

**PROJECT INFORMATION DOCUMENT (PID)  
APPRAISAL STAGE**

Report No.: AB6410

<b>Project Name</b>	University of Guyana Science and Technology Support
<b>Region</b>	Latin America and the Caribbean
<b>Country</b>	Guyana
<b>Sector</b>	Tertiary Education (100%)
<b>Lending Instrument</b>	Specific Investment Loan
<b>Project ID</b>	P125288
<b>Parent Project ID</b>	N/A
<b>Borrower(s)</b>	Co-operative Republic of Guyana
<b>Implementing Agency</b>	University of Guyana
<b>Environmental Screening Category</b>	{ }A { X }B { }C { }FI
<b>Date PID Prepared</b>	April 21, 2011
<b>Estimated Date of Appraisal Completion</b>	April 26, 2011
<b>Estimated Date of Board Approval</b>	June 23, 2011
<b>Decision</b>	
<b>Other Decision</b>	

**I. Country Context**

1. Guyana used to be a top performer in the Caribbean until an economic decline due to a period of political instability in the 1970s and the resulting period of fiscal adjustment from the 1980s through the early 1990s. Although the country has been steadily recovering from these events, Guyana ranks 104 out of 169 countries in the Human Development Index for 2010 and is the second poorest country in the Caribbean region after Haiti with an estimated gross national income (per capita) of US\$2,518 (Guyana National Budget 2011).

2. As a result of the international financial crisis of 2008-9, Guyana's growth declined to 2 percent in 2008 and 3.3 percent in 2009. Growth prospects are more positive for 2011 and the medium term. Current projections show a growth rate of GDP at 4.8 percent in 2011 and around 5 percent over the medium term. These projections are underpinned by: (a) an expected continuation of global economic recovery, which would result in gradual increases in export prices and remittances; (b) the implementation of major infrastructure projects; and (c) implementation of the Low Carbon Development Strategy (LCDS) that could provide up to US\$250 million in performance based grants over four years from Norway.

## II. Sectoral and Institutional Context

3. **Guyana has over 80 percent of its land area covered in forest, approximately 16 million hectares.** To protect this national asset and to investigate ways to utilize its forests as a means to generate revenue and propel economic development, Guyana's LCDS is an essential part of its economic development plan. The Government of Guyana believes that it can protect and maintain its forests in the effort to reduce global carbon emissions and at the same time attract resources for the country to grow and develop. Improving education and relevance of skills would be critical to opening employment opportunities and meeting labor market demand as the country aims to develop its LCDS and the new skill set to execute this strategy.

4. **Key actions to address global climate change include: improving energy efficiency; transitioning to clean energy; improving agricultural productivity and slow deforestation.** The LCDS therefore sets out a pathway to a new economy which builds future prosperity that is low-deforestation, low-carbon and climate resilient. The LCDS has three main components: (a) investment in low carbon economic infrastructure; (b) investment and employment in low carbon economic sectors; and (c) investment in communities and human capital.

5. **In order to execute the LCDS, Guyana has identified a number of binding constraints which need to be addressed, including capacity development (human, financial and technical); appropriate regulatory frameworks; policy development; and increased research and knowledge.** The Ministry of Education has a critical role to play in increasing the quality of science and math education at the primary and secondary levels while the University of Guyana has a major responsibility in generating new knowledge through research, improving the relevance of skills of its graduates and enhancing science and technology programs that contribute to a low carbon economy. As part of this reform effort at the University and to create greater opportunities for employment in Guyana (as a means also to stem emigration, which is a significant challenge for human capital and socioeconomic development, with 35-55 percent of Guyanese nationals living abroad), the human capital that the University produces should be more broadly aligned with industry demand.

