TC Technical and economic analysis for the preparation of loan GY-L1060

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| **Name of the operation:**Technical and economic analysis for the preparation of loan GY-L1060 | **Nombre de la operación:**Análisis técnico y económico para la preparación del préstamo GY-L1060 |
| **Objective:**To support the Government of Guyana in the preparation of loan GY-L1060 | **Objetivo:**Apoyar al Gobierno de Guyana en la preparación del préstamo GY-L1060 |
| **Justification:**The Government of Guyana has requested support from the Bank for the preparation of an investment loan for the agricultural sector (GY-L1060). Agriculture represents more than 18% of total output, and 20% of employment (70% in rural areas). Agriculture is also the main source of hard currency, representing 36% of exports (40% if processed agricultural products are included). Agriculture production is key for food security in Guyana. Production is not only exported, but it is used also for local markets and subsistence. Agricultural production supply local markets and contribute to reduce food insecurity in urban areas. Most agricultural production happens around the coast, where the best lands are. Sediment from the Amazon and other rivers contribute to soil quality, although flooding and water management is a challenge. In the hinterlands (southwest and northwest), savannahs and forest dominate the landscape. In the Upper Berbice region, intermediate savannahs, close to the main agricultural areas, are used for livestock production. In these regions medium and large farms dominate the landscape. Production in the cost is destined mainly to external markets, although livestock production (especially poultry) is marketed internally. Agricultural productivity is low, even in the export oriented farms. Sugar and rice yields are lower than close competitors (77% and 22% when comparing with Peru and Brazil, respectively, for rice. A lot higher for sugar cane). Commercial farms are located on the coast and smaller farms, supplying mostly the domestic market can be found in the hinterlands and the savannahs.Arable land in Guyana accounts for more than 400,000 hectares. The agriculture economy occupies approximately 161,874 hectares of irrigated land, hosting major crops, including sugarcane and rice; a diverse range of other important non-traditional crops, including coconut, cassava, a wide diversity of orchard species, green vegetables, and foraged botanicals in and around homesteads and a ubiquitous diversity of herbals; an expansive 19 forested ecologies, fishery and livestock. Except for cassava, all agricultural products, important for food security and commercial exports are harvested within the narrow strip of coastal plains.Small farmers produce most of the fruits and vegetables grown in Guyana – 80 percent of the grain crops, 60 percent of the coconuts, and 40 percent of the coconut oil. Non-traditional agriculture in Guyana typically characterizes farming systems that are small in scale, uses low-level technology, and are labor intensive. Nontraditional agriculture has been moving slowing away from its associative subsistence farming. But the tendency to stick to traditional agricultural practices and an absence of supportive services to encourage farmers to adopt improved methodologies for increasing production and productivity are still characteristic of the sub-sector. Productivity of small farms is low, compared with other countries. Yields of corn, beans, and rice (small scale) are 40% lower than in the Caribbean and 60% lower if we compare them with South America. Livestock production is concentrated in poultry, with cattle and small ruminants produced mainly in small farms, with low productivity. This low productivity reduces competitiveness and incomes and increases the stress on natural resources. By increasing productivity, Guyana will increase incomes of small farmers and reduce pressure on natural forest and water. Expected investments of loan GY-L1060 will help Guyana to increase productivity and optimize the use of natural resources. The loan will facilitate the strengthening of research and innovation facilities managed by NAREI and the GLDA. At the same time, the SPS system will be strengthened to facilitate access to key markets. Both activities will result in technical assistance and training for small farmers in the hinterlands and the intermediate savannahs. Farmers will receive also support to improve the management of water, soil and pastures, to increase productivity, reduce CO2 emissions and reduce pressure over forest. This TC will support the GoG in the preparation of the necessary studies to get the loan approved by the Bank’s Board. The preparation of loan GY-L060 requires a review of research and innovation programs currently being implemented in Guyana. Also, transfer of research and innovation results to farming will be analyzed to evaluate the feasibility of increasing their scope or tailor their dissemination to small farmers. Because part of the investment will be focused on livestock, the SPS (Sanitary and Phytosanitary) activities of the MoA and other agencies will be analyzed. Market access greatly depends on the supervision and monitoring of certain deceases and protocols. Technologies used by small farmers will be analyzed to propose alternatives, to increase productivity, and at the same time, reduce carbon footprint and pressure on forest. A comprehensive economic analysis will be needed, including analysis of expected productivity and income changes in the target population. To facilitate the implementation process, an institutional and financial analysis of the Ministry of Agriculture and its respective units will be carried on, which will be complemented with the preparation of manuals, guidelines, plans and other implementation tools. This TC will contribute to the GCI9 targets and the CRF (GN-2727-6) in: i) social inclusion and equality; and ii) productivity and innovation. This TC will also contribute to two cross cutting themes, as described in the Update of the Institutional Strategy (2016 – 2019): i) climate change and environmental sustainability; and ii) gender equality and diversity. This CT is aligned with the Country Strategy (GN-2690) through the priority area “Natural resources management” and cross-cutting issues related to indigenous population in Guyana. This TC is also aligned with the Food Security Strategic Framework Document (OP-2017), contributing to two sources of food security: i) access; and ii) availability; and the Agriculture and Natural Resources Framework Document (OP-2001).  |
| **Description of outputs / activities:**This technical cooperation is structured in two components: **Component 1: Technical and feasibility studies** 1. An analysis of the research and innovation system in Guyana. This study will provide details of the institutional arrangements and relative strength of Guyana’s research and innovation in the agricultural sector. The study will focus on improving the capacity of NAREI through infrastructure and equipment (research centers) and human resources. A proposal for strengthening research and innovation for cattle, pastures and other initiatives prioritized by the Ministry of Agriculture will be developed.
