

**INTEGRATED SAFEGUARDS DATA SHEET
CONCEPT STAGE**

Report No.: AC1192

Date ISDS Prepared/Updated: February 14, 2005

I. BASIC INFORMATION

A. Basic Project Data

Country: Uganda	Project ID: P086513
Project Name: Millennium Science Initiative	Task Team Leader: Michael F. Crawford
Estimated Appraisal Date: July 17, 2005	Estimated Board Date: November 3, 2005
Managing Unit: AFTH1	Lending Instrument: Specific Investment Loan
Sector: Tertiary education (65%);Other industry (35%)	Theme: Education for the knowledge economy (P);Other financial and private sector development (S)
Safeguard Policies Specialist in the task team: Kristine Schwebach (AFTS1)	
Loan/Credit amount (\$m.): 21 IDA: 20	
Other financing amounts by source: borrower	1 (\$m)

B. Project Objectives [from section 2 of PCN]

As part of the country's efforts to increase productivity and competitiveness, Uganda seeks to strengthen its ability to create usable knowledge, and/or to connect to, select, and adapt global knowledge through research; and to create conditions within Uganda that attract the best researchers to remain and work in Uganda, using their talents for the good of the country.

The project's development objective is to increase the quantity, quality, and relevance of scientific and technological skills produced in Uganda. Increases in quantity of skills would be measured by increases in numbers of programs, enrolment, and graduates in science and engineering, and labor market utilization of these skills. Improvements in quality would be measured through independent review panels, and growth in total publications and publication citation impact analysis, as well as increased collaboration with advanced regional and International research partners. Improved relevance would be indicated by the number of commercial product and process improvements resulting from research or skills formation, and similar improvements in PEAP priority areas of public concern (i.e. health, agriculture).

C. Project Description [from section 3 of PCN]

Project identification relied on strong participation of over 130 members of the Ugandan S&T community in workshops to diagnose the policy needs of the sector. [Findings are summarized in the draft report, "The State of Science and Technology in Uganda," available with the project documentation.] Project

design would continue to draw on the input of key stakeholders, as well as on the lessons of the MSI in other countries and previous discussions about the MSI in Africa.

With this in mind, the project would likely consist of two components. The first component would be a competitive fund to support research and training. A second component would support science and technology policymaking, including intensive promotional/social marketing activities by scientists for improvement of S&T education at all levels, plus related studies, and monitoring and evaluation.

Component One (\$17 million). The core of the project would be a competitive grant fund (the “MSI Fund”). The MSI Fund would have three “windows” to support (i) advance research connected to graduate training; (ii) strengthening or creation of undergraduate degree programs in S&T disciplines; (iii) research activities defined by the private sector.

Each window of the fund would have its own particular goals, but all three would share a single administrative structure and a single set of operating principles and procedures. The principles would be drawn from best practice in science funding worldwide, and would be the key to ensuring the highest quality and relevance of output. These first principle would be open, transparent, rule-bound competition for resources. All grants would be awarded based on ranked selection of project proposals. The second principle would be merit-based selection using international standards of peer review. As is the practice in MSI projects, the selection committee would be composed of at least 50% non-Ugandan scientists/researcher of internationally recognized reputations. The third principle would be the maintenance of the closest connection between research, training, and use of research output. The fourth principle would be strong researcher accountability for output.

Under these rules, a scientific program committee would produce a call-for-proposals for each window. The Committee would then review, rank, and create a shortlist of finalists in each category from which it would select grantees. Assistance for improving grant proposal presentation and substance would be available to all proponents. A two-stage selection process would allow short-listed candidates to improve proposals prior to final selection.

Grants under window one would likely go to research groups led by a senior principal investigator. They would fund scientific and technological equipment, reagents and research supplies/consumables, visiting professors, post-doctoral and graduate students, results dissemination, and/or the creation of specialized short courses. Successful grant proponents would be required to demonstrate how their research would directly strengthen graduate training in their fields, and how the research is relevant to national needs. Grants would vary in size according to the particular needs of each discipline and proposal; but they would be large enough to equip an international-level laboratory and attract the needed personnel to work in it. The largest grants might exceed US\$ 1 million total over a five-year period; smaller grants would also be available, but would be commensurate with international standards for the particular disciplines selected.

Grants under window two would fund the creation or strengthening of undergraduate degree programs in science, technology, and engineering. They would fund acquisition of laboratory equipment, modification of buildings, visiting professors/specialized professors, reagents, consumables, and other research related recurrent costs, texts and didactic materials, and other related costs. Grant amounts would range as high as US\$ 1.5 million over a five-year period.

Grants under window three would be similar to those in window one, except that research topics would be defined by the private sector. Very small initial grants would be given to industry associations/entrepreneurs to create problem-focused research agendas in collaboration with researchers. Follow-on

money would be available for researchers to pursue solutions to these problems that would be directly applicable to the needs of industry.

Researchers at public and private universities, as well as private or public research foundations would be eligible to compete for the grants, provided in each case their work was connected to training of (graduate or undergraduate) students. Grants would cover modifications to existing buildings, but would not, as a rule, fund the construction of new buildings. Physical space and or its construction costs would be a counterpart contribution.

Component Two (US\$ 3 million). This component would support involvement of the science and technology community in policymaking and related activities. A main set of activities would involve “social marketing” of science by high profile researchers to primary and secondary school students. The goal would be to catalyze greater attention to and action for improvements in primary and secondary level science education (curriculum reform, strengthen teacher qualifications). The social marketing of science would seek to overcome the anti-science biases that have developed in the education system after years of neglect and underinvestment. Another set of activities would support the implementation of the National Council on Higher Education’s policy of science literacy breadth requirements for all university graduates. The component would also support monitoring and evaluation of outputs and impacts from the MSI Fund as well as from the national research system more generally.