6. **As the only university in the country, the University of Guyana (UG) plays a central role in the national development of human capital.** Guyana was a founding member of the University of the West Indies (UWI) system in 1948 but later withdrew. UG was established in 1963 and moved to the present main campus at Turkeyen. A second campus at Tain in Berbice was opened in 2000 with a neighboring science facility at John opening a year later. Despite these transitions and expansions, UG has maintained close links with the Caribbean academic community and other international institutions. UG graduated 1,261 students in 2009 (of which approximately 25 percent studied in the science faculties).

7. **Despite a large campus and its status as the only University in Guyana, UG is severely underfunded relative to its potential.** Tuition fees have not been increased since they were reinstated in 1994. The fee was set at the time to the cost of student education which was equivalent to US\$1,000 but due to inflation and exchange rate depreciation it is now worth approximately US\$620 while the cost of student education has increased, leaving a significant gap in financing. Capital and recurrent expenditures have exceeded income for four of the last five years for the university as a whole (UG Strategic Plan 2009-2012). For instance, in the academic year 2008/9, the institutional cost of training each student at the main campus was approximately US\$1,600, while the budget support received by the university was approximately US\$700 per-student. The gap is normally financed through tuition payments, student loans and other mechanisms.

8. **Student learning is compromised by poorly compensated and under-qualified staff working with inadequate resources.** Low salaries and the poor state of the buildings combined with lack of supplies and support make it difficult to recruit and retain highly qualified staff. For example, a Professor, the highest salary scale among University of Guyana academics earns on average around US\$1,600 per month. In 2008/09 only 10 percent of staff held a doctoral degree, while 48 percent held a Masters degree. Approximately 23 percent of teaching staff hold a Bachelor's degree only. There is no financing available for research, the central component for academic career development, in the 4 science and technology faculties: Agriculture and Forestry, Environmental and Earth Sciences, Natural Science, and Technology. Physical facilities lack modern lab equipment, reagents and other essential supplies such as microscopes. Instructors do not have regular access to such basic teaching tools as projectors, and textbooks are in short supply. The physical structures of the university are generally well-built, but suffer from lack of maintenance and upkeep.

9. **This Project complements another major source of funding to implement the LCDS.** The Guyana REDD+<sup>1</sup> Investment Fund (GRIF)<sup>2</sup> is a multi-donor fund for the financing of activities identified under the LCDS, for which the Bank acts as Trustee. The fund would receive up to US\$250 million from Norway in performance-based payments for the period up to 2015. The Government of Guyana has included a total of US\$70 million of expected GRIF-funded LCDS-related projects. The Government of Guyana has allocated in the LCDS program between US\$1-2 million of GRIF funds in 2010 and 2011 towards the development of an "International Centre for Bio-Diversity Research, Low Carbon Curriculum Development and IT Training."

10. **This Project responds to a request from the Government of Guyana to assist the country in implementing the LCDS by enhancing University capabilities.** It would directly

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<sup>1</sup> REDD is the Reducing Emissions from Deforestation and Degradation initiative which sets forth a set of steps designed to use market/financial incentives in order to reduce the emissions of [greenhouse gases](#) from [deforestation](#) and [forest degradation](#). "REDD-plus" includes activities with potentially extremely serious implications for indigenous people, local communities and forests.

<sup>2</sup> The World Bank's International Development Association (IDA) was invited by Guyana and Norway to act as Trustee and is responsible for providing financial intermediary services to the GRIF. The Trustee receives funds from contributors, and manages them within a trust fund.

support the development of Guyana's capacity to implement the LCDS and leverage other LCDS-related investments. There is wide agreement that UG faces major challenges, within the context of the Guyanese education system, which require urgent attention. The World Bank can play a strategic and catalytic role through this Project by strengthening the capacities of the university, provide an opportunity for donor co-financing, and establish pathways for institutional engagement.

### III. Project Development Objectives

11. The proposed Project would strengthen the four science and technology faculties at the University of Guyana through infrastructure, research and curricular improvements while building the basis for improved facilities management and future growth.

#### 1. Project Beneficiaries

12. The main Project beneficiaries would be the students and professors at the University of Guyana. Indirect beneficiaries include private sector employees, local communities, and international researchers engaged in rainforest conservation and biodiversity preservation.

