Country Environmental Assessment (CEA):
    - The draft report should be presented after the first 8 weeks of the project at the latest.
3. Final Country Environmental Assessment (CEA).
    - Within 4 weeks of the final national workshop, comments on the draft report will be received from the relevant authorities and from the IDB. The consultants will take account of these comments in preparing the final report.

5. Reporting Requirements and Acceptance Criteria

The final report should have a maximum length of 50 pages, excluding appendices,

The CEA report should follow this structure:

I. Summary (*it should succinctly summarize the key issues described in the CEA report following the order of* the *headings given below. The summary should have a maximum length of 5 pages)*

II. Identification of environmental priorities, challenges and opportunities to ensure competitiveness, promote a transition to a low carbon climate resilient economy within a Green Economy Framework, achieve poverty reduction and the Sustainable Development Goals of the UN Agenda 2030

III. Diagnostic of environmental institutional and governance framework (policy, regulatory and institutional framework) to address challenges and enhance environmental opportunities.

IV. Cooperation actions of IDB and other MFIs

V. Conclusions and Recommendations

VI. Indicator Framework

VII. Appendices (technical and methodological)

All reports should be published in English.

6. Other Requirement

The proposed CEA requires a team of four experts who should have at least 10 years' experience in: a) institutional analysis, b) environmental policies, planning and management, c) natural resources economic analysis; and, d) political science, human rights and social assessment techniques.

The following profile is also desirable:

- Previous working experience in Guyana is requested for at least two team members;
- Excellent analytical and synthesis skills;
- Experience in undertaking environmental and climate change analyses and preparation of development programmes and recommendations would be an asset;
- Familiarity with the Bank guidance on programming, strategies for Guyana, project cycle management, policy mix and integration of environmental and climate change issues into other policy areas is desirable;
- Experience on green economy policy would be an asset;

- Experience of participatory planning processes and human rights issues would be an advantage.
- Excellent communication skills in English as this will be the working language.

The CEA will be made in full coordination with the respective IDB's Country Strategy, in order to ensure that the results of the analysis will be used as future inputs for the process of evaluation of the Strategy.

SOCIAL AND ENVIRONMENTAL STUDIES

Project: GY-T1098

Terms of Reference for SESA
Strategic Environmental and Social Assessment

1. Background and Justification

1.1 The context

The Government of Guyana (GoG) is keen to establish an efficient and functioning transportation link between the States of Roraima, Pará and Amazonas on the Brazilian northeastern coast and Linden, within the heartland of Guyana. Furthermore, these Brazilian States are land locked with no direct access to ocean going shipping ports, and use Atlantic ports in Brazil via the Amazon River and Venezuela. As such, virtually all the trade in Amazonia and Roraima are via containerized traffic (Guyana Transport Sector Strategy Study, 2005)[16]. Currently, there is little trade between these states and Guyana, even though there is a Partial Scope Agreement between the two countries.[17] While a route currently exists that spans[18] approximately 453.7 km (*see* Figure 1) and is made primarily out of gravel, the current path becomes very dusty during the dry season, and some sections become difficult to navigate and impassable during the rainy season. Furthermore, many of the bridges that support the current road are in need of repair and would require more durable structures being erected (SNC Lavalin International, 2010)**[19]**.

All previous studies examined the construction of a link or the dredging of a deep water port as discrete entities, rather than as a combined project. This has meant that the full suite of environmental and social consequences have not been assessed in a comprehensive manner. Currently, projects that will support this initiative are still mainly undefined:

- Documents mention a transportation link which implies that the final solution is not focused only on a road network, but other options should also be explored.
- If a road then several options are still open such as rehabilitation of the existing road, changing of the alignment, choosing a different path, type of surface, etc.
- The decision making process on the location of the deep water port is even wider: the specific location of this infrastructure has not yet been identified and economic studies are yet to be developed.

However, recognizing that this road artery in its current form cannot support the anticipated trade flow between the two countries, the GoG and the Government of Brazil (GoB) are proposing to conduct a feasibility study on establishing a land link to join the northern states of Brazil through the Guianas and facilitate shipping access from port(s) in Guyana to bolster trade with Roraima and Amazonas and the northern Atlantic, the Caribbean, and North and Central America. This particular project is also becoming more urgent with the discovery of petroleum and natural gas off Guyana's continental shelf. This last development will bring its own challenges, even if the current thinking of the GoG is to refine all petroleum products elsewhere.

The development of this land transport link between the two countries and the port is also seen as critical in the fostering of the integration process for the Caribbean region as a whole, which has a large trade deficit with Brazil, although only importing less than 10% of its total imports from that country (CARICOM Website). Guyana, being a founding member of the Caribbean Community (CARICOM)**[20]**, is also in an advantageous position to further the relationship between Brazil and CARICOM.

[16] Ministry of Public Works and Communications (2005) Guyana Transport Sector Strategy Study. http://ufdcimages.uflib.ufl.edu/UF/00/08/42/07/00004/PDF.pdf

[17] This is based on a review of Guyana Trade Statistics within the Statistical Bulletins of the Bank of Guyana.

[18] This is for the route from Linden to Lethem on the Brazilian border. The entire length of the road to Georgetown is 558 km and the section from Linden to Georgetown is a paved asphaltic surface.

[19] SNC Lavalin International (2010) Environmental and Social Impact Assessment Report, Unpublished Report.

[20] This was previously the Caribbean Common Market.

In recent times, Brazil has indicated a desire to expand their business frontiers into Guyana through joint ventures in the areas of ethanol production, soya and assistance to Guyana with its renewable energy drive as it works towards becoming a low carbon resilient economy within the Green Economy Framework. But many of these initiatives hinge on the need for an efficient and well maintained land link and deep water port facilities.

One critical factor that cannot be overlooked is the fact that the current land link passes through one of only four legally designated protected areas in Guyana, i.e., the Iwokrama Centre for Rainforest Conservation (ICRC), Guyana's largest declared protected area[21]. This area represents wetlands and river systems of global importance and has been identified by the World Bank as an 'ecological hotspot' and by the International Union for the Conservation of Nature (IUCN) as a 'major tropical wilderness area' requiring immediate attention. Additionally, Guyana has identified the North Rupununi Wetlands as a potential Ramsar site for conservation with strong community support for such a listing. According to the ICRC and the North Rupununi District Development Board (NRDDB), the North Rupununi region is assumed to support over 65% of the species population in Guyana. The area is known to support relatively stable population of many endangered species such as the Harpy Eagle (*Harpia harpyja*), Capybara (*Hydrochaeris hydrochaeris*), Jaguar (*Panthera onca*) and Giant Anteater (*Myrmecophaga tridactyla*) (IICRCD/NRDDB, 1998).[22]

Furthermore, a number of indigenous groups fall within the zone of influence of the current Linden – Lethem road, inclusive of the Macushis, Arawaks, Akawaios, Patamonas, and Wapishianas. These indigenous communities are located sporadically from Linden along the route, but more dominant in the zone between Surama and Lethem where the communities of Fairview, Wowetta/Surama, Massara, Annai, and Toka are directly impacted. The road bisects three of these communities, i.e., Annai, Massara, and Toka with a total population of just over 1,000 people. These communities have depended on the forests either side of the current road to carry out their traditional livelihood activities of hunting, fishing and trapping. Additionally, streams in the vicinity of the road have been used for domestic and drinking purposes by communities and road users alike.

It is within this context that the GoG sought to develop a National Transport Sector Policy (NTSP). This Policy sets out the path to advance the transport network in Guyana. One such link is the Guyana to Brazil link and deep water port. Furthermore, the National Development Strategy (NDS) for Guyana, the Poverty Reduction Strategy Paper (PRSP) of 2001, and the Competitiveness Strategy (CS) all identified this link as an essential north-south connection in the overall national transport network and list this as one of the Government's highest priority projects. According to these documents, given Guyana's strategic location vis-à-vis the Americas, such as the Integration of Regional Infrastructure in South America (IIRSA) proposal, and Brazil in particular, this land link offers natural advantages for the southern regions of Brazil to, inter alia, develop trading links using Guyana as a gateway. This position finds support in the form of the Guyana Transport Sector Strategy (GTSS) Study of 2005 that recommends the rehabilitation and expansion of the existing roadway, if silent on the exact location for the deep water port.

But the construction and operation of this transport link can also bring many unintended consequences. These consequences may include oil spillage, increased noise and dust pollution, poaching of wildlife, and increased accidents through speeding and increased respiratory

[21] This area that is 360,000 hectares, was given by the government and people of Guyana for the practice of sustainable forestry and the conservation of biological diversity at the Commonwealth Heads of Government Summit in Kuala Lumpur, Malaysia in 1989.

[22] Iwokrama International Centre for Rainforest Conservation and Development and the North Rupununi District Development Board (1998) Biodiversity List in the North Rupununi. Unpublished Report

aggravations from emissions associated with a growth in fossil fuel generated vehicles.[23] As such, to minimize these unintended consequences and magnify the positive impacts, transport development requires comprehensive, strategic and proactive planning.

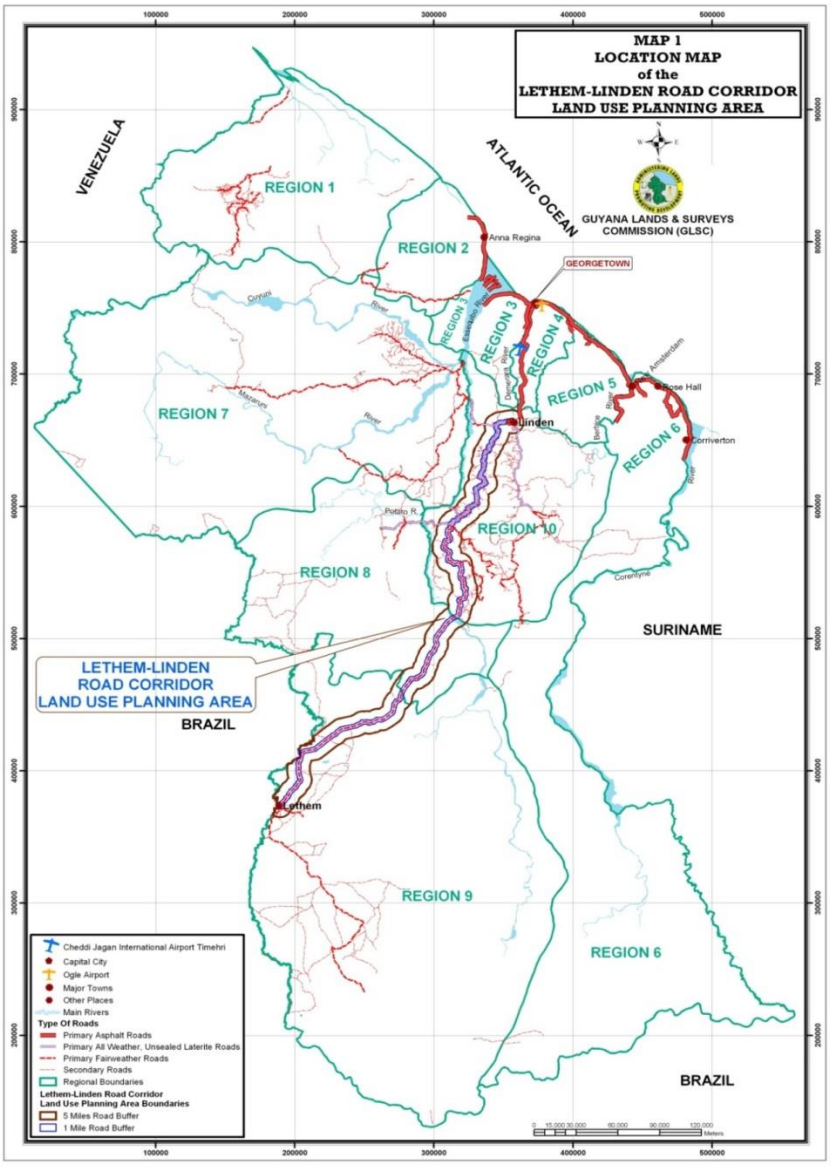

Figure 1: The Current Linden – Lethem Road Corridor Source: Guyana Lands and Surveys Commission (2010).

1.2 Environmental Assessment process

The GoG has requested the Inter-American Development Bank assistance for a Technical Cooperation (GY-T1098) aimed at providing technical support to conduct the necessary studies for the preparation of a future operation to consolidate land transport link with Brazil and the development of a deep water port. The objective of this TC is to support Guyana economic competitiveness and integration in a socially and environmentally sustainable manner.

[23] While there has been some enhancement in technology with the emergence of hybrid and electric vehicles, and vehicles with greater mileage per the litre, transport sector remains the largest consumer of fossil fuel (IPCC, 2007).

The principal objective of TC-GY-T1098 was to conduct a scoping exercise that lead to the preparation of detailed terms of reference (ToRs) for the preparation of a Country Environmental Assessment (CEA), a Strategic Environmental and Social Assessment (SESA) and an Environmental and Social Impact Assessment (ESIA).

Early in the development of the Environmental Assessment concept, the idea of tiering the assessment at different planning levels was put forward as a key element. Tiering means preparing a sequence of environmental assessments at different planning levels and linking them. A tiered approach minimizes the problem of Environmental Impact Assessment (EIA) being only a 'snapshot in time'. If well resolved tiering provides the right tool to address the complexity of planning and decision-making, within which environmental assessments must operate.

The complexity of the social and environmental issues at stake in the development of the Guyana – Brazil Land Transport Link and Deep water Port project led to the design of a tiered assessment process. This tiering can be constructed by an integrated vision of a Country Environmental Assessment (CEA), a Strategic Environmental and Social Assessment (SESA) and an Environmental and Social Impact Assessment (ESIA) processes where each tier corresponds to a specific geographic and institutional scale. These 3 studies will be executed under an umbrella program and will focus in different institutional and spatial scales (see Figure 2).