The administrative structure for the project would be housed with the Uganda National Council of Science and Technology (UNCST), but governance and oversight would be multi-institutional, and include representatives of the UNCST, the Uganda Council for Higher Education, the National Academy of Science, as well as representatives of technology-users in the private sector.

Several alternatives to this proposed project design were considered: (i) an investment in pre-selected centers of excellence in biotechnology. This alternative was rejected because it would concentrate too narrowly on knowledge creation rather than training, on a single field of science (albeit an important one), and it would not create any open, transparent, funding opportunities to which all Uganda researchers could apply. (ii) An investment focused on secondary or primary level science education. Stakeholders pointed out the serious deficiencies of science education at the primary and secondary level, and the need to build the “pipeline” of qualified candidates for advanced training. However, given the modest resources available, it was felt that an investment in the tertiary/graduate training system would be the most cost-effective initial step. As opportunities increase for quality training and employment, incentives for improvement of pre-tertiary science education will increase. (iii) An investment focused only on private sector demanded research, or only on undergraduate engineering. It was felt that the Uganda S&T system needs should be encouraged to grow in a balanced manner, with a mix of fundamental science tied to training (graduate and undergraduate) and applied research and skills creation for near-term needs of the productive sector. Attempting to pre-select the exact “needs” of industry was deemed likely to miss the mark.

D. Project location (if known)

The program will take place at institutions for higher education throughout Uganda. A competitive funding process will determine the actual locations (see C above) during the implementation period of the project.

E. Borrower’s Institutional Capacity for Safeguard Policies [from PCN]

Under the Environmental Management Capacity Building I and II to support environmental institutions, Uganda's National Environment Management Agency (NEMA) was established and well staffed and equipped. Procedures and guidelines were well developed. In the EMCBP II (Cr-34770), NEMA will further develop its policy tools, its environmental management and extend its out reach to districts and local communities.

The development objective of the Second Environmental Management and Capacity Building Project (MCBP II) is as follows: Sustainable environmental management at the national, district and community levels. EMCBP II represents the second five-year phase of a long-term effort to assist the Government of Uganda (GOU) in their implementation of the National Environmental Action Plan (NEAP) and related National Environment Statute (1995) and the Local Government Act (1997). The project consists of three components. The first focuses directly on enhancing environment management capacity in districts and communities and empowering them to address environmental degradation problems, and sustainable natural resource use for development through the planning and implementation of initiatives. The second component aims at enhancing environment management capacity in lead agencies at national level. The third component aims at enhancing environment management capacity in the National Environment Management Authority (NEMA), through institutional support and strengthening. In a similar way as under EMCBP, financing would be provided for training, consultant services (Primarily local, with a limited amount for international consultants in specialist fields for short-term assignments), equipment, vehicles, and incremental recurrent costs.

II. SAFEGUARD POLICIES THAT MIGHT APPLY

Applicable?	Safeguard Policy If Applicable, How Might It Apply?
[yes]	<u>Environmental Assessment (OP/BP 4.01)</u> New constructions in the form of new buildings for science and research (e.g. laboratories and classrooms) can be anticipated under the project. In addition to the notion of an increase in the number of laboratories. The project will have to consider the environmental consequences of laboratory waste and disposal on the environment. Therefore the project is classified as a category B project, which is appropriate considering these potential activities. An Environmental and Social Management Framework (ESMF) for the project will be prepared.
[no]	<u>Natural Habitats (OP/BP 4.04)</u>
[no]	<u>Pest Management (OP 4.09)</u>
[yes]	<u>Involuntary Resettlement (OP/BP 4.12)</u> People might live on or earn their livings of the sites of the anticipated new constructions. A Resettlement Policy Framework (RPF) is recommended and the required safeguard instruments to be prepared.
[no]	<u>Indigenous Peoples (OD 4.20)</u>
[no]	<u>Forests (OP/BP 4.36)</u>
[no]	<u>Safety of Dams (OP/BP 4.37)</u>
[no]	<u>Cultural Property (draft OP 4.11 - OPN 11.03)</u>

[no]	Projects in Disputed Areas (OP/BP/GP 7.60)*
[no]	Projects on International Waterways (OP/BP/GP 7.50)

Environmental Assessment Category:

A B C FI TBD (to be determined)

If TBD, explain determinants of classification and give steps that will be taken to determine that EA category (mandatory):

III. SAFEGUARD PREPARATION PLAN

A. Target date for the Quality Enhancement Review (QER), at which time the PAD-stage ISDS would be prepared.

June, 2005

B. For simple projects that will not require a QER, the target date for preparing the PAD-stage ISDS

N/A

C. Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing¹ should be specified in the PAD-stage ISDS.

The teams plans to prepare and ESMF and RPF by September, 2005.

The project will be a transferred category B status. The Sector Manager will provide clearance for safeguard related issues, based on the recommendations from the safeguard specialist.

IV. APPROVALS

<i>Signed and submitted by:</i>		
Task Team Leader:	Michael F. Crawford	Feb. 17, 2005
<i>Approved by:</i>		
Regional Safeguards Coordinator:	Thomas Walton	Feb. 21, 2005
Comments		
Sector Manager:	Dzingai B. Mutumbuka	Feb. 21, 2005
Comments		

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

¹ Reminder: The Bank's Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the InfoShop and (ii) in-country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.