#### 2. PDO Level Results Indicators

13. Achievement of the PDO would be measured through the following three PDO Level Results Indicators: (a) Increase in student, faculty, administration and private sector satisfaction with the strengthening of the 4 science faculties at the University of Guyana; (b) New investments in buildings, equipment and ICT maintained in working order; and (c) Results of new studies integrated into the University of Guyana Strategic Plan.

### IV. Project Description

14. **Component 1: Education Quality Improvement Program (EQIP)** (estimated total cost: US\$1.9 million). This component would finance EQIP with two sub-components: (a) promote the revitalization and reorientation of the University of Guyana science curriculum toward critical needs for the LCDS; and (b) provide support for essential research, which would contextualize and provide a practical orientation to the curriculum, while contributing to global knowledge on environmental conservation and bio-diversity preservation. Through both of these activities, the technical and pedagogical skills of the UG lecturers to develop and deliver quality teaching would be considerably strengthened.

15. Sub-Component (a) Curriculum Reform (US\$1.0 million) would support a standardized process for the updating of existing curricula and the development of entirely new curricula to support the LCDS, through the provision of targeted technical assistance from specialists in curriculum reform, instructional design and science content, as well as through provision of stipends to UG lecturers who dedicate time, expertise and energy to this process. Practical assessment components would be developed for each course. At least 12 new courses in

electronic format (either as open courseware or e-learning courses) relevant to the LCDS would be developed over a 3-year period via the following process:

- The process would begin each year with a broad-based consultation with external groups to identify and build consensus around the curricular domains within and across the four target faculties most in need of revision/development in order to support the LCDS. Private sector representatives, NGOs, indigenous groups, student groups, community leaders and parents, etc., would be invited to attend a series of workshops to analyze the LCDS in greater detail and brainstorm on skills, knowledge and curriculum domains needed by UG graduates. Workshop participants would respond to UG proposals for curricula to be developed or revised, and/or propose new courses to be developed which the UG could take on board. Each year at this consultation a satisfaction survey would be administered to solicit feedback on the curricula developed.
- Secondly, UG staff and technical assistants would search for needed curricula, practical assessment methodologies, and course content from international sources (on-line courses, downloadable open courseware, traditional courses which might be offered through institutional twinning relationships), and assess what curricula could be used/adapted for use by the UG and what curricula would need to be freshly developed. An internationally recruited curriculum reform process manager would structure and oversee this work. UG staff would be encouraged to develop relationships with university faculty overseas working in similar academic areas to learn and share, including those among the Guyanese diaspora who might wish to return to UG as guest lecturers.
- Thirdly, instructional design and content specialists would work with UG faculty to develop new courses relevant to the LCDS, keeping in mind both applied constructivist instructional strategies and potential to offer courses on-line to a wider audience. This would be a form of on-the-job professional development for UG professors and lecturers.
- Fourthly, both adapted and new courses, which have been reviewed and approved by the Dean of the faculty, would be piloted over the course of a semester, and then carefully evaluated by students and lecturers alike. Evaluation would feed back into course revision and finalization.
- Finally, following standard procedures at the UG, new curricula and courses would be presented for review and approval to the Academic Board, after clearance from the Academic/Policy/Planning Committee. Both of these entities are long-standing statutory bodies at the UG.

16. Depending on the courseware being developed (single or multi-disciplinary, use of on-line methodologies, etc.), 3-5 UG lecturers per course would be mobilized on a voluntary basis. As this work would be beyond their normal workloads, lecturers would be offered incentives to participate in this process. In addition to the hands-on training in instructional design and exposure to courseware available at the international level, lecturers would receive stipends for their time and expertise invested in producing revised/new curricula. Stipends would be based

on current market rates for consulting by UG staff and the “level of effort” agreed to between the externally recruited curriculum reform process manager and the lecturer. Finally, lecturers’ efforts in this curriculum reform process would be taken into account as part of their annual personal evaluations and career development, as is standard practice at the UG.