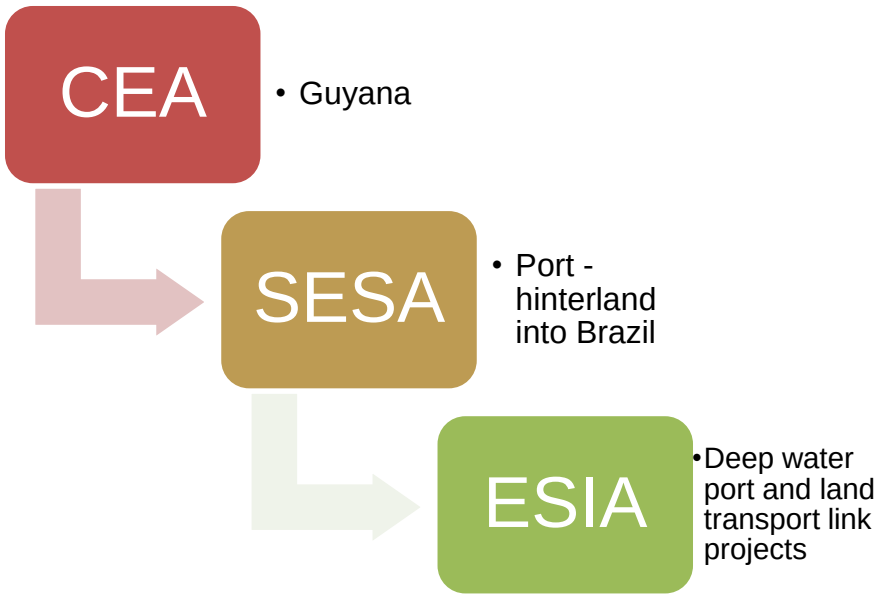

Figure 2 – Tiered assessment process for the Guyana – Brazil land transport link and deep water port.

The GoG is now desirous of completing a comprehensive Strategic Environmental and Social Assessment (SESA) for the Guyana – Brazil Land link and Deep Water Port project. Accordingly, the GoG is inviting firms to provide proposals for the completion of the SESA.

The decision concerning the final layout of the transport link between coastal Guyana and Brazil is complex and determinant for the future of land planning of Guyana. It is in its own nature a multi-dimensional decision involving large sectors of the society: transport, industry, economy, natural resources, environment, tourism, etc. This SESA will be particularly relevant in this decision enabling the identification and assessment of the positive and negative consequences, opportunities and risks of this initiative.

To guarantee the effectiveness of the Strategic Environmental and Social Assessment the exercise must follow an approach of strategic basis, which covers the key set of strategic issues relevant to the sustainable development of the region. Key strategic issues comprise the essential dimensions that the environmental assessment should address to strategically understand the

context, analyze the problems and establish relevant scales that allow a proper evaluation. They identify the aspects that should be considered in the decision making process, in the design of the development strategy and of the actions to be implemented, ensuring a strong focus on decision issues. The technical analysis will be structured based on these key strategic issues.

The development of the SESA will support:

- Identification of project alternatives;
- Identification of critical areas for biodiversity and ecosystems, as well as, protected and/or conservation areas;
- Identification of available baseline surveys and investigations and/or surveys and investigations that should be conducted, complemented and/or enhanced.
- Preparation and scoping of subsequent ESIA.

1.3 Key strategic issues

It is crucial to identify the key strategic issues that need to be assessed for a good decision making process. The strategic issues should explicitly look at indirect and long-term effects and consider mitigation measures as an integral part of the design of the port and transport link (and as flexible instruments in execution of the plans of action (Redwood, 2012)).

To identify the key strategic issues for this umbrella program, a set of different steps were considered. The key strategic issues were the result of:

- The views and concerns of the consulted stakeholders: Section 4 of the Scoping Report (integral part of present Technical Assignment) explains the consultation phase that enabled the consolidation and validation of priorities and the identification of the root causes of problems. It contributed to a better understanding of local issues within a democratic and participative decision-making process. The diversity of stakeholders involved in the scoping exercise ensures that different perspectives and various sensitivities involved were taken into account and enabled a stronger identification of the issues framed.
- The analysis of key strategic documents that provided consistency with terms and international and national goals (e.g. IDB, 2012[24], 2014[25], 2016[26]; MPG and UN Environment, 2017[27]; Framework of the Guyana Green State Development Strategy and Financing Mechanisms; UNDP, 2010[28]);

[24] IDB (The Inter-American Development Bank). (2012). IDB Country Strategy with The Cooperative Republic of Guyana 2012-2016.

[25] IDB (The Inter-American Development Bank). (2014). The Private Sector Assessment Report for Guyana. Retrieved from: http://competecaribbean.org/wp-content/uploads/2015/02/2014-Guyana-Private-Sector-Assessment-Report.pdf

[26] IDB (The Inter-American Development Bank). (2016). Approach paper Guyana 2012-2016 Country Program Evaluation. Retrieved from https://publications.iadb.org/bitstream/handle/11319/7679/Approach-Paper-Country-Program-Evaluation-Guyana-2012-2016.pdf?sequence=1

[27] MPG (Ministry of the Presidency of Guyana), UN Environment. (2017). Framework of the Guyana Green State Development Strategy and Financing Mechanisms. Retrieved from http://www.greengrowthknowledge.org/sites/default/files/Framework%20for%20Guyana%20Green%20State%20Development%20Strategy%2028-03-17.pdf

[28] UNDP (United Nations Development Programme). (2010). Assessment of Development results Guyana: Evaluation of UNDP contribution. United Nations Development Programme. Retrieved from http://www.oecd.org/countries/guyana/47861372.pdf

- The examination of the **State of the Environment** of Guyana and the compliance with environmental regulations and standards of the country (UNDP, 2017[29]);
- The **consideration of key socio-economic and institutional issues** of Guyana as well as the ones that resulted from important studies undertaken on the outcomes of similar projects in Brazil and South America (especially on vulnerable groups and ethnic minorities)[30,31];
- the **opinions of the experts** consulted in the stakeholder process and the ones involved in the consultant team, that involved expertise in environmental, social and institutional issues;
- and, most importantly, the **analysis of the implication of these strategic issues for sustainable development** in Guyana, taking as guiding frameworks three core guidelines for sustainable transport infrastructure: the European Union definition of sustainable transportation (EU, 2001), the World Bank Environmentally Sustainable Road Criteria (WB, 2015) and the IAIA Principles for Sustainable Infrastructure (IAIA, 2015). See Table 1 for a summary of the main followed principles.

Table 1 - Sustainable transport infrastructure principles of European Union, the World Bank and the International Association for Impact Assessment.

Organization	Year	Principles for Sustainable Transport Infrastructure
European Union Council of Ministers for Transport and Telecommunications[32]	**2001**	Sustainable transportation is defined as one that: 1. Allows the basic access and development needs of individuals, companies, and society to be met safely and in a manner consistent with human and ecosystem health and promotes equity within and between successive generations;

[29] UNDP (United Nations Development Programme). (2017). Guyana State of the Environment (SoE) Report 2016, United Nations Development Programme in collaboration with the Environmental Protection Agency (EPA) and the Ministry of Natural Resources (MNR) of Guyana.

[30] FGV (Fundação Getúlio Vargas) (2017) Large-scale Projects in the Amazon: Lessons Learned and Guidelines, Fundação Getúlio Vargas, Centro de Estudos em Sustentabilidade (CES). Retrieved from http://www.gvces.com.br/large-scale-projects-in-the-amazon-lessons-learned-and-guidelines?locale=en

[31] Redwood, J. (2012). Managing the environmental and social impacts of Major road investments in frontier regions: lessons from the Inter-American Development Bank's experience / John Redwood. IDB Technical Note; 449.

[32] European Union Council of Ministers for Transport and Telecommunications: Strategy for Integrating Environment and Sustainable Development into the Transport Policy, Adopted at the 2340th meeting of the European Union's Council of Ministers, Luxembourg, April 4-5, 2001.

Organization	Year	Principles for Sustainable Transport Infrastructure
		2. Is affordable, operates fairly and efficiently, offers a choice of transport mode, and supports a competitive economy, as well as balances regional development; and 3. Limits emissions and waste within the planet's ability to absorb them, uses renewal resources at or below their rates of generation, and uses nonrenewable resources at or below the rates of development of renewable substitutes, while minimizing the impact on the use of land and the generation of noise.
World Bank[33]	2015	Important benefits can be associated with a sustainable road project, including improved cost effectiveness, reduced material and energy consumption, improved community quality of life, increased protection of finite environmental resources, improved consideration of a life-cycle approach, minimization of ecological footprint and enhanced innovation and increased knowledge transfer and capacity building. Financial and economic benefits can result from improved pollution prevention, reduced carbon emissions, payment for environmental services, better labor management, and community relations. These benefits, in turn, provide results to support an entity, such as a transport agency, in developing or demonstrating the implementation of its sustainability goals, policies, and programs. Key categories and subcategories of environmentally sustainable road criteria are: 1. **Quality of Life**: Community well-being; Community Context, Economics, Safety and Health; 2. **Project Leadership:** Collaboration; Management and Planning; 3. **Natural World:** Siting-Alignment selection; Land-Water-Wildlife Habitat; Biodiversity; 4. **Natural Resource Management:** Materials; Recycling-Reuse; Waste Management; Energy; Water; Atmosphere; 5. **Climate Change:** Resilience, Greenhouse Gas (GHG) Emissions
International Association for Impact Assessment Draft principles for Sustainable Infrastructure[34]	2015	**Governance** 1. Projects should be developed and designed in an integrated planning context that describes their strategic need, ensures integration with upstream and downstream facilities, ensures coherence with the needs and values of people, and takes into account cross-sectoral synergies and inter-dependencies. 2. Projects should be managed in a context of good local, regional, and national governance including ensuring transparency, accountability, measurability, and trackability of results based on sound information. **Environmental** 3. Landscapes and ecosystem integrity and functions affected by projects must be maintained or enhanced through application of the mitigation hierarchy to avoid and minimize impacts and rehabilitate or compensate for any residual impacts as agreed with those affected by the project.

[33] Montgomery, R.; Schirmer, Jr., H.;Hirsch, A (2015). *Improving Environmental Sustainability in Road Projects*, Environment and Natural Resources Global Practice Discussion Paper 6, February, 2015, International Bank for Reconstruction and Development / The World Bank

[34] Draft principles approved at the closure of the IAIA Special Symposium on Sustainable Mega-Infrastructures, Panama City, December 2015.

Organization	Year	Principles for Sustainable Transport Infrastructure
		4. Resources including land, energy, water, and materials should be used efficiently, reused, or recycled to the extent possible in a manner that does not jeopardize their long term availability. 5. Solid wastes, hazardous materials, damaging air emissions including greenhouse gases, and noise should be minimized using best available technologies. 6. Projects should be designed, constructed, and operated in such a way as to ensure resilience and adaptation to natural disasters and climate change. Social 7. Projects should be planned, developed, and implemented taking into account the views and concerns of affected persons and communities; effective, easily accessible and well disseminated mechanisms to redress grievances should be established. 8. The health and safety of workers and communities should be protected, labor rights should be respected, and workplace gender-equality issues should be addressed; to the extent possible, workers should be drawn from local populations. 9. Projects affecting or benefitting indigenous communities should be adapted to their specific social and cultural conditions, while including provisions to respect their collective rights, avoid negative impacts, and increase opportunities for development. 10. The incomes and standard of living of persons who are physically or economically displaced by projects should be improved or at least restored, cultural heritage should be protected, and gender discrimination should be avoided. Economic 11. Projects should efficiently increase access to high quality cost effective services supporting sustainable and inclusive growth to meet the needs of target populations. 12. Projects should be economically and fiscally viable, technically feasible, and attractive for innovative financial mechanisms including those harnessing private capital. 13. Projects should incorporate provisions to maintain the assets throughout their lifecycle to provide reliable and safe services over the long-term 14. Project design should ensure the services provided are paid for by the users to reduce incentives for overuse and asset deterioration; however, special programs should be designed and implemented to facilitate access to all and avoid barriers to these services, particularly for poor and vulnerable groups.

Thus, this process enabled a transparent, open, participative and scientifically based identification of a set of key issues relevant to the sustainable development of the region and to the structure of the technical analysis.

As a result of this exercise a set of 5 key strategic issues were identified (see Figure 3). Subsequent subcategories and definitions are explained in Table 2.

Figure 3– Key strategic issues for the Strategic Environmental and Social Assessment of the Guyana-Brazil land transport link and deep-water project.

It is relevant to mention that the five key strategic issues and subsequent subcategories listed in Table 2 are also consistent with many of the core transportation sustainability rating systems used in the Environmentally Sustainable Road Criteria proposed by the World Bank (Montgomery *et al*., 2015).

VI Coordination

The IDB is the executing agency for the Consultancy on behalf of the Government of Guyana. The Consultant shall report to the IDB Project Team Leader who will be the administrator of the contract. The IDB Project Team and Ministry of Public Works will have a role entailing the reviewing and evaluation of the outputs and approving the study.

The Ministry of Public Infrastructure will facilitate the issuing of any permits required for the Consultant to carry out their duties and make available all relevant reports, documents, maps and data.

Table 2 – Key Strategic Issues: subcategories and definition.