2. A review of the Sanitary and Phytosanitary (SPS) capability of Guyana, with a focus on livestock, and particularly cattle. The study will help the GoG the identification of activities that will secure the status of free of Foot and Mouth Disease (FMD), brucellosis and other diseases that affect cattle and reduce market access. The study will also help in the preparation of technical assistance and training for the Guyana Livestock Development Authority (GLDA). The study will also help in the design of training and technical assistance for farmers.
3. An evaluation of the needs of repairs, updates of, and new infrastructure. This evaluation will include buildings and small rural infrastructure required to reduce production costs and increase the likelihood of produce reaching the expected markets. The study will review preliminary designs prepared by the MoA; hydrology and proposals for water catchment infrastructure, and other public investment. This evaluation will use existing data in terms of topography and soil / geology. This evaluation will help identify potential problems during the implementation, like the property of the land to be developed; unit costs; coordination with other infrastructure investments currently being implemented in Guyana.
4. An economic analysis and design of impact evaluation. Based, partially, in the datasets collected by the productivity analysis study, an economic analysis, for the whole project and specific components will be prepared. This economic analysis will use expected changes in productivity and market access to evaluate the Net Present Value of the investment. At the same time, values for the baseline, for a selected number of indicators will be calculated.
5. Review and design of an Agricultural Information System for Guyana. This study will support current efforts by the MoA and FAO to design and prepare a platform for the collection and analysis of agricultural data. This includes the preparation of preliminary studies for an Agricultural Census; data needs for policy making; and training.
6. Productivity analysis and data collection at the farm level. This study will complement studies available in Guyana and data sets of the National Bureau of Statistics (NBS) and the Ministry of Agriculture. Detailed datasets to evaluate productivity, socioeconomic variables, carbon sequestration and use of natural resources will be prepared. The data will be collected based on a random sample of the target population (small cattle farms). The analysis will provide insights on yields, use of natural resources, available assets and expected marginal changes.

**Component 2: Fiduciary and environmental safeguards analysis**1. A review of the financial and fiduciary strengths and weaknesses of the Ministry of Agriculture. This study will use the SECI (Evaluation of the Institutional and Fiduciary Capabilities) methodology developed by the Bank to assess the relative strengths and weaknesses of implementing agencies. This review will result in recommendations for the design in terms of strengthening the capacity of the Ministry of Agriculture to implement the project. During the implementation of this study, risks will be evaluated and identified. Mitigation measures to reduce these risks will be included in the design. Also, this study will help the GoG in the preparation of a consolidated budget for the project, a draft procurement plan, a draft Project Execution Plan (PEP) and a draft Project Manual of Operations.
2. An Environmental and Social Safeguards analysis. Based on IDB’s environmental, gender, diversity and other policies, these studies will help the GoG to evaluate the likely impacts on the environment and vulnerable groups in the country. These studies will help the GoG to comply with national environmental legislation and regulations, as well with IDB’s policies. Specific activities, identified by this study will be included in the design of the Project.
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| **Products:**This TC will generate the following products: 1. Two reports with a proposal for strengthening the research and innovation capabilities of Guyana based on the objectives of the Project (crops and livestock).
2. One report with recommendations to strengthen the SPS systems of Guyana, related to cattle and small farms being supported by the Project.
3. One report with a roadmap, budget and Terms of Reference for the Agriculture Census, and recommendations for an agricultural information system.
4. One report with a detailed analysis of current productivity at the farm level, potential changes as a result of the implementation of the Project and dataset with at least 800 questionnaires.
5. One report with the economic and financial evaluation of the project that will include costs and economic benefits. The report will also include a proposal for the impact evaluation, based on baseline indicators prepared during the economic evaluation.
6. A report on the financial and fiduciary evaluation of the Ministry of Agriculture, including recommendations for strengthening to achieve the goals of the Project. Additionally, this report will include: i) a detailed budget; ii) a procurement plan for the first 18 months of operation; iii) a Project Execution Plan (PEP); iv) a draft Project Manual of Operations; and v) risk analysis.
7. A report on the compliance of the Project with the environmental, social and diversity policies of the Bank and national legislation. Also, the report will include the Environmental and Social Implementation Plan for the project.
8. A report with an evaluation of the infrastructure needs, including buildings and small rural infrastructure. The report will include hydrological and hydraulic analysis of proposed water catchment infrastructure.
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