17. The domains of study relevant to the LCDS that the University has identified as requiring development include among others:

- GIS and Remote Sensing
- Climate Change and Climate Modeling
- Hydrology (Water Resource Management)
- Ground Water Management
- Alternative Energy (bio fuels, solar energy, hydroelectricity etc.)
- Agriculture Resources Management
- Sustainable Forestry
- Natural Resources Management
- Food and Nutrition Technology
- Biodiversity Inventory and DNA Analysis (in collaboration with international research centers)

18. Sub-component (b) (US\$900,000) would provide funding to stimulate research relevant to the LCDS, with the aim of (a) supporting the development of a broader research/knowledge-generation culture at the UG, and (b) providing concrete examples of UG research, which directly contribute to the LCDS. Such examples might include: formulation of policy recommendations; development of LCDS-relevant services or products; generation of field research skills among UG graduates demanded in the labor market; production of industry-specific baseline information (water quality, timber supply, flora/fauna inventory) against which the impact of economic activities can be measured; studies of social groups affected by LCDS industrial development, etc.

19. UG staff has analyzed the LCDS to identify the most promising research topics. This research agenda would be further defined as part of the annual external consultations mentioned above related to curriculum reform. The UG Research and Publications Committee, an established statutory body with clear operating procedures, would review standardized research grant applications and apply common criteria to assess their relevance to the LCDS, potential for funding and clearance of any safeguards. The Environmental Specialist (ES) would review proposals before they are sent to the Research committee to check for any safeguard issues and would apply a screening checklist and guidelines included in the Environmental Management Framework (EMF). Preference would be given to research activities which engage students and even secondary level students in survey administration, data collection, data analysis, etc., as well as to research projects which involve external/international partners and/or generate co-financing. Grants would be relatively small (average grant size US\$15,000), ranging from US\$5,000-\$50,000, and would be disbursed in several tranches to UG lecturers through the UG Bursar’s Office (which would be responsible for financial monitoring), upon approval from the Secretary of the UG Research and Publications Committee (the Registrar) and the Project Coordinator. Over the course of the Project approximately 50 research projects would be funded.

In addition, at least one “researcher in residence” would be sponsored each year through this sub-component to conduct field-based scientific research at the Iwokrama Research Station, located in the heart of Guyana’s rainforest. This would be for a full academic year to encourage UG lecturers and professors to pursue LCDS-related research and knowledge generation.

20. Implementation of this sub-component would feed directly into the Feasibility Study for the establishment of a larger Research and Innovation Fund (discussed in Component 3) that could mobilize funding from other partners, involve a broader set of stakeholders at the governance level, and promote the application of research for the development of marketable products and services aligned with the LCDS.

21. **Component 2: Infrastructure rehabilitation** (estimated total cost: US\$6.2 million). This component would (a) improve the existing laboratory and building infrastructure at the four faculties, consisting of a total of 14 buildings and, as well as improve campus wide drainage; (b) provide these laboratories with basic scientific and multimedia equipment to enable the delivery of practical science education and research; and (c) support the establishment of a campus wide Internet network.

22. Sub-component (a) (US\$5 million) on laboratory and building rehabilitation would first rehabilitate 14 science laboratory buildings in the four science faculties on the campus by improving the physical infrastructure to allow for basic teaching and research. The rehabilitation would include new floor surfaces, new cupboards, new water and power systems, new lighting, provision of air conditioning, new furniture, etc. The component would also address basic electrical, water, sewage, and roofing for the buildings in which the laboratories reside. Finally, the sub-component would address the campus-wide issue of appropriate drainage and pumps to avoid frequent flooding on the campus. An EMF has been developed to prevent and reduce any environmental impact. Also an ES will be onsite, during the construction period to ensure implementation of the mitigation measures.