Strategic issue	Subcategory	Subcategory elements and definition
Capacity Building	National Institutions	• Enforce the institutional leadership for the project and enhance (inter-sectoral) coordination and cooperation among agencies within Guyana and between Guyana and Brazil; • Enforce the regulatory framework and requisite laws; • Enhance institutional capacity of national, regional and local institutions (personnel, technical expertise, knowledge needs, financial procedures, management, reporting, planning and monitoring capacity)
	Project Management	• Define the administrative and maintenance capacity for the project (human, technical and financial resources); • Define team structure and sustainability program; • Implement training, long-term monitoring, and maintenance programs; • Enhance public and worker health and safety
	Security	• Enhance safety and security for citizens; • Enforce transboundary control and cooperate with Brazilian authorities on environmental controls (e.g. land use and land tenure controls, control the increase in illegal activities such as timber extraction) and social controls (e.g. on smuggling, human or drug trafficking, and on the impacts on women and children) • Enforce sanitary and phytosanitary control
Indigenous Populations	Quality of Life	• Ensure social and economic programmes and enforce health and educational systems for the hinterland indigenous populations; • Facilitate the participation of these groups in community planning and support the mobilization capacity to access information and to access justice and environmental education
	Land Titling	• Clarify and organize land tenure for areas surrounding indigenous lands and conservation units, consolidating land title regularization processes as pre-condition for any investment decision; • Simplify land registration, providing long-term property rights for small-scale miners and farmers; • Support data availability and transparency on land and environmental registries; • Establish anticipatory measures in conjunction with indigenous peoples;
	Cultural and social cohesion	• Protect Indigenous ways of life, cultural reproduction and well-being; • Define strategies to enhance traditional knowledge, local practices and innovations of hinterland populations
	Amerindian Act Enforcement	• Strengthen the Village/Community Administration of the indigenous peoples and the Ministry of Indigenous Peoples Affairs; • Ensure the adequacy of existing laws and regulations to strengthen local democracy • Evaluate effect of emerging new realities i.e. compensation for REDD+ services, benefit sharing, etc.

Strategic issue	Subcategory	Subcategory elements and definition
Community Well-Being	Local Development	• Stimulate trade and economic growth and development around the port area, improving mobility and access, enhancing accessibility and safety, and avoiding social conflict; • Develop local skills and labor; • Enhance transparency, legitimacy, accountability and good governance; • Define future strategic priorities for economies of scale incentives with Brazilian authorities, while reducing travel costs and time;
Community Well-Being	Economics	• Overcome access to finance for small businesses and reduce costs of doing business; • Provide formal guarantees that investments are connected to territorial planning and community development; • Support the design of flexible financial instruments and structure them through the different phases of project implementation; • Support the provision of jobs and income for many stakeholders; • Coordinate and synchronize different mechanisms from different donors and ensure effective monitoring
	Tourism	• Leverage the regional capacity to become a world-class nature tourism and define actions to promote nature-based tourism and ecotourism; • Define economic incentives for entrepreneurs and private companies to invest in more efficient green technologies on tourist related activities (fisheries, agriculture, biodiversity and natural and human patrimony); • Define strategies for information, technical and financial programmes to support touristic activities
	Land Use Management	• Define a comprehensive land-use zoning plan and accompanying regulation with the community in order to map and legally organize land occupation, ownership and usage and to designate and consolidate functions for public lands whose use is still undefined; • Establish an ongoing process of monitoring, oversight and incentives to ensure that the designated purposes for such lands are respected
Natural World	Natural Resources Management	• Conserve and enhance tropical rain forests and fertile lands, terrestrial biodiversity, fresh water, coastal and marine resources, and non-renewable resources including diversified mineral deposits and petroleum; • Enhance Natural Reserves management (particularly Iwokrama International Centre for Rainforest); • Regulate and monitor the sustainable use of natural resources according to the different national and international goals and targets; • Contribute to forest and biodiversity inventories in cooperation with Brazil
	Biodiversity	• Conserve and enhance wildlife habitat and species biodiversity • Protect against forced biodiversity migration and mobility; • Manage invasive species
	Water management	• Preserve and enhance surface water systems and water drainage system and enhance floodplains; • Protect freshwater systems for domestic uses; • Implement water conservation; • Develop storm water management enhancement strategies

Strategic issue	Subcategory	Subcategory elements and definition
Climate Change	GHG emissions	• Prepare emission control plan developed for the project and carbon/greenhouse gas emissions life cycle analysis
	Adaptation and Resilience	• Anticipate climate change induced threats; • Plan long-term adaptation strategy; • Design for short-term hazards and heat island effects; • Consider emergency response, resilience and risk reduction management plans

2. Objectives

SESA can be defined as an instrument that helps to create a development context towards sustainability, by integrating environmental, social and sustainability issues in decision-making, assessing strategic development options and issuing guidelines to assist implementation (Partidário, 2012)[35] . Under this framework the purpose of SESA is to help understand the development context of the strategy being assessed, to appropriately identify problems and potentials, address key trends, and to assess environmental, social and sustainable viable options (i.e. that act cautiously or prevent risks and stimulate opportunities) that will achieve strategic objectives.

The strategic assessment process has very concrete objectives:

- To identify, describe and assess the likely effects on the environment and in the society of implementing a policy, plan or programme;
- To identify, describe and assess the most important environmental and social constraints bearing on the performance of a policy, plan or programme;
- To encourage environmental and sustainability integration (including biophysical, social, institutional and economic aspects), setting enabling conditions to nest future development proposals;
- To identify and suggest the critical issues that need to scoped in and detailed in subsequent ESIA processes;
- To add-value to decision-making, discussing opportunities and risks of development options and turning problems into opportunities;
- To change minds and create a strategic culture in decision-making, promoting institutional cooperation and dialogues, avoiding conflicts.

These objectives will then be taken into account in the preparation, review or implementation of the overall strategy involving the land transport link between Guyana and Brazil and the construction and operation of the deep sea port. This Strategic Environmental and Social Assessment (SESA) will provide decision makers in Guyana and the Inter-American Development Bank (IDB) with relevant information to assess the social and environmental challenges and opportunities with regard to this important initiative. This information should help ensure that environmental and social concerns are appropriately integrated in the decision making and implementation processes.

The main strategic and/or framework documents to consider are:

- Mott MDonald: Pre-feasibility study for the Georgetwon-Lethem Road, 2008
- SNC Lavelin: Feasibility Study of Georgetown – Lethem Road, 2011
- UNDP: Guyana Climate Change Profile, 2010
- UNEP: National Environmental Summary, 2010
- UNDP: State of the Environment Report 2016, 2017
- MPG (Ministry of the Presidency of Guyana), UN Environment: Framework of the Guyana Green State Development Strategy and Financing Mechanisms, 2017

[35] M. Partidário, Strategic Environmental Assessment - Better Practice Guide: Methodological guidance for strategic thinking in SEA, Portuguese Environment Agency and Redes Energéticas Nacionais (REN), SA, Lisbon, 2012.

- Low Carbon Development Strategy
- Climate Resilience Strategy and Action Plan for Guyana

3. Scope of Services and Key Activities

According to best practice (IAIA, 2014) *"The development and consideration of alternatives is at the heart of Strategic Environmental Assessment (SEA), and a meaningful way to address environmental issues (not limited to biophysical aspects) while informing and influencing decision-making. SEA should help identify robust and reasonable alternatives"*.

At the present level of maturity of this initiative the SESA will have the key role on the decision making process. In fact, the complete set of available and feasible alternatives has yet to be identified, discussed and assessed: for instance, the macro and exact location of the port, how the port facility will be accessed, or the final layout of the land transport link (railway or road, if road, new or upgrade of the existing infrastructure, rigid or flexible, current or new alignment). These alternatives will be at the core of the strategic assessment and will support the strategic decision of the Government of Guyana.

Following the best practices it is normal to apply a two-stage approach to assess the alternatives. In the first stage, a general comparison of all considered alternatives is undertaken. This should include comparisons of the different options and should take account legal thresholds and requirements, decisions already made within the plan area (e.g., permitted projects) as well as the main environmental and social risks and opportunities of each alternative. This set of criteria should be structured as sustainability objectives for the initiative.

Looking at the problem at stake the first stage should focus on the identification and evaluation of an optimum location for the deep water port in Guyana on either on the Essequibo, Demerara or Berbice rivers. For each of the rivers, it is necessary to include in the assessment, the respective corridor from the future Port to the land link to Lethem. This first stage should be used as a funneling process to select a limited number of options for detailed examination.

The SESA is composed of three parts: an alternative layout design study, a scoping study and a SESA study.

3.1 Alternative layout design study

Definition of minimum port requirements

The deep water port in Guyana is projected to handle 4 types of cargo: containers, general cargo, dry bulk and liquid bulk. Based on cargo forecasts and specific routing behaviour, the traffic potential for the Guyana Deep Water Port has been derived in a recently published market study[36]. According to this study total cargo traffic potential is likely to increase from 3.6 million tons in 2015 to approximately 12 million tons in 2043, recording an average annual growth rate of 4.4%.

Except for dry bulk exports and full container imports, more than two thirds of cargo throughput at the new Deep Water Port will be Guyanese cargo. However, 39% of the imported full containers will be destined for Amazonas. Whereas container imports to Roraima only amount to 5% of the total container import potential, Roraima's containerised exports amount to 16% of total containerized export cargo at the new Guyana Deep Water Port. Total potential for container traffic is projected to increase from approximately 81,000 TEU in 2015 to 623,000 TEU in 2043.

As far as general cargo is concerned its throughput is projected to increase from 820,000 tons in 2015 to 1.5 million tons, with an average annual growth rate of 2.1%. Total potential for dry bulk is projected to increase from 1.2 million tons in 2015 to 3.3 million tons in 2043, recording an average growth rate

[36] HPC Hamburg Port Consulting GmbH: Guyana-Brazil Land Transport Link and Deep Water Port - Market Study - Final Report, November 2016.

of 3.6% per year. Finally, liquid bulk handling is projected to increase with an average annual growth rate of 2.8% from 773,000 tons in 2015 to 1.7 million tons in 2043. Of the total liquid bulk that are projected to be handled in 2043, 90% are assumed to be Guyanese imports of refined petroleum. This is based on current information that Guyana will not be building an oil refinery, but with the latest additional oil discovery, this assumption may need to be re-examined in the near future.

Port accommodation is divided into berthing and storage accommodation. Berthing accommodation includes general cargo berths (wharves, quays, piers, docks), oil tanker jetties or terminals, bulk cargo facilities, container and rollon/roll-off terminals, liquefied gas terminals, etc. Storage facilities include transit sheds (along the wharves or docks), back-up storage located away from the dock, warehouses, stockyards and stacking areas for containers, stockpiles for bulk cargo etc.

The design of a port terminal(s) includes strategic design choices such as the terminal layout at the stackside, choice of equipment for handling cargo at the seaside and landside, and type of vehicles for cargo transport between seaside and the landside. The process to arrive at an optimal port design is complex due to several reasons such as physical constraints such as variations in ground conditions and topology of the terminal area, large number of design parameters and corresponding solution search space, and interactions among the three processes (quayside, vehicle transport and stackside).

Based on the already mentioned market study the consultant will define the minimum technical requirements for the deep water port such as depth, spatial dimensions of the storage area, length of quayside and characteristics of ship navigation channels, among others.

Design of alternative port layout configuration and accessibilities (sea and land)

In 1998 Ashar and Woodbury prepared a study for the IDB regarding the examination of major alternatives for the establishment of a deep-water port in Guyana. That study identified one potential site in the Essequibo river, five alternatives in the Demerara river and two in the Berbice river. More recently, in 2010, a Report of the Study Team on Construction of a Deep Water Port in Berbice River was prepared for the GoG with support of the Ministry of External Affairs of the Government of India.

The solutions proposed in these studies must be revisited by the consultant firm with the aim of identifying alternative feasible locations. Ideally, three alternative port layout configurations will be designed in the three rivers: Essequibo, Demerara and Berbice. For each of these alternative options it will be necessary to identify and design the existing or future corridor to reach the Linden-Lethem land transport link.

The completion of this task will require:

- Field study of the Essequibo, Demerara and Berbice river fronts;
- Consultation with local authorities, communities and civil society organizations,
- Environmental characterization of the transport corridors between the potential site for the deep water port and the Lindem-Lethem land transport link.
- Social issues associated with each of the alternatives and how these should be addressed.
- Potential benefits and costs associated with each alternative identified and to be considered to allow policy makers to arrive at the most beneficial route for the project.

Cost estimate of alternatives layouts (port and accessibilities)

In a port development project, engineering studies aiming at identifying possible solutions must be followed by sensible estimates for their capital and maintenance costs. For each of the previously identified alternatives (port and accessibilities) the consulting firm will provide a cost estimate with the following breakdown: dredging and reclamation, wharf structures construction, land base and ancilliary

works, road construction, yearly maintenance. These amounts are rounded to the nearest USD 5,000,000.

3.2 Scoping study

Overview of the initiative strategic documents and its policy, institutional and legal framework

The policy-making and/or planning process for the land transport link between a deep sea port in Guyana and the hinterland in Brazil should be described, including alternative options that are under discussion. If deemed necessary and with adequate justification, additional options should be suggested for consideration in the SESA study.

The policy, institutional and legal framework relating to this initiative should be described. Particular attention should be paid to institutions and entities responsible for environment and social issues relevant to the implementation of the initiative, as well as to the relevant environmental and social policy and legislation (including bilateral, regional and international commitments).

National environmental policy objectives relevant to the sector should be identified.

Consultants will base this task on the scoping exercise prepared under this same assignment and in the outcomes of the Country Environmental Assessment (CEA).

The links between the policy-making/planning process and the SESA must be described, i.e. which outputs of the policy-making/planning process should feed into the SESA process and vice-versa. The specific policy-making/ planning decisions and processes that should be influenced by the SESA must be identified.

Description of key stakeholders, their interests and concerns

The involvement of stakeholders in the SESA process is a key success factor. Key stakeholders should be identified: key groups and institutions, environmental agencies, climate change related institutions, non-governmental organisations, representatives of the public and others, including those groups potentially affected by the likely impacts of implementing the land transport link. Particular attention should be paid to involving typically less represented groups such as women, indigenous peoples and minority groups.

Consultants must review records of any national public consultation processes that may have taken place previously as part of the initiative preparation process. Based on this review and on additional consultations, they should identify key stakeholders' interests, concerns and values with respect to the strategic document under consideration and propose a stakeholder engagement strategy. The strategy should provide stakeholders an opportunity to influence decisions.

Due to the large geographical areas that may be covered by this iniative, stakeholder engagement could focus on key stakeholders, especially targeting directly affected and vulnerable groups as well as key stakeholders that may not have been adequately represented in the document preparation.

Description of key strategic issues to be addressed in the SESA

Setting the context and strategic focus is a priority of an SESA. The purpose is to ensure that SESA concentrates only on what is important that it understands and gets adapted to the natural, cultural, political and economic context of the object of assessment. SESA needs to look for the root of the

problems, and not to its symptoms. Understanding the decision problem and context will help focus. Three key frameworks contribute to setting the context and the strategic focus of the assessment:

1. problem framework: includes problems, potentials and driving forces. This is a first and rapid diagnosis to enable a quick look into what really matters. The specific purpose is to contribute to find out what are the root causes of problems. It also helps to explore environmental benefits to strategy development.
2. governance framework: includes the identification of the web of relevant stakeholders for the SESA.
3. strategic reference framework: Represents the macro-policies that determine the referential for assessment, provided by the policy orientations and targets established. It also links to other relevant plans and programmes, which is also a legal requirement.

On the basis of this framework, as well as the consultation of stakeholders, the key strategic issues that should be addressed in the SESA study should be identified. Consultants must review records of any strategic issues scoping process that may have taken place previously as part of the initiative preparation process such as the five key strategic issues listed in subchapter 1.3 of present ToRs and the outcomes of the CEA.

Stakeholders' workshop will be organised in Guyana and in Brazil to validate the key strategic issues identified. The identification of key strategic issues will be amended as necessary taking into account the results from the workshops.

Description of the scope of the environmental baseline to be prepared in the SESA study

Also on basis of the information obtained above, the consultants must provide indications on the scope of the baseline description required for the SESA study, ensuring that it will be adequate to examine in more detail the key strategic aspects identified above.

This will include a proposal on the geographical units that will need to be targeted. All geographical units identified for inclusion in the baseline assessment should be justified. The geographical scope of the SESA must include Guyana as well as the hinterland states of Brazil.

Recommendations on specific impact identification and evaluation methodologies to be used in the SESA study

Consultants should provide an indication of the impact identification and evaluation methodologies that will be used in the SESA study. Special attention should be given to identifying those environmental and social interactions that will require quantitative analyses and those for which qualitative analyses should be carried out.

3.3 SESA study

The SESA study will be based on the results of the scoping phase and include a baseline study, the identification of environmental and social constraints and opportunities, the identification and assessment of the potential impacts, an analysis of performance indicators, a comparison of the available alternatives, an appreciation of the institutional capacities to address the environmental and social challenges identified, and conclusions and recommendations.

Baseline study

A description and appraisal must be made of the current environmental and social status, focusing on those key environmental and social components identified in the scoping study and necessary to better understand the key strategic issues identified. The trends for, and pressures on, the various environmental and social components must be identified and a projection made of the state of the environment in the short-, medium- and long-term (as relevant) under the assumption of no implementation of the strategic document, taking into account the effects of climate change to the extent they can be predicted with some reliability. External factors must be taken into account, including the influence of policies and strategic plans from other sectors. If the 'no implementation' scenario is unrealistic, the most probable 'business-as-usual' scenario should be selected. The geographical units to be addressed should be described, if relevant.

The baseline study will be structured by key strategic issue.

Identification and evaluation of risks, constraints and opportunities

The environmental and social factors that can affect (positively or negatively) the relevance, effectiveness, efficiency and sustainability of the strategic initiative, should be identified, described and assessed.These factors may include the availability of natural resources necessary to achieve the strategy's objectives, as well as the current and projected effects of climate change.

The study should assess if the strategic initiative provides an adequate response to these constraints and opportunities. As relevant, the study should assess whether the strategic document, in view of identified vulnerabilities, includes an adequate response in terms of adaptation to climate change – or may, on the contrary, lead to an inadequate response ('maladaptation').

Identification and evaluation of impacts

The potential environmental and social consequences of implementing the strategic initiative, must be identified and described for each alternative being studied; their significance should be determined taking into account the characteristics of impacts (duration, probability, magnitude, mitigability and reversibility), the views and concerns of stakeholders and the sensitivity of the environment.

The potential cumulative impacts of the envisaged activities should be identified, since they may differ from the sum of individual impacts. Those impacts which are significant should be assessed in detail taking into account:

- the views and concerns of stakeholders;
- consistency with international commitments (bilateral and multilateral environmental agreements);
- socio-economic consequences (especially on vulnerable groups and ethnic minorities);
- compliance with environmental regulations and standards;
- consistency with environmental and social objectives and policies; and
- their implications for sustainable development.

If various alternatives are under consideration and involve significant differences in its impacts, these differences should be evaluated in the study.

Comparison of alternatives

Alternatives analysis in the SESA process is designed to ensure that environmental and social issues are considered at a high level within the development planning phase, inclusive of project identification and earlier—as well as the later stages of site selection, design and implementation. In the absence of such consideration, those steps in the project cycle are taken solely on the basis of technical feasibility, economics, and political preferences, and the SESA for such a project tends to be directed to supporting or affirming a project proposal. Environmental and social analysis at an early stage are likely to reveal other cost-effective ways of achieving the same development goals/objectives at lower environmental or social costs. Furthermore, it is essential that the options are identify potential operational costs and benefits and outline the method(s) used in completing the analysis. The modalities used for completing the comparison of the alternatives should be consistent and thorough, allowing for objective decisions to be reached.

Accordingly, the SESA should emphasize that:

1. Various alternatives will be required to examine their technical character or functionality, transportation mode, location, sizes, technologies, design, time frames, and/or operational procedures. The alternatives process should consider different ways of achieving the same objective (e.g., alternatives to an all-weather road versus a rail network).
2. Full consideration of alternatives requires understanding of the issues and assessing their feasibility (environmental, social, technical, economic, regulatory, jurisdictional).
3. The no-action (or zero alternative) should be part of the analysis but should not be unduly emphasized if it is not a realistic alternative. The no-action alternative is not the same as the baseline (or existing situation) - the no-action alternative is the future situation without the project, but taking into account the evolution of the baseline conditions, including other projects, approved or reasonably foreseen in the future.
4. Application of methodologies for alternatives evaluation, such as multi-criteria analysis based on pre-defined sustainability objectives. Process should be transparent and participative (e.g., stakeholders should contribute to the selection and weighting of sustainability objectives).

Appraisal of the capacities to address environmental and social challenges

The capacity of regulatory institutions to address the identified environmental and social issues, should be appraised.

Stakeholder engagement

Stakeholders should be engaged throughout the SESA study according to the stakeholder engagement strategy agreed at the scoping phase.

Validation workshops in Guyana and in Brazil will be held to review the draft SESA submitted by the consultant(s), prior to the acceptance of the report. These workshops are crucial in defining the legitimacy of all subsequent stakeholder consultation and participation processes. The validation workshops will address issues such as legitimacy and representativeness of stakeholder groups as well as mechanisms for feedback in the SESA process. Views, comments and agreements from the workshops should be used by the consultants to finalize the SESA Report. The SESA report and the outcomes of the validation workshops shall then be publicly disclosed via websites of local institutions. For reaching out to local communities a plan summary will be communicated by community radio.

Follow-up programme

A follow-up programme is part of the continuous stage of SESA. The follow-up programme will include monitoring indicators, a system of rapid evaluation, the support of a set of evaluation instruments and a responsible team, as well as the necessary resources that will enable follow-up reports to be systematically updated.

Communication and participation is also fundamental. On-going liaison for engaging relevant stakeholders, should be established and made operational, adopting different formats as adequate to each case.

Ideally follow-up activities should be grounded into existing planning and policy-making monitoring and evaluation mechanisms. Performance and strategic indicators should be selected, based on standard available indicators and also on the indicators used in strategic issues assessment framework. A limited number of follow-up indicators need to be selected to ensure a viable follow-up programme and effective control. While the exact number of indicators is impossible to establish it is recommended that, on average, 20 indicators be used in follow-up.

Conclusions and recommendations

This task will summarise the key strategic issues for the initiative involved, including policy and institutional constraints, challenges and main recommendations. Recommendations should be made on how to optimise positive impacts and make best use of environment- natural resource related opportunities, as well as on how to mitigate adverse effects, adapt to environmental constraints and manage risks.

They should suggest the selection of an alternative (in cases where more than one alternative is envisaged), potential changes in the design of the strategic document, implementation and monitoring modalities, or cooperation actions.

The limitations of the SESA and its assumptions should be presented. The recommendations should take into account the views presented by stakeholders and explain how these were integrated. In the case of concerns that were not integrated in the final recommendations, the reasons thereof should be given.

4. Expected Outcome, Deliverables, Project Schedule and Milestones

The consultant will produce the following outputs within the identified timeline:

- Submission of Inception report within two weeks after the signing of the contract
- Alternative layouts report within eight weeks after the signing of the contract
- Scoping report within twelve weeks after the signing of the contract
- Submission of draft SESA Report:
    - the draft SESA report should be submitted for review by the IDB and the MPI by the 16th week after the contract signing
    - the draft SESA report must include a non-techical summary prepared in English and Portuguese
- Hold Validation Workshops in Guyana and in Brazil
- Submit final SESA report with annexure by the 20th week after contract signing
    - the final SESA report must include a non-techical summary prepared in English and Portuguese

The assignment will be for an initial period of five months. A work plan and programme for the assignment will be developed, in line with the present TORs and agreed with the Government of Guyana, within two weeks after submission of an inception report by the consultant(s). The performance of the lead consultant will then be monitored, regularly updated and reviewed by the GoG.

5. Reporting Requirements and Acceptance Criteria

Structure of Report

1. Summary
2. Scope and objectives
3. Approach and methodology
4. Background information
    a. Description of the project
    b. Alternatives under consideration
    c. General social and environmental baseline
    d. Social and environmental policy, legal and planning framework
5. Identification of key strategic issues (minimum of 3, maximum of 8)
6. Analysis of key strategic issues
    a. Key strategic issue 1
        i. Baseline data
        ii. Analysis
        iii. Analysis of alternatives
        iv. Recommendations
    b. Key strategic issue 2
        i. Baseline data
        ii. Analysis
        iii. Analysis of alternatives
        iv. Recommendations
    c. Key strategic issue 3
        i. ….
7. Comparison of alternatives
8. Follow-up Plan
9. Conclusions and Recommendations

Appendices

6. Other Requirments

The SESA process will be undertaken by a consulting firm. The consultant(s) should have a demonstrable prior experience and knowledge of either World Bank's or IDB's environmental and

social safeguards; working with local communities; sound knowledge of the socio-economic and environmental context of Guyana and Brazil.

The minimal technical expertise required for the SESA may include the following:

1. Team leader should have proven experience in leading sector or national reviews or assessments of public policies or development strategies. At least 15 years experience, of which 10 years are relevant experience in developing countries, is required. This expert should have at least 2 years of experience in South American countries. Experience in Guyana and Brazil is desirable. S/he must have academic training in natural resources management, environmental or social sciences. Experience in SEA or SESA is desirable. The team leader could also function as one of the specialists outlined below. Working knowledge of portuguese will be an asset.
2. Natural resource specialist should have at least 10 years of experience in conducting SESA.
3. Social development or Stakeholder engagement specialist should have at least 10 years of experience in conducting SESA. Experience in working with indigenous communities is also desirable.
4. Environmental Specialist should be able to cover all environmental issues of the project. S/he may have at least 10 years of experience in environmental assessment in developing countries. Familiarity with the WB's or IDB's environmental safeguard policies is required. Experience in environmental valuation is desirable. Priority will be given first to experience in Guyana, Brazil and then in developing countries.
5. Civil Engineer with at least 10 years experience in major transport sector projects.
6. Logistic/Port Specialist, with at least 10 years experience in Port analysis and construction.

All members of the team should be fluent in English. Specific technical inputs on legal, infrastructure development projects, gender and environmental and natural resources valuation should be provided by the Consultant(s) as needed.

SOCIAL AND ENVIRONMENTAL STUDIES

Terms of Reference
Environmental and Social Impact Assessment (ESIA)

1. Background and Justification

1.1 The context

The Government of Guyana (GoG) is keen to establish an efficient and functioning transportation link between the States of Roraima, Pará and Amazonas on the Brazilian northeastern coast and Linden, within the heartland of Guyana. Furthermore, these Brazilian States are land locked with no direct access to ocean going shipping ports, and use Atlantic ports in Brazil via the Amazon River and Venezuela. As such, virtually all the trade in

Amazonia and Roraima are via containerized traffic (Guyana Transport Sector Strategy Study, 2005)[37]. Currently, there is little trade between these states and Guyana, even though there is a Partial Scope Agreement between the two countries.[38] While a route currently exists that spans[39] approximately 453.7 km (*see* Figure 1) and is made primarily out of gravel, the current path becomes very dusty during the dry season, and some sections become difficult to navigate and impassable during the rainy season. Furthermore, many of the bridges that support the current road are in need of repair and would require more durable structures being erected (SNC Lavalin International, 2010)[40].