23. Sub-component (b) (US\$840,000) would equip the labs with basic scientific equipment such as microscopes, slides, flasks, water testing kits, etc. as well as multi-media equipment. The equipment would be prioritized based on low operating costs, low level of technical skills for use and greatest benefit to students and faculty.

24. Sub-component (c) (US\$360,000) would support the establishment of a campus wide Internet network to connect all faculties to the Internet and prepare the University to connect into an international link, which would be established as part of the e-government broadband network currently under construction (scheduled to be operational by end-2011). In conjunction with the connectivity, a set of software applications would be developed such as e-learning tools and digital content repositories to support the design and delivery of the new curriculum in component 1.

25. **Component 3: Institutional Capacity Building** (estimated total cost US\$1.83 million). This component would support the building of institutional capacity at the University of Guyana

to (a) improve facilities management and manage the Project; and (b) make strategic institutional decisions and enhance financial sustainability.

26. Sub-component (a) (US\$1.39 million) would finance technical assistance to implement a comprehensive facilities management plan, including consultants and training in civil engineering and facilities management, essential to maintain and sustain the investments in basic infrastructure rehabilitation and equipment.

27. It would also support Project management by strengthening the existing capacity of the University with additional coordination, environmental management, and ICT capacities. Environmental and ICT consultancies would be contracted on an as needed basis. Additional monitoring and evaluation studies to assess the progress of the investments in achieving the PDO Indicators would be conducted by an independent organization. Also, in conjunction with the Project website, a crowdsourcing platform would be deployed using mapping, geo-spatial and social networking technologies to encourage student and community identification of challenges and progress in the implementation of the Project. Additional technical assistance would be provided to implement the environmental and social management framework with an elaboration of a hazard assessment, laboratory protocols and chemical waste management guidelines. In addition, the financial management and procurement capacities would be strengthened at the Ministry of Education's Planning Unit.

28. Sub-component (b) (US\$440,000) would provide essential technical assistance and capacity building for making strategic institutional decisions designed to increase the UG's relevance and impact related to the LCDS, and to enhance its financial sustainability. Four forward looking feasibility studies would be supported: (i) Viability assessment and Business Plan for a new Center of Excellence for the Study of Bio-Diversity; (ii) Options and Operational Manual for a multi-stakeholder Research and Innovation Fund to support generation of new knowledge and marketable products and services related to the LCDS; (iii) Establishment of a Business Development Unit, which would focus on connecting the UG's skills, expertise and facilities with external needs on a fee for service basis; and (iv) A detailed review of the UG's existing human resources to identify areas where efficiency and effectiveness of personnel allocation could be enhanced. All of these products would feed into a strategic plan for the University's growth and development. The existing strategic planning process of the University would be supported by the Project with modest amounts of technical assistance as needed.

## V. Financing

	(\$m.)
Source:	
Borrower/Recipient	1.4
IBRD	
IDA	10.0
Others (specify)	
	Total 11.4

## **VI. Implementation**

29. The University of Guyana is the Project implementing agency with fiduciary support from the Ministry of Education. Project implementation arrangements have been designed to take advantage of existing capacities and comparative advantages within the University of Guyana and Ministry of Education. The Planning Unit of the Ministry of Education, which currently manages two other Bank-supported education projects, would supply fiduciary services (financial management and procurement) to the University of Guyana. The University of Guyana would have primary responsibility for Project coordination and for the technical implementation of the Project through a Coordination and Technical Office located in the UG's Vice-Chancellor's office. This would ensure that the University of Guyana remains responsible for overall Project implementation, including all its technical aspects, at the same time as existing (and scarce) fiduciary management capacity within the Ministry of Education is tapped and strengthened. A subsidiary agreement between the Recipient, through the Ministry of Finance and the Ministry of Education, and the University of Guyana would be prepared before negotiations and signed before effectiveness. Key aspects of this implementation arrangement are as follows:

- Overall coordination, technical (including preparation and implementation of annual Project implementation and procurement plans) and fiduciary aspects of the Project would be overseen by a Project Coordinator (PC), to be located in the Coordination and Technical Office at the University of Guyana, who would report to the UG Vice-Chancellor.
- The Ministry of Education's Planning Unit would handle fiduciary management through its procurement and financial management teams, as directed by the Project Coordinator. The MOE Planning Unit would be strengthened with additional Financial Management and Procurement specialists to be financed by the Project.
- Higher level institutional oversight of the Project would be provided through a multi-stakeholder Project Steering Committee that would: (a) provide strategic guidance to the UG for the implementation of this Project; (b) ensure full transparency and mitigate political risks; (c) review and approve annual Project implementation plans and budgets; (d) monitor the progress of Project implementation and achievement of the Project objectives and outcomes; and (e) assist in the resolution of outstanding Project implementation issues. Minutes of Steering Committee meetings would be posted on-line.
- The Ministry of Education, at the level of the Permanent Secretary, would exercise additional oversight in two ways: participation on the Project Steering Committee and approval of all disbursement requests sent to the Bank.

30. The PC would be recruited on a competitive basis based on qualifications, experience and TORs finalized before negotiations, satisfactory to the Bank, and hired as a condition of effectiveness. A technical team located in the University's Coordination and Technical Office

and financed by the Project, would report to the PC. This team would be comprised of consultants covering curriculum reform, facilities management, and ICT. An Environmental Specialist would also join this team. The ES would be responsible for supervising the implementation of the Environmental aspects of the Environment Management Framework (EMF) and Environmental Management Plan (EMP) -- providing progress reports to the Bank. The ES would work very closely with the facilities management staff in charge of the rehabilitation works.

31. For each faculty to be strengthened by the Project, a representative would be appointed by the Vice-Chancellor who would be responsible for preparation of that faculty's Annual Implementation Plan under the guidance of the Project Coordinator. Such a plan would include specification of that faculty's implementation objectives for that year in a time-bound fashion, which would comprise the technical specifications of materials, equipment and supplies to be procured by the Project for that faculty; key curricular areas and programs that require review through EQIP and names of faculty interested in this reform; the numbers of students affected by these investments disaggregated by gender; quarterly milestones for monitoring of implementation; and other aspects which might be devised.

32. In addition to the faculty representatives, the Vice-Chancellor would name someone responsible within the facilities and maintenance department who would provide assistance to the Project Coordinator, faculty representatives and other key staff in the implementation of infrastructural improvements and laboratory renovation (including installation of equipment). This Facilities Management Coordinator will also be responsible for submitting to the Project Coordinator the annual inventory of buildings and equipment affected by the Project as well as the annual maintenance and repair budget to ensure that investments financed by the Project are fully operational on a sustainable basis.

33. Operational Manual (OM). The OM would include detailed guidelines for implementation of the Project components, TORs for all key personnel and activities, details for selection and functioning of the Project Steering Committee, procurement, financial management, safeguards, monitoring and evaluation, etc. A draft OM would be prepared prior to loan negotiations and would be approved before the loan effectiveness date. A Project website would be established early in Project implementation, which would provide full transparency on decisions taken by the Project Steering Committee, project supervision and results (Aide Memoires), procurement contracts, etc. The website would also host mapping and crowd-sourcing functionality to support the monitoring and evaluation of the Project.

## **VII. Safeguard Policies (including public consultation)**

34. Given the relatively low levels of elementary and secondary enrollment in Guyana, students attending UG are more likely to come from better-off families who can afford the direct and opportunity costs of higher education. In addition, experience suggests that many UG graduates emigrate in search of better employment opportunities, such that the benefits of higher education are captured privately as opposed to by society. These two facts raise certain social equity issues.

35. On the other hand, the proposed Education Quality component offers the potential for “inclusive” curriculum development and research which benefit rural (particularly Amerindian) populations. To ensure that the Amerindian communities are fully consulted and engaged on this Project it is recommended that an Indigenous Peoples Framework be developed so that the views and issues of the indigenous communities can be taken into consideration during the curriculum reform process and any potential research or activities that may be conducted in indigenous communities.