Recognizing that this road artery in its current form cannot support the anticipated trade flow between the two countries, the GoG and the Government of Brazil (GoB) are proposing to conduct a feasibility study on establishing a land link to join the northern states of Brazil through the Guianas and facilitate shipping access from port(s) in Guyana to bolster trade with Roraima and Amazonas and the northern Atlantic, the Caribbean, and North and Central America. This particular project is also becoming more urgent with the discovery of petroleum and natural gas off Guyana's continental shelf. This last development will bring its own challenges, even if the current thinking of the GoG is to refine all petroleum products elsewhere.

The development of this land transport link between the two countries and the port is also seen as critical in the fostering of the integration process for the Caribbean region as a whole, which has a large trade deficit with Brazil, although only importing less than 10% of its total imports from that country (CARICOM Website). Guyana, being a founding member of the Caribbean Community (CARICOM)[41], is also in an advantageous position to further the relationship between Brazil and CARICOM.

In recent times, Brazil has indicated a desire to expand their business frontiers into Guyana through joint ventures in the areas of ethanol production, soya and assistance to Guyana with its renewable energy drive as it works towards becoming a low carbon resilient economy within the Green Economy Framework. But many of these initiatives hinge on the need for an efficient and well maintained land link and deep water port facilities.

[37] Ministry of Public Works and Communications (2005) Guyana Transport Sector Strategy Study. http://ufdcimages.uflib.ufl.edu/UF/00/08/42/07/00004/PDF.pdf

[38] This is based on a review of Guyana Trade Statistics within the Statistical Bulletins of the Bank of Guyana.

[39] This is for the route from Linden to Lethem on the Brazilian border. The entire length of the road to Georgetown is 558 km and the section from Linden to Georgetown is a paved asphaltic surface.

[40] SNC Lavalin International (2010) Environmental and Social Impact Assessment Report, Unpublished Report.

[41] This was previously the Caribbean Common Market.

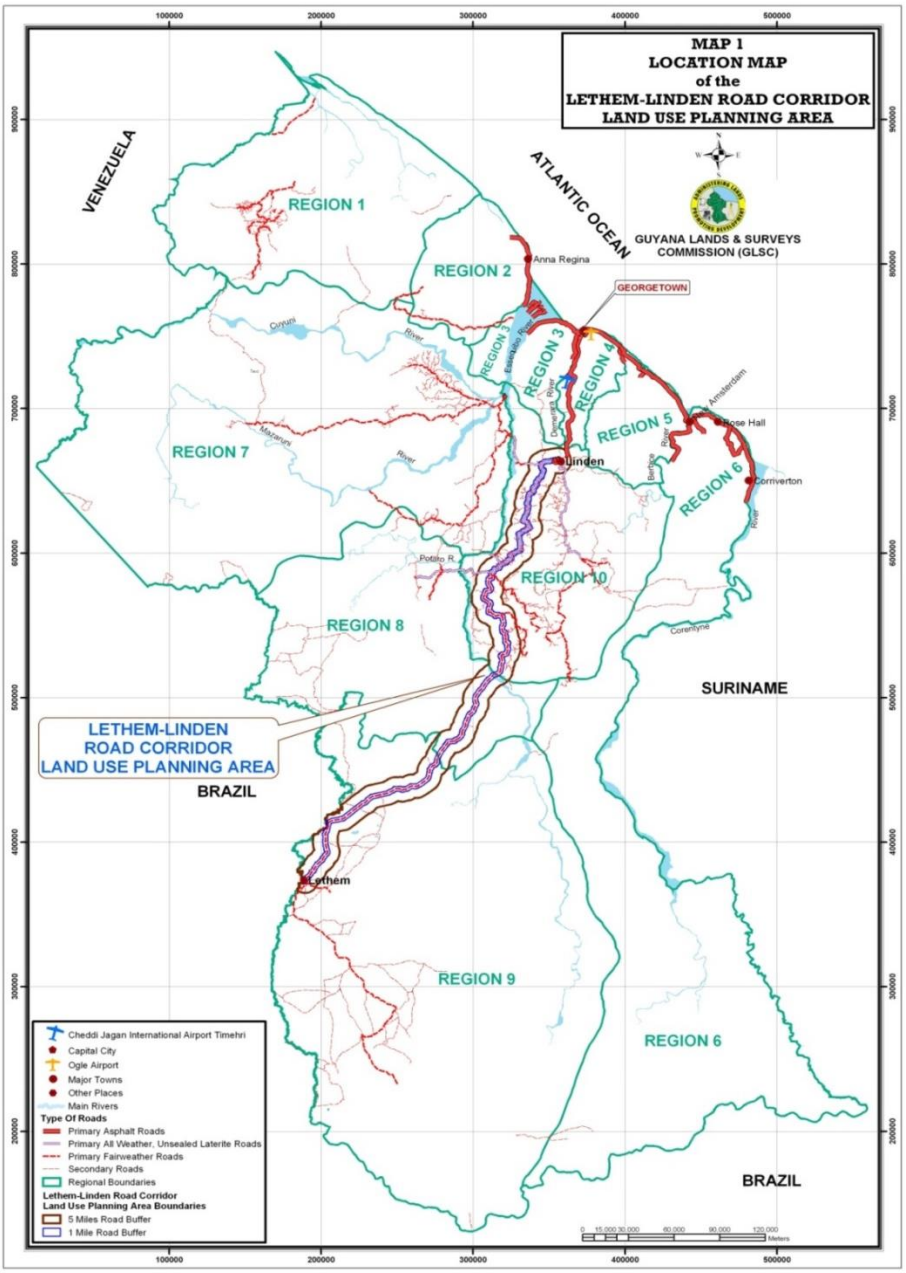

Figure 1: The Current Linden – Lethem Road Corridor Source: Guyana Lands and Surveys Commission (2010)

All previous studies examined the construction of a link or the dredging of a deep water port as discreet entities, rather than as a combined project. This has meant that the full suite of environmental and social consequences has not been assessed in a comprehensive manner. Currently, projects that will support this initiative are still much undefined:

- Documents mention a transportation link which implies that the final solution is not focused only on a road network, but other options should also be explored.
- If a road then several options are still open such as rehabilitation of the existing road, changing of the alignment, choosing a different path, type of surface, etc.
- The decision making process on the location of the deep water port is even wider: the specific location of this infrastructure has not yet been identified and economic studies are yet to be developed.

Due to the existence of many unknowns about the possible projects configurations these Terms of Reference are necessarily generic. As a result, these ESIA ToRs are valid for any large infrastructure project in Guyana that would cut across the country from the region of Georgetown to the Brazilian border in Lethem. The ToRs were prepared based on the assumption that in the future there will a single technical project covering all the specificities of the

land transport link between Guyana and Brazil and of the deep water port. But it is easy to anticipate the existence of a minimum of two projects: one covering the land link and the second focused on the construction of the port. These two projects, even if strongly interlinked, will be evaluated through independent ESIA processes.

Moreover, it is possible to foresee (for engineering and/or financial motivations) the need of dividing the land transport link into several sectors: each of these sectors could be assessed with its own independent ESIA. The precise scoping of this ESIA, or these ESIAs, can only be fully developed with the previous identification of the environmental and social characteristics of the affected territory.

The above notwithstanding, one critical factor that cannot be overlooked is the fact that the current land link passes through one of only four legally designated protected areas in Guyana, i.e., the Iwokrama Centre for Rainforest Conservation (ICRC), Guyana's largest declared protected area[42]. This area represents wetlands and river systems of global importance and has been identified by the World Bank as an 'ecological hotspot' and by the International Union for the Conservation of Nature (IUCN) as a 'major tropical wilderness area' requiring immediate attention. Additionally, Guyana has identified the North Rupununi Wetlands as a potential Ramsar site for conservation with strong community support for such a listing. According to the ICRC and the North Rupununi District Development Board (NRDDB), the North Rupununi region is assumed to support over 65% of the species population in Guyana. The area is known to support relatively stable population of many endangered species such as the Harpy Eagle (*Harpia harpyja*), Capybara (*Hydrochaeris hydrochaeris*), Jaguar (*Panthera onca*) and Giant Anteater (*Myrmecophaga tridactyla*) (IICRCD/NRDDB, 1998).[43]

Furthermore, a number of indigenous groups fall within the zone of influence of the current Linden – Lethem road, inclusive of the Macushis, Arawaks, Akawaios, Patamonas, and Wapishianas. These indigenous communities are located sporadically from Linden along the route, but more dominant in the zone between Surama and Lethem where the communities of Fairview, Wowetta/Surama, Massara, Annai, and Toka are directly impacted. The road bisects three of these communities, i.e., Annai, Massara, and Toka with a total population of just over 1,000 people. These communities have depended on the forests either side of the current road to carry out their traditional livelihood activities of hunting, fishing and trapping. Additionally, streams in the vicinity of the road have been used for domestic and drinking purposes by communities and road users alike.

It is within this context that the Government sought to develop a National Transport Sector Policy (NTSP). This Policy sets out the path to advance the transport network in Guyana. One such link is the Guyana to Brazil link and deep water port. Furthermore, the National Development Strategy (NDS) for Guyana, the Poverty Reduction Strategy Paper (PRSP) of 2001, and the Competitiveness Strategy (CS) all identified this link as an essential north-south connection in the overall national transport network and list this as one of the Government's highest priority projects. According to these documents, given Guyana's strategic location vis-à-vis the Americas, such as the Integration of Regional Infrastructure in South America (IIRSA) proposal, and Brazil in particular, this land link offers natural advantages for the southern regions of Brazil to, inter alia, develop trading links using Guyana as a gateway. This position finds support in the form of the Guyana Transport Sector Strategy (GTSS) Study of 2005 that recommends the rehabilitation and expansion of the existing roadway, if silent on the exact location for the deep water port.

But the construction and operation of this transport link can also bring many unintended consequences. These consequences may include oil spillage, increased noise and dust pollution, poaching of wildlife, and increased accidents through speeding and increased respiratory aggravations from emissions associated with a growth in fossil fuel generated vehicles. As such, to minimize these unintended consequences and magnify the positive impacts, transport development requires comprehensive, strategic and proactive planning.

[42] This area that is 360,000 hectares, was given by the government and people of Guyana for the practice of sustainable forestry and the conservation of biological diversity at the Commonwealth Heads of Government Summit in Kuala Lumpur, Malaysia in 1989.

[43] Iwokrama International Centre for Rainforest Conservation and Development and the North Rupununi District Development Board (1998) Biodiversity List in the North Rupununi. Unpublished Report

1.2 Environmental Assessment process

The GoG has requested the Inter-American Development Bank assistance for a Technical Cooperation (GY-T1098) aimed at providing technical support to conduct the necessary studies for the preparation of a future operation to consolidate land transport link with Brazil and the development of a deep water port. The objective of this TC is to support Guyana's economic competitiveness and integration in a socially and environmentally sustainable manner.

The principal objective of TC-GY-T1098 is to conduct a scoping exercise that lead to the preparation of detailed terms of references (ToRs) for the preparation of a Strategic Environmental and Social Assessment (SESA), a Country Environmental Assessment (CEA) and an Environmental and Social Impact Assessment (ESIA).

Early in the development of the Environmental Assessment concept, the idea of tiering the assessment at different planning levels was put forward as a key element. Tiering means preparing a sequence of environmental assessments at different planning levels and linking them. A tiered approach minimizes the problem of the Environmental and Social Impact Assessment (ESIA) being only a 'snapshot in time'. If well resolved, tiering provides the right tool to address the complexity of planning and decision-making, within which environmental assessments must operate.

The complexity of the social and environmental issues at stake in the development of this initiative led to the design of a tiered assessment process. This tiering can be constructed by an integrated vision of a Country Environmental Assessment (CEA), a Strategic Environmental and Social Assessment (SESA) and an Environmental and Social Impact Assessment (ESIA) processes where at each tier corresponds a specific geographic and institutional scale. These 3 studies will be executed under an umbrella program and will focus in different institutional and spatial scales (see Figure 2).

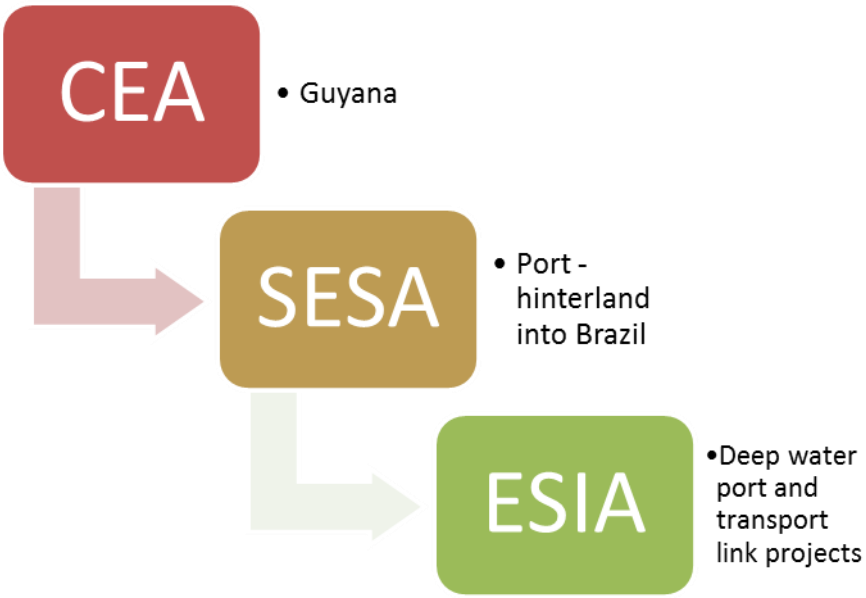

Figure 2– Tieried assessment process for the land transport link between Guyana and Brazil and deep water port n Guyana.

The GoG is now desirous of completing a comprehensive Environmental and Social Impact Assessment (ESIA), and its accompanying Environmental and Social Management Plan (ESMP) for the Guyana – Brazil Land link and Deep Water Port project. Accordingly, the GoG is inviting firms to provide proposals for the completion of the ESIA and ESMP for the land transport link and the deep water port.

ESIA is a preventive instrument of social and environmental policy and land use planning that ensures that the likely environmental consequences of a particular investment project are analyzed and taken into account in its approval process. This instrument contributes to:

- ensuring that environmental and social factors are considered in the decision-making process;
- ensuring that possible adverse environmental impacts are identified and avoided or minimized;

- ensuring a monitoring programme implementation (if needed);
- informing the public about the proposal and gives people the opportunity to identify problems.

The consideration of alternatives and the identification and assessment of transboundary impacts are key aspects for an informed decision.

1.3 Valued social and ecosystem components

Valued Socio-Ecosystem Components (VSEC) have been identified in the scoping exercise. VSEC can be defined as environmental or social elements of an ecosystem that is identified as having scientific, ecological, social, cultural, economic, historical, archaeological or aesthetic importance. The value of an ecosystem component may be determined on the basis of cultural ideals or scientific concern. In practical terms a VSEC is some component of the environment that has some "value" (where value could be inherent or could be ascribed to it by an individual, community, society, etc.) and can be measured (either quantitatively or qualitatively).

The scoping exercise identified 5 environmental and social components with special value which are depicted in Figure 3.

Figure 3 – Valued Socio-Ecosystem Components.

Natural Protected Areas

A large swath of forested area to the north of the savannah, and through which the current road cuts through, is the Iwokrama Rainforest Reserve, Guyana's largest gazetted protected area.

Over 400 species of fish has been recorded from surveys conducted of three of the main river systems along the current land transport link (Darwin Initiative Guyana Partnership, 2006). The Rupununi, Rewa, and Essequibo Rivers are home to recovering populations of the largest freshwater fish in the world, the Arapaima (*Arapaima gigas*), and healthy populations of the endangered species Giant River Turtle (*Podocnemis expansa*), Black Caiman (*Melanosuchus niger*), and Giant Otters (*Pteronura brasiliensis*). Seventeen (17) species of mammals and 208 species of birds were identified in the North Rupununi Wetlands by the Darwin Initiative Guyana Partnership from 2004 to 2007. But much more avifaunal species have been documented elsewhere in the region. However, to date no research has been conducted on the herpetofaunal and macro-invertebrate assemblages of the area.

There has been over 1500 plant species documented in the Iwokrama Rainforest, with 82 species of plants identified in the State of the North Rupununi Wetlands Report (Darwin Initiative Guyana Partnership, 2006, IICRCD & Smithsonian Institute, 2002). The forested region of the North Rupununi area is generally mixed forest with no particular species dominance. These vary from tropical moist forest, tropical dry forest and at higher altitudes (on mountains and hills), tropical montane forests. These forests include important non-timber product species such as Crabwood (*Carapa guianensis*) which is well known for the oil that is produced from its seeds used for medicinal and industrial purposes. Some common timber species include Wallaba (*Eperua spp.*), Mora (*Mora excelsa*), Silverballi (*Ocotea spp.*), Bullet Wood (*Manilkara bidentata*) and Greenheart (*Chlorocardium rodiei*). Kokrite (*Attalea regia*) and Ite Palm or Tibisiri (*Mauritia flexuosa*) are also prevalent and serve as thatching materials for the Amerindian communities. Small scale clearing of forested areas for subsistence farming through shifting cultivation methods has been the culture of the Amerindians for many years and is still undertaken.

Risks associated with these hinterland forests include: forest fires, excessive targeting of a few commercially viable species, such as greenheart, purple heart and wallaba; destruction of valuable species during gold and diamond mining operations due to unresolved landuse planning issues at the national level, and degradation of water quality due to contamination from solid and other wastes (EPA 2005).

Another major concern due to the establishment of a land transport link and deep water port is the exposure of wildlife species to diseases through coming into contact with other domesticated or commercially reared animals, as well as the possibility of increased pouching of wildlife, some of which are on the endangered species list.

Indigenous Communities

The Government of Guyana (GoG) has a mandate to enable its citizenry to lead the life they have reasons to value. Within such responsibilities, commitment to support the development of the indigenous and hinterland population and their villages, among other things, is recognized as a priority. This is currently espoused in the draft *Framework of the Guyana Green State Development Strategy and Finance Mechanisms*[44] (2017). Within Sub-Section 4.5.2 of the draft GSDS some of the key issues affecting Guyana's indigenous and hinterland peoples and their villages are identified. These issues are expected to be addressed and specific policy options for implementation outlined in the final GSDS. These issues are outlined, *inter alia,* as:

a) Land: including the need for resolution of the land issue demarcation of villages through the granting of titles; the problem of subsoil mineral rights; the development of regulation for the process of agreements with developers' lands that were traditionally used by Guyana's indigenous peoples without consulting their villages; and the development of agreements for the receipt of funds for land management by

[44] This document is often referred to as the GSDS. MPG (Ministry of the Presidency of Guyana), UN Environment. (2017). *Framework of the Guyana Green State Development Strategy and Financing Mechanisms.* Retrieved from *http://www.greengrowthknowledge.org/sites/default/files/Framework%20for%20Guyana%20Green%20State%20Development%20Strategy%2028-03-17.pdf*

Amerindian and hinterland villages, and resolution of issues of the exploitation of natural resources contained on lands to which they lay claim.

b) Mining Rights: Indigenous peoples, or any other Guyanese, do not possess any rights to sub-surface minerals on titled land. Mining is, however, being undertaken by non-Amerindians on lands that lack any form of title, but are claimed by Amerindian villages. This issue extends to the development of tourism, much of which is taking place in the interior.
c) Intellectual Property Rights and Cultural Heritage: The strengthening of the legal protection of traditional knowledge and folklore.
d) Institution of measures aimed at the strengthening of Village Administration of the indigenous peoples as well as the Ministry of Indigenous Peoples Affairs (MoIPA) and its interaction with other Ministries which oversee policy and operational areas which affect the indigenous peoples.
e) Strategies for improving the social and economic conditions of indigenous peoples; in particular, with respect to health, education and the development of resource-based products and services.

Many of these plans are consistent with, and build upon, the Low Carbon Development Strategy (LCDS) launched by the GoG in June 2009 that aimed at creating and making Guyana a low deforestation, low carbon, climate resilient economy. The principal objective of the GoG therefore, is to bring about economic transformation while combating climate change. Underpinning the GSDS and the LCDS is the overall objective of broad-based poverty reduction, inclusive of national multi-stakeholder participation, the application of social and environmental safeguards in accordance with international standards, and the protection of the rights of Guyana's indigenous peoples in accordance with the principle of free, prior and informed consent (FPIC).

The project will be carried out in the highly forested interior, cutting across a protected area and directly impacting at least five (5) Amerindian communities, i.e., Fairview, Wowetta/Surama, Massara, Annai, and Toka in particular. The total estimated population size in these various communities is shown in Table 1 that summarizes the amount of persons and households in each of the communities as of 2010.

Table 1 - Population Statistics of Communities that will be Directly Impacted by the Proposed Project Source: Ministry of Amerindian Affairs (2010)

Villages	Estimated Population	Estimated Households
Annai	574	120
Fairview	420	81
Massara	418	78
Surama/Wowetta	275	45
Toka	155	26

The major concern for the Amerindian population surrounds their ancestral lands and safety for their children. In recent times government has taken an aggressive stance to demarcate and issue land titles to Amerindian communities. Issuing of land titles in 1976 and 1991 without the proper demarcation of boundaries led subsequently to encroachment by other stakeholders and threatening the livelihoods of the Amerindians. This process is continuing and is expected to be intensified. The communities of Massara, Toka, Annai, St. Ignatius, and Surama have land titles and are not expected to be disenfranchised in any way due to the proposed project. However, a growing issue is the encroachment of squatters on government reserves, though they have been advised to desist from such practices. Depending on the alignment of the land link, this is a potential conflict area and will need to be carefully management.

Economic and social development of these hinterland locations have traditionally lagged behind that taking place in other parts of the country.[45] This population has depended upon the natural resources contained within the Guyana hinterland to sustain their livelihood. But there have been periodic conflicts with miners and foresters who might encroach on Amerindian lands. In some instances, there have also been conflicts with "coastlanders" due to disregard for the Amerindian culture, and land grab in other instances.

The proposed land transport link and deep water port can exacerbate such conflicts as it is anticipated that more persons will have access to, and be passing through indigenous communities. The risk is that they can lead to cultural disruption, further erosion of a socially cohesive people and the general loss of social capital. It is important to note that the opposite, however, can also be true, but the requisite structures will either need to be strengthened or in place to allow the positive virtues to be realized.

Ground Water and Water Drainage Systems

Very little data is available on groundwater resources in along the current land transport link. Guyana Water Inc. (GWI) has drilled groundwater wells in some Amerindian communities, such as Yupukari, Massara and Toka. Guyana also has an extensive network of rivers and streams that have many rapids and waterfalls with an absence of naturally occurring lakes. Surface water (which is extracted from shallow reservoirs, streams, or drainage canals) is primarily used for agricultural and industrial purposes on the coast. Only about 10 percent of the country's drinking water comes from surface water.

But of greater importance would be the potential drainage systems that can impact the proposed project. The network of creeks and rivers allow for effective drainage to take place, with gravity facilitating much of the excess water to eventually empty into the Atlantic Ocean. However, climate variability and change are bringing new challenges for projects of this nature. The country is already experiencing more intense rainfall. This has often resulted in flash floods along sections of the existing road corridor, damaging bridges and making sections of the road impassable. This situation is likely to become the new normal and will remain a major threat to the land transport link. It will therefore be essential to ensure that any land transport link is constructed with climate resilient features, such as proper drains/gutters parallel to the corridor; adequate culverts, and the redundant drainage capacity. Furthermore, with increased sea level rise, there is the distinct possibility of increased costs to drain excess water off the land particularly at high-tides. This may require pumping in some locale. Another potential threat is the challenge posed by sea level to any port facility.

River dredging

It is a well-established fact that all three of Guyana's major rivers are impacted by periodic siltation associated with increased sediment loads transported by the Orinoco River and emptying into the Atlantic Ocean. At the same time, since most of the run-off in the hinterland empties into one of these rivers, sediment load associated with open pit and river bed mining, also contributes to the siltation that these rivers experiences. To arrest this problem, the government has been forced to dredge these rivers periodically to allow for sea-fearing traffic, necessary for increased trade, to traverse unimpeded. The sediments are often deposited alongside the river banks that further reduce the width of the rivers.

The continuous dredging of these waterways will be essential for maintaining optimum conditions for the operation of the port. But, of greater importance will be the deposition of the dredged material. An adequate disposal site will be essential to ensure that both the girth and berth of the ocean fearing vessel can be accommodated.

Urban development

The GoG designated Lethem township status in October 2017. This means that the area now has a Mayor and Deputy Major, Councillors and can, inter alia, collect rates and taxes. But the Town continues to be plague by

[45] UNDP (United Nations Development Programme). (2017). *Guyana State of the Environment (SoE) Report 2016*, United Nations Development Programme in collaboration with the Environmental Protection Agency (EPA) and the Ministry of Natural Resources (MNR) of Guyana.

insufficient infrastructure both in quantity and quality that would make it an attractive destination. The pull seems to be more to Bomfin and Boa Vista on the Brazil frontier than to Lethem.

The rehabilitation/construction of the land link has the potential to pull Lethem into further development as it will be forced to enhance its capacity to treat with the increased traffic coming from Brazil. This will demand for more technical human resources and supporting infrastructure. But there is also the potential to act as an opportunity for increased emigration to Brazil, both of Guyanese and non-Guyanese. This can lead to the further brain drain and the slow the development of the urban area as envisaged.

Similarly, the deep water port has the potential to increase inter- and intra-regional trade, with the accompanying services, i.e., customs and excise, quarantine, vector control services, stevedores, brokerage, etc. leading to increased employment and income earning opportunities. The deep water port is also likely to result in some level of improved infrastructure for the urban conurbation. However, depending on where the port is sited it can bring its own set of challenges. Georgetown and its current waterfront are already congested. Putting a deep water port in the Georgetown area or in close proximity to the existing port facilities will require significant re-engineering of both the port facilities and the road networks. If Georgetown is the preferred engineering destination but development is not carefully planned, it can make the project infeasible.

2. Objectives

The main objective of this consultancy is to develop an Environmental and Social Impact Assessment (ESIA) for the Guyana – Brazil Transport Link and Deep Water Port project based on the preferred alternative and design. The preferred alternative was selected on the basis of a Strategic Environmental and Social Assessment process.

The ESIA will propose practical and effective mitigation measures to prevent or reduce any potential negative implications of the construction and operation of the planned transport link. In addition, an Environmental and Social Management Plan (ESMP) will be developed to ensure best environmental and social performance.

In principle the ESIA will cover the following:

1. Environmental and social direct, indirect, short, medium and long-term, and cumulative impacts, and risks associated with the project are assessed and examined at the earliest planning stage possible.
2. Environmental and social impacts and risks to be investigated and examined include factors that impact public health and safety as well as the natural environment, such as: air, water, soil, waste, accidents, water usage, ecosystems, and biota. Social concerns include: involuntary resettlement of the population, cultural heritage, landscape, gender, communicable diseases, etc. Traffic impacts must also be assessed. Furthermore, risk factors will include, flooding, fires, droughts, oil spills, and accidents. This assessment would be expected to provide baseline information on the areas that would be impacted by the project.
3. In addition to the direct and immediate impacts; derivative, secondary and cumulative impacts will also be examined and investigated to a reasonable extent.
4. Alternative proposals and/or minimization measures to prevent or reduce adverse impacts must be examined to choose a better project option in terms of environmental and social considerations. In examination of measures, priority is to be given to the prevention of environmental impact, and when this is not possible, minimization and reduction of impact must be considered next. The findings of this examination should be incorporated in the ESMP.
5. Examination of the environmental and social considerations will include analysis of environmental costs and benefits in quantitative terms, as much as possible, while take into consideration economic, financial, institutional, social and technical aspects.
6. Appropriate follow-up environmental and social management and monitoring plans will be prepared as part of the ESIA. Estimated costs of implementing such plans and financial resources to cover such costs will be determined.
7. In the case of negative or adverse impacts, identify, assess, and prioritize measures to avoid these impacts, exploring alternative designs with the affected groups; and where these impacts cannot be avoided, identify, evaluate, and prioritize feasible measures to minimize or offset these impacts. In the case of positive impacts or benefits, identify, assess, and prioritize measures to enhance employment and facilitate access to these benefits, especially by the identified poor and vulnerable groups.