36. The main environmental impacts expected of the Project are localized, low impact and possible to mitigate or prevent, and these will be connected to the rehabilitation works planned under Component 2. The Project can be categorized as a Project B, in terms of potential environmental impacts, and OP4.01 is triggered.

37. The Project requires the preparation of an Environmental Management Framework (EMF) and Environmental Management Plan (EMP) to ensure the compliance of all its activities with The World Bank Group safeguards policies and Guyana’s applicable legal and regulatory frameworks.

38. The specific objectives of the EMF and EMP are to:

- i. Assess the potential environmental and social impacts that the proposed Project activities could cause.
- ii. Assess the institutional capacity for mitigating anticipated environmental and social impacts, for example management of wastes and other critical environmental or social issues identified.
- iii. Design and implement a consultation process to facilitate stakeholder participation in the Project.
- iv. Assist the University of Guyana to (i) prevent potential environmental and social impacts due to Project activities; (ii) apply appropriate mitigation measures and (iii) monitor the implementation of such measures.
- v. Define and outline the terms of reference for additional studies and guidelines to be prepared during implementation for reducing environmental and social impacts and increasing institutional capacity.
- vi. Develop an appropriate budget and schedule for the entire Project to facilitate the implementation of the EMF.

39. As the Project will also finance the purchase of laboratory equipment and products, as part of the EMF, a supervisory team will oversee the adequate management of the equipment and products that the Project will purchase. The Project cannot provide support in the purchase of chemicals that falls in the World Health Organization in the list 1A and 1B.

40. The triggering of OP 4.04, OP 4.09 and OP 4.36 is to ensure that safeguards issues are considered during the screening process of research proposals and activities undertaken by the Education Quality Improvement Program in Component 1. Natural Habitats (OP/BP 4.04): Under Component 1, the EQIP will support only proposals that will not harm these ecosystems and species or could increase its vulnerability to anthropogenic interventions. Although no alteration of natural habitats is expected, each eligible research proposal will be subject to a risk screening process to minimize the risks of negatively affect these habitats. Forests (OP/BP 4.36): As indicated before, the extension of forested land in Guyana is enormous compared to its low population. National efforts are underway by the LCDS to limit forest-based greenhouse gas emissions and protect its rainforest as an asset for the world. This safeguard is activated in order to ensure that proposals presented to the EQIP will not promote deforestation of these lands but promote conservation and its sustainable use. Pest Management (OP/BP 4.09): Pest management control is an integral part of the Teaching and Research activities of the Faculty of Agriculture. This safeguard is triggered in order to ensure adequate selection of proposals to avoid unintended environmental impacts. The Client has been informed and agreed that the Project cannot acquire pesticides or chemical products listed as class 1a and 1b by the World Health Organization (WHO).

<b>Safeguard Policies Triggered by the Project</b>	<b>Yes</b>	<b>No</b>
<a href="#">Environmental Assessment</a> (OP/BP 4.01)	X	
Natural Habitats ( <a href="#">OP/BP 4.04</a> )	X	
Pest Management ( <a href="#">OP 4.09</a> )	X	
Physical Cultural Resources (OP/BP 4.11)		X
Involuntary Resettlement ( <a href="#">OP/BP 4.12</a> )		X
Indigenous Peoples ( <a href="#">OP/BP 4.10</a> )	X	
Forests ( <a href="#">OP/BP 4.36</a> )	X	
Safety of Dams ( <a href="#">OP/BP 4.37</a> )		X
Projects in Disputed Areas ( <a href="#">OP/BP 7.60</a> )*		X
Projects on International Waterways ( <a href="#">OP/BP 7.50</a> )		X

## VIII. Contact point at World Bank and Borrower

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### Borrower/Client/Recipient

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\* By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas

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