The ESIA will ensure that the construction and operation of the proposed transport link will be in compliance with relevant national, laws and ordinances as well as the Inter-American Development Bank (IDB) safeguards.

The Consultant will identify and compile the readily available technical data and information that would allow preparing the Environmental and Social Impact Assessment with the least uncertainties. Appropriate and justified engineering/scientifically based assumptions should be made to cover any information or data gaps. In preparing the Environmental and Social Impact Assessment the Consultant will ensure compliance with:

- Current environmental and social regulations and standards in Guyana, inclusive of the Environmental Protection Agency (EPA) Act of 1996;
- The World Bank Operational Policy 4.01 and other World Bank procedures and guidelines on conducting environmental impact assessment;
- The World Bank Group's Environmental, Health and Safety Guidelines (EHSGs);
- Inter-American Development Bank Environment and Safeguards Compliance Policy; and

- Inter-American Development Bank Implementation Guidelines for the Environment and Safeguards Compliance Policy.
- Conclusions from previous Country Environmental Assessment and Strategic Environmental and Social Assessment developed under this umbrella programme.

3. Scope of Services, Specific Tasks and Key Activities

In general, the methodology for preparing the Environmental and Social Impact Assessment (ESIA) has to be in accordance with the Environmental Regulations and Standards of Guyana and international agencies, such as the World Bank Operational Policies/Best Practices on environmental safeguards OP/BP 4.01 and the IDB's Environmental and Safeguards Compliance Policy (OP 703). The Consultant is expected to prepare and submit his/her own detailed work plan and approach to fulfill the assignment requirements given the large geographic scope covered under this TOR. The following will be the minimum requirements of the proposed methodology.

1. Gain an understanding and study project objectives and familiarize with project locations

The Consultant will:

- Obtain necessary documents including maps, site plans, photographs, diagrams, and any visual and graphic aids.
- Familiarize him-/herself with the project, including project purpose; location; components and phases; workforce and equipment; associated activities; schedule; and projected cost.
- Gather information about pre-construction, construction, and operation plans.
- Detail the elements of the project, highlighting the areas to be reserved for construction and determining the surrounding areas in terms of residential areas, industrial areas, protected areas, and historical sites.

2. Review relevant legislative and regulatory considerations

The Consultant will review national and international legislations and regulations relevant to the project, including governmental permits and authorizations required. This would include:

- Description of legislative and institutional framework regulations, norms, systems and environmental licensing requirements, and other necessary requirement for the implementation of the Project.
- Description of any specific local regulations and requirements regarding infrastructure and Project facilities management in relation to hazardous and solid waste, wastewater, air pollution, labor, and health and safety. In addition, the consultant will include a description of the requirements, which are applied for the activities of the Project, of other institutions such as the IDB, World Bank / IFC, World Health Organization, and other entities.
- Identify international and regional legislation, policies, norms, standards, guidelines, and current initiatives applicable to social and environmental impacts in the infrastructure, and ascertain how these legislative tools, policies, norms, standards, guidelines and initiatives relate and apply to the Project.
- Describe, if applicable, mechanisms of Public/Civic Participation Consultation to include information related to public consultation processes and citizen participation as requirements for the construction and operation of the Project.
- Prepare reports to meet the requirements of EPA, Ministry of Public Infrastructure (MPI) and the IDB.
- The consultant will consider the various relevant safeguard policies of the IDB, particularly the policy on environmental assessment, the involuntary resettlement, and the precautionary principle.

3. Conduct the First Public Consultation (Scoping Session)

A community consultation will be initiated as early as possible. The Consultant will consult with the stakeholders at least twice. The first public consultation will be conducted after the identification of relevant impacts in order to discuss and agree on the scope of the ESIA. In coordination and consultation with MPI and EPA, relevant governmental authorities and other stakeholders will be identified. The Consultant in coordination with MPI and the relevant authorities will arrange and conduct scoping sessions which should be attended by the relevant authorities and stakeholders. The aim of these scoping sessions is to:

- Complete the Scoping Exercise started under an earlier initiative but which could not be completed because of a lack of information on sites for the alternative land link and deep water port.
- Explain and reach a common understanding of the potential impacts and sensitivities of the surrounding environment, and similarities and differences between the present project and other similar projects implemented in the area and in Guyana at large.

- Identify, early in the process, any environmental and social aspects, which the stakeholders raise, which may not have been included in the scope of work and captured in the scoping report completed for this Project.
- Provide a basis for reviewing the issues that will be considered in the ESIA.

4. Identify Relevant Environmental and Social Aspects

The Consultant will identify relevant environmental and social aspects to be discussed at the beginning of the work with a sample of concerned parties. The various impacts will be categorized as either positive or negative, and dealt with accordingly. Relevant impacts will be assessed for pre-construction, construction and operation phases of the project. The following are anticipated to be some of the issues to be considered:

- Loss of vegetation and erosion during pre-construction, construction and/or rehabilitation of the land transport link and deep water port, affecting drainage patterns and soil stability.
- Solid waste, hazardous waste, wastewater, noise, and other possible soil/water/air pollutants produced from associated facilities and activities during construction and operation.
- Loss of land use by occupation of land with permanent structures, creation of right of way, or other barriers to humans and wildlife.
- Disruption of waterways and channels.
- Increased animal kills.
- Oil spills.
- Fire and explosion related accidents and emergencies.

Among some of the most relevant social aspect to be considered are the following:

- Impacts on employment, housing of workers, and general public safety issues.
- Displacement of people and other adverse impacts upon income or living standards due to land acquisition or other activities associated with construction and operation.
- Impacts on the local market from change in demand for local services, as well as access to social infrastructure.
- Loss of land use by occupation of land with permanent structures, creation of ROW's, or other barriers to wildlife.
- Impacts on archaeological sites, and indigenous and cultural heritage.
- Impacts caused by secondary development, such as squatters and poachers, within the area of direct influence.
- Fire and explosion related accidents and emergencies from possible oil spillage at the port given Guyana's emerging oil and gas sector.

The above, and other points, will be explained and discussed with relevant authorities and stakeholders of the project including government institutions, national authorities and bodies.

5. Scoping

Based on the First Consultation the following activities will be performed:

- Document the issues raised during the scoping exercise. This shall provide a basis for reviewing the issues that will be considered in the ESIA.
- Finalize the terms of reference for this assignment by incorporating the issues raised in the scoping sessions.
- Complete an Inception Report (IR) including the final ToR of this assignment along with the results of the First Consultation.

6. Analysis of Alternatives

The environmental and social assessment should also include an analysis of alternatives that would examine different options with the objectives of minimizing environmental, health, safety and social impacts of the project. The ESIA will evaluate the number and type of alternatives that were approved in the SESA process.

The analysis will focus on the following:

- Summarizing and referencing the alternatives in a manner consistent with national and international guidance.
- Analyzing the benefits and impacts expected from the project and other technical and economic alternatives including the "Do-Nothing" alternative.
- Evaluating the social and environmental analysis of each alternative.
- Propose preferred alternatives by comparing alternatives, and justify the rationale for preferring the proposed alternative(s).

7. Data Collection and Review

General information about the project site and/or routing and surrounding areas will be provided in map form, including:

- Provision of appropriate image of proposed alignment, general layout of facilities at project related sites.
- Layout of the existing routes and other utility services network.
- Project area maps at appropriate scales to illustrate general siting of project-related development sites and surrounding areas likely to be environmentally and socially affected.
- Topographic contours, as available, as well as locations of surface waters, roads, Amerindian settlements, protected areas, and political boundaries,
- Maps to illustrate existing land use, including industrial, residential, commercial and institutional development, agricultural, etc.
- Pre-construction activities.

Specific data will be complied on the characteristics of the project area in terms of its sensitivity to adverse and beneficial environmental impacts. Historical and secondary source data will be collected, where possible, and validated with field observations. The consultant will conduct the necessary baseline surveys to collect data on the following points:

- Physical Environmental Data:
    - Geology (e.g. stratigraphy and structure, seismic history if any of the areas),
    - Topography (e.g. drainage patterns around the road construction areas, burrow pits, siltation around the port, contours of river beds, etc.),
    - Soils (e.g. type of soil, bearing capacity of soil, agriculture value, soil cover in residue disposal),
    - Climate and meteorology,
    - Ambient air quality,
    - Surface water quality,
    - Surface water hydrology,
    - Ground water table condition of the Project area,
    - Ambient noise (note contribution from major sources if any),
    - Significant sources of pollution in the area and prospect for their mitigation,
    - Existing traffic patterns, types of roads, etc.

- Biological Environmental Data
    - Flora and fauna, including rare or endangered species in areas adjacent to the project-related development sites,
    - Sensitive habitats; including wetlands, protected areas, significant wild lands, forests within or in areas downstream/downgrading of project-related development areas,
    - Species of commercial importance in areas affected by the project,

- Socio-Economic Data
    - Culturally Valuable Sites,
    - Geography, administrative districts, etc.,
    - Basic Demographic characteristics (population, age structure, birth rate, death rate, rate of natural increase, handicapped, etc.),

- Living Conditions (household size and density, access to electricity, source of potable water, sanitation, etc.),
- Gender and issues related to vulnerable groups,
- Human Development Profile (education, work status, economic wellbeing, etc.),
- Undertake a socio-economic assessment/survey with a representative group of households with a focus on lower-income groups to assess the affordability of the residents to utilize the transport link and identify alternatives for the operation of the link,
- Natural hazards (seismic, faults, sink holes, flooding, hurricanes, etc.),
- Description of potential natural disasters on project facilities including associated facilities
- Land tenure/titling,
- Migration and settlement patterns,
- Social organizations and dynamics,
- Identification and description indigenous peoples or communities that may be potentially affected by the project; and
- Identification of any communities or households that will need to be resettled or compensated from any damages due to pipe replacement.

Subsequent to gathering of data, the environmental and social issues will be assessed in terms of the environmental and social risks and benefits associated with the project.

8. Analysis - Environmental and Social Assessment

The consultant will assess the potential impacts of the project during its entire life cycle, inclusive of pre-construction, construction, operation, and closure phases. The Consultant will perform the below tasks to identify and concisely present the significant environmental and social impacts:

- Explain and justify the methods used to predict potential impacts of the project on the environment, and on interactions among the project components.
- Identify and classify issues that are potentially important in the assessment of impacts and for decision-making in relation to the project.
- Identify potential impacts during all phases of the Project by conducting an impact analysis on the physical, biological, land-use and socio-economic environments, and the interactions among them.
- Evaluate the impact significance of the project components and activities on the environment and society.
- Establish the criteria on which the assessment of the impacts will be based.
- Develop a matrix as a means to present assessment of the impacts graphically, and specify and discuss positive or negative impacts, direct or indirect impacts, reversible or irreversible impacts, short-term and long-term, and cumulative avoidable impacts on the environment and society

9. Environmental and Social Management Plan (ESMP)

After the evaluation of impacts, the consultant will establish strategies to reduce or eliminate potentially negative outcomes. This includes avoiding negative impacts where possible, and employing mitigation measures for those that are unavoidable. Issues related to the project location, equipment, and surveys conducted previously will be categorized according to how critical the impact is. These strategies will be formulated in an Environmental and Social Management Plan (ESMP). This process entails:

- Detailing the management measures, roles, and responsibilities for implementation, supervision, and costs.
- Indicating parameters to be monitored, their location, frequency of monitoring, roles and responsibilities and costs.
- Assessing the ability of the implementing agencies to implement the proposed environmental management and monitoring plan.
- Developing the institutional arrangement and capacity building programs necessary to ensure successful implementation.

In an effort to cover these topics the following will be carried out components:

- Detailed description of the proposed environmental and social control and mitigation measures for project, activity, or action construction (e.g., air quality management plan, and landscape management plans) and operation (e.g., hazardous materials and fuel management, transport and packing management, maintenance and site security plans, and emergency evacuation and contingency plans).
- Detailed description of the planned environmental and social monitoring program for both construction and operation and a discussion of how the information will support management practices.
- Description of the planned worker health and safety plan, procedures and controls.
- A management plan covering the transport, handling, storage and disposal, with associate management and reporting practices including preventive and contingency measures, in consultations with potentially workers and communities (if applies). Include an annex of the restricted toxic substances for the activities in this Project, and make reference to international treaties such as Basel Convention, Rotterdam Convention, and others.
- Description of planned environmental contingency plan and procedures.
- Description of a proposed environmental, health and safety management system (including personnel, training, documentation, auditing, etc.).
- Description of a plan to manage population influx into the project site or controlled land use area (e.g., contracting requirements to manage potential worker expectations).
- Description of a plan/mechanism to receive and facilitate resolution of affected community concerns and grievances about the project, activity, or action and its negative impacts.
- Description of a plan to protect, reduce, and manage the negative impacts on sacred/archaeological and historic sites/monuments.
- Description of project, activity, or action-specific supervision and evaluation actions to be implemented.
- Public awareness, communication and training programs for operational staff.
- Indicators of compliance with licensing and approval requirements.

For each component listed above, the proposed time schedule (i.e., when initiated, when completed, and frequency), responsibility (i.e., who will implement), and the estimated cost should be provided; as appropriate, this information should also be provided for the individual actions within a component.

More specifically, monitoring/evaluation parameters which may be relevant include:

- Performance indicators in relation to critical operational issues (i.e., water quality, sediment budget, soils and sediments, noise and air quality, public health indicators, land surface and hydrology, flora and fauna, etc.).
- Waste management performance indicators in relation to recycling and reuse.
- Documentation of complaints received.

Also, monitoring procedures should cover:

- The key conditions that will be monitored and their criteria and reason for monitoring such as noise (low frequency, high frequency, and vibrations), dust (particulate matter), air emissions (NO_2, SO_2, CO, CO_2, H_2O %, metals, etc.), wastewater (volume, suspended solids, pH, toxic substances, etc.), waste (solid waste and hazardous waste) and odor;
- The monitoring locations (air emission outlet: particulate matter, CO_2, NO_2, and SO_2; the property boundary: noise, odor, particulate matter, CO_2, NO_2, SO_2 and other relevant substances; outdoor storage areas for raw materials (dust fall from the areas), intervals and duration;
- Actions to be undertaken if the monitoring indicates a noncompliance condition or abnormality; and
- Internal reporting and links to management practices and action plans.
- Reporting to relevant authorities and, if appropriate, to the consent authority or the community on matters such as reports on interruptions of operations, operational journals, list of used raw materials, protocol on stored raw materials, dustfall reports from the storage areas for raw materials, and noise documentation.
- Reports on odor and air pollutant emissions and ambient concentrations, CO2 equivalent documentation reports for greenhouse gases, energy consumption reports, wastewater reports, etc.
- Identified safeguards-related performance such as:
    - Grievance reports and complaints received, non-compliance reports (from authorities), etc.

10. Conduct the Second Public Consultation Meetings to Involve the Stakeholders of the Project in the ESIA.

This will involve:

- Select appropriate venue for public consultation meeting.
- Manage logistics of the meetings, including participants and thorough documentation of the event.
- In addition to making a public announcement, invite stakeholders of the project, and potential interested parties including those relating to construction/rehabilitation of the land transport link and deep water port, address the same in the environmental assessment and provide opinion on project design wherever relevant. Invited stakeholders should have balanced representation of women, NGOs, local community groups, youth and other vulnerable groups (e.g. handicapped, elders, etc.)
- Provide attendees with a summary of the project, and briefing on the impacts and analyses developed in non-technical English language.
- Document stakeholders' concerns and issues raised. The consultant will document all the consultations including the issues raised and actions planned/taken and justifications for no action wherever relevant.
- Assess the public's perception to the proposed project.
- Document the means by which the public engagement was used in the identification of the issues, and how it affected the project.

The final version of the ESIA report will incorporate the comments raised in the second public consultation meeting. The final report will discuss how the public concerns that are raised during different stages of consultations have been considered and addressed in the project.

11. Submit a Draft ESIA Report for Review

Based on the results of the public consultation, the consultant will finalize the draft ESIA report and submit it to the client for review.

12. Submit Final ESIA Report

Based on the comments received from MPI, the Consultant will perform the following tasks inclusive of:

- Revising the Draft ESIA report in accordance with comments and concerns received
- Finalize the ESIA report and present the final ESIA report to Ministry of Public Infrastructure (MPI)
- Submit the Final Report to the Client for public disclosure.

4. Expected Outcome, Deliverables, Project Schedule and Milestones

1. Inception Report including the work methodology, approach, detailed work plan and results of the scoping phase.
2. Draft Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP) including a Non-Technical Summary (in English and Portuguese).
3. Final Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP) including a Non-Technical Summary (in English and Portuguese).

5.Reporting Requirements and Acceptance Criteria

Executive Summary – Non-Technical Summary

An executive summary will be prepared to be used as a stand-alone document in a manner that can be accessible to non-technical readers in English.

Chapter 1 – Introduction

The section will include the following:

- Purpose of the terms of reference
- Identify the development project to be assessed
- Explain the executing arrangements for the environmental and social assessment
- Background information which provides a brief description of the major components of the proposed project
- Statement for the project need and objectives it is intended to meet
- Project implementation strategy
- A brief history of the project including alternatives considered
- Project current status and timetable
- Identify associated projects
- Summary of the general scope of ESIA

Chapter 2 – Policy, Legal and Administrative Framework

This section will provide an overview of the pertinent regulations and existing codes of practice and standards governing environmental and water quality, health and safety, protection of sensitive areas, siting, land use control, etc. at the international, national, regional and local levels The section will include the following:

- Permits required to construct and operate the proposed land transport link and deep water port
- Relevant environmental policy, legal and administrative issues
- Requirements and scope of the ESIA
- Regional development planning
- International and national environmental standards and guidelines

Chapter 3 – Description of the Proposed Project

This section will provide a description of the project, using maps at appropriate scale when necessary. This section will include the following sections:

- Project Infrastructure
- Project strategic approach and objective
- Prioritization methodology and technical design of the land transport link and deep water port
- Project main components (including location, general layout, size, capacity, etc.)
- Description of the pre-construction and construction phases
- Description of the operation and maintenance phases

- Project schedule
- Operational management and staffing
- Support facilities and services
- Required offsite facilities
- Project life span
- Institutional arrangement proposed

Chapter 4 – Description of the Environment and Social Context

This section will assemble and evaluate data on the relevant environmental and social characteristics of the project areas. It will include information on any changes anticipated before the project commences, including physical, biological and socio-cultural environments. The presented data will be relevant and commensurate with the project. Information of the existing physical, biological, land-use and socioeconomic environment will include:

- Geology, soils, existing terrain including local topographic and ground surface features, etc.
- Air quality including pollution levels, pollution causes, particulate emissions from stationary or mobile sources, precipitation, etc.
- Water quantity and quality including descriptions and maps of the existing water resources within or near the boundaries of the project, underground water resources, drainage, and hydrological characteristics
- Climatic conditions including data from the nearest meteorological station including prevailing climatic conditions, seasonal variations, wind direction, velocities, ambient temperatures, relative humidity, and climate-related extreme events, etc.
- Noise levels including the existing noise sources, duration, frequency and levels of noise sources
- Land-use patterns in the region including areas that can be combined and reclaimed within the development needs, area of future extension, archaeological, indigenous, and historical preserved or unexamined areas, valued aesthetic locations and areas used by the community
- Baseline social data, that includes:
    - Characterize the communities in terms of population, gender, health, education, leadership, households, land tenure, occupations, incomes and other relevant factors such as poverty
    - Determine rural community prospective on previous and ongoing sanitation and solid waste management system development
    - Discuss community conditions and readiness for accepting and participating in the projected sanitation and solid waste management systems

Chapter 5 – Analysis of Alternatives

This section will describe alternatives that were examined while developing the proposed project and identify other alternatives, which would achieve the same objectives. The concept of alternatives extends to siting, design, technology selection, construction techniques and phasing, and operation and maintenance procedures. It will compare alternatives in terms of potential environmental and social impacts and suitability under local conditions. This includes, for example, alternative paths, siting of the deep-water port, modifying the alignment, type of structure to be used, i.e., flexible versus rigid structure. The section will include the following:

- Current Situation (“No Action” option)
- Alternative alignments to avoid/minimize damage to environmentally sensitive areas
- Alternative sites for associated facilities (to improve public safety as well as to reduce public interference on such facilities)
- Provide opinion on alternative construction technologies.

Chapter 6 – Environmental and Social Impact Assessment

A description of the significant positive and negative environmental impacts will be mentioned in this section during both the construction and operation phases. This section will also discuss the positive and negative social impacts that

the project might have on communities in general and on various sub-groups (women and men, the poor, youth) in particular. Recommendation will be provided for ways to address negative social impacts. The section will include the following:

- Environmental Impact Process
- Air Quality
- Aquatic Environment
- Noise and Vibration
- Flora and Fauna
- Land Use, Landscape and Visual Impact
- Soils, Geology and Hydrogeology
- Traffic
- Socio-Economic Effects, Quality of Life values
- Archaeological, Historic and Cultural Heritage
- Natural Disaster Risk
- Major Accidents and Hazards
- Solid Waste Management
- Public Health
- Occupational Health and Safety
- Associated Infrastructure

Chapter 7 – Mitigation of Environmental and Social Impacts

Specific details of mitigation measures during design, construction and operation phases will be proposed and delineated here. Compensation for affected parties will also be addressed here thoroughly. The section will include the following:

- Mitigation Measures During Design and Construction
- Mitigation Measures During Operation
- Compensation for Affected Parties

Chapter 8 – Environmental Mitigation, Management and Monitoring Plan: Environmental and Social Management Plan (ESMP)

This section will provide details on the measures to be implemented during both construction and operation phases of the project. In particular, this section will:

- Outline the procedures for the environmental and social assessments
- Ensure an appropriate level of consultation and disclosure takes place
- Develop screening procedures for project assessment
- Ensure systems and resources are in place for the successful monitoring of the management program
- Possible costs of the mitigation and compensation measures will be included
- Institutional capacity issues will be addressed

The ESMP will address the following:

- Environmental and Social Guidelines and Procedures: will include the guidelines and procedures to be used for the application of the proposed screening procedures and mitigation measures during the construction and operation phases in the various communities and areas of implementation.
- Monitoring Program: a detailed plan to monitor the implementation of mitigating measures and consciously monitor the impacts of the project during construction and operation phases in the various districts and areas of implementation.
- Institutional Arrangements: this section will review the authority and capability of the institutions at local, regional and national levels and recommend steps to strengthen or expand them so that the management and monitoring plans in the environmental and social assessment can be implemented. The costs and sources of

funds for the proposed measures and any training requirements for capacity building in the field of environment and social safeguards will be specified.

The ESMP will be presented in a tabular format as follows:

A. Mitigation

Project Activity	Potential Environmental Impacts	Proposed Mitigation Measures	Responsibility of mitigation	Responsibility of direct supervision	Estimated Cost
Construction Phase					
Operation Phase					

B. Monitoring

Project Activity	Impact	Monitoring indicators	Responsibility	Frequency/ Duration	Location	Methods	Estimated Cost
Construction Phase							
Operation Phase							

C. Institutional Setup and Capacity Development Requirements

Proposed institutional structure for environmental management and monitoring capacity development requirements (e.g. required equipment, training, etc.).

Chapter 9 – Consultation and Disclosure: Inter-Agency Coordination and Public/NGO Participation

This section will describe the process that will result in:

- Coordinating the ESIA with other government agencies
- Obtaining views of local NGOs, indigenous communities following the principle of free prior informed consent (FPIC), and other affected groups
- Proper records keeping and timely disposition of records

The following two consultations will be documented in this section:

- First Public Consultation (Scoping Session) to discuss and finalize the scope of ESIA
- Second Public Consultation after the draft ESIA report is prepared

The section will include the following:

- Introduction and General Approach
- Consultation Methodology
- First Public Consultation (Scoping Session)
- Second Public Consultation
- Future Consultation and Disclosure
- Ongoing Facility for Public Consultation and Disclosure

References
Appendices

6. Other Requirements

It is expected that the Consultant would establish a strong core team of specialists, which should include English speaking competencies. The consultant is solely responsible for proposing an organizational setup of the assignment and the staffing/team composition which in his/her view is appropriate for carrying out the assignment, fulfilling the Terms of Reference and producing the required outputs. The client has nevertheless some general ideas and suggestions about the organizational setup which reflect the client's knowledge of the local situation and desired outcomes, as follows:

- It is envisaged that an experienced environmental or social specialist would serve as the Project Team Leader. The Project Team Leader should have at least 15 years professional experience working in environmental and/or social assessment of projects, ability to work with government officials, transport / road and environmental specialists, familiarity with environmental and social assessments for equivalent size projects, and a proven track record in managing and coordinating a diverse group of professionals.
- The Consultant should complement the skills of the core team with other social, environmental, technical, and institutional specialists with experience in Guyana and/or internationally in the Amazon region.
- The team shall include specialists who are highly familiar with specifying detailed mitigation measures, focused training programs, and structured monitoring programs. The overall proposed Project Team should be able to cover the areas listed below:
    - Environmental assessment
    - Environmental Engineering
    - Civil engineering
    - Terrestrial ecology / natural habitats
    - Environmental health and safety
    - Social Science and social safeguards.
- Social and environmental specialists who have previous experiences working with the IDB's social safeguards requirements and prior experience in preparing ESIA and ESMPs, will be an advantage.

The team is expected to provide pragmatic and insightful planning to complete the above scope of work.

OVERALL COMBINED ADMINISTATION OF THE CEA, SESA AND ESIA STUDIES

7. Supervision and Reporting

The team is expected to provide pragmatic and insightful planning to complete the above combined scope of work of the assessment studies.

With respect to these combined assessment studies the IDB is the executing agency for the Consultancy on behalf of the Government of Guyana. The consultant shall report to the IDB Project Team Leader who will be administrator of the contract. The IDB Project Team and Ministry of Public Works will have a role entailing the reviewing and evaluation of the outputs and approving the study.

The Ministry of Public Infrastructure will facilitate the issuing of any permits required for the Consultant to carry out their duties and make available all relevant reports, documents, maps and data.

Note that three hard copies and electronic versions of the final report shall be provided to the Bank. The final report shall be provided electronically in '.doc" format for any drawings and /or construction plans.

8. Schedule of Payments

The payments will be done according to the following schedule:

- 60% upon signature
- 5% upon submission and acceptance of the Inception Reports for the CEA, SESA and the ESIA
- 10% upon submission of the Draft Final Reports of the CEA, SESA, and the ESIA
- 25% upon submission and acceptance of the Final Reports of the CEA, SESA and the ESIA.